
Draft

Environmental Impact Report

Rehabilitation of Western Regional Sewers Project No. 3-64

SCH # 2015111077

Prepared for



Orange County Sanitation District

October 2016

Prepared by

JACOBS®

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Acronyms and Abbreviations

Acronym/Abbreviation	Term
AB	Assembly Bill
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
AQMP	air quality management plan
BACT	best available control technology
bgs	below ground surface
BMP	best management practice
B.P.	Before Present
CAA	Clean Air Act
CA ARNG	California Army National Guard
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emission Estimator Model
CalARP	California Accidental Release Prevention
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CFC	California Fire Code
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIPP	cured-in-place pipe
CNEL	community noise equivalent level
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
County	Orange County
CORRACTS	Corrective Action database
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Places
CUPA	Certified Unified Program Agency

Acronym/Abbreviation	Term
dB	decibel
dBA	noise measurements weighted for frequencies more sensitive to humans
DHS	California Department of Health Services
DOGGR	Department of Conservation, Division of Oil, Gas and Geothermal Resources
DTSC	Department of Toxic Substances Control
ECM	environmental control
EIR	Environmental Impact Report
EOC	emergency operations center
EOP	emergency operation plan
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FeCl ₂	ferrous chloride
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Forest Lawn	Forest Lawn Memorial Park
GHG	greenhouse gas
GBN	groundborne noise
GBV	groundborne vibration
GWP	global warming potential
H ₂ O ₂	hydrogen peroxide
HCP	Habitat Conservation Plan
I-	Interstate freeway
IBC	International Building Code
ICC	International Code Council
ICU	intersection capacity utilization
IERP	integrated emergency response program
IFC	International Fire Code
IPCC	Intergovernmental Panel on Climate Change
IPS	inch per second
IS	Initial Study
Kilowatt-hour	kWh

Acronym/Abbreviation	Term
LOS	level of service
LST	Local Significance Thresholds
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MgOH	magnesium hydroxide
MMP	Materials Management Plan
MMRP	mitigation monitoring and reporting plan
mpg	miles per gallon
MRR	Mandatory Reporting Regulation for Greenhouse Gases
MT	metric ton
MTBE	methyl tert butyl ether
MtCO ₂ e	metric ton of carbon dioxide equivalents
M _w	moment magnitude
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NaOH	sodium hydroxide
National Register	National Register of Historic Places
NCCP	Natural Community Conservation Plan
NCP	Noise Control Plan
NEHRP	National Earthquake Hazards Reduction Program
NHTSA	National Highway Traffic Safety Administration
NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NOC	Notice of Completion
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OCHCA	Orange County Health Care Agency

Acronym/Abbreviation	Term
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OHP	Office of Historical Preservation
OSHA	Occupational Safety and Health Administration
OU	operating unit
PCB	polychlorinated biphenyl
PCE	Tetrachloroethene
ppb	parts per billion
PPE	personal protective equipment
ppm	parts per million
ppv	peak particle velocity
ppv/ips	peak particle velocity inches per second
PSI	Paleo Solutions, Inc.
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
RLAASD	Rossmoor/Los Alamitos Area Sewer District
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SPCC	spill prevention, control and countermeasure
SR-	State Route
SRA	source receptor area
SSO	sanitary sewer overflow
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TCP	traffic control plan

Acronym/Abbreviation	Term
TTCP	Traditional Tribal Cultural Places
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UV	ultraviolet
VdB	vibration decibels
VOC	volatile organic compound
WDR	Waste Discharge Requirement
WRCC	Western Regional Climate Center
ZNE	Zero Net Energy

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Executive Summary

ES.1 Introduction

The Orange County Sanitation District (OCSD) has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public and public agencies with information about the potential effects on the local and regional environment associated with the proposed Rehabilitation of the Western Regional Sewers, Project 3-64 (proposed Project). The proposed Project includes rehabilitation of the Orange-Western Sub-trunk and Seal Beach Boulevard (Blvd.) Interceptor pipelines, rehabilitation and/or replacement of the Los Alamitos Sub-trunk and the Westside Relief Interceptor pipelines, rehabilitation or replacement of the Westside Pump Station force main, replacement of the Westside Pump Station wet well, and addition of either an air scrubber or air jumper line at the Westside Pump Station (Figure ES-1).

This Draft EIR has been prepared pursuant to the California Environmental Quality Act (CEQA). As Lead Agency, OCSD will consider this Draft EIR in determining whether to approve the proposed Project; to make findings of fact regarding identified impacts; and, if necessary, to adopt a Statement of Overriding Considerations regarding these impacts.

This document is being circulated to local, state, and federal agencies and to interested organizations and individuals who wish to review and comment on the Draft EIR. OCSD will hold a public hearing to receive comments on the Draft EIR during the 45-day review period. All comments must be submitted by December 1, 2016. Comments should be focused on the adequacy and accuracy of the content of the EIR. Publication of the Draft EIR marks the beginning of a 45-day public review period during which written comments may be submitted to:

Orange County Sanitation District
Planning Division – CEQA
ATTN: Carla Dillon
10844 Ellis Avenue
Fountain Valley, CA 92708
CEQA@ocsd.com

The Draft EIR is available for review at www.ocsd.com. Copies are also available for public review at the following locations:

- Orange County Sanitation District, Administrative Office, 10844 Ellis Avenue, Fountain Valley, CA
- Los Alamitos-Rossmoor Library, 12700 Montecito Road, Seal Beach, CA
- La Palma Library, 7842 Walker Street, La Palma, CA
- Seal Beach/Mary Wilson Library, 707 Electric Avenue, Seal Beach, CA

- Cypress Library, 5331 Orange Avenue, Cypress, CA
- Fountain Valley Library, 17635 Los Alamos Street, Fountain Valley, CA
- Anaheim Central Library, 500 West Broadway, Anaheim, CA
- Buena Park Library, 7150 La Palma Avenue, Buena Park, CA

ES.2 Background

OCSD's 2006 Strategic Plan Update identified a portion of Los Alamitos Sub-trunk and the Westside Relief Interceptor as capacity deficient and unable to handle the projected peak wet weather flows. The proposed Project would extend the life of the assets within the Project area by another 50 years and ensure adequate capacity to meet the 2040 wet weather peak flows (based on a 10-Year Storm event). The proposed Project includes rehabilitation of the Orange-Western Sub-trunk and the Seal Beach Boulevard (Blvd.) Interceptor pipelines, rehabilitation and/or replacement of the Los Alamitos Sub-trunk and the Westside Relief Interceptor pipelines, rehabilitation or replacement of the Westside Pump Station force main, replacement of the Westside Pump Station wet well, and addition of either an air scrubber or air jumper line at the Westside Pump Station (Figure ES-1).

These sewer lines are located in the westernmost portion of the OCSD service area and are referred to collectively throughout this document as the Western Regional Sewers. Collectively, the Los Alamitos Sub-trunk, the Westside Relief Interceptor, and the Seal Beach Blvd. Interceptor convey sewage flows from the City of Seal Beach, the community of Rossmoor in unincorporated Orange County, the City of Los Alamitos, the City of Cypress, the City of La Palma, and other areas in the vicinity of the Westside Pump Station. The Orange-Western Sub-trunk conveys flows from the Cities of Cypress, Buena Park, and Anaheim to the Miller Holder Trunk and the Knott Interceptor. The Orange-Western Sub-trunk is not tributary to the Westside Pump Station. Sewage flow from all Project components ultimately is directed to OCSD Treatment Plant No. 2 located at 22212 Brookhurst Street in Huntington Beach.

ES.3 Project Location

Los Alamitos Sub-trunk: The Los Alamitos Sub-trunk (Figure ES-1), constructed in 1959, is 34,620 feet long and has 90 manholes. The pipe diameter ranges in size from 18 to 30 inches. Approximately 15,540 feet of the Los Alamitos Sub-trunk are capacity deficient and require an increase in the size of the pipe (Figure ES-2). The Los Alamitos Sub-trunk is within the following cities: La Palma (La Palma Avenue and Denni Street), Cypress (Denni Street, Guardian Drive, Orange Avenue, Bloomfield Avenue, and Bloomfield Street), Los Alamitos (Bloomfield Street, West Cerritos Avenue, Chestnut Street, Sausalito Street, Oak Street, Katella Avenue, and Los Alamitos Boulevard), Seal Beach (Seal Beach Boulevard and Old Ranch Parkway), and the community of Rossmoor (3112 Yellowtail Drive).

Westside Relief Interceptor: The Westside Relief Interceptor (Figure ES-1) was constructed under two contracts in 1959 and 1976. This line is approximately 32,100 feet long with 81 manholes. Pipe size ranges from 15 to 39 inches in diameter. Approximately 16,010 feet of the Westside Relief Interceptor are capacity deficient and require an increase in the size of the pipe (Figure ES-2). The Westside Relief Interceptor is within the following cities: La Palma (Crescent Avenue and Moody Street), Cypress (Moody Street, Orange Avenue, and Denni Street), Los Alamitos (Denni Street, Katella Avenue, and Los Alamitos Boulevard), and Seal Beach (Seal Beach Boulevard and Old Ranch Parkway). The Los Alamitos Sub-trunk and the Westside Relief Interceptor are physically connected at the intersection of Orange Avenue and Denni Street by Diversion No. 65.

Westside Pump Station: The Westside Pump Station is located at 3112 Yellowtail Drive in the community of Rossmoor in unincorporated Orange County. The pump station underwent a major reconstruction in 2008 (Project 3-52). At that time, the existing pump station was rehabilitated to meet then-current OCS D standards and national and state codes. In addition, the station's capacity was increased to meet the then-projected peak wet-weather flows. This included modification of the ventilation systems, control systems, and the station's structure and isolation of the pump and electrical rooms from one another. The mechanical equipment, which was previously located above ground, was moved 30 feet below ground. The building underwent some minor modifications, and the roof was upgraded. The front gate was moved to the east of the property to ease access into the pump station. Additional landscaping was installed to enhance the front of the facility.

During this project, extensive degradation of the wet well was discovered; and repairs were made to bring the wet well back into service. The repairs to the wet well were intended to extend the life of the wet well another 10 to 15 years.

The pump station receives sewage flows from the Los Alamitos Sub-trunk, the Westside Relief Interceptor, portions of Leisure World, and the Rossmoor/Los Alamitos area. The pump station discharges into the Seal Beach Blvd. Interceptor via a 150-foot-long, 20-inch-diameter force main that was installed in 1995 under Project No. 3-36R. The facility has an air vent along the force main alignment that was abandoned and is no longer connected to the pump station. A Vapex Odor Control unit located on top of the wet well (part of Project No. 3-52) has been disconnected from service. The Seal Beach Blvd. Interceptor conveys all the flow from the Westside Pump Station to the Seal Beach Pump Station.

Orange-Western Sub-trunk: The Orange-Western Sub-trunk (Figure ES-1), constructed in 1959, is 13,940 feet long and has 38 manholes. The pipe is 21 inches in diameter. The Orange-Western Sub-trunk consists of two segments. The first segment begins just north of the intersection of Crescent Avenue and Western Avenue in the City of Buena Park. The pipeline continues south on Western Avenue and turns west on West Orange Avenue before connecting to the Knott Interceptor. The second segment continues west on West Orange Avenue from the Knott Avenue intersection to the Miller Holder Trunk Sewer at the Valley View Street intersection.

Seal Beach Blvd. Interceptor: The Seal Beach Blvd. Interceptor (Figure ES-1), constructed in 1970, is 5,530 feet long and has 8 manholes. The pipe is 51 inches in diameter. The Seal Beach Blvd. Interceptor begins just south of the Westside Pump Station at the end of Old Ranch Parkway in the City of Seal Beach. The pipeline continues south across the Interstate 405 (I-405) freeway right-of-way and in North Gate Road south of the I-405 freeway until merging with Seal Beach Boulevard. The pipeline then continues south in Seal Beach Boulevard until it reaches the Seal Beach Pump Station located at the intersection of Seal Beach and Westminster boulevards. The Seal Beach Naval Weapons Station extends to the centerline of Seal Beach Boulevard. Approximately 3,500 feet of Seal Beach Blvd. Interceptor is on an easement on Navy land.

ES.4 Purpose and Objectives

The Western Regional Sewer pipelines have exceeded their functional life and have developed deficiencies that have led to the intrusion of groundwater and, in some cases, hard calcium deposits which make the pipe hard to clean and impede the wastewater flow. Also, portions of both the Los Alamitos Sub-trunk (15,540 linear feet) and the Westside Relief Interceptor (16,010 linear feet) are considered capacity deficient, are unable to handle projected 2040 wet weather flows, and need to be upsized to minimize the existing surcharging potential. Further, the Westside Pump Station wet well was repaired in 2008 to extend its serviceable life. The repairs to the wet well are nearing the end of their expected life, and the wet well needs to be replaced.

The purpose of the proposed Project is to increase the life of the Western Regional Sewers within the Western Region of OCSD's service area by another 50 years and to ensure that the projected 2040 wet weather peak flows are adequately contained.

Objectives for the proposed Project include the following:

- Extend the service life of the Western Regional Sewers by either rehabilitation of the existing lines or replacement of the lines on a new alignment within the same streets
- Replace the Westside Pump Station wet well to prevent potential for future failure and release of sewage to the environment
- Accommodate projected 2040 wet weather peak flows (10-Year Storm)
- Minimize impacts to the environment
- Minimize existing surcharging in new/rehabilitated pipes
- Minimize groundwater intrusion in new/rehabilitated pipes
- Reduce potential for odors

Without the Rehabilitation of the Western Regional Sewers and the Westside Pump Station improvements, groundwater intrusion and the potential for surcharging would continue and the wet well would further degrade. Additionally, OCSD would not meet requirements to accommodate

projected 2040 wet weather flows, potentially resulting in unplanned sanitary sewer releases to the environment.

ES.5 Project Description

As described in detail in Chapter 2.0, the proposed Project includes the following main elements (Figure 2.4-3): (1) rehabilitation of portions of the Western Regional Sewers pipelines and manholes, (2) replacement of portions of the Western Regional Sewers pipelines and manholes, and (3) improvements to the Westside Pump Station. Pipeline rehabilitation would consist of lining the existing pipe or manhole. Pipeline replacement would consist of installing new, larger diameter pipelines within the Project area. Pump station improvements would consist of replacement of the wet well and rehabilitation or replacement of the force main, as well as installation of an air scrubber or air jumper line for odor control and a new vent stack which would not exceed 20 feet in height.

ES.6 Construction

The proposed Project scope is based on preliminary planning data. OCSD has retained an engineering consultant to verify the preliminary planning data. The impact analysis in Chapter 3.0 of the Draft EIR assumes open-cut trench construction for all pipe replacement areas (see Figure 2.4-3 and Figure 2.4-4), except where otherwise noted, such as at all Orange County Flood Control District (OCFCD) facilities or other drainage channels, from near Willow Street/Denni Street through to Denni Street (i.e., between the residences and beneath the Pacific Electric right-of-way and Denni Street Park). These sections would use trenchless construction methods to replace the pipe. Although various trenchless methods are available, as discussed in Section 2.5.3, Cured-in-place pipe (CIPP) was evaluated in this EIR as representative of trenchless rehabilitation methods which could be used that would meet Project objectives (see Figure 2.4-3, Figure 2.4-4, and Section 2.5.3).

Although the EIR generally assumes open-cut trench construction as the reasonable worst-case scenario for purposes of analyzing the project's potential impacts, it should be noted that OCSD is committed to minimizing impacts to the community and the environment through the use of trenchless construction methods where feasible. Trenchless technologies tend to have fewer impacts than open-cut trenching. For example, trenchless construction techniques generally entail shorter construction periods, require fewer pieces of construction equipment, and involve smaller construction areas when compared to open-cut trenching construction methods. However, trenchless methods are not always an option; soil condition, existing utilities, etc. can interfere with or preclude the use of trenchless methods. For the purposes of disclosure, various trenchless construction methods/approaches are discussed in the following subsections. Final decisions about which construction methods will be utilized would be made upon completion of design, alignment selection, and geotechnical evaluations.

Other components of construction include repair or rehabilitation of sewer manholes, reconnection of local sewers, and abandonment of old lines. Subsequent to installation of the new pipe or rehabilitation of existing pipe, local and permitted connections to the mainline would be rejoined. In locations where

non-permitted connections exist or where private laterals are connected directly to an OCSD sewer, a new local connection/system would be constructed and reconnected in accordance with OCSD policy, which requires private laterals/connections to be connected to a city- or county-owned manhole or pipeline prior to being connected to an OCSD manhole or pipeline. Subsequent to construction of the new pipe, the existing pipe and manholes would be abandoned in place and filled with concrete slurry.

It is currently anticipated that construction of the proposed Project would occur from March 2019 through March 2023. As discussed in Section 2.5.4 Construction Schedule and Cost, the construction schedule allows sufficient time (approximately 4 years or 1,460 days) to construct each Project segment sequentially; however, construction activities are anticipated to last for approximately 24 to 30 months during this 4-year time frame. The 24- to 30-month time frame is anticipated due to overlapping construction activities for some Project segments.

Construction of the proposed Project is discussed in more detail in Chapter 2.0.

ES.7 Summary of Impacts

The proposed environmental mitigation measures for significant impacts are discussed in detail in Chapter 3.0 in the following Sections: 3.1.5 (Aesthetics), 3.2.5 (Air Quality), 3.3.5 (Biological Resources), 3.4.5 (Cultural Resources), 3.7.5 (Hazards and Hazardous Materials), 3.8.5 (Land Use and Planning), and 3.9.5 (Noise). No impacts or less than significant impacts were identified for Geology and Soils (3.5), Greenhouse Gas Emissions (3.6), Public Services (3.10), Recreation (3.11), and Traffic and Circulation (3.12). Table ES-1 provides a list of significant impacts, the corresponding mitigation measures identified in Chapter 3.0, and the level of significance after mitigation. Implementation of these mitigation measures will be monitored and enforced in accordance with CEQA Guidelines Section 15097. All mitigation measures included in this EIR will be contractually imposed on the contractor and monitored by OCSD. A Mitigation Monitoring and Reporting Program will be prepared along with the Final EIR and will include all mitigation measures and implementation details.

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
Aesthetics		
AES-1: Visual impacts of construction equipment and activities would degrade the existing character and quality of the Forest Lawn Cemetery site and surroundings during	AES MM 1: OCSD will obtain interment schedules from the Forest Lawn Cemetery and temporarily suspend construction activities for replacement of the Los Alamitos Sub-trunk within the Forest Lawn Cemetery during interment ceremonies to minimize construction disturbances to Forest Lawn operations.	Less than significant

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
interment ceremonies.		
<p>AES-1: Temporary visual impacts associated with tree trimming/removal could substantially degrade the existing visual character or quality of the construction area and its surroundings and would be a temporary significant impact.</p>	<p>AES MM 2: Based on final design and prior to removal or trimming of any tree, OCSD will identify all trees that require removal or trimming. For trees located within the existing easement, OCSD will provide in-kind replacement of landscaping for the corresponding municipality or private owner.</p>	<p>Less than significant</p>
<p>AES-1: During construction of improvements at the Westside Pump Station, construction equipment and activities would be visible from the street and adjacent residences, and would temporarily significantly degrade the existing visual character and quality of the site and surroundings.</p>	<p>AES MM 3: OCSD will limit construction hours for the Westside Pump Station to 8:00 a.m. to 5:00 p.m. Monday through Friday to minimize visual impacts of construction activities on adjacent residences, unless otherwise required for completion of construction activities or system operation, at which time adjacent property owners will be notified in advance.</p> <p>AES MM 4: OCSD will erect visual screening along the property walls adjacent to the pump station and across the front of the pump station during construction activities at the Westside Pump Station to minimize visual impacts of construction activities on adjacent residences.</p>	<p>Less than significant</p>
<p>AES-2: Construction lighting impacts would be considered significant if nighttime construction is necessary within residential areas or adjacent to other sensitive receptors.</p>	<p>AES MM 5: Should nighttime construction be required, OCSD will require that all lighting is focused and directed onto the work area only. OCSD will monitor lighting to ensure that there is no spillover to residential areas or other sensitive receptors.</p>	<p>Less than significant</p>

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
Air Quality		
AQ-1: Emissions from simultaneous construction of all proposed Project segments would exceed significance thresholds for NO _x , a precursor for O ₃ , and could conflict with or obstruct implementation of the SCAQMD Plan.	AQ MM 1: OCSD shall require its construction contractor, either through the use of scheduling, sequencing of equipment usage, or other means, to demonstrate that construction-related activities for all Project segments will not generate daily emissions exceeding the SCAQMD NO _x threshold shown in Table 3.2-5.	Less than significant
AQ-2: Emissions from the simultaneous construction of all proposed Project elements located in the SCAB would exceed significance thresholds for daily NO _x emissions, a precursor for O ₃ , during construction and would contribute to the SCAB nonattainment status for O ₃ .	See AQ MM 1	Less than significant
AQ-3: Daily significance thresholds for NO _x emissions would be exceeded and would result in cumulatively considerable net increases in O ₃ from the NO _x emissions.	See AQ MM 1	Less than significant
Biological Resources		
BIO-1: Construction of	See AES MM 2	Less than significant

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
replacement lines could require removal of trees protected by tree preservation ordinances.		
<p>BIO-1: Disturbance of active nests during construction would be considered a significant impact under the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code.</p>	<p>BIO MM 1 Shrub and tree trimming and/or removal activities associated with the proposed Project shall be conducted outside the nesting season (February 15 through July 15). However, if shrub and tree removal must occur during the nesting season, a qualified wildlife biologist (as determined by California Department of Fish and Wildlife) shall conduct preconstruction surveys for nesting birds within suitable nesting habitat in the proposed Project area including a 300-foot buffer around the construction limits. The nesting bird surveys shall be conducted one week before initiation of construction activities within those habitats. If no active nests are detected during surveys, construction may proceed. If active nests are detected, then a no-disturbance buffer shall be established around nests identified during preconstruction surveys. The extent of the no-disturbance buffer shall be 50 feet for non-raptors and 300 feet for raptors. [These buffer distances may be altered by a qualified biologist depending on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographic or artificial barriers. These buffers shall be maintained until after the breeding season has ended or until the biologist determines that the young have fledged. Within this buffer, all nonessential construction activities (e.g., equipment</p>	<p>Less than significant</p>

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
	storage, meetings) shall be avoided; however, construction activities can proceed if the biologist determines that the nesting birds are not likely to abandon the nest during construction.	
Cultural Resources		
<p>CUL-2: Excavation within previously undisturbed soils and possible disturbance of objects or sites is considered a significant impact.</p>	<p>CUL MM 1: OCS D shall retain an archaeologist (Project Archaeologist) meeting the Secretary of the Interior’s Standards for Professional Qualified Staff (PQS) to provide worker awareness training regarding archaeological resources to construction personnel prior to the start of construction. The training shall include, at minimum, the following:</p> <ul style="list-style-type: none"> • The types of artifacts, features, or structures that could occur at the proposed Project site • The procedures that should be taken in the event of an archaeological discovery, including human remains • Laws protecting archaeological resources and burials • Penalties for destroying or removing archaeological resources, protected historical structures, or burials <p>CUL MM 7: In the event of unanticipated archaeological or paleontological resource discoveries during construction activities, the contractor shall stop work within 50 feet of the discovery until it can be evaluated by a qualified archaeologist meeting the Secretary of the Interior’s Standards for Professional Qualified Staff (PQS) or a paleontologist meeting the professional standards enumerated in Cooper et al 2010. Construction activities may continue in other areas of the site.</p>	<p>Less than significant</p>

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
	<p>The qualified archaeologist or paleontologist shall evaluate the resource(s) encountered and recommend appropriate disposition of the resource(s) in consultation with the Orange County Sanitation District.</p> <p>CUL MM 8: Should any tribal entity identified on the Native American Heritage Commission contact list request on-site monitoring during construction of particular segments of the Project area out of concern for potential impacts to known or unanticipated tribal cultural resources, OCSD shall provide a Native American monitor/liaison¹. Sections of the Project area that may require such monitoring are contingent upon engineering design specifics, which have yet to be finalized.</p>	
<p>CUL-3: Excavation within previously undisturbed soils and inadvertent discovery and/or damage of paleontological resources is considered a significant impact.</p>	<p>CUL MM 2: A qualified paleontologist, meeting the professional standards enumerated in Cooper et al 2010, shall provide worker awareness training on paleontological resources to construction personnel prior to the start of construction. The training shall include, at minimum, the following:</p> <ul style="list-style-type: none"> • The types of fossils that could occur at the proposed Project site • The procedures that should be taken in the event of a fossil discovery • Laws protecting paleontological resources • Penalties for destroying or removing paleontological resources <p>CUL MM 7: In the event of unanticipated archaeological or paleontological resource</p>	<p>Less than significant</p>

¹ Two such tribes have requested the presence of on-site monitors for the proposed Project in response to AB 52 consultations with OCSD (See Appendix A).

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
	<p>discoveries during construction activities, the contractor will stop work within 50 feet of the discovery until it can be evaluated by a qualified archaeologist meeting the Secretary of the Interior’s Standards for Professional Qualified Staff (PQS) or a paleontologist meeting the professional standards enumerated in Cooper et al 2010. Construction activities may continue in other areas of the site. The qualified archaeologist or paleontologist shall evaluate the resource(s) encountered and recommend appropriate disposition of the resource(s) in consultation with the Orange County Sanitation District.</p>	
<p>CUL-4: Excavation within Forest Lawn Cemetery would be a significant impact.</p>	<p>CUL MM 3: Final design of the Los Alamitos Sub-trunk within Forest Lawn shall avoid disturbance of historic buildings, structures, or objects on the Forest Lawn property that are outside the OCS D easements. These include the Ascension Mausoleum; the Church of Our Fathers; the Main Mortuary Building; the park’s maintenance facilities building; and the park entrance, memorial tablets, grave markers, stones, statues, and ornaments.</p> <p>CUL MM 4: OCS D shall work with Forest Lawn to ensure that pipeline alignment will remain within existing OCS D easement, Guardian Drive, or other locations to avoid disturbance of existing interments immediately adjacent to the alignment. Pipe realignment shall be coordinated with Forest Lawn Cemetery management prior to implementation. Alignments within existing easements will not require Forest Lawn approval, but Project managers shall coordinate with Forest Lawn managers regarding Project details within Forest</p>	<p>Less than significant</p>

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
	<p>Lawn property.</p> <p>CUL MM 5: For the portion of the Los Alamitos Sub-trunk within Forest Lawn Cemetery, the contractor shall avoid disturbance of interment ceremonies and gravesites through the use of protective barriers, visual aids (i.e., signs, flagging, etc.) and defined exclusion areas on plans to provide mutually acceptable distance between construction areas and interments, as determined in consultation with Forest Lawn Cemetery management. Visual aids shall distinguish ornamental or structural elements from locations of known gravesites.</p> <p>CUL MM 6: OCS D shall provide a liaison during construction of the Los Alamitos Sub-trunk within Forest Lawn Cemetery. Although disturbance to existing gravesites is not anticipated, should graves be impacted by construction, the OCS D liaison shall take immediate action to notify Forest Lawn and prevent further disturbance. The liaison will notify project managers and the Forest Lawn management should graves be impacted. The Project managers shall consult with Forest Lawn management to determine the appropriate course of action in the event that impacts to gravesites are anticipated or if they occur, in order to avoid any further disturbance.</p> <p>CUL MM 7: In the event of unanticipated archaeological or paleontological resource discoveries during construction activities, the contractor will stop work within 50 feet of the discovery until it can be evaluated by a qualified archaeologist meeting the Secretary of the Interior’s Standards for Professional Qualified Staff (PQS) or a</p>	

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
	paleontologist meeting the professional standards enumerated in Cooper et al 2010. Construction activities may continue in other areas of the site. The qualified archaeologist or paleontologist shall evaluate the resource(s) encountered and recommend appropriate disposition of the resource(s) in consultation with the Orange County Sanitation District.	
Hazards/Hazardous Materials		
HAZ-2: Excavation and dewatering during construction could be a significant hazard to the public or environment and is considered a significant impact.	HAZ MM 1: The contractor shall be responsible for providing trained personnel for monitoring and operation of construction activities and spill management, including cleanup and replacement of damaged property and fines. In the event an unauthorized spill occurs during construction activities, the contractor shall contact the appropriate agencies for cleanup and disposal pursuant to all applicable federal, state, and local laws and regulations.	Less than significant
Land Use		
LU-1: Project would conflict with existing plans or regulations pertaining to nighttime construction lighting and noise where sensitive land uses are affected.	See AES MM 5, AQ MM 1, NOI MM 1, and NOI MM 2	Less than significant
Noise		
NOI-2: Project would expose persons to or generation of excessive groundborne vibration or groundborne noise levels.	NOI MM 1: OCSD will require the contractor to prepare a Noise Control Plan (NCP) demonstrating noise reduction, at minimum of 5 dBA to 10 dBA and below the 90-dBA Federal Transit Authority threshold, prior to commencing any construction. The NCP will specifically	Less than significant

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
	<p>address noise control near sensitive receptors and for construction for which a variance has been obtained from the appropriate jurisdiction (e.g., weekend and nighttime construction). The NCP will identify the location of noise-sensitive receptors and list the types of noise control measures proposed (e.g., sound blankets and temporary noise barriers providing 5 dBA to 23 dBA of noise reduction) and any conditions specified in the variance. Once approved by OCSD, the contractor will be required to implement the plan. To ensure compliance with the NCP, the contractor will be required to monitor all construction noise for activities potentially affecting sensitive receptors in areas approved by variance, as well as all schools, hospitals, convalescent homes, churches, and other noise-sensitive areas within 1,000 feet of the construction activities.</p> <p>NOI MM 2: The contractor will adhere to the specified hours in all local ordinances when construction activities are permitted. A variance will be required prior to construction if activities are planned to occur outside the permitted hours. OCSD will comply with any conditions specified in the variance. The following will minimize noise generated by all construction activities:</p> <ul style="list-style-type: none"> • All construction equipment shall be maintained according to manufacturer’s specifications and inspected regularly. • All noise-producing construction equipment shall be equipped with muffling devices, quiet use generators, 	

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
	<p>or other equivalent noise-reducing features to minimize temporary noise.</p> <ul style="list-style-type: none"> • Stationary sources shall be located a minimum of 25 feet (the closest distance used to estimate construction noise impacts) from noise-sensitive receptors, unless otherwise constrained by site-specific conditions. • The use of noise-producing signals such as horns, whistles, alarms, bells, etc. shall be in accordance with federal, state, and local regulations. • Sound blankets and temporary sound barriers shall be located adjacent to construction activities where noise impacts above the regulated maximum levels are anticipated near noise-sensitive receptors. <p>NOI MM 3: The following will minimize vibration generated from construction activities:</p> <ul style="list-style-type: none"> • Route heavily loaded trucks away from residential streets. • Operate earthmoving or other construction equipment with the potential to create vibration-induced impact as far away from vibration-sensitive sites as construction location-specific conditions allow. • Pile-driving equipment for shoring installation, if utilized, will be of a non-vibratory type, will have short starting and stopping capabilities and will be able to operate at high revolutions. In addition, soil particle velocity will be monitored during the use of such equipment. 	

Table ES-1: Summary of Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance After Mitigation
	If any vibration levels are measured above the 0.20 IPS threshold level, construction will be stopped immediately.	
NOI-4: Project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above the ambient noise conditions.	See NOI MM 1, NOI MM 2, and NOI MM 3	Significant and unavoidable after mitigation

ES.8 Alternatives

CEQA requires that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project (CEQA Guidelines Section 15126.6). Based on the purpose and objectives specified for the proposed Project in Section 2.3, only build alternatives utilizing existing public rights-of-way and OCSD easements have been considered within this Draft EIR. Build alternatives associated with the construction of new pipelines and associated facilities lying outside existing street rights-of-way and easements would result in increased environmental impacts due to: (1) constraints imposed by the need to serve existing local sewer connections, (2) substantial increases in excavation required to accommodate new pipelines and new routes, and (3) the potential need for construction of additional pump stations.

As described in Section 2.5, OCSD is committed to minimizing impacts to the community and the environment through the use of trenchless construction methods where feasible; however, for the purposes of evaluating a reasonable worst-case scenario for potential pipeline replacement impacts in this Draft EIR, trenchless construction methods are only assumed at all OCFCO facilities or other drainage channels and near Willow Street/Denni Street through to Denni Street (i.e., between the residences and beneath the Pacific Electric right-of-way and Denni Street Park).

OCSD has identified two reasonable and feasible approaches to the proposed Project that would attain the Project's stated objectives. The two alternatives are:

- Build Alternative 1 would replace portions of the existing Los Alamitos Sub-trunk and the Westside Relief Interceptor with new, larger capacity pipe. This build alternative also would

rehabilitate portions of the existing Los Alamitos Sub-trunk and the Westside Relief Interceptor sewer pipe in place. In addition, Build Alternative 1 would rehabilitate the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines in place. Further, Build Alternative 1 would rehabilitate the Westside Pump Station force main and wet well.

- Build Alternative 2 would replace the entire Los Alamitos Sub-trunk pipeline with new, larger capacity pipe. This build alternative also would divert all flow from the Westside Relief Interceptor north of Orange Avenue to an enlarged Los Alamitos Sub-trunk via a new diversion structure. In addition, Build Alternative 2 would rehabilitate the entire length of the Westside Relief Interceptor, as well as the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines, in place. Further, Build Alternative 2 would rehabilitate the Westside Pump Station force main and wet well.

While the preceding two build alternatives take different approaches to meeting the proposed Project objectives, they also have certain elements in common:

- Both build alternatives would entail rehabilitation of the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines.
- Manholes associated with these pipelines would be replaced or rehabilitated as appropriate.
- Both Build Alternatives 1 and 2 would entail rehabilitation or replacement of the Westside Pump Station force main and replacement of the wet well, as well as installation of an air scrubber or air jumper line for odor control.

ES.9 Environmentally Superior Alternative

Based on the analysis in this Draft EIR, the “environmentally superior alternative,” as that term is used in CEQA, is the No Build Alternative. If, as is the case with the proposed Project, the environmentally superior alternative is the No Build Alternative, CEQA Guidelines Section 15126.6(e)(2) requires identification of an environmentally superior alternative among the other alternatives. As discussed in Section 2.3, the purpose of the proposed Project is to extend the service life of the regional sewer system. Although both of the build alternatives would result in temporary significant construction impacts, both would meet all of the project objectives, including accommodating 2040 wet weather flows (10-Year Storm), which would minimize existing surcharging in new/rehabilitated pipes and minimize any potential for releases of sewage to the environment.

On the basis of the analyses presented in Chapter 3.0, of the two alternatives considered, Build Alternative 1 is considered to be environmentally superior to Build Alternative 2 due to its lower potential for construction-related impacts associated with air quality, noise, and traffic. As discussed in Section 3.2 Air Quality, construction emissions (criteria pollutants and greenhouse gases) under Build Alternative 1 (e.g., 15.47 pounds per day [lbs./day] of PM₁₀ and 153.85 metric tons of greenhouse gases,

or 153.16 metric tons CO₂ equivalent amortized over a 30-year Project Life²) are lower than those associated with Build Alternative 2 (19.92 lbs./day of PM₁₀ and 193.91 metric tons of greenhouse gases, or 191.89 metric tons CO₂ equivalent amortized over a 30-year Project Life) because the increased emissions from the complete excavation/replacement of the Los Alamitos Sub-trunk under Build Alternative 2 would exceed the level of reduced emissions from the complete CIPP rehabilitation of the Westside Relief Interceptor. In a similar fashion, construction-related noise (Section 3.9) and traffic (Section 3.12) impacts are greater under Build Alternative 2 because of the prolonged construction period (75 additional construction days) and additional open-cut trenching (3,070 feet) required compared with Build Alternative 1.

ES.10 Areas of Controversy

Section 15123 (b)(2) of the CEQA Guidelines requires the Summary of an EIR to disclose areas of controversy known to the lead agency that have been raised by other agencies and the public. OCS D circulated a Notice of Preparation and Initial Study (NOP/IS) to solicit agency and public comments on the scope and environmental analysis to be included in the EIR. Copies of the NOP/IS and the NOP/IS comment letters received by OCS D are included in Appendix A to this EIR. A total of nine comment letters were received during the NOP/IS public review period. All issues raised by these comments have been addressed in various locations within the Draft EIR (see Appendix A). The following table identifies the locations within the Draft EIR where these issues have been addressed.

Table ES-2: NOP/IS Comments

Commenter	Issues	Draft EIR Location where Issue is Addressed
Cox Castle Nicholson on behalf of Forest Lawn	Construction Impacts; Aesthetic Impacts; Tree Removal; Unstable Soils; Groundwater Levels; Noise Impacts; Cemetery Access; Project Alternatives	Section 2.0 Project Description; Table 2-10-1; Section 3.1 Aesthetics; Section 3.3 Biological Resources; Section 3.4 Cultural Resources, Section 3.5 Geology/Soils; Section 3.7 Hazards and Hazardous Materials; Section 3.9 Noise; Section 3.12 Traffic and Circulation and Appendix E.
Los Alamitos Unified School District	Noise, Traffic and Safety	Section 2.0 Project Description; Table 2-10-1; Section 3.1 Aesthetics; Section 3.2 Air Quality; Section 3.8 Land Use and Planning; Section 3.9 Noise; Section 3.10 Public Services; Section 3.12 Traffic and Circulation, and Appendices B and E.
California Department	Encroachment Permit	Tables 2.10-1 and 2.11-1, as well as Section 3.12 Traffic and

² In other words, the 30-year amortization extends from the end of construction, including the four preceding years, so the beginning construction emissions span 34 years; year 1 spans 33 years, year 2 spans 32 years, year 3 spans 31 years, and year 4 spans 30 years. Please refer to the discussion in Section 3.6 Greenhouse Gases.

Table ES-2: NOP/IS Comments

Commenter	Issues	Draft EIR Location where Issue is Addressed
of Transportation		Circulation.
State Water Resources Control Board	Clean Water State Revolving Fund Financing; Wetlands; Farmlands; Migratory Birds; Floodplains; Wild and Scenic Rivers	OCSD will not be pursuing CWSRF funding for the project. Farmlands, Wetlands, and Wild and Scenic Rivers were eliminated from further consideration in the IS. Wetlands and Migratory Birds are discussed in Section 3.3 Biological Resources.
Orange County Transportation Authority	Bike Lanes; Bus Routes	Sections 3.10 Public Services and 3.12 Traffic and Circulation.
City of Seal Beach	Noise; Liquefaction; Lane Closures; Emergency Access	Section 2.0 Project Description; Table 2-10-1; Table 2-11-1; Section 3.1 Aesthetics; Section 3.9 Noise; Section 3.10 Public Services; Section 3.12 Traffic and Circulation; and Appendix B.
Gabrieleño Band of Mission Indians	Native American Cultural Resources	Section 2.0 Project Description and Section 3.4 Cultural Resources; and Appendix C.
South Coast Air Quality Management District	Air Quality; Significance Thresholds; Mobile Source Health Risk; Mitigation Measures	Section 2.0 Project Description; Section 3.2 Air Quality; and Appendix B;
City of Cypress	Traffic Control Plan; Public Works Permit	Section 2.0 Project Description; Tables 2-10-1 and 2-11-1; Section 3.1 Aesthetics; Section 3.2 Air Quality; Section 3.8 Land Use and Planning; Section 3.9 Noise; Section 3.10 Public Services; Section 3.12 Traffic and Circulation; and Appendices B and E.

ES.11 Issues to Be Resolved by Lead Agency

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain a discussion of issues to be resolved. With respect to the proposed Project, the key issues to be resolved by OCSD, as Lead Agency, are:

- Selection of Build Alternative 1 or Build Alternative 2
- Mitigation of significant effects

Figure ES-1: Project Area Map

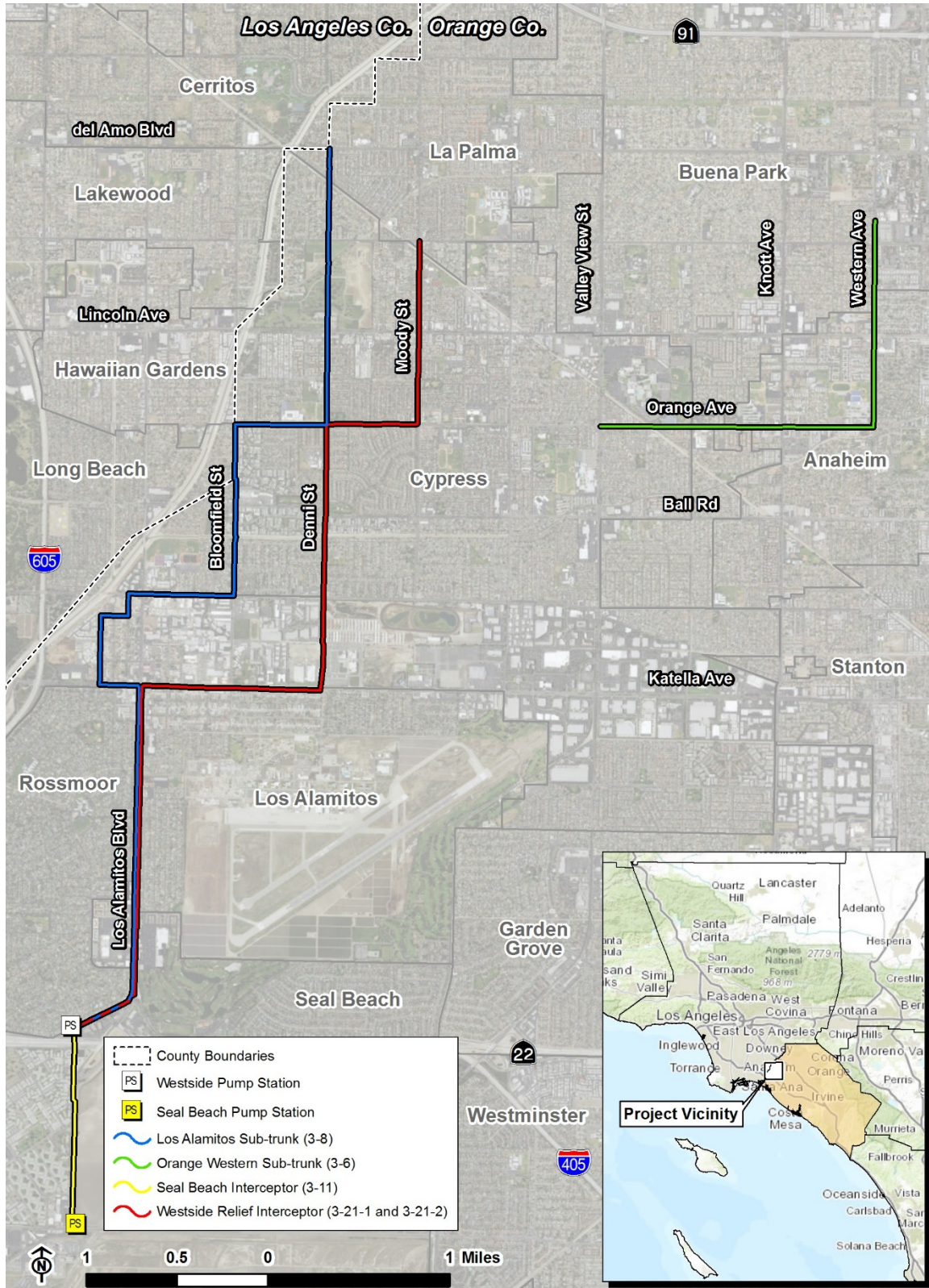
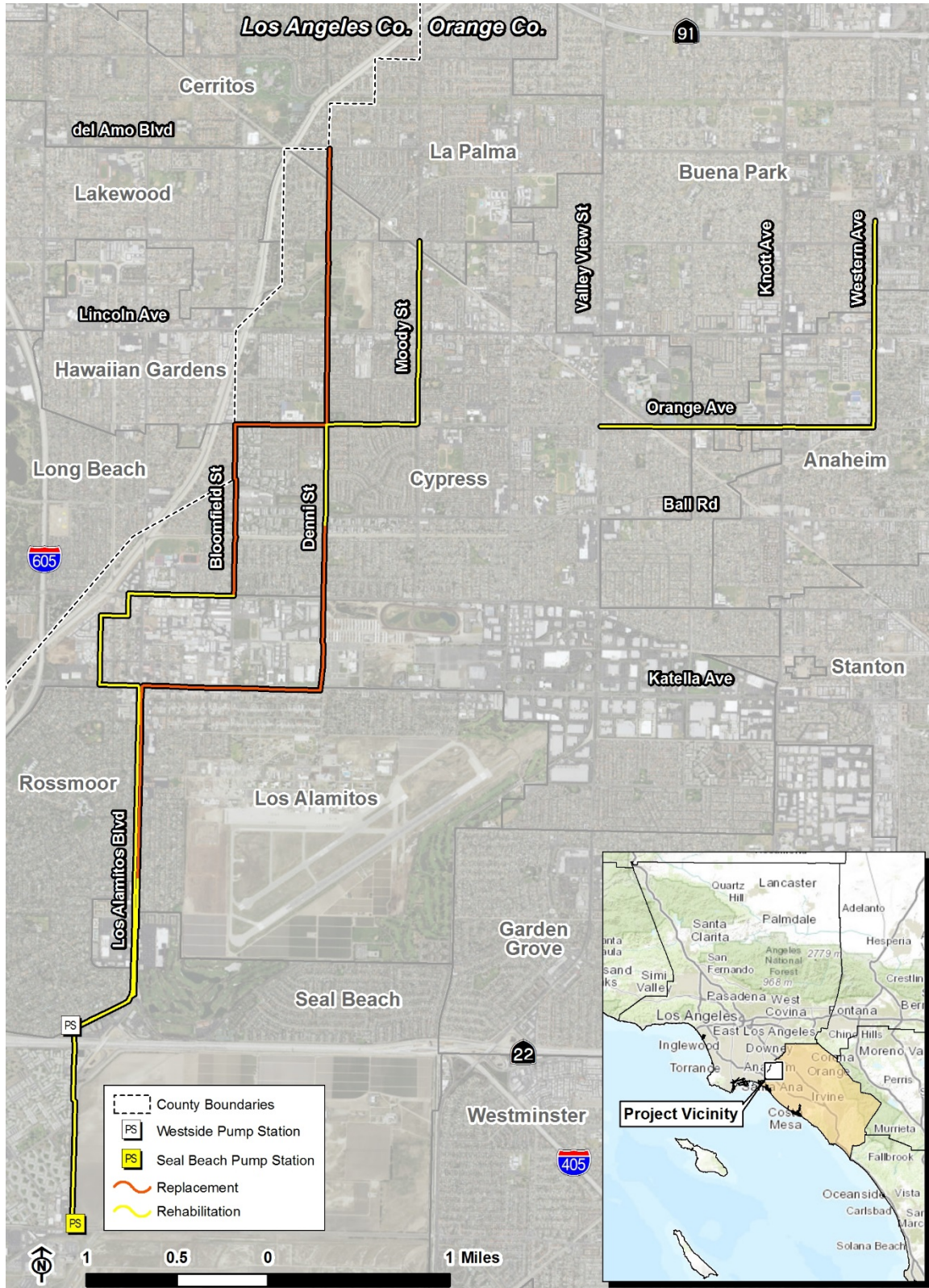


Figure ES-2: Project Elements Requiring Replacement and Rehabilitation



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1.0 Introduction

1.1 Purpose of the Draft Environmental Impact Report

The Orange County Sanitation District (OCSD), as California Environmental Quality Act (CEQA) Lead Agency, has prepared this Draft Environmental Impact Report (EIR) to provide the public and responsible agencies with information about the potential impacts on the local and regional environment associated with the proposed Rehabilitation of the Western Regional Sewers, Project No. 3-64 (proposed Project). This Draft EIR has been prepared pursuant to CEQA (as amended), codified at California Public Resources Code, Sections 21000 et seq., and the CEQA Guidelines set forth in the California Code of Regulations, Title 14, Sections 15000 et seq.

This Draft EIR describes the proposed Project's environmental impacts and requires mitigation measures, as necessary and feasible, to reduce impacts to a less than significant level. The impact analyses are based on a variety of sources, including agency consultation, technical studies, and field surveys. OCSD will use this EIR to consider approval of the proposed Project. As CEQA Lead Agency, OCSD may use this EIR to choose between Alternative 1 and Alternative 2; approve the proposed Project; make Findings regarding identified impacts; identify mitigation measures; and, if necessary, adopt a Statement of Overriding Considerations regarding these impacts.

1.2 CEQA EIR Process

1.2.1 Notice of Preparation

In accordance with Sections 15063 and 15082 of the CEQA Guidelines, OCSD, as Lead Agency, prepared an Initial Study (IS) and Notice of Preparation (NOP) (provided in Appendix A). Beginning on November 30, 2015, the NOP/IS was circulated for 30 days and mailed to interested parties, including local, state, and federal agencies. The NOP/IS was also submitted to the State Clearinghouse, along with a Notice of Completion (NOC). Copies of the NOP/IS were made available for public review at OCSD Administrative Offices (10844 Ellis Avenue, Fountain Valley, CA 92708) and at La Palma, Cypress, Los Alamitos/Rossmoor, Seal Beach/Mary Wilson, Buena Park, and Anaheim/Haskett public libraries. The NOP/IS was also made available for public review on OCSD's website: www.ocsd.com.

The IS provided a general description of the facilities associated with the proposed Project, a summary of the probable environmental effects of the proposed Project to be addressed in the Draft EIR, and figures depicting the proposed Project location and proposed Project components. The NOP/IS provided the public agencies and interested parties with the opportunity to review the proposed Project and provide comments or concerns on the scope and content of the EIR. The NOP/IS comment period ended on December 29, 2015. Nine comment letters were received. The NOP/IS comment letters are presented in Appendix A of this Draft EIR. This Draft EIR addresses all of the issues raised in the NOP/IS comments.

1.2.2 Public Scoping Meeting

CEQA recommends conducting early coordination with the public, appropriate public agencies, and local jurisdictions to assist in developing the scope of the environmental document. Pursuant to the CEQA Guidelines, Section 15083, a public scoping meeting was held at 10:00 a.m. on December 16, 2015, at the City of Cypress Community Center. In addition to the agencies notified through the State Clearinghouse, 64 potentially interested parties and agencies were mailed a copy of the NOP or the NOP/IS notifying them of the date, time, and location of the meeting. The scoping meeting was held to provide the public an opportunity to voice comments or concerns regarding potential effects of the proposed Project and the issues to be included in the Draft EIR. The meeting was attended by representatives from the City of Seal Beach and the Los Alamitos Unified School District.

The comments received during the NOP review period were considered during preparation of this Draft EIR. Issues not related to the scope of the proposed Project or environmental effects (e.g., financing or economic factors) are not addressed in the Draft EIR but may be considered by OCSD before making a final decision on the proposed Project. Please refer to Appendix A for comments received during the scoping period and information related to the circulation of the NOP.

1.2.3 Scope of the EIR

Based on the analysis undertaken in the IS, OCSD determined that the proposed Project may have a significant effect on the environment and that the preparation of an EIR was required. As a result of the analysis within the IS (Appendix A), and in consideration of the comments received during the scoping comment period, it was determined that the proposed Project would result in no impacts to Agriculture and Forestry Resources, Mineral Resources, and Population and Housing. These environmental resource areas will receive no further analysis in this document.

In addition, the IS determined that the proposed Project would have no potential to significantly impact other resource areas within the IS (aesthetics, biological resources, greenhouse gases, cultural resources, public services, and hazardous materials); however, the potential Project-related impacts to these resources are addressed further herein to provide additional information. The analysis in the IS concluded that the Project has the potential to result in significant impacts related to one or more significance criteria (see Appendix A) and required further consideration within the EIR. The following 12 environmental resource areas are the subject of this EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions

- Hazards and Hazardous Materials
- Land Use and Planning
- Noise
- Recreation
- Public Services
- Traffic and Circulation

In addition, the EIR addresses the cumulative impacts of the proposed Project in connection with other past, present, and reasonably foreseeable projects. The EIR also addresses Significant and Unavoidable Environmental Impacts, Growth Inducement, and Energy Concerns.

1.2.4 Significance Determination

This Draft EIR addresses the potential significant environmental effects of the proposed Project. Criteria indicating what constitutes a significant impact have been developed for each environmental resource analyzed in this Draft EIR and are defined in each impact analysis section. Impacts are categorized as follows.

- **Significant and unavoidable:** All feasible mitigation is recommended, but impacts will remain significant following mitigation.
- **Less than significant with mitigation:** Impact will be potentially significant but mitigated to a less than significant level.
- **Less than significant:** Mitigation is not required under CEQA but may be recommended.
- **No impact.**

If an agency approves a project with significant environmental impacts that cannot be mitigated, the agency must adopt a statement that it is approving the project based on its overriding benefits despite its significant environmental effects (CEQA Guidelines § 15043.) This statement of overriding considerations must be included in the record of the proposed project approval (CEQA Guidelines § 15093(a)).

1.2.5 Public Hearing

This document is being circulated to local, state, and federal agencies and to interested organizations and individuals who wish to review and comment on the Draft EIR. Publication of the Draft EIR marks the beginning of a 45-day public review period, during which written comments may be submitted to:

Orange County Sanitation District
Planning Division - CEQA
ATTN: Carla Dillon
10844 Ellis Avenue
Fountain Valley, CA 92708
CEQA@ocsd.com

OCSD will hold a public hearing to receive comments on the Draft EIR during the 45-day review period. Comments should be focused on the adequacy and accuracy of the content of the Draft EIR. The hearing will be held at the following:

Date: Thursday, November 17, 2016

Time: 6:00 p.m. until 8:00 p.m.

Location: Los Alamitos Community Center located at 10911 Oak Street, Los Alamitos, CA 90720

1.2.6 Final EIR

Written comments on the Draft EIR and comments made during the public hearing will be addressed in Responses to Comments in the Final EIR. The Final EIR will also include any revisions to the Draft EIR that may be required based on the comments received or any other information that may be added by OCSD. Prior to approving the proposed Project, OCSD must make written findings of fact with respect to each significant environmental effect identified in the EIR. OCSD then will consider a resolution certifying the Final EIR and adopting a mitigation monitoring and reporting program (MMRP). (14 California Code of Regulations 15090). If the EIR is certified and the MMRP is adopted, OCSD may proceed to consider approval of the proposed Project.

1.2.7 Mitigation Monitoring and Reporting Program

CEQA requires that, when making findings of fact pursuant to CEQA Guidelines Section 15091, lead agencies adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. The mitigation measures identified in this EIR will be incorporated into a Mitigation Monitoring and Reporting Program to ensure that they are implemented. The MMRP will be included as an attachment to the Final EIR.

1.3 Organization of the EIR

The organization of this Draft EIR is as follows:

Executive Summary. This summarizes the contents of the EIR and the impacts and mitigation measures identified.

Chapter 1: Introduction. This chapter discusses the CEQA process and the purpose of the EIR.

Chapter 2: Project Description. This chapter provides an overview of the proposed Project, describes the need for and objectives of the proposed Project, provides detail on the characteristics of the Project build alternatives and summarizes/compares the environmental impacts of these alternatives with the No Build Alternative.

Chapter 3: Environmental Analysis. This chapter describes the environmental setting and identifies impacts of the proposed Project for each of the following environmental resource areas: aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise, public services, recreation, and transportation and circulation. Mitigation measures to lessen potential significant impacts of the proposed Project are presented for each resource area, as necessary and feasible.

Chapter 4: Cumulative Effects. This chapter describes the potential cumulative impacts of the proposed Project when considered together with other past, present, and reasonably foreseeable projects in the Project area.

Chapter 5: Other CEQA Considerations. This chapter describes significant and unavoidable impacts, potential to induce growth, and energy consumption.

Chapter 6: References. This chapter lists the references cited throughout the EIR.

Chapter 7: List of Preparers. This chapter identifies those involved in preparing the EIR.

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2.0 Project Description

2.1 Lead Agency

The Orange County Sanitation District (OCSD) is the CEQA Lead Agency for the Rehabilitation of the Western Regional Sewers, Project No. 3-64 (proposed Project). Created in 1954, OCSD is the third-largest wastewater agency west of the Mississippi River and serves a population of more than 2.5 million people. OCSD is responsible for the collection, treatment, recycling, and disposal of treated wastewater generated within a 479-square-mile service area located in central and northwestern Orange County, California. OCSD's service area includes 20 cities, 4 special districts, and the County of Orange. OCSD is governed by a 25-member board of directors consisting of elected officials from each city and sewer agency located in OCSD's service area. OCSD facilities include over 396 miles of sewer lines, 15 off-site pumping stations, and 2 treatment plants. Currently, OCSD treats approximately 185 million gallons per day (mgd) of wastewater through two connected treatment plants located adjacent to the Santa Ana River, Reclamation Plant No. 1 in Fountain Valley and Treatment Plant No. 2 (Plant No. 2) in Huntington Beach.

2.2 Project Location

OCSD is proposing to rehabilitate and/or replace the entire length of the Orange Western Sub-trunk, the Los Alamitos Sub-trunk, the Westside Relief Interceptor, and the Seal Beach Blvd. Interceptor. These sewer lines are located in the westernmost portion of the OCSD service area and are referred to collectively throughout this document as the Western Regional Sewers. Collectively, the Los Alamitos Sub-trunk, the Westside Relief Interceptor, and the Seal Beach Blvd. Interceptor convey sewage flows from the City of Seal Beach, the community of Rossmoor in unincorporated Orange County, the City of Los Alamitos, the City of Cypress, the City of La Palma, and other areas in the vicinity to the Westside Pump Station. The Orange-Western Sub-trunk conveys flows from the Cities of Cypress, Buena Park, and Anaheim to the Miller Holder Trunk and the Knott Interceptor. The Orange-Western Sub-trunk is not tributary to the Westside Pump Station. Sewage flow from all Project components ultimately is directed to OCSD Treatment Plant No. 2 located at 22212 Brookhurst Street in Huntington Beach.

2.2.1 Los Alamitos Sub-trunk

The Los Alamitos Sub-trunk (Figure 2.2-1), constructed in 1959, is 34,620 feet long and has 90 manholes. The pipe diameter ranges in size from 18 to 30 inches. The Los Alamitos Sub-trunk is within the following cities: La Palma (La Palma Avenue and Denni Street), Cypress (Denni Street, Guardian Drive, Orange Avenue, Bloomfield Avenue, and Bloomfield Street), Los Alamitos (Bloomfield Street, West Cerritos Avenue, Chestnut Street, Sausalito Street, Oak Street, Katella Avenue, and Los Alamitos Boulevard), Seal Beach (Seal Beach Boulevard and Old Ranch Parkway), and the community of Rossmoor in unincorporated Orange County.

2.2.2 Westside Relief Interceptor

The Westside Relief Interceptor (Figure 2.2-1) was constructed under two contracts in 1975 and 1976. This line is approximately 32,100 feet long with 81 manholes. Pipe size ranges from 15 to 39 inches in diameter. The Westside Relief Interceptor is within the following cities: La Palma (Crescent Avenue and Moody Street), Cypress (Moody Street, Orange Avenue, and Denni Street), Los Alamitos (Denni Street, Katella Avenue, and Los Alamitos Boulevard), and Seal Beach (Seal Beach Boulevard and Old Ranch Parkway). The Los Alamitos Sub-trunk and Westside Relief Interceptor meet at the intersection of Orange Avenue and Denni Street at Diversion Structure No. 65. Currently the Diversion Structure is configured to divert southerly flow from the Los Alamitos Sub-trunk to the west, rather than allowing it to continue southward along with flow from the Westside Relief Interceptor. The Los Alamitos Sub-trunk can flow into the Westside Relief Interceptor but not the other way around. The two lines subsequently run in a southerly direction along Los Alamitos Boulevard for approximately 10,800 feet.

2.2.3 Westside Pump Station and Force Main

The Westside Pump Station is located at 3112 Yellowtail Drive in the community of Rossmoor in unincorporated Orange County. The pump station underwent a major renovation in 2008 (Project 3-52). This project consisted of rehabilitating the existing pump station to meet then-current OCSD standards and national and state codes. In addition, the station's capacity was increased to meet then-projected peak wet-weather flows. The work included modification of the ventilation systems, control systems, and the station's structure and isolation of the pump and electrical rooms from one another. The mechanical equipment, which then was located above ground, also was moved 30 feet below ground. The building underwent some minor modifications, and the roof was upgraded. The front gate was moved to the east of the property to ease access into the pump station. Additional landscaping was installed to enhance the front of the facility.

2.2.4 Orange-Western Sub-trunk

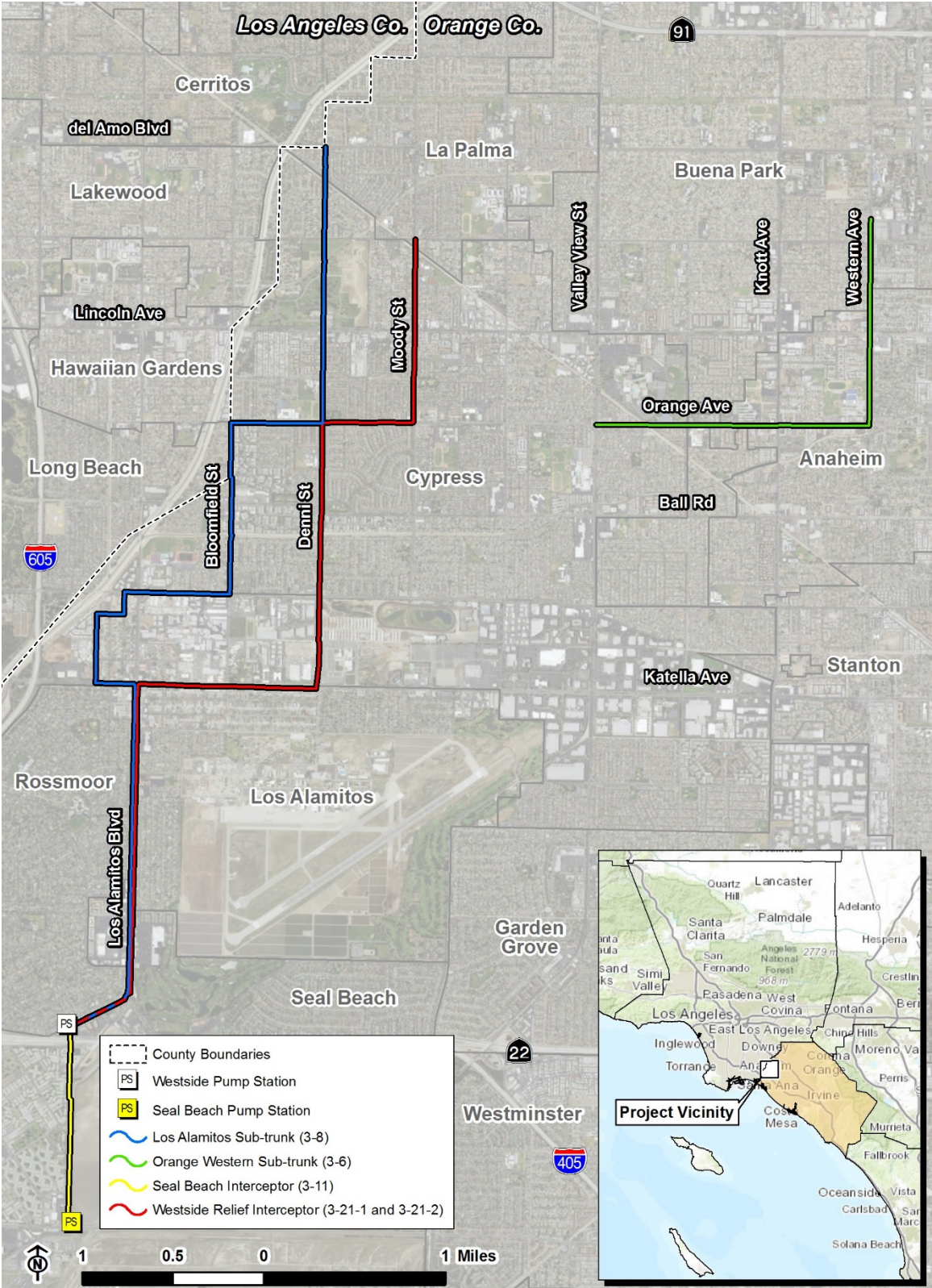
The Orange-Western Sub-trunk (Figure 2.2-1), constructed in 1959, is 13,940 feet long and has 38 manholes. The pipe is 21 inches in diameter. The Orange-Western Sub-trunk consists of two segments. The first segment begins just north of the intersection of Crescent Avenue and Western Avenue in the City of Buena Park. The pipeline continues south on Western Avenue and turns west on West Orange Avenue before connecting to the Knott Interceptor. The second segment continues west on West Orange Avenue from the Knott Avenue intersection to the Miller Holder Trunk Sewer at the Valley View Street intersection.

2.2.5 Seal Beach Blvd. Interceptor

The Seal Beach Blvd. Interceptor (Figure 2.2-1), constructed in 1970, is 5,530 feet long and has 8 manholes. The pipe is 51 inches in diameter. The Seal Beach Blvd. Interceptor begins just south of the Westside Pump Station at the end of Old Ranch Parkway in the City of Seal Beach. The pipeline continues south across the Interstate 405 (I-405) freeway right-of-way and in North Gate Road south of I-405 until merging with Seal Beach Boulevard. The pipeline then continues south along Seal Beach

Boulevard until it reaches the Seal Beach Pump Station located at the intersection of Seal Beach and Westminster boulevards. The Seal Beach Naval Weapons Station extends to the centerline of Seal Beach Boulevard. Approximately 3,500 feet of Seal Beach Blvd. Interceptor is on easement on United States Navy land.

Figure 2.2-1: Project Area Map



2.3 Purpose and Objectives

The Western Regional Sewer pipelines have exceeded their functional life and have developed deficiencies that have led to the intrusion of groundwater and, in some cases, hard calcium deposits which make the pipe hard to clean and impede wastewater flow. Also, portions of both the Los Alamitos Sub-trunk (15,540 linear feet) and the Westside Relief Interceptor (16,010 linear feet) are considered capacity deficient, are unable to handle projected 2040 wet weather flows, and need to be upsized to minimize the existing surcharging potential. Further, the Westside Pump Station wet well was renovated in 2008 to extend its serviceable life. The repairs to the wet well are nearing the end of their expected life, and the wet well needs to be replaced.

The purpose of the proposed Project is to increase the life of the Western Regional Sewers within the western region of OCSD's service area by another 50 years and to ensure that the projected 2040 wet weather peak flows (10-Year Storm) would be adequately contained.

Objectives for the proposed Project include the following:

- Extend the service life of the Western Regional Sewers by either rehabilitation of the existing lines or replacement of the lines on new alignment within the same streets
- Replace the Westside Pump Station wet well to prevent potential for future failure and release of sewage to the environment
- Accommodate projected 2040 wet weather peak flows (10-Year Storm)
- Minimize impacts to the environment
- Minimize existing surcharging in new/rehabilitated pipes
- Minimize groundwater intrusion in new/rehabilitated pipes
- Reduce potential for odors

Without rehabilitation of the Western Regional Sewers and implementation of the Westside Pump Station improvements, the potential for groundwater intrusion and surcharging would continue and the wet well would further degrade. Additionally, OCSD would not meet requirements to accommodate projected 2040 wet weather flows, potentially resulting in unplanned sanitary sewer releases to the environment.

2.4 Project Description

The proposed Project comprises the following main elements: (1) rehabilitation of portions of the Western Regional Sewers pipelines and manholes, (2) replacement of portions of the Western Regional Sewers pipelines and manholes, and (3) improvements to the Westside Pump Station. Pipeline rehabilitation would consist of lining the existing pipe or manhole. Pipeline replacement would consist of installing new, larger diameter pipelines within the Project area. Pump station improvements would

consist of replacement of the wet well and rehabilitation or replacement of the force main, as well as installation of an air scrubber or air jumper line for odor control and a new vent stack which would not exceed 20 feet in height. Additional details are provided below, based on location.

As described in Section 2.5, OCSD is committed to minimizing impacts to the community and environment and may use trenchless construction methods where feasible; however, for the purposes of evaluating a reasonable worst case scenario for potential pipeline replacement impacts in this Draft Environmental Impact Report (EIR), trenchless construction methods are only assumed at all Orange County Flood Control District (OCFCD) facilities or other drainage channels and near Willow Street/Denni Street through to Denni Street (i.e., between the residences and beneath the Pacific Electric right-of-way and Denni Street Park).

CEQA requires that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6). Build alternatives associated with the construction of new pipelines and associated facilities lying outside existing street rights-of-way and easements would result in increased environmental impacts due to (1) constraints imposed by the need to serve existing local sewer connections, (2) substantial increases in excavation required to accommodate new pipelines and new routes, and (3) the potential need for construction of additional pump stations.

Based on the purpose and objectives specified for the proposed Project in Section 2.3, therefore, only build alternatives utilizing existing public rights-of-way and OCSD easements have been considered within this Draft EIR.

OCSD has thus identified the following two build alternatives as reasonable and feasible approaches to the proposed Project that would attain the Project's stated objectives:

- Build Alternative 1 would replace portions of the existing Los Alamitos Sub-trunk and the Westside Relief Interceptor with new, larger capacity pipe. This Build Alternative also would rehabilitate portions of the existing Los Alamitos Sub-trunk (Approximately 15,540 linear feet) and the Westside Relief Interceptor (approximately 16,090 linear feet) sewer pipe in place. In addition, Build Alternative 1 would rehabilitate the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines in place. Further, Build Alternative 1 would rehabilitate the Westside Pump Station force main and wet well.
- Build Alternative 2 would replace the entire Los Alamitos Sub-trunk pipeline with new, larger capacity pipe. This build alternative also would divert all flow from the Westside Relief Interceptor north of Orange Avenue to the enlarged Los Alamitos Sub-trunk via a new diversion structure. In addition, Build Alternative 2 would rehabilitate the entire length of the Westside Relief Interceptor (approximately 32,100 feet), as well as the Orange-Western Sub-trunk and the

Seal Beach Blvd. Interceptor pipelines in place. Further, Build Alternative 2 would rehabilitate the Westside Pump Station force main and wet well.

While these two build alternatives take different approaches to meeting the proposed Project objectives, they also have certain elements in common. The following subsections describe the two project build alternatives identified by OCSD for evaluation within this EIR in more detail, including discussion of those elements unique to and/or common between these alternatives.

2.4.1 Common Features of the Build Alternatives

2.4.1.1 Pipeline Rehabilitation

Both build alternatives would rehabilitate the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines using trenchless cured-in-place pipe (CIPP) methods (see Section 2.5.3). Further, approximately 16,090 linear feet of the existing Westside Relief Interceptor sewer pipe, ranging in size from 15 to 39 inches in diameter and running generally southward from the intersection of Moody Street and Crescent Avenue in the City of La Palma to the Westside Pump Station in the unincorporated area of Rossmoor, would be rehabilitated in place using trenchless CIPP methods under both build alternatives. Manholes associated with these pipelines would be replaced or rehabilitated as appropriate. As a result, environmental impacts associated with the construction of these common Project elements would be identical for both build alternatives.

2.4.1.2 Manhole Rehabilitation or Replacement

All of the Western Regional Sewer pipelines would require either manhole rehabilitation or replacement under either build alternative. Manhole replacement involves removing and replacing the entire manhole structure. New manholes would have a built-in liner from the factory or a new liner system would be installed after the replacement manhole is installed. Manhole rehabilitation, on the other hand, would include concrete rehabilitation, relining, and resealing the existing manhole in place. This type of work requires a construction area approximately 15 feet wide and 30 feet long that extends around the manhole in order to accommodate construction equipment. Temporary lane closure would be required; and traffic would be directed around the construction area by signs, cones, and/or flagmen.

2.4.1.3 Westside Pump Station

Both Build Alternatives 1 and 2 would entail rehabilitation or replacement of the Westside Pump Station force main and replacement of the wet well, as well as installation of an air scrubber or air jumper line for odor control. (The estimated work effort and associated equipment for this rehabilitation is presented in Table 2.4-1.)

Construction activities at the Westside Pump Station would include complete replacement of the wet well. This would entail deep excavation (from 25 to 30 feet below ground surface [bgs]), non-vibratory driving, and shoring, either through the use of secant wall or slurry diaphragm wall methods (Figure 2.4-1 and Figure 2.4-2: Westside Pump Station Shoring – Typical Vibratory Pile Driving Method

), as well as bypassing all flow entering the pump station during portions of construction. Should groundwater be encountered during excavation, sheet piling and dewatering pumps would be utilized. In the event that groundwater is encountered during excavation and dewatering occurs, the extracted water would be discharged to the sanitary sewer, which is part of the OCSD collection system. Where water exceeds OCSD thresholds for discharge to sewers, the contractor would either treat the water to meet OCSD sewer discharge requirements prior to discharge to sewers or containerize and dispose of dewatering at a licensed facility.

In addition, the force main would be replaced or rehabilitated. New odor control facilities would be included. Odor control would be either an underground vent line (air jumper) between the wet well and the force main outlet or a new two-stage biological/chemical air scrubber. Should it be determined that the air scrubber unit would be necessary, OCSD would construct a new enclosure to house the air scrubber unit. The air jumper would be underground and result in minimal impacts. Construction of the air scrubber is considered a reasonable worst-case scenario for analysis within this Draft EIR. Therefore, the impact analyses presented in Chapters 3 and 4 of this document are based on construction of an air scrubber unit at the Westside Pump Station. The decision regarding which method would be employed would be made prior to final design.

Table 2.4-1: Estimated Construction Work Effort and Associated Equipment

Activity	Construction Equipment Type	Quantity of Equipment	Hours of Operation/Day	Number of Working Days	Workers
Wet Well/Force Main/ Air Scrubber	Backhoe	1	6	20	1
	Excavator	1	6	15	1
	Dump truck	1	6	30	1
	Large crane				
	Small crane	1	6	4	1
	Delivery truck	1	2	10	1
	Concrete truck	1	4	15	1
	Contractor support trucks	2	8	180	8
	Air compressor	1	6	90	
	Diesel generator	1	6	90	
	Bypass pumps	3	24	20	1
	Vibratory equipment (attachment to excavator)	1	6	10	1
	Drill rig	1	6	10	1
OCSD Oversight	Pickup trucks	1	8	180	1

Figure 2.4-1: Westside Pump Station Shoring – Typical Slurry Wall Construction Method

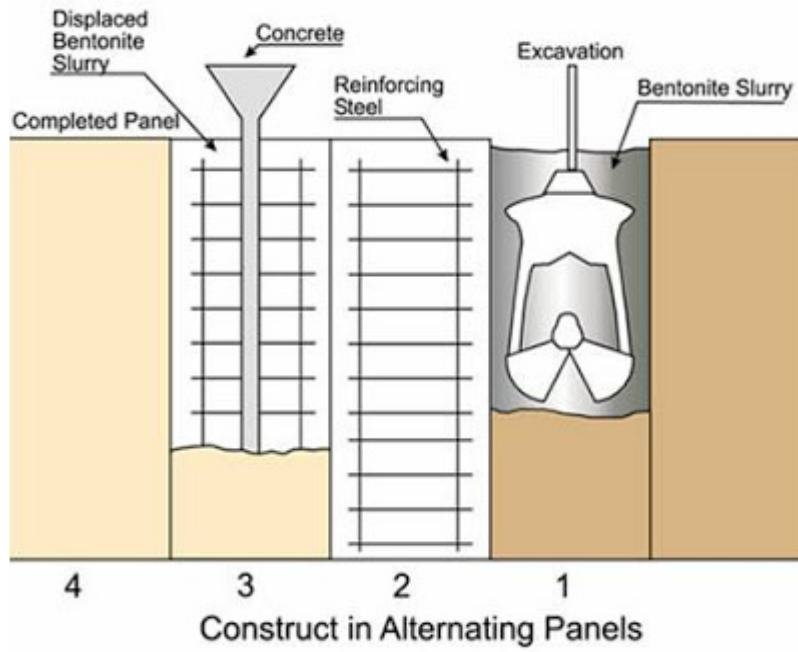


Figure 2.4-2: Westside Pump Station Shoring – Typical Vibratory Pile Driving Method



2.4.2 Unique Features of the Build Alternatives

2.4.2.1 Build Alternative 1

Build Alternative 1 (Figure 2.4-3), includes the following unique elements:

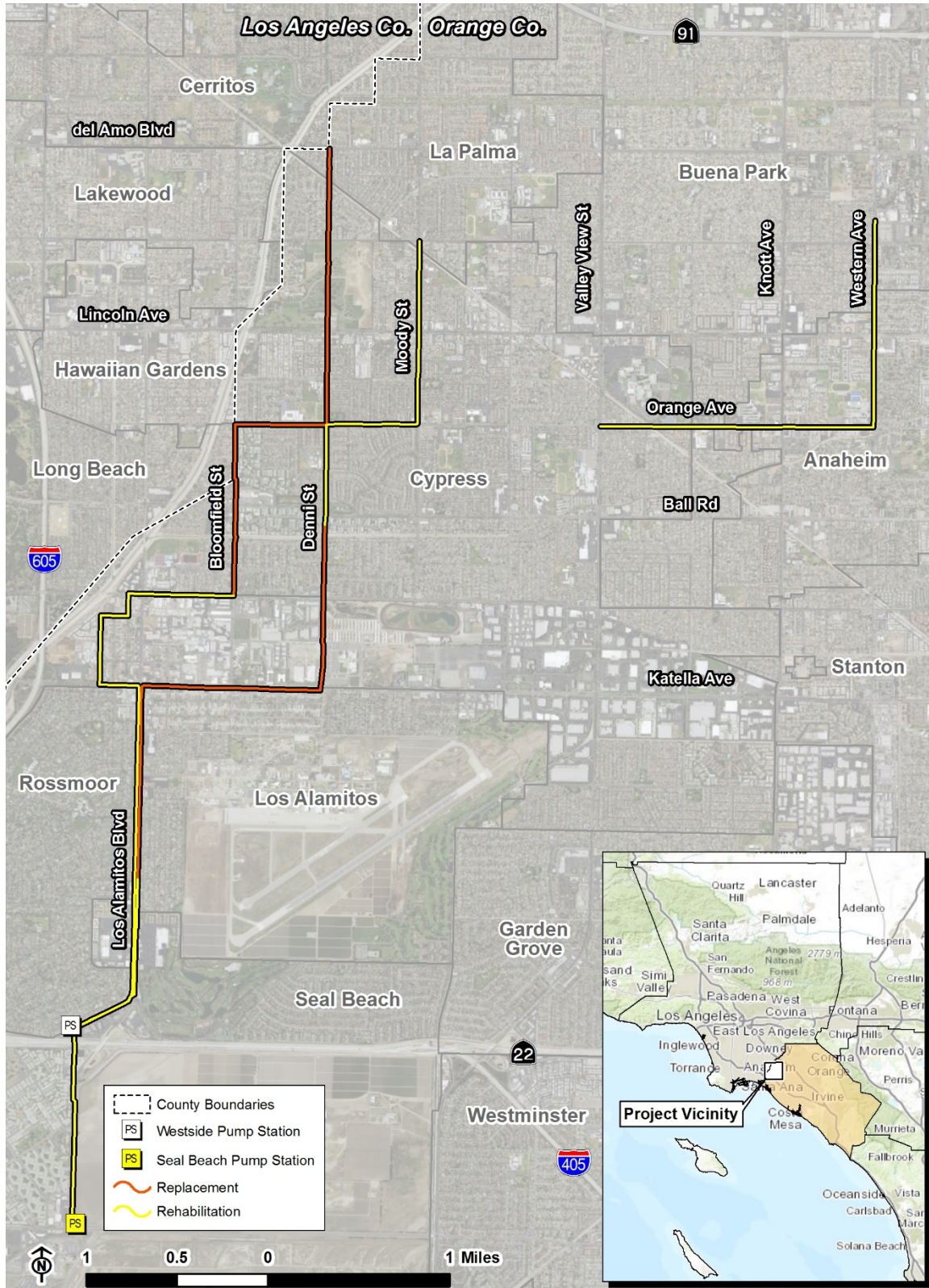
- Approximately 15,540 linear feet of existing Los Alamitos Sub-trunk 18- to 24-inch sewer pipe would be replaced with new, larger capacity 21- to 27-inch pipe via open-cut trenching. The course of this replacement would run along existing rights-of-way and easements generally southward from the intersection of Denni Street and the juncture of Del Amo Boulevard/La Palma Avenue in the City of La Palma to the intersection of Bloomfield Street and Cerritos Avenue in the City of Los Alamitos (Figure 2.4-3). The remaining 19,080 linear feet of Los Alamitos Sub-trunk pipe, running generally southward from this intersection to the Seal Beach Pump Station, would be rehabilitated in place using trenchless CIPP methods.
- Approximately 16,090 linear feet of existing Westside Relief Interceptor sewer pipe, ranging in size from 15 to 39 inches in diameter and running generally southward from the intersection of Moody Street and Crescent Avenue in the City of La Palma to Myra Avenue in the City of Cypress (Figure 2.4-3), would be rehabilitated in place using trenchless CIPP methods. The remaining 16,010 linear feet of Westside Relief Interceptor, consisting of 27- to 36-inch pipe, running generally southward from Myra Avenue to the Westside Pump Station, would be replaced with larger capacity pipe. This replacement, via open-cut trenching, would occur along existing rights-of-way/easements.

Subsequent to construction of the new pipes, the existing pipe and manholes would be abandoned in place and filled with concrete slurry.

Construction of Build Alternative 1 components would be undertaken in phases to constrain construction-related NO_x emissions below the South Coast Air Quality Management District (SCAQMD) exceedance threshold level of 100 lbs. per day (see Sections 3.2.4 and 3.2.5).

The estimated cost of implementing Build Alternative 1 is from \$100 to \$135 million.

Figure 2.4-3: Build Alternative 1 – Proposed Replacement and Rehabilitation Locations



2.4.2.2 Build Alternative 2

Build Alternative 2 (Figure 2.4-4) would obviate the need to increase the capacity requirements currently projected for the Westside Relief Interceptor by:

- (1) constructing a second diversion structure at the intersection of Denni Street and Orange Avenue
- (2) diverting all of the flow from the Westside Relief Interceptor north of Orange Avenue to an enlarged Los Alamitos Sub-trunk

This alternative would allow the Westside Relief Interceptor to be rehabilitated in place along its entire length using trenchless CIPP methods and its manholes to be rehabilitated or replaced depending on the size of the manhole access point and condition.

Under Build Alternative 2, the entire length of the Los Alamitos Sub-trunk pipeline (34,620 feet) would be replaced with increased diameter pipe to accommodate flows conveyed from the Westside Relief Interceptor through the new diversion structure located at the intersection of Denni Street and Orange Avenue. Currently, the diameter of the Los Alamitos Sub-trunk ranges from 18 inches to 30 inches. Under Alternative 2, it would be upsized to a range of 21 to 33 inches.

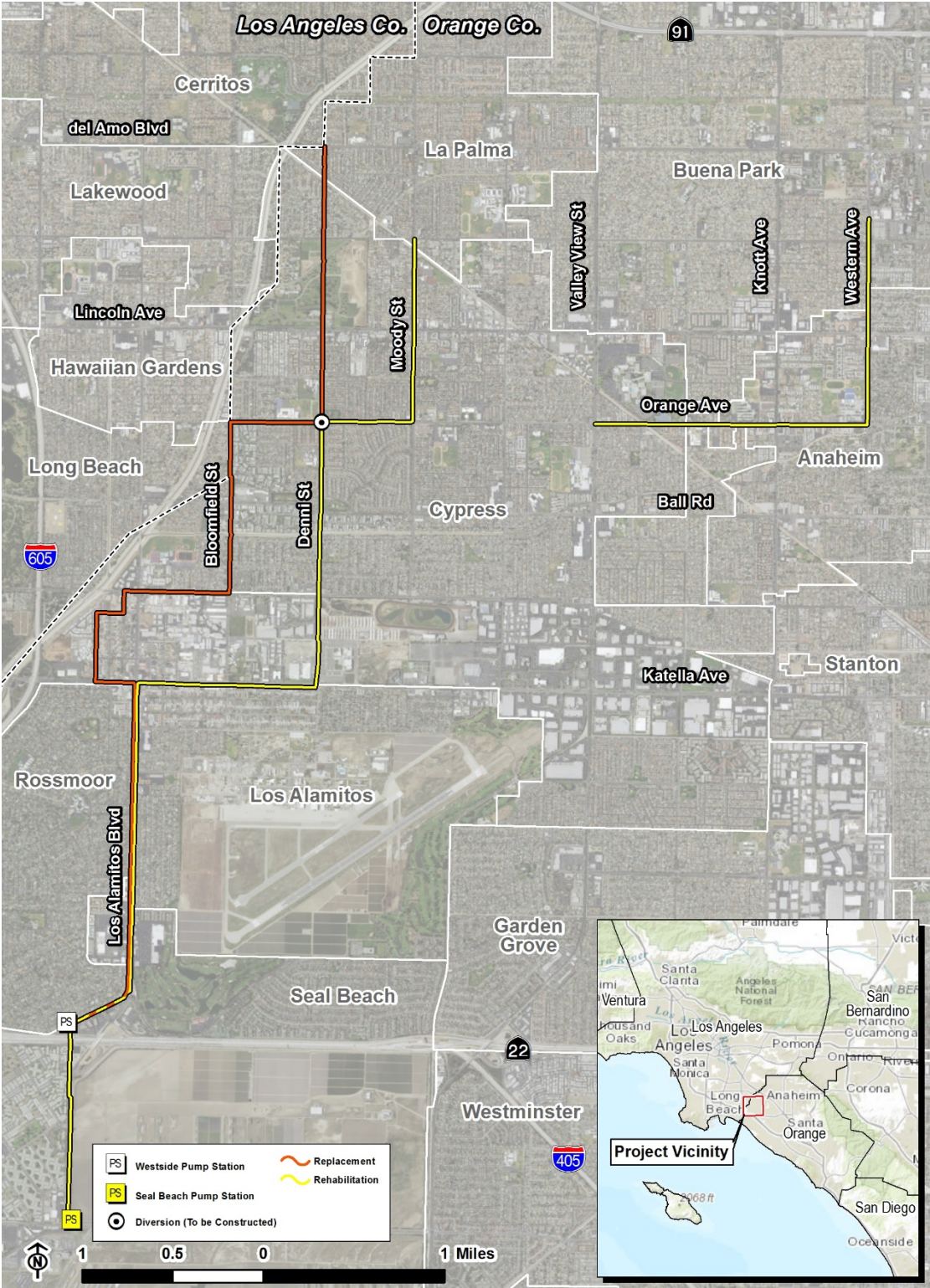
The newly resized pipeline would require open-cut construction to a depth of approximately 31.3 feet bgs along the entire Los Alamitos Sub-trunk street alignment.

As with Build Alternative 1, subsequent to construction of the new pipes, the existing pipe and manholes would be abandoned in place and filled with concrete slurry.

As with Build Alternative 1, construction of Build Alternative 2 components would be undertaken in phases to constrain construction-related NO_x emissions below the SCAQMD exceedance threshold level of 100 pounds (lbs.) per day (see Sections 3.2.4 and 3.2.5).

The pipeline replacement work effort associated with Build Alternative 2 would result in the need to trench/excavate approximately 3,070 linear feet more than that required for Build Alternative 1 (the Los Alamitos Sub-trunk and the Westside Relief Interceptor combined), with a concomitant increase in potential construction-related impacts. Cost estimates for completing Build Alternative 2 range from \$118 to \$140 million.

Figure 2.4-4: Build Alternative 2 – Proposed Replacement and Rehabilitation Locations



2.5 Construction

The proposed Project is based on preliminary planning data. OCS D has retained an engineering consultant to verify preliminary data. The impact analysis in Chapter 3.0 of the Draft EIR assumes open-cut trench construction for all pipe replacement areas (see Figure 2.4-3), except where otherwise noted, such as at all OCFCD facilities or other drainage channels, from near Willow Street/Denni Street through to Denni Street (i.e., between the residences and beneath the Pacific Electric right-of-way and Denni Street Park). These sections would use trenchless construction methods to replace the pipe. CIPP methods would be utilized for all rehabilitation areas (see Figure 2.4-3, Figure 2.4-4, and Section 2.5.3).

It should be noted that OCS D is committed to minimizing impacts to the community and the environment through the use of trenchless construction methods where feasible. Trenchless technologies tend to have fewer impacts than open-cut trenching. For example, trenchless construction techniques generally entail construction periods of shorter duration, require fewer pieces of construction equipment, and involve smaller construction areas when compared to open-cut trenching construction methods. For the purposes of disclosure, various trenchless construction methods/approaches are discussed in the following subsections; however, unless otherwise specifically noted (see above), potential impacts associated with open-cut trenching methods for pipeline replacement are evaluated within Chapter 3.0 of this EIR document, thus representing a reasonable worst-case scenario.

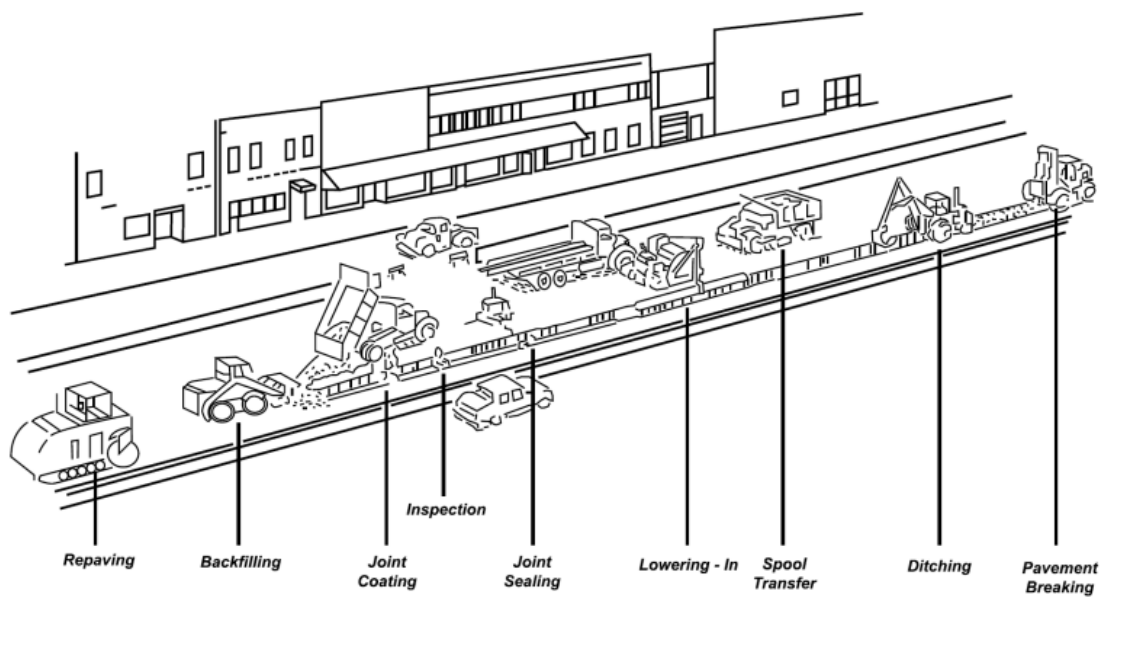
Other construction components for the replacement pipes would include the reconnection of local sewers and the abandonment of old lines. Subsequent to the installation of the new pipe or the rehabilitation of existing pipe, local and permitted connections to the mainline would be rejoined. In locations where non-permitted connections occur or in locations where private laterals are connected directly to OCS D sewer lines, a new local connection/system would be constructed and connected in accordance with OCS D policy (Sewer Use Ordinance; Article 3, Section 3.7), which requires private laterals/connections to be connected to a city- or county-owned manhole or pipeline prior to being connected to an OCS D manhole or pipeline. Subsequent to construction of the new pipe, the existing pipe and manholes would be abandoned in place and filled with concrete slurry.

2.5.1 Open-Cut Trenching

Only portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor would require pipeline replacement. At this time, it is anticipated that the Los Alamitos Sub-trunk and the Westside Relief Interceptor contain approximately 15,540 feet and 16,010 feet of capacity-deficient pipe, respectively. The diameters for proposed up-sized pipes for the Los Alamitos Sub-trunk range from 18 to 30 inches for Build Alternative 1 and from 21 to 33 inches for Build Alternative 2. The proposed up-sized pipes for the Westside Relief Interceptor would be 30 to 39 inches in diameter. The replacement of these pipelines would require an open-cut trench up to approximately 7 feet wide. The new pipes would be installed on a parallel alignment at the same depth as the existing pipe. The replacement portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor would require excavation to depths up to

22.7 feet bgs and 31.3 feet bgs for Build Alternative 1 and Build Alternative 2, respectively. Trenches likely would be braced using trench box or speed shoring (Figure 2.5-2). In the event that groundwater is encountered during excavation, dewatering would occur; and the extracted water would be discharged to the sanitary sewer, which is part of the OCSD collection system. Where water exceeds OCSD thresholds for discharge to sewers, the contractor would either treat to meet OCSD sewer discharge requirements prior to discharge to sewers, or the dewatering would be containerized and disposed at a licensed facility.

Figure 2.5-1: Typical Open Trench Construction Scenario



The construction areas would need to be large enough to allow access for large construction equipment (e.g., dump trucks, excavators, loaders, delivery trucks, etc.). Depending on traffic and other constraints, construction areas would be approximately 25 feet wide. It is anticipated that a minimum of 50 to 100 feet of excavation, installation, and backfilling would occur each day using open-cut trenching. The construction equipment and materials would be staged in parking lots, vacant lots, or segments of street lanes that are temporarily closed. The active construction area could extend along the alignment from between 500 to 1,000 feet for each of the project segments. The staging areas would be necessary along the construction routes. These staging areas would be selected to minimize hauling, traffic, and community disruption. Excavated material would be reused to backfill the open trench. Otherwise, a low strength “grout” material or imported backfill would be delivered to stockpiles near the open trench to be used as backfill. Once the new pipeline is in place, backfill would be placed in the trench. The streets would be compacted and paved in accordance with state and local building codes and encroachment permits (see Figure 2.5-1). The excavation spoils and all solid waste produced during open-cut trenching would be disposed at a properly permitted facility in accordance with federal and state laws.

Figure 2.5-2: Typical Open-Cut Trench Shoring

Sewage bypass would be required as part of the construction efforts prior to connecting the new pipe into the existing system. Sewage bypass requires pumps and hoses to collect sewage upstream of the construction area and transport it to downstream of the construction area.

Local, business, and emergency access would be provided at all times and would be a major component of the traffic control plans submitted to each affected jurisdiction for approval to obtain the encroachment permits and utility agreements needed in order to implement the proposed Project. Where feasible, the replacement pipeline alignment would be within center lanes/medians in order to minimize traffic disruption during construction. Preferred locations may require temporary closure of bike lanes, and the use of bus stops could be disrupted temporarily within the construction area. Additionally, on smaller streets or where other constraints occur, one-way traffic control and/or on-street parking restrictions may be required within the construction area. Additionally, construction on all major streets would occur during hours approved by the corresponding jurisdiction. It is anticipated that nighttime work may be required at certain times or in certain locations to reduce either traffic or other

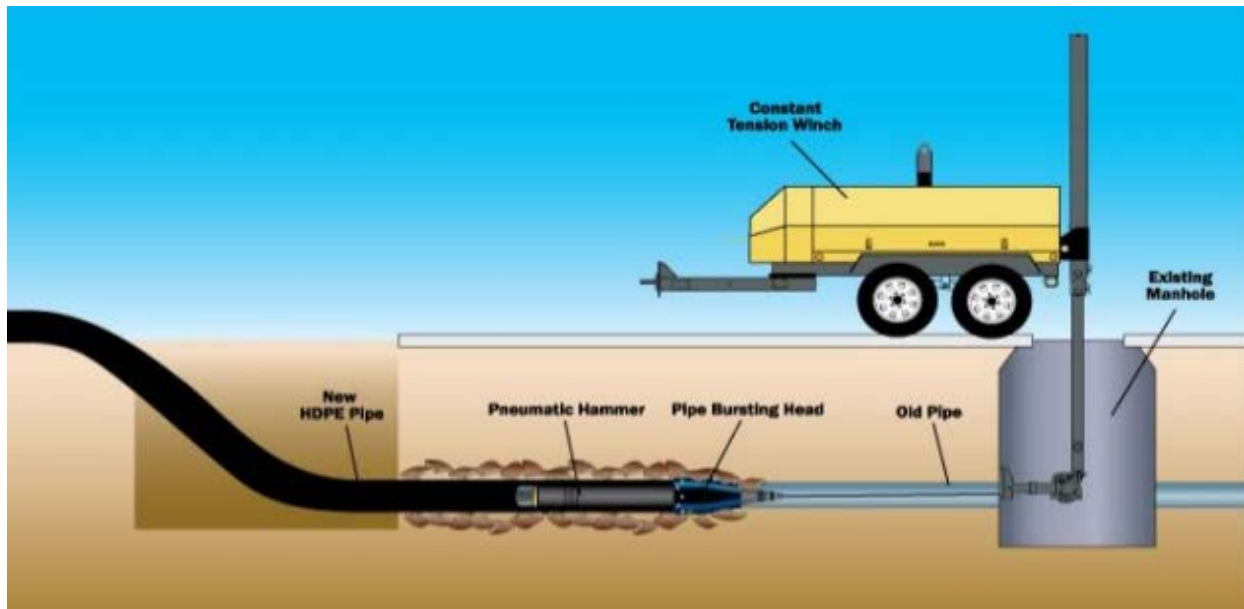
impacts; however, all nighttime work would require prior approval by the affected corresponding jurisdiction.

2.5.2 Trenchless Rehabilitation Construction Methods

As previously discussed, OCS D is committed to utilizing trenchless construction methods where feasible to minimize community and environmental impacts. Trenchless construction, however, may not be feasible due to soil or groundwater conditions or other site-specific conditions such as the location of adjacent utilities. Trenchless methods typically are used to construct under a busy roadway or a stream or to avoid other sensitive environmental areas. During the final design of the proposed Project, various locations would be considered for trenchless construction. In order to analyze a reasonable worst-case scenario, however, open-cut trenching methods for pipeline replacement are assumed for the impact determinations in Chapter 3.0, unless noted otherwise. A brief discussion of some of the other trenchless technologies that could be utilized for the pipe replacement portions of the proposed Project is provided below. Other trenchless rehabilitation technologies/methods are available and will be evaluated for use on the project for rehabilitation of the pipeline when additional capacity is not required. These methods include slip-lining; high-density polyethylene (HDPE) pipe liner; polyvinyl chloride (PVC) pipe liner; HDPE spirally wound profile wall liner; centrifugally cast, fiberglass reinforced, polymer mortar (CCFRPM) liner; and spray applied liquid and cementitious liners and other similar methods. Slip-lining involves inserting a new, smaller diameter pipe inside the existing pipe and grouting the annular space. The liner methods involve lining the pipe with various flexible materials that form up against the inside face of the existing pipe. Liquid and cementitious liners are sprayed onto the inside surfaces of the existing pipe with custom made remotely operated vehicles. CIPP was evaluated in this EIR as representative of trenchless rehabilitation methods which could be used that would meet Project objectives (see Section 2.5.3).

2.5.2.1 Pipe Bursting

Pipe bursting or in-line expansion is a trenchless method by which the existing pipe is forced outward and opened by a bursting device (Figure 2.5-3). The bursting device, which has an expansion head that pushes the existing pipe radially outward until the pipe breaks, is pulled through the existing pipe by a cable rod and winch. As the bursting device breaks up the existing pipe, the new, typically larger pipe is pulled behind the bursting device and replaces the existing pipe.

Figure 2.5-3: Typical Pipe Bursting Method

2.5.2.2 Tunneling

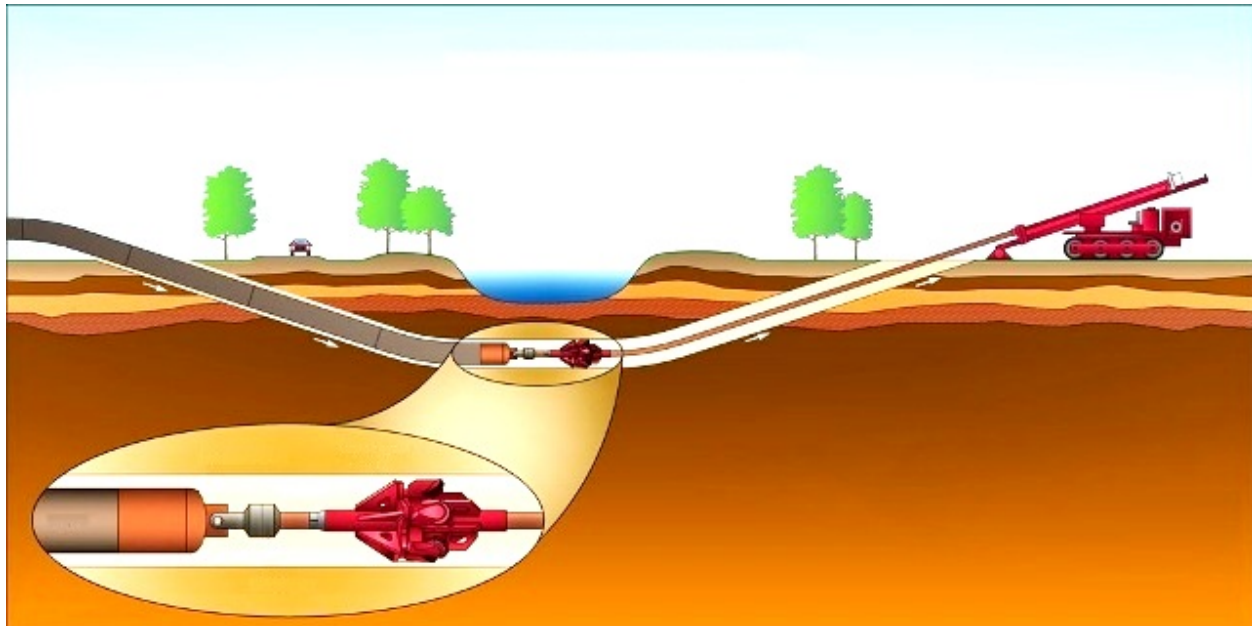
Tunneling requires a specialized tunnel-boring machine, as well as access and retrieval shafts that have shoring, such as sheet or concrete piles. Tunneling operations typically run continuously. The tunnel-boring machine drills the tunnel as it moves toward the retrieval shaft. The spoils are removed from behind the boring machine through the access shaft. Microtunneling can be used to install large-diameter pipe. Microtunneling features a smaller boring machine that is controlled remotely from the surface. The pipe is installed immediately behind the boring machine. When using the microtunneling method, generally, no workers are in the tunnel. Microtunneling can be used below the water table in certain soil types.

2.5.2.3 Horizontal Directional Drilling

Horizontal directional drilling (HDD) uses a drilling rig on the surface to install a drill pipe in a shallow underground arc (Figure 2.5-4). The drilling rig bores a pilot hole that is filled with fluid. A swiveling reamer is then used to enlarge the hole to the size of the sewer pipe, and the sewer pipe is pulled through. Directional drilling often requires a large staging area to line up the pipe. The jack-and-bore method involves the use of a horizontal boring machine or auger to drill a hole and a hydraulic jack to push a casing through the hole. As the boring proceeds, a steel casing pipe is jacked into the hole; the pipeline is then installed in the casing. The casing is jacked using a large hydraulic jack in a pit located at one end of the crossing. The jacking pit would be several feet deeper than the replacement pipe elevation and up to 20 feet wide; ultimate depth and width of the temporary pits are dependent upon the replacement pipe depth and size. In pits below the water table, the use of sheet-piling, special bulkheads, and dewatering pumps and wellfields would be required. In the event that groundwater is encountered during excavation, dewatering would occur. The extracted water would be discharged to

the sanitary sewer, which is part of the OCSD collection system. Where water exceeds OCSD thresholds for discharge to sewers, the contractor would either treat to meet OCSD sewer discharge requirements prior to discharge to sewers or the dewatering would be containerized and disposed at a licensed facility.

Figure 2.5-4: Typical Horizontal Directional Drilling Method



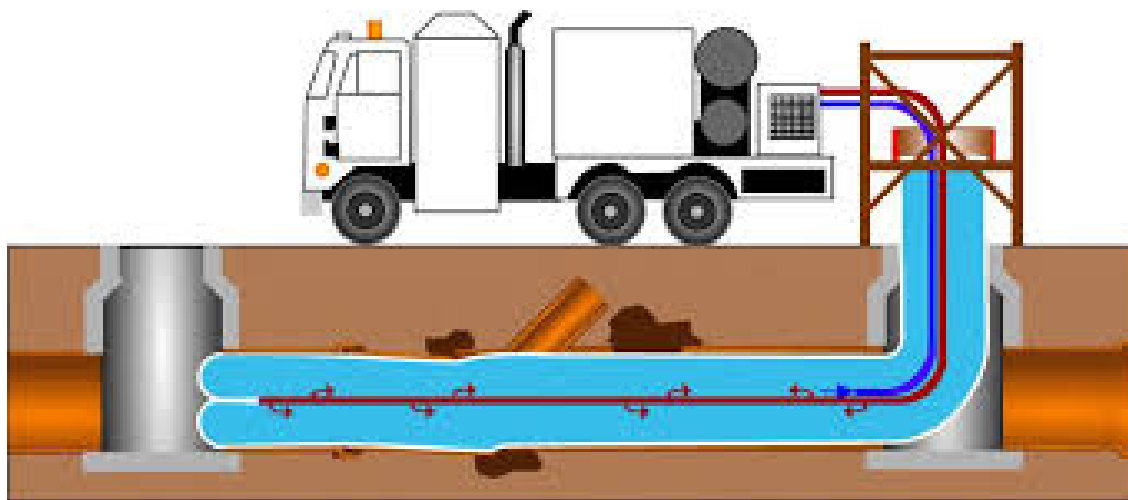
2.5.3 Cured-In-Place Pipe Rehabilitation

Cured-in-place pipe (CIPP) is a rehabilitation method that utilizes the existing pipe as a host for a new liner. CIPP generally would be completed through the manholes and involves directing a resin-soaked liner through the existing pipe by pushing it ahead with either air or water or pulling it through with a constant tension winch (Figure 2.5-5). Prior to inserting the liner, the pipe would be prepped (e.g., bypassed, cleaned, smoothed, and surveyed). Once the liner has been inserted, the resin is then cured by either ultraviolet (UV) light, steam, or hot water. Subsequent to curing the pipe, any sewer laterals would be reconnected.

The maximum construction area for the installation of CIPP using steam or water to cure would be 15 feet wide and 90 feet long (45 feet on each side of the upstream manhole) and 15 feet wide and 40 feet long at the downstream manhole. Curing using UV light would require a somewhat smaller area due to the use of different equipment (i.e., no boiler or refrigeration truck is required). For the purposes of this Draft EIR, CIPP using water or steam is assumed because this curing method requires the most equipment, largest construction area, and longest curing times and is therefore a reasonable worst-case pipe rehabilitation scenario. Curing times between water and steam and UV light are highly dependent on site-specific subsurface conditions. Where applicable, curing time using UV light would be much shorter.

Installing a lining requires less disturbance and restoration than replacing the pipe. In some instances, however, sewer lining cannot be installed through existing manholes, and installation would require excavation for insertion pits to install the lining. If excavation pits are required, slip lining or other trenchless technologies also may be considered for pipe rehabilitation. Temporary lane closure would be required; however, any such lane closures would require prior approval by the affected corresponding jurisdiction. Under such circumstances, traffic would be directed around the construction area by signs, cones, and/or flagmen. Manhole rehabilitation/replacement would result in some traffic disruption and driver inconveniences; however, no closures of major arterials would take place. On narrower residential streets, parking restrictions and one-way traffic control may be required. Closures would be required only if necessary to ensure public safety, facilitate traffic flow around the construction area, or as otherwise required by the local jurisdiction.

Figure 2.5-5: Typical Cured-in-Place Pipe Method



2.5.4 Construction Schedule and Cost

It is currently anticipated that construction would occur from March 2019 through March 2023. It is also anticipated that, with the exception of the work at the Westside Pump Station, project components as described above in Section 2.4 would be staged and constructed sequentially with potentially a slight overlap between the beginning of one project component and the completion of the prior project component. The construction activities at the Westside Pump Station are expected to have a duration of 18 months. The cost estimates for completing the proposed Project range from \$100 to \$135 million and \$118 to \$140 million for Build Alternatives 1 and 2, respectively. These build alternatives are discussed in Section 2.4.

2.6 Operations and Maintenance

Future operations and maintenance would be very similar to the existing operations and maintenance. Ongoing activities related to the operation and maintenance of the Western Regional Sewer lines

include completing routine maintenance, cleaning sewer lines and manholes; performing visual inspections utilizing closed-circuit television and camera inspection; and conducting flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. The frequency of maintenance activities is based on site-specific conditions to minimize the risk of blockages or equipment failure that could lead to a sanitary sewer overflow. Gravity sewers such as the Western Regional Sewer lines are cleaned using combination trucks for hydraulic wash of the pipe and the vacuum removal of debris. Operation and maintenance activities generally require confined-space entry and can be completed with minimal disruption to surrounding areas.

Corrective maintenance activities include repair or replacement of failed pumps, pipe segments, and manholes; replacement of manhole covers; root cutting; and root foaming with herbicide. Additionally, chemicals, such as magnesium hydroxide (MgOH), hydrogen peroxide (H₂O₂), sodium hydroxide (NaOH), and ferrous chloride (FeCl₂), might be added directly to the trunk sewers, as needed, to control odor and corrosion. Maintenance activities such as those described above would occur in the build alternatives and the No Build Alternative.

2.7 No Build Alternative

Under the No Build Alternative, no rehabilitation/replacement of the Western Regional Sewers or improvements to the Westside Pump Station would occur. Ongoing operations and maintenance activities, as described above in Section 2.6, would continue for the existing Western Regional Sewer lines. While the significant proposed Project-related construction impacts described in Chapter 3.0 would not occur, the No Build Alternative would not meet the proposed Project's purpose and objectives as identified in Section 2.3. The adverse conditions of groundwater intrusion and mineral deposition would continue, and the resulting impediment to wastewater flow would increase due to the existing sewer line capacity deficiencies and age. Under the No Build Alternative, portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor would remain capacity deficient and would be unable to accommodate the projected 2040 wet weather flows. The existing potential for surcharge conditions would remain, with an increasing potential for wastewater releases to the environment. The No Build Alternative would not reconstruct the Westside Pump Station wet well, further increasing the risk of failure and potential release of wastewater to the environment.

The following table provides a summary of potentially significant impacts associated with each of the build alternatives analyzed in this EIR document.

Table 2.7-1: Summary of Potentially Significant Impacts by Project Alternative

Impacts	Build Alternative 1	Build Alternative 2	No Build
Aesthetics			
AES-1: Visual impacts of construction equipment and activities would substantially	Yes; Mitigation required	Yes; Mitigation required; impacts are	No Impact

Table 2.7-1: Summary of Potentially Significant Impacts by Project Alternative

Impacts	Build Alternative 1	Build Alternative 2	No Build
degrade the existing character and quality of the Forest Lawn Cemetery site and surroundings during interment ceremonies.		the same as those for Build Alternative 1.	
AES-1: Temporary visual impacts associated with tree trimming/removal could substantially degrade the existing visual character or quality of the construction area and its surroundings and would be a temporary significant impact.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
AES-1: During construction of improvements at the Westside Pump Station, construction equipment and activities would be visible from the street and adjacent residences and would temporarily significantly degrade the existing visual character and quality of the site and surroundings.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
AES-2: Construction lighting impacts would be considered significant if nighttime construction is necessary within residential areas or adjacent to other sensitive receptors.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
Air Quality			
AQ-1: Emissions from simultaneous construction of all proposed Project segments would exceed significance thresholds for NO _x , a precursor for O ₃ , and could conflict with or obstruct implementation of the SCAQMD Plan	Yes; Mitigation required	Yes; Mitigation required; Overall emissions higher relative to Alternative 1.	No Impact
AQ-2: Emissions from the simultaneous construction of all proposed Project segments located in the SCAB would exceed significance thresholds for daily NO _x emissions, a precursor for O ₃ , during construction and would contribute to the SCAB nonattainment status for O ₃ .	Yes; Mitigation required	Yes; Mitigation required; Overall emissions higher relative to Alternative 1.	No Impact
AQ-3: Daily significance thresholds for NO _x emissions would be exceeded and would result in cumulatively considerable net increases in O ₃ from the NO _x emissions.	Yes; Mitigation required	Yes; Mitigation required; Overall emissions higher relative to Alternative 1.	No Impact

Table 2.7-1: Summary of Potentially Significant Impacts by Project Alternative

Impacts	Build Alternative 1	Build Alternative 2	No Build
Biological Resources			
BIO-1: Construction of replacement lines could require removal of trees protected by ordinance.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
BIO-1: Disturbance of active nests during construction would be considered a significant impact under the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
Cultural Resources			
CUL-2: Excavation within previously undisturbed soils and possible disturbance of objects or sites is considered a significant impact.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
CUL-3: Excavation within previously undisturbed soils and inadvertent discovery and/or disposal of paleontological resources is considered a significant impact.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
CUL-4: Excavation within Forest Lawn Cemetery would be a significant impact.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
Hazards/Hazardous Materials			
HAZ-2: Excavation and dewatering during construction could be a significant hazard to the public or environment and is considered a significant impact.	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact
Land Use			
LU-1: Project would conflict with existing plans or regulations pertaining to nighttime construction lighting and noise where sensitive land uses are affected. Yes	Yes; Mitigation required	Yes; Mitigation required; impacts are the same as those for Build Alternative 1.	No Impact

Table 2.7-1: Summary of Potentially Significant Impacts by Project Alternative

Impacts	Build Alternative 1	Build Alternative 2	No Build
Noise			
NOI-2: Project would expose persons to or generation of excessive groundborne vibration or groundborne noise levels.	Yes; Mitigation required	Yes; Mitigation required. Overall impacts higher relative to Alternative 1.	No Impact
NOI-4 Project would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity.	Yes; Mitigation required Significant and unavoidable after mitigation	Yes; Mitigation required. Overall impacts higher relative to Alternative 1. Significant and unavoidable after mitigation	No Impact

2.8 Alternatives Considered but Eliminated from Further Discussion

2.8.1 Pipe Bursting Method Only Alternative

Because of OCSD's commitment to minimize impacts to the community and environment where feasible, consideration was given to an alternative that would rely exclusively on trenchless construction for the proposed sewer line replacements. Under this build alternative, those segments of the Los Alamitos Sub-trunk and the Westside Relief Interceptor that require replacement with larger diameter pipe, as denoted in Figure 2.4-3, would be constructed solely by using the pipe bursting method. The remaining portions of the Western Regional Sewer lines would be lined in place utilizing CIPP methods. The manholes that need to be replaced would be replaced utilizing the open-cut trench method, and less-intrusive rehabilitation methods would be used to rehabilitate the remaining manholes.

The feasibility of using pipe bursting relies on site-specific soil and geotechnical information for all portions of the pipeline slated for replacement. A geotechnical investigation of the entire Project area would be conducted as part of detailed engineering design efforts. As noted in Section 2.5.2, trenchless construction such as pipe-bursting may not be feasible due to soil or groundwater conditions or other site-specific conditions such as the location of adjacent utilities. Reliance on pipe-bursting construction methodology for the entire length of the proposed Project would be cost prohibitive. It also would require a longer construction schedule. These implications make this alternative infeasible. Furthermore, pipe bursting would be used only to replace pipes within an existing alignment. As such,

the realignment of the Orange-Western Trunk and the Seal Beach Blvd. Interceptor are not included in this alternative. As a result, this alternative would not address deficiencies on those sewer lines, and the alternative would not meet the Project's objectives. Therefore, this alternative was eliminated from further consideration.

2.8.2 Westside Relief Interceptor and Los Alamitos Sub-trunk Only Alternative

This alternative would utilize a combination of pipe bursting and open-cut trenching construction methods for both the Westside Relief Interceptor and the Los Alamitos Sub-trunk. No improvements to the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor segments would be included in this alternative. The manholes in need of replacement would be replaced utilizing the open-cut trench method, and less-intrusive rehabilitation methods would be used to rehabilitate the remaining manholes. This alternative would not include any improvements to the Westside Pump Station.

This build alternative was eliminated from further discussion/consideration because it would not address the Project objectives related to eliminating groundwater intrusion and mineral deposition within the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines, nor would it address capacity deficient sewer lines or implement necessary improvements to the Westside Pump Station.

2.9 Environmentally Superior Alternative

Based on the analysis in this Draft EIR, the "environmentally superior alternative," as that term is used in CEQA, is the No Build Alternative. If, as is the case with the proposed Project, the environmentally superior alternative is the No Build Alternative, CEQA Guidelines Section 15126.6(e)(2) requires the identification of an environmentally superior alternative among the other alternatives. As discussed above in Section 2.3, the purpose of the proposed Project is to extend the service life of the regional sewer system. Although both of the build alternatives would result in temporary significant construction impacts, both would meet all of the project objectives, including accommodating 2040 wet weather flows (10-Year Storm) and minimizing existing surcharging in new/rehabilitated pipes thus minimizing any potential for releases of wastewater to the environment.

On the basis of the analyses presented in Chapter 3.0, of the two alternatives considered, Build Alternative 1 is considered to be environmentally superior to Build Alternative 2 due to its lower potential for construction-related impacts associated with air quality, noise, and traffic. As discussed in Section 3.2 Air Quality, construction emissions (criteria pollutants and greenhouse gases) under Build Alternative 1 (e.g., 15.47 lbs./day of PM₁₀ and 153.85 metric tons of greenhouse gases, or 153.16 metric tons CO₂ equivalent amortized over a 30-year Project Life³) are lower than those associated with Build

³ The 30-year amortization extends from the end of construction, including the four preceding years, so the beginning construction emissions span 34 years; year 1 spans 33 years, year 2 spans 32 years, year 3 spans 31 years, and year 4 spans 30 years. Please refer to the discussion in Section 3.6 Greenhouse Gases.

Alternative 2 (19.92 lbs./day of PM₁₀ and 193.91 metric tons of greenhouse gases, or 191.89 metric tons CO₂ equivalent amortized over a 30-year Project Life) because the increased emissions from the complete excavation/replacement of the Los Alamitos Sub-trunk under Build Alternative 2 would exceed the level of reduced emissions from the complete CIPP construction of the Westside Relief Interceptor. In a similar fashion, construction-related noise (Section 3.9) and traffic (Section 3.12) impacts are greater under Build Alternative 2 because of the prolonged construction period (75 additional construction days) and additional open-cut trenching (3,070 feet) required compared with Build Alternative 1.

2.10 Environmental Control Measures

OCSD has incorporated Environmental Control Measures (ECM) into the proposed Project, consistent with OCSD's contractual and general legal requirements. Construction would be performed by qualified contractors. The contract documents, plans, and specifications for the proposed Project would incorporate the requirements of these ECMs. These requirements are listed in Table 2.10-1 and are referenced throughout the impact discussions in Chapter 3.0, Environmental Analysis, of this Draft EIR.

Table 2.10-1: Environmental Control Measures

Environmental Resource Area	Environmental Control Measure
Air Quality	<p>OCSD will post signage throughout the construction areas that provides contact information and a phone number for people with questions or concerns regarding air quality.</p> <p>OCSD will ensure that the contractor complies with all South Coast Air Quality Management District (SCAQMD) Rules and Regulations described in Section 3.2.1.3.</p> <p>OCSD will require contractors to turn off fuel- or electricity-consuming construction equipment when not in use.</p>
Aesthetics	<p>The construction of a new enclosure at the Westside Pump Station, if an air scrubber is required, will be completed under a building permit from the County. The new enclosure will be painted to match the color of the existing building; the appearance of the new enclosure will be similar in color and height to the existing building on site. The new vent stack (if required) will be designed to look like a typical roof vent or a chimney and will not exceed the existing roof height.</p> <p>In the event that work is required outside the allowable construction hours, adjacent property owners will be notified in advance; and a variance will be obtained from Orange County, as applicable.</p>
Biological Resources	<p>The crossings of all Orange County Flood Control Channels or other drainage channels will utilize trenchless technology to perform work beneath the channel. No impacts within the channels will result.</p>
Cultural Resources	<p>If human remains are discovered during site preparation, grading, or excavation, Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and that the County Coroner shall be contacted. Pursuant to California Public</p>

Table 2.10-1: Environmental Control Measures

Environmental Resource Area	Environmental Control Measure
	Resources Code Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendant (MLD). Further provisions of California Public Resources Code 5097.98 are to be followed as applicable.
Geologic Resources	<p>OCS D has contracted for subsurface investigations, as part of engineering design efforts, to evaluate the soil and geologic conditions within the proposed Project area, address excavation and dewatering requirements, and develop detailed design criteria for the pipelines and associated improvements. All applicable geotechnical recommendations will be adhered to during the construction of the proposed Project. The project will be designed and constructed in accordance with the current Uniform Building Code and California Building Code seismic engineering design standards.</p> <p>Subsurface exploration will include exploratory borings, well development, and/or other exploration techniques to adequately evaluate the soil, geologic, and groundwater conditions along the alignment and at the pump station site. Borings will be performed at intervals as determined to be appropriate by the geotechnical consultant.</p> <p>Excavations that appear unstable to the OCS D construction inspector or are deeper than 4 feet will be shored. Friable sand zones which are subject to caving may be determined by the construction inspector to warrant continuous shoring. For planning purposes, it is recommended that the on-site soil be considered as Type C soil in accordance with the Occupational Safety and Health Administration (OSHA) soil classification. Type C soils include granular soils such as gravel, sand, and loamy sand, which have a greater potential for cave-in.</p>
Hazards and Hazardous Materials	<p>OCS D will require all contractor(s) to handle, transport, and dispose of all excavated soil and/or groundwater removed from the construction area in accordance with state, federal, and local requirements associated with the use, handling, storage, transportation, and disposal of hazardous material. All groundwater removed during replacement and/or rehabilitation activities will be handled in accordance with the dewatering requirements described below in "General Construction Measures."</p> <p>Prior to construction, OCS D will require its construction contractor to develop a Materials Management Plan (MMP) to address the identification, handling, and management of potential contaminated soil and groundwater that may be encountered during construction. The MMP also will address health and safety procedures for workers and site visitors to include personal protective equipment (PPE), applicable action level criteria, engineering controls, and administrative controls to limit potential exposure to site contaminants. Procedures outlined in the MMP will specify, at a minimum, waste sampling methods, excavation and stockpile management, contaminated soil treatment/disposal options, and contaminated wastewater treatment/disposal options.</p>
Noise	Prior to any nighttime construction, OCS D will verify that the construction contractor(s) have obtained all necessary approvals from the corresponding local

Table 2.10-1: Environmental Control Measures

Environmental Resource Area	Environmental Control Measure
	<p>jurisdiction(s).</p> <p>OCSD will limit construction hours for the Westside Pump Station to 8:00 a.m. to 5:00 p.m., Monday through Friday, to minimize noise impacts of construction activities on adjacent residences, unless otherwise required for completion of construction activity and or for system testing. In the event that work is required outside the allowable construction hours at the Westside Pump Station, adjacent property owners will be notified in advance; and a variance will be obtained from Orange County, as applicable.</p>
Recreation	<p>OCSD will prevent all contractor(s) from closing or otherwise preventing public use of parks adjacent to the Project area. OCSD will ensure that public access to all parks adjacent to the Project area is maintained during construction.</p>
Traffic and Circulation	<p>OCSD will require its construction contractors to prepare and implement traffic control plans (TCPs) that specifically address construction traffic and road closures within the public rights-of-way of the Cities of Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, and Seal Beach and within the County of Orange. The TCPs will specify permitted construction hours and will require that vehicular access be maintained in the Project area throughout construction of the proposed Project. The TCPs will also include provisions requiring emergency vehicle passage at all times and signage and flagmen when necessary. Traffic control plans will be approved by each corresponding jurisdiction prior to the start of construction.</p> <p>In addition, the TCPs will contractually prohibit concurrent construction of the Westside Relief Interceptor and the Los Alamitos Sub-trunk on Katella Avenue, in order to ensure that emergency vehicle passage would be maintained at all times.</p>
General Construction Measures	<p>In compliance with the required Construction General Permit, OCSD will require construction contractors to prepare and implement stormwater pollution prevention plans (SWPPPs) that specify best management practices (BMPs) to be implemented during project construction to prevent pollutants from entering stormwater and to control erosion and sedimentation. The SWPPPs will be prepared and submitted to the Regional Water Quality Control Board (RWQCB) for review and approval prior to the start of construction. Construction BMPs may include the following:</p> <ul style="list-style-type: none"> • Erosion Control Practices – including physical stabilization BMPs (hydraulic mulch, soil binders, straw mulch, geotextiles, plastic covers, mats), vegetation stabilization BMPs (hydroseeding), and wind erosion control (application of water) • Sediment Control Practices – including perimeter protection (silt fence, fiber rolls, sand bag barrier, straw bale barrier), storm drain inlet protection, resource protection (gravel bag berm, silt fence, fiber rolls), sediment capture (sediment trap, desilting basin), velocity reduction (silt fence, check dam, velocity dissipation devices, sediment basin), and off-site sediment tracking (stabilized construction entrance/exit, construction road

Table 2.10-1: Environmental Control Measures

Environmental Resource Area	Environmental Control Measure
	<p>stabilization, entrance/outlet tire wash)</p> <ul style="list-style-type: none"> • Waste Management and Materials Pollution Control Practices – including spill prevention and control, solid waste management, hazardous waste management, contaminated soil management, concrete waste management, sanitary/septic waste management, liquid waste management, vehicle and equipment cleaning, vehicle and equipment fueling, and vehicle and equipment maintenance • Materials Management Practices – including material delivery and storage, material use, and stockpile management • Non-Stormwater Management Practices – including water conservation, dewatering operations, paving and grinding operations, temporary stream crossing, clear water diversion, illicit connection reporting, potable water/irrigation, vehicle and equipment cleaning, vehicle and equipment fueling, vehicle and equipment maintenance, pile-driving operations, concrete curing, concrete finishing, materials and equipment use over water, structure demolition, temporary batch plants, and stream bank stabilization <p>Operational BMPs may include the following:</p> <p>Pollution Prevention</p> <ul style="list-style-type: none"> • Inspect potential non-stormwater discharge flow paths and clear/clean up any debris or pollutants found (i.e., remove trash, leaves, sediment, and wipe up liquids, including oil spills). <p>Sewer System Cleaning</p> <ul style="list-style-type: none"> • Sewer lines will be cleaned on a regular basis to remove grease, grit, and other debris that may lead to sewer backups. • Establish routine maintenance program. Cleaning will be conducted at an established minimum frequency and more frequently for problem areas that are identified. • Cleaning activities may require removal of tree roots and other identified obstructions. <p>Preventive and Corrective Maintenance</p> <ul style="list-style-type: none"> • During routine maintenance and inspection, note the condition of sanitary sewer structures and identify areas that need repair or maintenance. • Document suggestions and requests for repair and report the information to the appropriate manager or supervisor. • Prioritize repairs based on the nature and severity of the problem. Immediate clearing of blockage or repairs is required where an overflow is currently occurring or when urgent problems may cause an imminent overflow. These repairs may be temporary until scheduled or capital improvements can be completed. <p>Response and Containment</p> <ul style="list-style-type: none"> • Establish lead department/agency responsible for spill response and

Table 2.10-1: Environmental Control Measures

Environmental Resource Area	Environmental Control Measure
	<p>containment. Provide coordination within departments.</p> <ul style="list-style-type: none"> • When a spill, leak, and/or overflow occurs, keep sewage from entering the storm drain system to the maximum extent practicable by covering or blocking storm drain inlets or by containing and diverting the sewage away from open channels and other storm drain facilities. • Remove the sewage using vacuum equipment or use other measures to divert it back to the sanitary sewer system. • Record required information at the spill site. • Perform field tests as necessary to determine the source of the spill. • Develop additional notification procedures regarding spill reporting as needed. <p>If groundwater dewatering is necessary, construction site dewatering water will be tested. Where suitable, water will be discharged to the OCSD sewer. Where water exceeds OCSD thresholds for discharge to sewers, the contractor will either treat to meet OCSD sewer discharge requirements or containerize and dispose of dewatering at a licensed facility.</p>

2.11 Project Approvals

OCSD will use this Draft EIR to consider implementation of the proposed Project. As CEQA Lead Agency, OCSD may use this EIR to select either Build Alternative 1 or Build Alternative 2; approve the proposed Project; make Findings regarding identified impacts; identify mitigation measures; and, if necessary, adopt a Statement of Overriding Considerations regarding these impacts. Among others, the California Department of Transportation (Caltrans); County of Orange; and the Cities of La Palma, Cypress, Buena Park, Anaheim, Los Alamitos, and Seal Beach are responsible agencies that have discretionary approval over components of the proposed Project. The agencies and entities with discretionary approval over the proposed Project are listed in Table 2.11-1.

Table 2.11-1: Project Permits and Approvals

Agency Name	Permit or Approval	Need for Permit
Caltrans District 12	Encroachment Permit/Approval of Traffic Control Plan	Work on Seal Beach Blvd. Interceptor within Interstate 405 (I-405) right-of-way
State Water Board	Construction General Permit Order No. 2012-0006-DWQ NPDES No. CAS000002	The project will result in soil disturbance of more than 1 acre
Regional Water Quality Control Board	Clean Water Act Section 402 Permit	If work requires a Waste Discharge Report for National Pollutant

Table 2.11-1: Project Permits and Approvals

Agency Name	Permit or Approval	Need for Permit
		Discharge Elimination System (NPDES) compliance
South Coast Air Quality Management District	Permit to Construct	Required if the air scrubber (as a new stationary emission source) is selected for the Westside Pump Station
Orange County Flood Control District	Encroachment Permit	Encroachment within OCFCD right-of-way beneath channels.
Orange County Transportation Authority	Encroachment Permit	Encroachment within Old Pacific Electric Rail right-of-way
Orange County Public Works	Building Permit/Encroachment Permit/Approval of Traffic Control Plan	Proposed improvements at Westside Pump Station located within Rossmoor (unincorporated Orange County)
City of La Palma	Encroachment Permit/Approval of Traffic Control Plan	Encroachment within city streets
City of Cypress	Encroachment Permit/Approval of Traffic Control Plan	Encroachment within city streets
City of Buena Park	Encroachment Permit/Approval of Traffic Control Plan	Encroachment within city streets
City of Anaheim	Encroachment Permit/Approval of Traffic Control Plan	Encroachment within city streets
City of Los Alamitos	Encroachment Permit/Approval of Traffic Control Plan	Encroachment within city streets
City of Seal Beach	Encroachment Permit/Approval of Traffic Control Plan	Encroachment within city streets

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3.0 Environmental Analysis

As a result of the analysis within the Initial Study for the proposed Project (Appendix A), and in consideration of the comments received during the scoping comment period, it was determined that the proposed Project would result in no impacts to Agriculture and Forestry Resources, Mineral Resources, and Population and Housing. Additionally, it was determined that potential impacts to Hydrology and Water Quality and Utilities would be less than significant. These environmental resource areas receive no further analysis in this document. This chapter contains sections for each of the environmental resource areas that are analyzed in this Environmental Impact Report (EIR). Each section contains the following general subsection headings:

- Regulatory Setting
- Existing Conditions
- Thresholds of Significance
- Impact Analysis
- Mitigation Measures
- Significance after Mitigation

The “Regulatory Setting” sections discuss federal, state, and local laws, ordinances, and regulations pertaining to the applicable environmental resource. The “Existing Conditions” sections provide relevant background information about the proposed Project’s existing environmental setting. The “Significance Criteria” sections present the thresholds for determining whether the environmental effects of the proposed Project and its Alternatives are significant environmental impacts. The “Impact Analysis” sections present the potential environmental consequences of the construction and operation of the proposed Project and the proposed Project’s Alternatives. The “Mitigation Measures” sections describe all feasible means to reduce the impact to a level less than significant. The “Significance After Mitigation” sections state the level of environmental impacts after the application of the identified mitigation measures.

With regard to evaluating potential Project-related impacts, the two build alternatives evaluated within this EIR each have unique approaches to meet the Project objectives stated in Section 2.3. They also have certain elements in common. For example, as discussed in Section 2.4, both build alternatives would entail rehabilitation/replacement of the Westside Pump Station force main and wet well. In addition, both build alternatives would entail rehabilitation of the Orange-Western Sub-trunk and Seal Beach Blvd. Interceptor pipelines using trenchless methods. Further, under both build alternatives, approximately 3 miles of existing Westside Relief Interceptor sewer pipe would be rehabilitated in place using trenchless methods. Manholes associated with these pipelines would be replaced or rehabilitated as appropriate. Consequently, environmental impacts associated with the construction of these common Project elements would be identical for both build alternatives.

As a result, the impact analyses for each of the resource areas identified below are presented/discussed in the following format:

- Common Build Alternative Element Impacts
- Build Alternative 1 – Specific Element Impacts
- Build Alternative 2 – Specific Element Impacts

In this light, the environmental impacts associated with each build alternative are the sum of its common and specific element impacts.

Consistent with California Environmental Quality Act (CEQA) Guidelines Section 15126.2(a), the baseline for the environmental setting used in this EIR is the existing physical conditions at the time the NOP was issued in November of 2015.

The Chapter 3.0 subsections are listed below:

- Section 3.1, Aesthetics
- Section 3.2, Air Quality
- Section 3.3, Biological Resources
- Section 3.4, Cultural Resources
- Section 3.5, Geology and Soils
- Section 3.6, Greenhouse Gas Emissions
- Section 3.7, Hazards and Hazardous Materials
- Section 3.8, Land Use and Planning
- Section 3.9, Noise
- Section 3.10, Public Services
- Section 3.11, Recreation
- Section 3.12, Traffic and Circulation

3.1 Aesthetics

This section addresses the aesthetic and visual quality impacts associated with the proposed Project and recommends mitigation measures where necessary to avoid or reduce significant impacts. This section includes a description of the existing visual conditions in the proposed Project area and an evaluation of the potential effects on those existing visual conditions.

3.1.1 Regulatory Setting

3.1.1.1 *State*

California Scenic Highway Program

The California Department of Transportation (Caltrans) administers the state Scenic Highway Program to preserve and protect State scenic highway corridors from modifications that would diminish the aesthetic value of those corridors. (California Streets and Highways Code, Section 260 et seq.). The State Scenic Highway Program includes a list of highways that are either eligible for designation as scenic highways or have been officially designated and are identified in the California Streets and Highways Code, Section 263. Under this Program, an official designation as a scenic highway requires a local jurisdiction to enact a scenic corridor protection program that protects and enhances scenic resources by regulating, among other things: land uses, the design of sites and structures, signage, landscaping, and grading. If a highway is listed as eligible for official designation, it is also part of the Scenic Highway Program and care must be taken to preserve its eligibility status. The Project area does not contain any roadways that are officially designated or eligible under the Scenic Highway Program (Caltrans 2015).

3.1.1.2 *Local*

County of Orange General Plan

The proposed improvements at the Westside Pump Station are located in the community of Rossmoor within unincorporated Orange County; thus the Orange County General Plan applies at this location. The County of Orange General Plan Transportation Element (County of Orange 2011, Chapter 4) includes a Scenic Highways Plan that attempts to incorporate safety, utility, economy, and aesthetics into the planning, design, and construction of scenic highways. The Transportation Element identifies viewscape corridors and routes that traverse a corridor within which unique or unusual scenic resources and aesthetic values are identified. This designation is intended to minimize the impact of development on the significant scenic resources along the route.

County of Orange Municipal Code

Section 4-6-7. of the Orange County Municipal Code limits construction activities to between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and Saturday, and prohibits construction at any time on Sunday or a federal holiday.

City of Los Alamitos General Plan

The City of Los Alamitos General Plan does not contain any guidance regarding visual or aesthetic resources relevant to the proposed Project. This is due to the lack of coastal elements, designated scenic highways, or areas within the City identified as important viewsheds.

City of Los Alamitos Municipal Code

The City of Los Alamitos Municipal Code identifies land use categories, development standards, and other general provisions that ensure consistency between the General Plan and proposed development projects within the City. The following provisions from the municipal code are intended to minimize adverse aesthetic impacts, including light and glare, and are relevant to the proposed Project. The City's Municipal Code (Section 17.24.20) specifically exempts construction-related noise sources that take place between the hours of 7:00 a.m. and 8:00 p.m. on weekdays and Saturday, and prohibits construction at any time on Sunday or a federal holiday.

Standards of Design (Chapter 16.12)

This section of the municipal code outlines requirements for the design of roadways, infrastructure, slopes, landscaping, and other elements of the built environment in Los Alamitos. Although the requirements largely focus on consistency with other local plans and state regulations, they address several aesthetic concerns. Provisions that directly relate to the visual environment of the City include the requirement that new developments place utility lines underground and provisions requiring adequate landscaping and screening.

17.14.040 Light and Glare

“Shielding of Light Source: Where the light source is visible from outside the project boundary, shielding shall be required to reduce glare so that neither the light source nor its image from a reflective surface shall be directly visible from a point 5 feet or more beyond the property line. The requirement shall not apply to single-family residential uses, traffic safety lighting, or public street lighting.

“Mechanical or Chemical Processes: Light, heat, or glare from mechanical or chemical processes, or from reflective materials used or stored on a site, shall be shielded or modified to prevent emission of light or glare beyond the property line.

“Sky-Reflected Glare: Sky-reflected glare shall be controlled. Glare will not inconvenience or annoy persons or interfere with the use and enjoyment of nearby property” (Ord. 688 § 1, 2006).

City of Seal Beach General Plan

Because of its proximity to the Pacific Ocean, Seal Beach is subject to the state-mandated Local Coastal Program and is within the jurisdiction of the California Coastal Commission. The 1976 California Coastal Act, which provides protection for the natural and scenic resources of the coastal area, requires the preparation of a local coastal program for jurisdictions with land within the coastal zone. The policies

defined by the Local Coastal Program set the standards that preserve and conserve the community's coastal resources. The City of Seal Beach Local Coastal Program policies are included by reference as part of the General Plan.

The Seal Beach Blvd. Interceptor, which is the portion of the proposed Project within the City of Seal Beach, is not located within the California Coastal Commission's jurisdiction. The coastal zone boundary is located just south of Westminster Boulevard, which is south of and does not include the Project area.

The City of Seal Beach Municipal Code

The City's Municipal Code (Section 17.15.025) notes that construction activities are prohibited between 8:00 p.m. and 7:00 a.m. on weekdays, 8:00 p.m. and 8:00 a.m. on Saturdays, and any time on Sundays and holidays.

The following provision from the City of Seal Beach Municipal Code is intended to minimize adverse impacts from light and glare and is relevant to the proposed Project.

11.4.10.020 Performance Standards

"Lighting shall be provided subject to the following requirements.

"Outdoor Illumination Levels. This requirement shall not apply to single-unit residential uses, traffic safety lighting, or public street lighting. A minimum of 0.5 foot-candle of illumination shall be maintained at the land surface throughout the area to be illuminated. In addition, related business use parking areas shall conform to the standards set forth in Table 11.4.10.020.A: Outdoor Parking Area Illumination Levels by Use (Average Foot-Candles)."

City of Anaheim General Plan

The City of Anaheim General Plan Community Design Element provides the following policy guidance relative to aesthetic resources and the proposed Project. The goals and policies that follow start at the "macro" level of the community and then proceed downward to specific districts. These policies apply to projects within the City, combined with the development standards of the Zoning Code and design guidelines for specific areas within the City. Construction limits are provided in the City of Anaheim Municipal Code (see below). Modification of construction hours may be granted by the Director of Public Works or Building Official.

"Goal 1.1: Create an aesthetically pleasing and unified community appearance within the context of distinct districts and neighborhoods.

"Policy 2: Identify and preserve/enhance view corridors for major landmarks, community facilities, and natural open space in the planning and design of all public and private projects.

“Policy 9: Minimize visual impacts of public and private facilities and support structures through sensitive site design and construction. This includes but is not limited to: appropriate placement of facilities; undergrounding, where possible; and aesthetic design (e.g., cell tower stealthing).”

The City of Anaheim Municipal Code

Title 6, Chapter 6.70 of the City of Anaheim Municipal Code prohibits construction between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and Saturdays, and any time on Sundays or federal holidays. The following provision from the City of Anaheim Municipal Code is intended to minimize adverse impacts from light and glare and is relevant to the proposed Project.

Title 18 (Zoning) 18.08.1202 Commercial Zones. Operational Uses/ 18.10.030 Uses. Industrial Zones

“All uses shall be conducted in a manner so as not to be objectionable by reason of noise, odor, dust, fumes, smoke, vibrations, excessive lighting (glare), or other similar causes.”

City of La Palma General Plan

The City of La Palma General Plan does not contain any guidance regarding visual or aesthetic resources relevant to the proposed Project. This is due to the lack of coastal elements, designated scenic highways, or areas identified as important viewsheds. It does, however, limit construction hours to Monday through Friday from 7:00 a.m. to 5:00 p.m. and Saturday from 9:00 a.m. to 5:00 p.m. No construction is allowed on Sundays or holidays. Any construction outside these hours would be required to obtain a variance that would include considerations such as glare and visual impacts of a use.

The City of Buena Park General Plan

The City of Buena Park General Plan does not contain any guidance regarding visual or aesthetic resources relevant to the proposed Project. This is due to the lack of coastal elements, designated scenic highways, or areas within the City identified as important viewsheds. Construction is prohibited on Sundays and any other day between the hours of 8:00 p.m. and 7:00 a.m. Variances may be permitted by the city engineer.

The City of Cypress General Plan

The City of Cypress General Plan Circulation Element goals and policies define the City's vision for a balanced, efficient circulation system which incorporates many modes of travel and which allows for the safe movement of people and goods in and around Cypress. These goals recognize the constraints posed by the existing built environment but also capitalize upon the opportunities created by established transportation routes. Construction activities are prohibited between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, 8:00 p.m. and 9:00 a.m. on Saturdays, and any time on Sundays and federal holidays. A variance would be required if construction activities occur outside the specified days and times.

“Goal 1: Maintain a safe, efficient, economical, and aesthetically pleasing transportation system providing for the movement of people, goods, and services to serve the existing and future needs of the City of Cypress.

“Policy 1.6: Encourage the development of aesthetic streetscapes to promote a positive City image and provide visual relief.”

3.1.2 Existing Conditions

The following section describes several key terms used to examine the existing scenic resources of the region and the Project area.

Visual Character

The visual character of a site is defined by its physical characteristics, such as landform, vertical relief, type of vegetation, textures, and patterns; the presence of clear or cascading water; range of color in the soil, rock, vegetation, or water; variety in landscape; man-made structures visually different from the natural environment; and other visually distinguishing elements.

Visual Quality

The visual quality of a site is based on the interpretation of physical features from the viewer’s perception. It is evaluated by identifying the vividness, intactness, and unity present in the viewshed. Vividness is the visual power or memorability of landscape components as they combine in distinctive visual patterns. Intactness is the visual integrity of the natural and man-made landscape and its freedom from encroaching elements. It can be present in well-kept urban and rural landscapes, as well as in natural settings. Unity is the visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently results from the careful design of individual man-made components in the landscape.

Views

Views are composed of three distinct parts: the viewing scene itself; the viewing location from which the public sees the viewing scene; and the view corridor, which is the volume of space between the viewing scene and the viewing location. The area that can be seen from a given vantage point and viewing direction is also referred to as the viewshed.

Viewer Sensitivity

Viewer sensitivity is defined as both the viewer’s concern for scenic quality and the viewer’s response to change in the visual resources that make up the view. This is typically measured by whether a scene is routine or unique to the viewer, and whether a view has a specific element that draws the viewer’s focus.

Light and Glare

Light and glare can affect the visual quality of a site, especially the availability and quality of nighttime views. Light is the level of brightness produced by artificial and natural sources. Glare is unwanted or nuisance light, including exceptionally bright light sources that are in sharp contrast to surrounding light levels and may cause annoyance, discomfort, or visual impairment.

3.1.2.1 Regional Setting

The Project area is located in Orange County (County), which is a diverse geographic area including mountains, hills, flatlands, and coastal shoreline. The terrain ranges from sea level to over 5,000 feet above mean sea level in the Santa Ana Mountains. The County is highly urbanized and is generally built out in the central to northwest portion. The eastern and southern areas contain more natural and open space, including numerous regional and wilderness parks. The Cities of Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, and Seal Beach are all located in a heavily developed area in the northwestern portion of Orange County.

3.1.2.2 Project Site

The Project area is generally located within areas zoned as transportation and within public rights-of-way; however, it also contains areas zoned as residential, commercial, and open/space recreation (see Figures 3.8-1 through 3.8-7 in Section 3.8 Land Use and Planning). Overall, the visual character of the Project area can be described as a transportation corridor within a highly urbanized area. The Westside Relief Interceptor, the Los Alamitos Sub-trunk, the Orange-Western Sub-trunk, and the Seal Beach Blvd. Interceptor alignments extend through a network of roadways with public rights-of-way and landscape components including trees, shrubs, grass areas, sidewalks, and fences. The Seal Beach Blvd. Interceptor alignment along Seal Beach Boulevard is adjacent to the Naval Weapons Station Seal Beach, containing area used for agriculture along the east side of the roadway. The Los Alamitos Sub-trunk alignment also extends through the Forest Lawn Memorial Park cemetery, where views include a landscaped grass area with trees and shrubs as well as paved roads. The Project area within Forest Lawn (i.e., Guardian Drive) traverses the middle of Forest Lawn and would be visible from many areas within the property. The Westside Pump Station is located in a single-family residential neighborhood. The Westside Pump Station includes landscaping with trees and shrubs as well as a brick fence with a sliding metal access gate. No designated scenic areas or public viewpoints of importance are within the Project area.

3.1.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and are used to evaluate the potential for significant project impacts related to aesthetics. Project impacts on aesthetics will be significant if the proposed Project would:

AES-1: Substantially degrade the existing visual character or quality of the site and its surroundings;
or

AES-2: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

Other impact significance criteria for Aesthetics, identified in Appendix G of the CEQA Checklist, have been evaluated previously in Section 4.1 of the Initial Study for the proposed Project (See Appendix A). This previous evaluation determined that the proposed Project will result in either no impact or in less than significant impacts to Aesthetics under the following significance criteria:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway

As a result, impact significance criteria other than those specifically identified in this section have not been evaluated further within this Environmental Impact Report (EIR).

3.1.4 Impact Analysis

Both of the build alternatives would require construction activities in all of the same locations. Both build alternatives would require the same activities in the most visually sensitive areas, which include the Forest Lawn Memorial Park cemetery, the vicinity of the Westside Pump Station improvements, and within the residential community of Rossmoor. There are no substantive differences between the two build alternatives' locations, and the aesthetic impacts of either of the build alternatives are anticipated to be the same for visual resources within the Project area. Thus, the impacts described in this section are the same for Build Alternative 1 and Build Alternative 2.

AES-1: *Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?*

3.1.4.1 Construction Impacts

Rehabilitation or replacement of the Orange-Western Sub-trunk, the Los Alamitos Sub-trunk, the Westside Relief Interceptor, and the Seal Beach Blvd. Interceptor would occur primarily within developed areas within public rights-of-way or Orange County Sanitation District's (OCSD) easements and would be located below the ground surface. The proposed Project would result in temporary visual impacts due to the presence of heavy machinery and construction activities. The construction activities for the Western Regional Sewers Project would continuously move and would not remain in any one location for extended periods of time. The replacement activities would take the longest. As described in Section 2.5, the proposed Project would complete up to 100 feet of pipeline replacement per day. The business operations and the scenic areas within the Forest Lawn Memorial Park cemetery are more sensitive to the presence of construction equipment and materials than the typical businesses or the residential areas adjacent to city streets. The Project area within Forest Lawn would be visible from many areas of the Forest Lawn property. The replacement of the Los Alamitos Sub-trunk within the cemetery would be completed in approximately two to three months. Because of the temporary nature

of the proposed construction activities within Forest Lawn, visual impacts would not be significant. However, the visual impacts of the construction equipment and activities would degrade the existing tranquil character and quality of the site and the surroundings during interment ceremonies due to the hypersensitivity of the participants. This would be a temporary significant impact requiring implementation of mitigation measures AES MM 1, CUL MM 3, and CUL MM 5 to reduce the impact to less than significant.

Additionally, replacement of the Los Alamitos Sub-trunk within the Forest Lawn Cemetery would require trimming and/or removal of mature trees that have been planted over or near the pipeline. Other streets (Seal Beach Boulevard, Los Alamitos Boulevard, Katella Avenue, and Moody Street) within the Project area also contain median landscaping that, pending final design, may need to be removed during the installation of the new pipes and/or the rehabilitation of the existing pipes. Vegetation at the Westside Pump Station (3112 Yellowtail Drive) may also need to be removed to accommodate construction access and the proposed Westside Pump Station improvements. Temporary visual impacts associated with tree trimming/removal could substantially degrade the existing visual character or the quality of the areas where tree trimming/removal would occur and be a temporary significant impact that would require implementation of mitigation measure AES MM 2 to reduce the impact to less than significant.

At the Westside Pump Station, the construction activities would require the temporary removal of portions of the property fence along Yellowtail Drive to provide access for the construction equipment. The fence would be replaced in-kind after completion of construction. Construction equipment and activities at the Westside Pump Station would therefore be visible from Yellowtail Drive and adjacent residences and significantly degrade the existing visual character and quality of the site and surroundings temporarily, requiring implementation of mitigation measures AES MM 3 and AES MM 4 to reduce the impact to less than significant.

3.1.4.2 Operational Impacts

At completion, the new enclosure at the Westside Pump Station building would be painted to match the color of the existing building; the appearance of new enclosure would be similar in color and height to the existing building on site. The new vent stack would be designed to look like a typical roof vent or a chimney and would not exceed 20 feet in height. Other than occupying slightly more of the area behind the fence, the new enclosure would not result in any significant permanent change to the visual character or the quality of the site or the site surroundings. All of the other proposed improvements would be sub-grade and not be visible from Yellowtail Drive behind the reconstructed fence or from adjacent residences.

The operation of the improved facilities would include ongoing activities related to the operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station, including: routine maintenance, cleaning of sewer lines and manholes, visual inspections, closed-circuit television and camera inspection, flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion

control. These operational activities are consistent with the existing operational impacts of the Western Regional Sewer lines and the Westside Pump Station. The operational impacts of the proposed Project on the visual character and the quality of the Project area and its surroundings would therefore be less than significant.

AES-2: *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

3.1.4.3 Construction Impacts

The Orange County Municipal Code allows construction to begin as early as 7:00 a.m. OCSD would limit construction hours for the Westside Pump Station to 8:00 a.m. to 5:00 p.m., Monday through Friday, to minimize visual impacts of construction activities on adjacent residences, unless otherwise required for completion of construction activity and/or for system testing. In the event that work is required outside the allowable construction hours, adjacent property owners would be notified in advance; and a variance would be obtained from Orange County, as applicable. Thus, construction at the Westside Pump Station would not generate a new source of substantial light or glare; and impacts are less than significant.

Construction activities associated with the Western Regional Sewers would occur during the day when feasible. As described in Section 2.5, construction on all major streets would occur during hours approved by the corresponding jurisdiction. Nighttime work would be required either to reduce traffic or other impacts (e.g., see Section 3.9 Noise); however, all nighttime work would require prior approval by the affected jurisdiction. Construction lighting impacts within residential areas would be considered significant temporarily due to the potential for light to spill over into residences and disrupt sleep. Mitigation measures AES MM 3 and AES MM 5 would be required where nighttime construction is necessary within adjacent residential areas throughout the Project area (Seal Beach Boulevard, Los Alamitos Boulevard, Katella Avenue, Oak Street, Sausalito Street, Cerritos Avenue, Bloomfield Street, Orange Avenue, Denni Street, Moody Street, North Western Avenue, and North Gate Road) or other sensitive receptors (e.g., the Los Alamitos Medical Center, the Seal Beach Health and Rehabilitation Center) to reduce the impacts to less than significant. See Figures 3.8-1 through 3.8-7 in Section 3.8 Land Use and Planning.

3.1.4.4 Operational Impacts

The proposed Project would not include any new permanent operational lighting. Upon completion, the proposed Project would have no effect on daytime or nighttime views in the Project area.

3.1.4.5 No Build Alternative

Under the No Build Alternative, no rehabilitation and /or replacement of the Western Regional Sewers or improvements at the Westside Pump Station would occur other than the ongoing routine operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would have no impacts

on visual quality or character within the Project area and would not result in any new source of light and glare.

3.1.5 Mitigation Measures

- AES MM 1:** OCSD will obtain interment schedules from the Forest Lawn Cemetery and temporarily suspend construction activities for replacement of the Los Alamitos Sub-trunk within the Forest Lawn Cemetery during interment ceremonies to minimize construction disturbances to Forest Lawn operations.
- AES MM 2:** Based on final design and prior to removal or trimming of any tree, OCSD will identify all trees that require removal or trimming. For trees located within the existing easement, OCSD will provide in-kind replacement of landscaping for the corresponding municipality or private owner.
- AES MM 3:** OCSD will limit construction hours for the Westside Pump Station to 8:00 a.m. to 5:00 p.m., Monday through Friday, to minimize visual impacts of construction activities on adjacent residences, unless otherwise required for completion of construction activities and system operation. In that event, adjacent property owners will be notified in advance.
- AES MM 4:** OCSD will erect visual screening along the property walls adjacent to the pump station and across the front of the pump station during construction activities at the Westside Pump Station to minimize visual impacts of construction activities on adjacent residences.
- AES MM 5:** Should nighttime construction be required, OCSD will require that all lighting is focused and directed onto the work area only. OCSD will monitor lighting to ensure that there is no spillover to residential areas or other sensitive receptors.

3.1.6 Level of Significance after Mitigation

Impacts to visual resources and aesthetics would be reduced to less than significant with the implementation of mitigation measures AES MM 1 through AES MM 5.

3.2 Air Quality

This air quality assessment is based on the air modeling results provided in Appendix B. This section describes the existing regulatory framework for air quality management along with existing air quality conditions in the proposed Project area. Air quality emissions impacts associated with construction and operation of the proposed Project are described below, along with a determination of their significance in relation to applicable air quality standards.

3.2.1 Regulatory Setting

3.2.1.1 **Federal**

The Clean Air Act of 1970, amended in 1990, is the federal law that governs air pollution. The United States (U.S.) Environmental Protection Agency (USEPA) is responsible for establishing National Ambient Air Quality Standards (NAAQS) for the following six criteria pollutants: carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter less than 10 microns and 2.5 microns (PM₁₀ and PM_{2.5}), and lead (Pb).

The Clean Air Act requires the USEPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to the California Air Resources Board (CARB), with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels.

3.2.1.2 **State**

CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS) for criteria pollutants which are more protective of the public health in some cases, such as PM_{2.5/10} and O₃, compared to the NAAQS. CARB has also established standards for non-criteria pollutants including hydrogen sulfide, vinyl chloride, sulfates, and visibility-reducing particles. Table 3.2-1 summarizes the CAAQS and NAAQS for all pollutants.

Table 3.2-1: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard ¹	National Standard ²	
		Concentration ³	Primary ^{3,4}	Secondary ^{3,5}
Ozone (O ₃) ⁶	1 hour	0.09 ppm	–	Same as Primary Standard
	8 hours	0.070 ppm	0.070 ppm	
Respirable Particulate Matter (PM ₁₀) ⁶	24 hours	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual	20 µg/m ³	–	
Fine Particulate Matter (PM _{2.5}) ⁷	24 hours	–	35 µg/m ³	Same as Primary Standard
	Annual	12 µg/m ³	12 µg/m ³	15 µg/m ³
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	–
	8 hours	9 ppm	9 ppm	–
	8 hours (Lake Tahoe)	6 ppm	–	–
Nitrogen Dioxide (NO ₂) ⁸	1 hour	0.18 ppm	100 ppb	–
	Annual	0.03 ppm	0.053 ppm	Same as Primary Standard
Sulfur Dioxide (SO ₂) ⁹	1 hour	0.25 ppm	75 ppb	–
	3 hours	–	–	0.5 ppm
	24 hours	0.04 ppm	0.14 ppm (for certain areas) ⁸	–
	Annual	–	0.030 ppm (for certain areas) ⁸	–
Lead (Pb) ^{10, 11}	30-Day Average	1.5 µg/m ³	–	–
	Calendar Quarter	–	1.5 µg/m ³ (for certain areas) ⁽¹⁰⁾	Same as Primary Standard
	Rolling 3-Month Average	–	0.15 µg/m ³	

Table 3.2-1: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard ¹	National Standard ²	
		Concentration ³	Primary ^{3,4}	Secondary ^{3,5}
Visibility-Reducing Particles ¹²	8 hours	Extinction coefficient 0.23 per kilometer – visibility of ten miles or more (0-.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.	No National Standard	
Sulfates	24 hours	25 µg/m ³		
Hydrogen Sulfide	1 hour	0.03 ppm		
Vinyl Chloride ¹⁰	24 hours	0.01 ppm		

Sources: CARB 2015a.

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter; ppb = parts per billion

A dash (-) signifies that there is no standard for this pollutant

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter (PM₁₀ and PM_{2.5}), and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact USEPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
7. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over three years.

Table 3.2-1: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard ¹	National Standard ²	
		Concentration ³	Primary ^{3,4}	Secondary ^{3,5}
8.		To attain this standard, the three-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.		
9.		On June 2, 2010, the EPA established a new 1-hour SO ₂ standard, effective August 23, 2010, which is based on the three-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO ₂ standard of 0.14 ppm and the annual primary SO ₂ standard of 0.030 ppm, effective August 23, 2010. The secondary SO ₂ standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.		
10.		CARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.		
11.		The national standard for lead was revised on October 15, 2008 to a rolling three-month average. The 1978 lead standard (1.5 µg/m ³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.		
12.		In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.		

The CARB is responsible for ensuring that CAAQS (Table 3.2-1) are met for certain pollutants and averaging periods. State standards are to be achieved through district-level air quality management plans that are incorporated into the State Implementation Plan.

The California Clean Air Act focuses on attainment of CAAQS and requires designation of attainment and nonattainment areas with respect to these standards. The Act also requires that local and regional air districts expeditiously adopt and prepare air quality attainment plans (Clean Air Plan) if the district violates CAAQS for O₃, CO, SO₂, or NO₂. No locally prepared attainment plans are required for areas that violate state PM₁₀ standards. CARB is responsible for developing plans and projects that will comply with the state PM₁₀ standards.

3.2.1.3 Local

South Coast Air Quality Management District

While CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The South Coast Air Quality Management District (SCAQMD) is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the South Coast Air Basin (SCAB), where the proposed Project is located. Specifically, SCAQMD is responsible for monitoring air quality as well as planning, implementing, and enforcing programs designed to attain and maintain CAAQS and NAAQS in the district. The programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and mobile source emissions. SCAQMD is also responsible for establishing stationary source permitting requirements and ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The proposed Project is subject to SCAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction for the proposed Project include the following:

SCAQMD Regulation IV, Rule 401 (2001) – Visible Emissions

This rule establishes the limit for visible emissions from stationary sources. This rule prohibits visible emissions as dark as or darker than Ringlemann No. 1 for periods greater than three minutes in any hour.

SCAQMD Regulation IV, Rule 402(1976) – Nuisance

This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.

SCAQMD Regulation IV, Rule 403 (2005) – Fugitive Dust

This rule requires fugitive dust sources to implement best available control measures for all sources to ensure that all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce the amount of particulate matter entrained in the ambient air from man-made fugitive dust sources (i.e., transportation, construction, etc.) by prescribing actions to prevent, reduce, or mitigate fugitive dust emissions.

SCAQMD Regulation IV, Rule 404 (1986) – Particulate Matter – Concentration

This regulation generally sets concentration limits for the discharge of particulate matter in the air.

SCAQMD Regulation IV, Rule 431.2 – Sulfur Content of Liquid Fuels

The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of sulfur oxides (SO_x) and particulates during combustion and to enable the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all

refiners, importers, and other fuel suppliers, such as distributors, marketers, and retailers, as well as to uses of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAB. The rule also affects diesel fuel supplied for mobile-source applications.

SCAQMD Regulation XI, Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines

This regulation replaces Rule 1110.1 and regulates general emissions limits on nitrous oxides (NO_x), volatile organic compounds (VOCs), and CO from engines. Owners/operators of engines that exceed prescribed limits must replace them with an electric motor or remove them from service.

SCAQMD Regulation XIV, Rule 1401 – New Source Review of Toxic Air Contaminants

This rule specifies limits for Toxic Air Contaminants (TAC) and procedures for assessing potential emissions from new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants.

SCAQMD has promulgated rules and regulations specific to operational emissions (non-construction) which are not directly applicable in the assessment of the significance of potential project impacts including:

Air Quality Management Plan

SCAQMD and the Southern California Association of Governments are responsible for preparing the air quality management plan (AQMP), which addresses federal and state Clean Air Act requirements. The AQMP details goals, policies, and programs for improving air quality in the South Coast Air Basin (SCAB). Each AQMP also addresses state and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emission inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

In December 2012, the SCAQMD adopted a 2012 Final AQMP (SCAQMD 2013), which is designed to meet applicable federal and state requirements for O₃ and particulate matter. The 2012 AQMP demonstrates attainment of the federal 24-hour PM_{2.5} standard by 2014 in the SCAB through adoption of all feasible measures. The 2012 AQMP also updates the USEPA-approved 8-hour O₃ control plan with new measures designed to reduce reliance on the Clean Air Act Section 182 (e)(5) long-term measures for NO_x and VOC reductions. Based on the general plans for cities and counties in the SCAB, demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments for their 2012 Regional Transportation Plan were used in the 2012 AQMP. The 2012 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use and development. The SCAQMD is in the process of developing the 2016 AQMP.

3.2.2 Existing Conditions

3.2.2.1 Sensitive Receptors

Sensitive receptors can best be defined as those locations or areas where dwelling units or other fixed, developed sites of frequent human use occur. Sensitive receptors identified for the proposed Project include residences, lodging (hotels, motels, and similar uses), places of worship, restaurants, educational facilities (schools), recreational facilities (golf courses, parks), hospitals, and libraries within 900 feet of proposed Project segments. The majority of the Project area is urban; and, therefore, it is in a sensitive receptor “corridor” (i.e., within 900 feet of Project rights-of-way and easements), with frequent human use areas throughout all proposed segments (see Section 3.9 Noise, Figure 3.9-2 through Figure 3.9-13).

3.2.2.2 Climate and Meteorology

The proposed Project is located within the SCAB (Figure 3.2-1). The SCAB is almost completely enclosed by mountains to the north and east, resulting in a fairly regular daily reversal of wind direction – offshore at night and onshore during the day. With concentrated population and industry within the SCAB, air pollution tends to accumulate and remain within this circulation pattern.

Summer is a dry period over most of the state due to the semi-permanent Pacific high pressure that deflects most storms far to the north. In winter, the Pacific high pressure weakens and shifts southward. Upwelling ceases, and winter storms become frequent.

According to the Western Regional Climate Center (WRCC), the most representative meteorological monitoring station within the SCAB is in Long Beach, California. The station (WRCC Station #045085, Long Beach Daugherty Field) is considered representative because of its central location within the SCAB and because of the time span for weather data collection at this location (1949 to 2015). Temperature and precipitation data recorded at this station indicate that average maximum temperatures during the winter and summer months range from 67.0 to 83.9 degrees Fahrenheit, respectively. Annual average precipitation recorded at this station is approximately 12 inches, with over 95 percent of the seasonal rainfall between October and April. Complex terrain and weather patterns within the SCAB make it a natural sink for the accumulation of emissions and sustained high pollution levels. The climate is relatively mild, with cooler temperatures and a pattern of onshore airflow along the coastal area, which improves air quality. In the inland portion of the air basin, however, a combination of abundant sunshine, warm temperatures, and poor vertical air mixing is conducive to the formation of ozone, commonly referred to as “smog.” The problem is worsened by the surrounding mountains that act together with the weather to trap air pollutants.

3.2.2.3 Attainment Status

Areas can be classified within the NAAQS and CAAQS as nonattainment, maintenance, attainment, or unclassified. The geographic areas that exceed NAAQS and/or CAAQS for a criteria pollutant are considered “nonattainment” areas for that pollutant. Conversely, areas that are below a criteria pollutant standard are considered “attainment.” Maintenance areas are defined as previously exceeding

the NAAQS or CAAQS (nonattainment) for a criteria pollutant but are presently attaining that standard. Maintenance areas are required to develop a maintenance plan outlining steps for continued attainment over the maintenance period. Unclassified areas are those where insufficient monitoring data is available to make a determination. Table 3.2-2 summarizes the attainment status within the proposed Project area.

Table 3.2-2: Attainment Status within the Project Area

Criteria Pollutant	Federal Status	State Status
Carbon monoxide (CO)	Maintenance	Attainment
Lead	Attainment	Attainment
Nitrogen dioxide (NO ₂)	Maintenance	Attainment
Ozone (O ₃)	Non-attainment	Non-attainment
PM _{2.5}	Non-attainment	Non-attainment
PM ₁₀	Maintenance	Non-attainment
Sulfur dioxide (SO ₂)	Attainment	Attainment
Particulate sulfate	n/a	Attainment
Hydrogen sulfide	n/a	Unclassified
Visibility-reducing particles	n/a	Unclassified

Source: CARB 2015b; EPA 2015a

3.2.2.4 Existing Air Quality Monitoring Data

USEPA, CARB, and local air districts select and maintain a statewide network of monitoring stations that routinely measure pollutant concentrations in the ambient air. These stations provide data to assess compliance with the NAAQS and CAAQS and to evaluate the effectiveness of pollution control strategies. Five monitoring stations are located within Orange County in the SCAB. Table 3.2-3 summarizes maximum monitored criteria pollutants within Orange County for which the SCAB is nonattainment/maintenance (e.g., PM_{2.5}, PM₁₀, O₃, CO, and NO₂).

Table 3.2-3: Maximum Monitored Criteria Pollutant Concentrations within Orange County

Monitoring Station	Criteria Pollutant	Averaging Time	2012	2013	2014	2015*	Ambient Air Quality Standard**
1630 W Pampas Lane, Anaheim	CO	1-hour	3.0	3.4	3.1	3.1	20 ppm
		8-hour	2.3	2.6	2.1	2.2	9 ppm
	NO ₂	1-hour	67.0	82.0	76.0	55.0	100 ppb
		8-hour	0.067	0.07	0.081	0.065	0.070 ppm
	PM ₁₀	24-hour	67.0	93.0	122.0	66.0	50 µg/m ³
		24-hour	50.1	37.8	56.2	45.8	35 µg/m ³
	Annual	10.8	10.1	10.5	9.4*	12 µg/m ³	
812 W Vermont Street, Anaheim	CO	1-hour	n/a	n/a	n/a	3.1	20 ppm
		8-hour	n/a	n/a	n/a	2.3	9 ppm
	NO ₂	1-hour	n/a	n/a	79	61.0	100 ppb
2850 Mesa Verde Drive East, Costa Mesa	CO	1-hour	2.1	2.4	2.7	3.0	20 ppm
		8-hour	1.7	2.0	1.9	2.2	9 ppm
	NO ₂	1-hour	74.0	76.0	61.0	48.0	100 ppb
		8-hour	0.076	0.083	0.079	0.068	0.070 ppm
26081 Via Pera, Mission Viejo,	CO	1-hour	1.5	1.5	1.2	1.4	20 ppm
		8-hour	1.1	1.2	0.7	0.7	9 ppm
	O ₃	1-hour	0.096	0.104	0.115	0.099	0.09 ppm
		8-hour	0.078	0.082	0.088	0.075	0.070 ppm
	PM ₁₀	24-hour	37.0	51.0	41.0	49.0	50 µg/m ³
	PM _{2.5}	24-hour	27.6	28	25.5	31.5	35 µg/m ³
Annual		7.9	8.1	8.0	7.1	12 µg/m ³	
621 W Lambert, La Habra	CO	1-hour	3.6	6.5	4.0	3.0	20 ppm
		8-hour	2.4	2.2	2.1	1.6	9 ppm
	NO ₂	1-hour	68.0	85.0	84.0	51.0	100 ppb
	O ₃	1-hour	0.1	0.104	0.119	0.099	0.09 ppm
8-hour		0.077	0.078	0.086	0.073	0.070 ppm	

*Does not satisfy minimum data completeness criteria.
**most stringent standard
n/a=data not available
Note: Bold indicates an exceedance
Source: EPA 2015b

As shown in Table 3.2-3, exceedances of ozone and particulate matter are reported within Orange County. Although exceedances have been recorded, pollutant concentrations appear to be decreasing.

3.2.2.5 Fugitive Dust

Fugitive dust is particulate matter which becomes airborne and has the potential to adversely affect human health or the environment. The most common forms of particulate matter are known as coarse particles with a diameter of 10 microns or less (PM₁₀), respirable particles, and fine particles with a diameter of 2.5 microns or less (PM_{2.5}). Fugitive dust is generated mainly from construction activities such as earth moving, paved road track-out, driving on haul roads, and excavation.

The 2009 USEPA Integrated Science Assessment for Particulate Matter (USEPA. EPA/600/R-08/139F) has identified the adverse impacts of particulate matter air pollution on increased illness (morbidity) and increased death rates (mortality). Correlations have been established between elevated ambient particulate matter levels and respiratory infections, asthma attacks, and the number of hospital admissions. PM_{2.5} has been linked in studies to reduction in lifespan, mortality from lung cancer, cardiovascular and respiratory diseases, school and kindergarten absences, and increased asthma medication use by children and adults.

TACs include 187 pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Among these TACs are diesel particulates, which are one of the top three contributors, which also included 1,3 butadiene and benzene, to the potential cancer risk from motor vehicle emissions. USEPA is working with CARB and other state, local, and tribal governments to reduce releases of air toxics to the environment.

3.2.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and are used to evaluate the potential for significant proposed Project impacts related to air quality emissions. Project air quality impacts would be significant if the proposed Project would:

- AQ-1:** Conflict with or obstruct implementation of the applicable air quality plan
- AQ-2:** Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- AQ-3:** Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)
- AQ-4:** Expose sensitive receptors to substantial pollutant concentrations
- AQ-5:** Create objectionable odors affecting a substantial number of people

3.2.3.1 SCAQMD Significance Thresholds

The SCAQMD has developed daily emissions thresholds for construction and operation of proposed projects within the SCAB as set forth in its *CEQA Air Quality Handbook*. The SCAQMD's thresholds are set forth in Table 3.2-4 (see page 3-24). Projects in the SCAB with emissions that exceed any of these thresholds are considered to be significant under CEQA. If a project complies with the mass daily thresholds, then compliance with ambient air quality standards is established.

Table 3.2-4: SCAQMD Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction	Operation
NO _x	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM ₁₀	150 lbs./day	150 lbs./day
PM _{2.5}	55 lbs./day	55 lbs./day
SO _x	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day
Lead	3 lbs./day	3 lbs./day
Toxic Air Contaminants (TACs), and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	<ul style="list-style-type: none"> Maximum Incremental Cancer Risk greater than or equal to 10 in 1 million Cancer Burden greater than 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million) Chronic & Acute Hazard Index greater than or equal to 1.0 (project increment) 	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants ^a		
NO ₂	SCAQMD is in attainment: project is significant if it causes or contributes to an exceedance of the following attainment standards:	
1-hour average	0.18 ppm (state)	
Annual arithmetic mean	0.03 ppm (state) and 0.0534 ppm (federal)	
PM ₁₀	10.4 µg/m ³ (construction) ^b and 2.5 µg/m ³ (operation)	
24-hour average		
Annual average	1.0 µg/m ³	
PM _{2.5}	10.4 µg/m ³ (construction) ^b and 2.5 µg/m ³ (operation)	
24-hour average		
SO ₂	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile)	
1-hour average		
24-hour average	0.04 ppm (state)	
Sulfate	25 µg/m ³ (state)	
24-hour average		
CO	SCAQMD is in attainment: project is significant if it causes or contributes to an exceedance of the following attainment standards:	
1-hour average	20 ppm (state) and 35 ppm (federal)	
8-hour average	9.0 ppm (state/federal)	
Lead	1.5 µg/m ³ (state)	
30-day Average		
Rolling 3-month Average	0.15 µg/m ³ (federal)	

Table 3.2-4: SCAQMD Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction	Operation
^a Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated. ^b Ambient air quality threshold based on SCAQMD Rule 403. KEY: lbs./day=pounds per day; ppm=parts per million; $\mu\text{g}/\text{m}^3$ =microgram per cubic meter Source: SCAQMD CEQA Handbook (SCAQMD 1993)		

3.2.4 Impact Analysis

Construction of the proposed Project has the potential to create temporary air quality emissions from soil disturbance, fugitive dust, and combustion pollutants from on-site construction equipment, personal vehicles, vendor/delivery trucks, and off-site haul trucks.

Construction methods for both build alternatives would include open-cut trenching (except where noted in Section 2.5 Construction), sewer lining and manhole rehabilitation (i.e., cured-in-place pipe installation), and pump station rehabilitation. Sewer lining and manhole rehabilitation would include cured-in-place pipe (CIPP) installation using a felt truck or boiler truck with generators and air compressors. The pump station rehabilitation would involve delivery and replacement of large-volume pumping equipment for the force main, reconstruction of the wet well, and the addition of either an air scrubber or air jumper line. The proposed Project would construct sewer pipelines in a linear fashion for open-cut trenching and CIPP installation, completing approximately 50 to 150 feet per day depending on site conditions. The proposed Project would require excavation for installation of new 21- to 39-inch pipes at depths of up to 31.3 feet below ground surface (bgs). Trenches to accommodate the new pipe would be up to 7 feet wide. The construction area associated with replacement would be up to 1,000 feet long and 25 feet wide. As discussed in Section 2.5.4 Construction Schedule and Cost, the construction schedule allows sufficient time (4 years or 1,460 days) to construct each Project segment sequentially for either build alternative; however, construction of the proposed Project is anticipated to last for approximately 24 to 30 months within this time frame due to overlapping construction activities for some Project segments. Section 2.5 provides a detailed description of construction methods. Appendix B summarizes the construction method, construction equipment type, quantity of equipment, hours of operation, number of working days, and number of workers on site for each activity.

Additionally, minor excavation would be required for manhole replacement/rehabilitation and on all project segments where exit/entry pits are required (e.g., for alternative construction methods discussed in Chapter 2.0) and for the improvements at the Westside Pump Station.

Construction equipment and materials would be held in staging areas in parking lots, vacant lots, or segments of street lanes that are temporarily closed to minimize hauling trips and long-term disruption.

Construction emissions can vary depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions were estimated using the California Emission Estimator Model (CalEEMod) v 2013.2.2 developed for the California Air Pollution Control Officers Association (CAPCOA) by SCAQMD and other California air districts (EIC 2013). As discussed in Section 2.5.4, the construction schedule allows sufficient time from March 2019 through March 2023 (approximately 4 years or 1,460 days) to construct each Project segment sequentially for either build alternative; however, construction activities are anticipated to last for approximately 24 to 30 months during this time frame. The 24- to 30-month time frame is anticipated due to overlapping construction activities for some Project segments.

AQ-1: *Conflict with or obstruct implementation of the applicable air quality plan?*

3.2.4.1 Construction Impacts

The SCAQMD air quality plan considered in this analysis is the SCAQMD 2012 Air Quality Management Plan (SCAQMD Plan) (SCAQMD 2013). The purpose of this plan is to demonstrate attainment of the PM_{2.5} 24-hour standard of 35 µg/m³ by 2014 within the SCAB, identify measures and actions to fulfill the 8-hour O₃ State Implementation Plan commitments to the USEPA to achieve emissions reductions from best available control technology (BACT), and to demonstrate attainment of the 1-hour O₃ CAAQS by 2022. Emissions inventories for large (4 tons annually of VOCs, NO_x, oxides of sulfur, and particulates and 100 tons of CO) and small stationary sources as well as mobile sources are developed in the SCAQMD Plan. The Plan also reports pollutant concentration data collected at SCAQMD monitoring locations for comparison to the NAAQS/CAAQS. Compliance with the significance thresholds listed in Table 3.2-4 would demonstrate consistency with the SCAQMD Plan, as emissions below these thresholds would not contribute significantly to those from inventoried sources or create new or worsened violations of the NAAQS/CAAQS.

Common Build Alternative Element Impacts

Daily emissions from construction of the Seal Beach Blvd. Interceptor and the Orange-Western Sub-trunk, which would include the CIPP rehabilitation and manhole replacement/rehabilitation activities, would be identical under both build alternatives. Similarly, construction activities and daily emissions for the West Side Pump Station would be identical under both build alternatives (See Table 3.2-5).

Overlapping construction of one or more Project segments under either build alternative is possible; however, the number of segments under construction at any given time should be limited to avoid a significant impact from construction emissions by exceeding the SCAQMD NO_x threshold (see Table 3.2-5). To ensure that daily construction emissions are within the SCAQMD thresholds during overlapping construction of multiple Project segments, mitigation measure AQ MM 1 will apply (see Section 3.2.5 Mitigation Measures). By implementing AQ MM 1, impacts from construction of the proposed Project would be less than significant.

Build Alternative 1

As shown in Table 3.2-5, daily emissions specific to Build Alternative 1 would occur with the construction of the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Daily emissions associated with the Westside Relief Interceptor construction, which includes partial pipe excavation/replacement that is generally more intensive in terms of equipment usage and construction duration than CIPP activities, will be higher for Build Alternative 1 (see Appendix B *Air Modeling Results*). For the Los Alamitos Sub-trunk replacement/CIPP activities under Build Alternative 1, daily emissions would be lower in comparison to Build Alternative 2 due to the lesser amount of excavation involved with partial replacement of the sub-trunk and the shorter duration of construction activities (see Table 3.2-5 and Appendix B). These impacts, however, are significant and require mitigation. With implementation of mitigation measure AQ MM 1, these impacts would be less than significant.

Build Alternative 2

Similarly, daily emissions specific to Build Alternative 2 would occur with the construction of the Los Alamitos Sub-trunk and the Westside Relief Interceptor. As noted above, the daily construction emissions under Build Alternative 2 would be lower for the Westside Relief Interceptor and higher for the Los Alamitos Sub-trunk in comparison to Build Alternative 1 due to the stated differences in construction activities and duration associated with CIPP rehabilitation vs. excavation (See Table 3.2-5). Overall, the daily emissions from Build Alternative 2 would be higher than for Build Alternative 1 because the increased emissions from the complete excavation/replacement of the Los Alamitos Sub-trunk would exceed the level of reduced emissions from the complete CIPP construction of the Westside Relief Interceptor.

The analysis indicates that none of the emissions from construction of any of the proposed Project segments located in the SCAB for Build Alternatives 1 and 2 would exceed significance thresholds for criteria pollutants including NO_x, a precursor for O₃, and would not conflict with or obstruct implementation of the SCAQMD Plan. Project air quality construction impacts would be significant. As discussed in Section 2.5.4, the construction schedule allows sufficient time (4 years or 1,460 days) to construct each Project segment sequentially for either build alternative, although the anticipated period of construction within this time frame is only 24 to 30 months. These impacts, however, are significant and require mitigation. With implementation of mitigation measure AQ MM 1, these impacts would be less than significant.

Table 3.2-5: Construction Emissions for the Proposed Project Segments within SCAB

	Maximum Daily Emissions (lbs./day)									
	Alternative 1					Alternative 2				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
Los Alamitos Sub-trunk Replacement ¹	4.81	45.57	36.40	4.39	2.79	9.68	87.92	78.96	11.44	6.29
Los Alamitos CIPP Installation and Manholes	1.94	16.74	16.05	1.42	0.93	--	--	--	--	--
Seal Beach Blvd. Interceptor CIPP Installation and Manholes	0.89	7.59	6.78	0.63	0.44	0.89	7.59	6.78	0.63	0.44
Westside Pump Station	3.44	30.30	27.21	2.09	1.69	3.44	30.30	27.21	2.09	1.69
Westside Relief Interceptor Replacement	4.46	42.40	33.65	4.08	2.59	--	--	--	--	--
Westside Relief Interceptor CIPP Installation and Manholes	1.78	15.35	14.73	1.31	0.86	4.19	34.70	35.74	4.21	2.14
Orange Western Sub-trunk CIPP Installation and Manholes	2.13	18.47	16.32	1.55	1.06	2.13	18.47	16.32	1.55	1.06
Total Emissions	19.45	176.42²	151.14	15.47	10.36	20.33	178.98²	165.01	19.92	11.62
SCAQMD Threshold	75	100	550	150	55	75	100	550	150	55
Exceeds Threshold	No	No	No	No	No	No	No	No	No	No
<ol style="list-style-type: none"> Sub-trunk replacement under Alternative 2 also incorporates manhole rehabilitation/replacement. Bold numbers indicate exceedance of the SCAQMD significance threshold; however, this occurs only if all project segments are under construction simultaneously. With the implementation of AQ MM 1, these exceedances would be avoided. 										

3.2.4.2 Operational Impacts

Operational air quality emissions for both build alternatives would be associated with vehicle trips to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber, if included in the proposed Project. Air scrubbers control suspended particles on site and would be installed within a new enclosure adjacent to the existing building. Routine maintenance conducted after completion of the

proposed Project would remain the same as existing maintenance activities or be reduced with use of newer equipment resulting in no significant air quality emissions. Therefore, operation of the proposed Project would not conflict with or obstruct implementation of the SCAQMD AQMP, and operational air quality emissions would be less than significant.

AQ-2: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

3.2.4.3 Construction Impacts

Common Build Alternative Element Impacts

As previously discussed for AQ-1, daily emissions from construction of the Seal Beach Blvd. Interceptor and the Orange-Western Sub-trunk CIPP rehabilitation and manhole replacement/rehabilitation as well as the West Side Pump Station would be identical under both build alternatives (See Table 3.2-5).

Compliance with these thresholds demonstrates that construction of the proposed Project would not violate air quality standards for these pollutants and would not contribute substantially to the SCAB nonattainment status for O₃. Project air quality impacts would not be significant. As previously discussed, the construction schedule allows sufficient time to construct each Project segment under either build alternative, although the anticipated period of construction within this time frame is only 24 to 30 months; therefore, the number of segments under construction at any given time should be limited to avoid a significant impact from construction emissions by exceeding the SCAQMD NO_x threshold. To ensure that daily construction emissions are within the SCAQMD thresholds during overlapping construction of multiple Project segments, mitigation measure AQ MM 1 would apply (see Section 3.2.5). By implementing AQ MM 1, impacts from construction of the proposed Project would be less than significant.

Build Alternative 1

As previously discussed for AQ-1, daily emissions specific to Build Alternative 1 would occur with the construction of the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Emissions associated with the Westside Relief Interceptor rehabilitation/replacement would be higher for Alternative 1 due to more intensive construction activities and longer construction duration compared to Build Alternative 2. For the Los Alamitos Sub-trunk construction replacement/CIPP activities under Build Alternative 1, daily emissions would be lower in comparison to Build Alternative 2 due to a lesser amount of excavation involved with partial replacement of the sub-trunk and the shorter duration of construction activities (see Appendix B). As shown in Table 3.2-5, daily emissions from construction of any of the proposed Project segments located in the SCAB would not exceed significance thresholds for criteria pollutants including NO_x, a precursor for O₃, for the Build Alternative 1 construction scenario after implementation of AQ MM 1.

Build Alternative 2

As previously discussed for AQ-1, daily emissions specific to Build Alternative 2 would occur with the construction of the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Emissions associated with the Westside Relief Interceptor rehabilitation would be lower for Build Alternative 2; and, for the Los Alamitos Sub-trunk, complete replacement would be higher under Build Alternative 2 due to the stated differences in construction activities and duration associated with CIPP rehabilitation and excavation. As shown in Table 3.2-5, daily emissions from construction of any of the proposed Project segments located in the SCAB would not exceed significance thresholds for criteria pollutants including NO_x, a precursor for O₃, for the Build Alternative 2 construction scenario after implementation of AQ MM 1. Overall, the daily emissions from Build Alternative 2 would be higher than for Build Alternative 1 because the increased emissions from the complete excavation/replacement of the Los Alamitos Sub-trunk would exceed the level of reduced emissions from the complete CIPP construction of the Westside Relief Interceptor.

3.2.4.4 Operational Impacts

The operations would consist of ongoing activities related to the operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station including completing routine maintenance; cleaning sewer lines and manholes; performing visual inspection utilizing closed-circuit television and camera inspection; and conducting flow monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. Operation of the proposed Project would result in no significant change of operational air quality emissions. Therefore, operation of the proposed Project would not contribute to the SCAB nonattainment status for O₃ or a projected violation, and operational air quality emissions would be less than significant.

AQ-3: *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*

3.2.4.5 Construction Impacts

As shown in Table 3.2-2, the SCAB is classified as nonattainment for O₃ (NAAQS and CAAQS), PM_{2.5} (NAAQS and CAAQS), and PM₁₀ (CAAQS). Cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources all contribute to the region's poor air quality.

Common Build Alternative Element Impacts

As previously discussed for AQ-1 and AQ-2, daily emissions from construction of the Seal Beach Blvd. Interceptor and the Orange-Western Sub-trunk CIPP rehabilitation and manhole replacement/rehabilitation as well as the Westside Pump Station would be identical under both build alternatives (see Table 3.2-5).

Compliance with these thresholds demonstrates that construction of the proposed Project would not result in a cumulatively considerable increase of any criteria pollutant including NO_x, a precursor for O₃, for which the SCAB is in nonattainment. Project air quality impacts would not be significant. As previously discussed, the construction schedule allows sufficient time to construct each Project segment under either build alternative, although the anticipated period of construction within this time frame is only 24 to 30 months; therefore, the number of segments under construction at any given time should be limited to avoid a significant impact from construction emissions by exceeding the SCAQMD NO_x threshold. To ensure that daily construction emissions are within the SCAQMD thresholds during overlapping construction of multiple Project segments, mitigation measure AQ MM 1 would apply (see Section 3.2.5). By implementing AQ MM 1, impacts from construction of the proposed Project would be less than significant.

Build Alternative 1

As previously discussed in AQ-1 and AQ-2, daily emissions specific to Build Alternative 1 would occur with the construction of the Los Alamitos Sub-trunk which would be lower in comparison to Build Alternative 2 due to a lesser amount of excavation involved with partial replacement of the sub-trunk and the shorter duration of construction. Daily emissions would be higher for the Westside Relief Interceptor due to more intensive construction activities and longer construction duration compared to Build Alternative 2. As shown in Table 3.2-5, daily emissions from construction of any of the proposed Project segments located in the SCAB would not exceed significance thresholds for criteria pollutants including NO_x, a precursor for O₃, for the Build Alternative 1 construction scenario after implementation of AQ MM 1.

Build Alternative 2

As previously discussed for AQ-1 and AQ-2, daily emissions specific to Build Alternative 2 would occur with the construction of the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Emissions associated with the Westside Relief Interceptor rehabilitation would be lower for Build Alternative 2; and, for the Los Alamitos Sub-trunk, emissions would be higher under Build Alternative 2 due to the stated differences in construction activities and duration associated with CIPP rehabilitation vs. excavation/replacement. As shown in Table 3.2-5, daily emissions from construction of any of the proposed Project segments located in the SCAB will not exceed significance thresholds for criteria pollutants including NO_x, a precursor for O₃, for the Build Alternative 2 construction scenario. Overall, the emissions from Build Alternative 2 would be higher than for Build Alternative 1 because the increased emissions from the complete excavation/replacement of the Los Alamitos Sub-trunk would exceed the level of reduced emissions from the complete CIPP construction of the Westside Relief Interceptor. These impacts would be significant and require implementation of mitigation measure AQ MM 1 to reduce impacts to less than significant.

3.2.4.6 Operational Impacts

The air quality emissions from operations for both of the build alternatives would consist of ongoing activities related to operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station including completing routine maintenance; cleaning sewer lines and manholes; performing visual inspection utilizing closed-circuit television and camera inspection; and conducting flow monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. The operation of the proposed Project would result in no significant change of operational air quality emissions. Therefore, the operation of the proposed Project would not result in a cumulatively considerable net increase in O₃ from the NO_x emissions, and impacts would be less than significant.

AQ-4: Expose sensitive receptors to substantial pollutant concentrations?

3.2.4.7 Construction Impacts

The SCAQMD has established local significance thresholds (LSTs), which were developed based on the ambient concentrations of a pollutant for each source receptor area (SRA) and the distance of the pollutant source to the nearest sensitive receptor, which includes residences, lodging (hotels, motels, and similar uses), places of worship, restaurants, educational facilities (schools), recreational facilities (golf courses, parks), hospitals, and libraries. Table 3.2-6 summarizes the SCAQMD LSTs for the following pollutants: NO_x, CO, PM₁₀, and PM_{2.5}. SCAQMD has not established local thresholds for reactive organic gases (ROGs). The SCAQMD recommends the evaluation of localized pollutant impacts to sensitive receptors in the immediate vicinity of the proposed Project as a result of construction activities. The Project area is urban, with heavy development and numerous sensitive receptors within the vicinity of the proposed Project. The nearest sensitive receptors are generally located approximately 25 feet or less from the proposed improvements. Construction of the proposed sewer pipelines is considered a linear activity and would continuously move during the project construction phases. Approximately 50 to 150 feet of construction would occur per day, depending on site conditions; therefore, construction activities would be temporary and of short duration at any one location in the Project area.

Project construction emissions were evaluated against LSTs for a single calendar day rather than averaged over the entire construction duration of each project segment as they were for the SCAQMD significance threshold analysis. This approach focuses on activities taking place within a smaller project footprint of 1 acre or less that is the basis of establishing LSTs within a given SRA.

Common Build Alternative Element Impacts

Under both build alternatives, single-day emissions from the construction of the Seal Beach Blvd. Interceptor and the Orange-Western Sub-trunk, which would include the CIPP rehabilitation and manhole replacement/rehabilitation activities, would be identical, and their associated impacts would be less than significant. Similarly, construction activities for the Westside Pump Station and single-day emissions would be identical under both build alternatives (see Table 3.2-5), and their associated impacts would be less than significant.

Build Alternative 1

As shown in Table 3.2-6, single-day emissions from the construction of the Los Alamitos Sub-trunk and the Westside Relief Interceptor at a representative 1-acre construction site would vary depending on the particular construction involved, with higher emissions generated by the complete excavation/replacement activities compared to CIPP activities.

The estimated single-day emissions for a representative construction area of 1-acre or less that are specific to Build Alternative 1 would occur where excavation/replacement vs. CIPP rehabilitation of the Westside Relief Interceptor and the Los Alamitos Sub-trunk, respectively, would occur. This is reflected in the range of daily emissions of NO_x, CO, and PM₁₀ shown in Table 3.2-6. Variability in estimated PM_{2.5} emissions in comparison to Alternative 2 was eliminated through rounding. Conversely, the construction emissions evaluation for the other project segments did not produce a quantifiable difference compared to Build Alternative 2, because the same activities would occur on a given day under either alternative. As shown in Table 3.2-6, daily emissions from construction of any of the proposed Project segments located in the SCAB would not exceed local significance thresholds for criteria pollutants, including NO_x, a precursor for O₃, for the Build Alternative 1 construction scenario. As a result, impacts would be less than significant and no mitigation is required.

Table 3.2-6: Local Significance Thresholds – Construction Emissions for the Proposed Project Segments within SCAQMD Sensitive Receptor Area

Proposed Project	SRA	Local Significance Thresholds (lbs./day)*							
		NO _x		CO		PM ₁₀		PM _{2.5}	
Orange-Western Sub-trunk, Los Alamitos Sub-trunk, and Westside Relief Interceptor	16 – North Orange County (includes Cities of Buena Park and La Palma)	103		1,311		4		3	
Orange-Western Sub-trunk, Los Alamitos Sub-trunk, and Westside Relief Interceptor	17 – Central Orange County (includes Cities of Anaheim, Cypress, and Los Alamitos)	81		1,253		4		3	
Seal Beach Blvd. Interceptor and Westside Pump Station	18 – North Coastal Orange County (includes City of Seal Beach)	92		1,711		4		3	
Construction Emissions (lbs./day)		Alt. 1	Alt. 2	Alt. 1	Alt. 2	Alt. 1	Alt. 2	Alt. 1	Alt. 2
Orange-Western Sub-trunk		0.13	0.13	0.11	0.11	0.01	0.01	0.01	0.01
Los Alamitos Sub-trunk		0.13 - 0.20	0.20	0.11 - 0.16	0.16	0.01 - 0.02	0.02	0.01	0.01

Table 3.2-6: Local Significance Thresholds – Construction Emissions for the Proposed Project Segments within SCAQMD Sensitive Receptor Area

Proposed Project	SRA	Local Significance Thresholds (lbs./day)*							
		NO _x		CO		PM ₁₀		PM _{2.5}	
Westside Relief Interceptor		0.13 - 0.20	0.13	0.11 - 0.16	0.11	0.01 - 0.02	0.01	0.01	0.01
Seal Beach Blvd. Interceptor		0.13	0.13	0.11	0.11	0.01	0.01	0.01	0.01
Westside Pump Station		0.17	0.17	0.15	0.15	0.01	0.01	0.01	0.01
Exceeds LST		No		No		No		No	

*Note: LSTs apply to one to five acre construction areas, depending upon pollutant evaluated, whereas the SCAQMD significance criteria evaluation for questions AQ-1 to AQ-3 consider a longer project, both in terms of length and duration, as detailed in Appendix B. These values represent a single day of site construction activity in a representative stationary location within a given SRA rather than total emissions resulting from construction activities averaged over the construction duration for each Project segment.

Build Alternative 2

The estimated single-day emissions for a representative construction area of 1 acre or less specific to Build Alternative 2 would occur where excavation/replacement vs. CIPP rehabilitation of the Westside Relief Interceptor would occur. This is reflected in the range of daily emissions of NO_x, CO, and PM₁₀ shown in Table 3.2-6. Variability in comparison of estimated PM_{2.5} emissions in comparison to Build Alternative 1 was eliminated through rounding. Although not unique to Build Alternative 2, estimated emissions from the complete excavation/replacement of the Los Alamitos Sub-trunk for a representative 1-acre or less construction area would be at the upper end of the range for Build Alternative 1, as shown in the table.

As previously discussed, the construction emissions evaluation for the other project segments did not produce a quantifiable difference compared to Build Alternative 2 because the same activities would occur on the first day under either alternative. As shown in Table 3.2-6, daily emissions from construction of any of the proposed Project segments located in the SCAB would not exceed local significance thresholds for criteria pollutants, including NO_x, a precursor for O₃, for the Build Alternative 2 construction scenario. The proposed Project would comply with the thresholds established by the LSTs, which is sufficient to demonstrate that construction of the proposed Project segments in the SCAB under Build Alternative 1 and Build Alternative 2 would not result in exposure of sensitive receptors to substantial pollutant concentrations; therefore, impacts to sensitive receptors would be less than significant.

3.2.4.8 Operational Impacts

Operational air quality emissions would be associated with vehicle trips to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit

television and camera inspection; conduct flow monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber, if included in the proposed Project. Air scrubbers control suspended particles on site and would be installed within a new enclosure adjacent to the existing building. Completion of the proposed Project would result in no significant change of operational air quality emissions. The operational activities that would generate potential air quality emissions would be from mobile sources, generally one to two vehicles twice a month. The proposed Project would not increase the number of trips above current conditions and would not generate sufficient emissions to create an air quality violation. In addition, over time the fleet vehicles would have cleaner engines, which would reduce overall operational emissions. Operational impacts are not anticipated, and operation of the proposed Project would not expose sensitive receptors to substantial pollutant concentrations.

AQ-5: *Create objectionable odors affecting a substantial number of people?*

3.2.4.9 Construction Impacts

Odors can be offensive and annoying to the public but seldom cause physical harm. Project construction emissions of dust from excavated soil have the potential to generate objectionable odors as well as fumes from diesel and gasoline equipment and asphalt paving material; however, odors from these sources would be localized and generally confined to the construction area. Replacement of the proposed sewer pipelines would be considered a linear project, completing approximately 50 to 150 feet of pipeline per day, depending on site conditions. Therefore, construction activities would not occur in one location for an extended period of time. In addition, odors from the existing pipelines would not be exposed, since most pipes would be left in place and a new pipeline would be constructed on a new alignment. In replacement areas the trench would be covered daily with steel plating or other similar material and would minimize potential odors from excavations. In addition, areas would be paved over as the construction moved along in a linear fashion.

Common Build Alternative Element Impacts

A similar potential for odors during construction would occur for the Orange-Western Sub-trunk, the Seal Beach Blvd. Interceptor, and the Westside Pump Station; however, the pump station is located inside a building, minimizing any potential odors from construction activities.

Build Alternative 1

The potential for odors during construction under Build Alternative 1 would be reduced along the Los Alamitos Sub-trunk, as less open excavation and pipe installation would occur, and increased along the Westside Relief Interceptor, as more open excavation and pipe installation would occur in comparison to Build Alternative 2; however, the total length of open-cut trenching and potential exposure to odors would be reduced. Construction odor impacts would be less than significant.

Build Alternative 2

The potential for odors during construction under Build Alternative 2 would be increased along the Los Alamitos Sub-trunk, as more open excavation and pipe installation would occur, and reduced along the Westside Relief Interceptor, as more open excavation and pipe installation would occur than under Build Alternative 1. In general, a higher potential for odors would be associated with Build Alternative 2, which entails more overall open-trench activities for the complete excavation/replacement of the Los Alamitos Sub-trunk.

Odors during construction would not create an odor nuisance pursuant to SCAQMD Rule 402, as they would be temporary and limited to 50- to 100-foot sections during the construction day where excavation activities occur. Construction odor impacts would be less than significant.

3.2.4.10 Operational Impacts

Odors most often reported to the SCAQMD are associated with transfer station/recycling, auto body facilities, foundry/metal processing, wastewater/water treatment, and landfills, which together comprise approximately 55 percent of all complaints (Curren 2012). Operation of the proposed Project would include vehicle trips to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber, if included in the proposed Project. In addition to chemical dosing, an air scrubber controls suspended particles on site and would help to reduce any odors associated with operations. In addition, the air scrubber would be installed within a new enclosure adjacent to the existing building. Completion of the proposed Project would result in no significant change of operational air quality emissions and would not create an odor nuisance pursuant to SCAQMD Rule 402. Therefore, odor impacts are not anticipated during operation of the proposed Project.

3.2.4.11 No Build Alternative

Under the No Build Alternative, no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station would occur other than routine operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would result in no increase in emissions and would have no impact on air quality.

3.2.5 Mitigation Measures

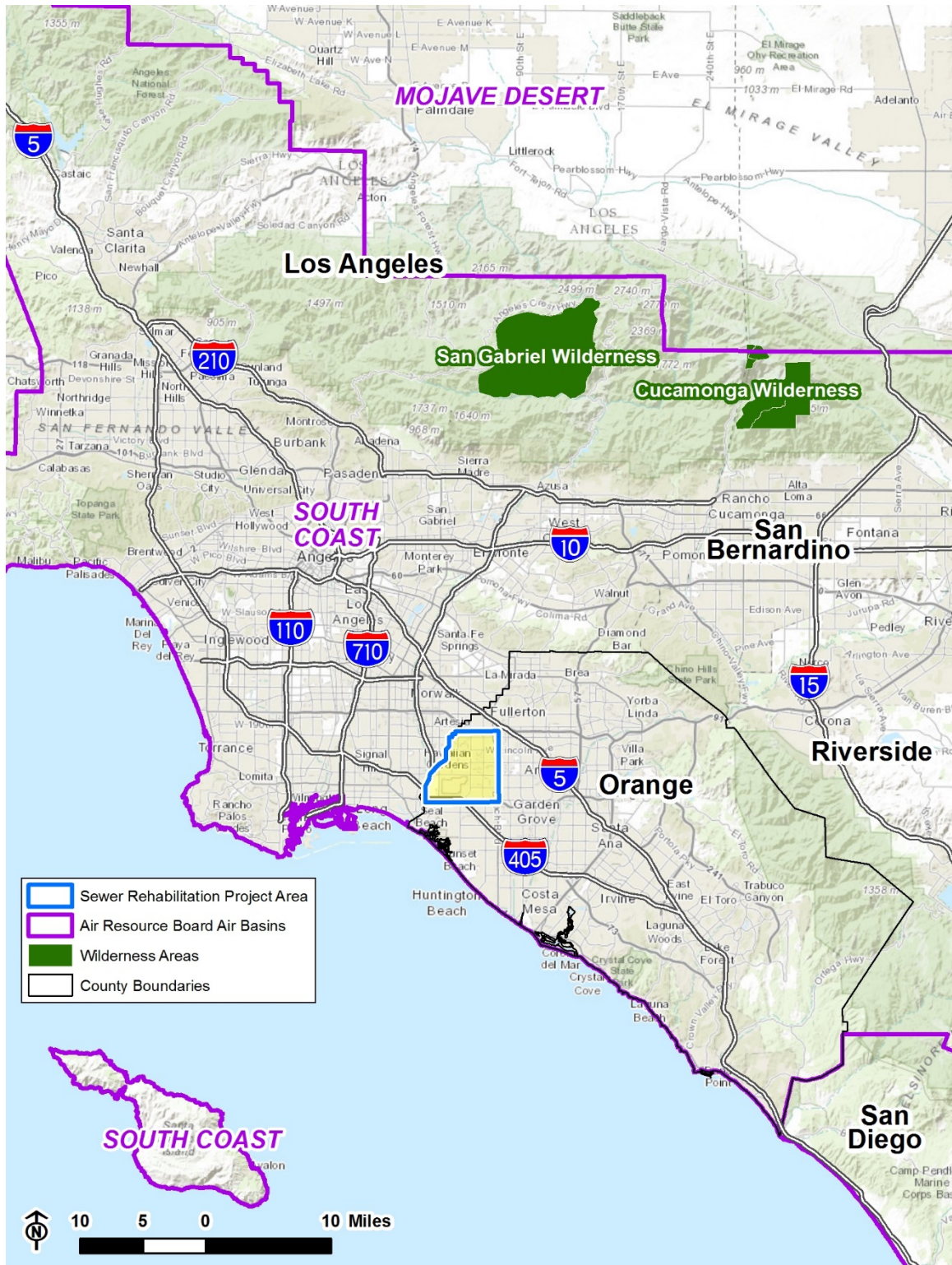
Although not anticipated, emissions from simultaneous construction of all proposed Project segments would result in significant impacts under significance thresholds AQ-1, AQ-2, AQ-3; and implementation of mitigation measure AQ MM 1 is required. The proposed Project would need to adhere to SCAQMD rules and regulations during construction, which could help to minimize significant air quality emission impacts.

AQ MM 1: OCSD shall require its construction contractor, either through the use of scheduling, sequencing of equipment usage, or other means, to demonstrate that construction-related activities for all Project segments will not generate daily emissions exceeding the SCAQMD NO_x threshold shown in Table 3.2-5

3.2.6 Level of Significance after Mitigation

Implementation of mitigation measure AQ MM 1 for impacts AQ-1, AQ-2, and AQ-3 would reduce NO_x construction emissions to less than significant.

Figure 3.2-1: Basins, Management Districts, Class I Areas, Showing Proposed Project Sites



Source: CARB 2012

3.3 Biological Resources

This section describes the existing biological resources in the proposed Project area (i.e., the project limits and adjacent surrounding lands) and Project vicinity (i.e., a more expansive landscape context beyond the Project area) and identifies potential impacts to those resources associated with proposed Project implementation.

3.3.1 Regulatory Setting

3.3.1.1 *Federal*

Federal Endangered Species Act

In 1973, the Federal Endangered Species Act was established for the protection of threatened and endangered species and their habitats. Under Section 7 of this act, federal agencies are required to consult with the United States (U.S.) Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. Section 9 of the Federal Endangered Species Act prohibits the take of threatened or endangered species, which is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

Clean Water Act Sections 401 and 404

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill materials into waters of the United States. As defined in 33 Code of Federal Regulations 328.3, these waters generally include wetlands and other waters, such as intrastate lakes, rivers, streams, mudflats, and tributaries to those waters. The U.S. Environmental Protection Agency (USEPA) shares responsibility over waters of the United States, with USACE overseeing the Section 404 permit program. In addition, Executive Order (EO) 11990 directs federal agencies to observe a “no net loss” of wetlands in order to “minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.”

Section 401 of the Clean Water Act and the Porter-Cologne Act provide the California Regional Water Quality Control Boards’ (RWQCB) regulatory authority. The RWQCBs administer Section 401 of the Clean Water Act through water quality certification of any activity that may result in a discharge to jurisdictional waters of the United States. The RWQCBs may also regulate discharges to waters of the State under the Porter-Cologne Act.

Migratory Bird Treaty Act

Pursuant to the Migratory Bird Treaty Act (MBTA) of 1918, federal law prohibits the taking of migratory birds, their nests, or their eggs (16 United States Code [U.S.C.], Section 703). In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). The USFWS enforces the Migratory Bird Treaty Act (16 U.S.C. 703-711).

3.3.1.2 State**California Endangered Species Act**

The California Endangered Species Act states that “all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved” (California Department of Fish and Wildlife [CDFW] 2014a). Section 2081 of the California Endangered Species Act addresses the issuance of Incidental Take Permits from CDFW, which is required for projects that could result in the “take” of a state-listed threatened or endangered species. Under the California Endangered Species Act, “take” is defined as “to hunt, pursue, capture, or kill or to attempt to hunt, pursue, catch, capture, or kill any species determined to be endangered or threatened.” A Section 2081 permit is issued when a project determination is consistent with the issued Biological Opinion, an opinion issued by USFWS or NOAA Fisheries during formal Section 7 consultation under the Federal Endangered Species Act. CDFW is responsible for all state-listed plant and animal species under the California Endangered Species Act (Fish and Game Code Sections 2050–2116).

California Fish and Game Code: Fully Protected Species (3511, 4700, 5050, and 5515)

The State of California attempted to protect species considered rare or facing possible extinction by enacting California Fish and Game Code Sections 3511, 4700, 5050, and 5515 in the 1960s. This legislation designated fish, mammal, amphibian, and reptile species as “Fully Protected” by the state. The taking or possessing of fully protected species is prohibited unless a license or permit is obtained.

California Fish and Game Code: Lake or Streambed Alteration Agreement (1602)

Under Section 1602 of the California Fish and Game Code, the CDFW regulates activities that would substantially divert or obstruct the natural flow or substantially change the hydrological dynamics of rivers, streams and lakes. CDFW enforces Section 1602 of the California Fish and Game Code and prohibits activities to any bed, channel, or bank of any river, stream, or lake or the deposition or disposal of debris, waste, or other material containing crumbled, flaked, or ground pavement, where it may pass into any river, stream, or lake. A Lake or Streambed Alteration Agreement is required for activities within its jurisdictional area.

California Fish and Game Code 3503

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by code or regulation.

3.3.1.3 Local**Orange County Transportation Authority Habitat Conservation Plan/Natural Community Conservation Plan**

The Orange County Transportation Authority (OCTA) Habitat Conservation Plan/Natural Community Conservation Plan (OCTA HCP/NCCP) sets forth a proposed conservation strategy that would be implemented by the OCTA in cooperation with state and federal agencies and participating landowners in Orange County. The geographic planning area for the HCP/NCCP includes all of Orange County (2009 Planning Agreement, Section 4.1). The proposed conservation strategy focuses on long-term protection and management of multiple natural communities that provide habitat essential to the survival of a broad array of wildlife and plant species.

Activities covered within the OCTA HCP/NCCP Planning Agreement that are located within the proposed Project site include the Interstate (I-) 405 improvement project (identified as Project K in the planning agreement [2009]) between I-605 and State Route (SR-) 55. The improvements would add new lanes to this section of I-405. The project would make best use of available freeway property, update interchanges, and widen various local overcrossings according to city and regional plans. The improvements would be coordinated with other planned I-405 improvements in the I-405/SR-22/I-605 interchange area to the north and I-405/SR-73 improvements to the south. The Final Environmental Impact Report/Environmental Impact Statement for the NCCP/HCP is scheduled for release by the end of 2016.

City of Seal Beach Municipal Code

The City of Seal Beach Municipal Code 9.40.010 (City Trees and Structures) states that no person shall remove, cut, destroy, relocate, trim, prune, deface, burn, or otherwise injure any tree, hedge, plant, shrub or flower growing upon city property.

City of Seal Beach Street Tree Master Plan

The City of Seal Beach makes every effort to ensure the quality and maintenance of its trees. The policy regarding the removal and replacement of existing trees in public right-of-way states that the City is responsible for removal of street trees within the public right-of-way, and no street tree shall be removed without the approval from the City's Public Works Director, Public Works Supervisor, and Tree Advisory Board. Furthermore, all street trees removed shall be replaced unless the Director of Public Works and /or City Representative determines it is in the interest of safety or sound horticultural practices not to replace the tree. All replacement trees shall be consistent with the adopted Street Tree Master Plan.

City of Los Alamitos General Plan

The City of Los Alamitos General Plan Open Space, Recreation, and Conservation Element (City of Los Alamitos 2015) provides direction regarding the conservation, development, and utilization of natural resources.

“Goal 3: Natural, historic, and cultural resources that are preserved and promoted as key features for civic pride and identity.

“Policy 3.2: **Urban Forest.** Maintain and enhance a diverse and healthy urban forest on public and private lands. Incorporate and preserve mature and specimen trees at key gateways, landmarks, and public facilities.”

City of Los Alamitos Municipal Code

The City of Los Alamitos Municipal Code states that only authorized city personnel or agents shall trim, alter or remove any City Tree⁴. And it is unlawful to damage, cut, carve, etch, hew or engrave, poison or injure the bark or root system of any City Tree except for standard root pruning or shaving procedures performed by authorized city personnel or agents.

3.3.2 Existing Conditions

The proposed Project site is located within a developed urban area in paved public rights-of-way within city streets or Orange County Sanitation District (OCSD) easements that do not support native habitat of any identified special status species, riparian habitat, or other sensitive natural communities. Parks and recreation areas exist within and nearby the Project area that may provide habitat for wildlife, such as birds. The proposed alignment would cross underneath the Bixby Channel, Carbon Creek, and Moody Creek; however, all of these are concrete-lined, and none contain any riparian or sensitive natural communities (including wetlands).

3.3.3 Thresholds of Significance

The following significance criterion is based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and is used to evaluate the potential for significant project impacts related to biological resources. Project impacts on biological resources would be significant if the proposed Project would:

BIO-1: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

⁴ Defined as any tree growing on property owned or controlled by the city, including but not limited to all streets, parkways, public places, and all easements granted to the city and/or the public

BIO-2: *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

All other significance criteria for Biological Resources from Appendix G of the CEQA Checklist, as evaluated in Section 4.4 of the Initial Study for the proposed Project (See Appendix A), were determined to result in either no impact or less than significant impacts and are not discussed any further within this Environmental Impact Report (EIR). The significance criteria eliminated from further consideration include:

- Having a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
- Having a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
- Having a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfering 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

3.3.4 Impact Analysis

The differences between the two build alternatives are minor. Thus, no differences between the two build alternatives are anticipated as they relate to impacts to biological resources, and the impacts described in this section are the same for Build Alternative 1 and Build Alternative 2. Additionally, construction of the proposed Project with either build alternative would not conflict with the OCTA HCP/NCCP.

BIO-1: *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

3.3.4.1 *Construction Impacts*

Tree Removal

The Cities of Los Alamitos and Seal Beach are the only cities with tree protection ordinances. However, all proposed work within the City of Seal Beach is rehabilitation. No impacts to trees would occur within the City of Seal Beach.

Replacement of the Westside Relief Interceptor pipeline within the City of Los Alamitos on Los Alamitos Boulevard and Katella Avenue may require removal of trees. As described in Section 2.5, where feasible, new alignments for replacement pipelines would be within the center lanes/medians lanes of existing streets to minimize traffic disruption during construction; however, due to existing utility placement or other constraints, replacement lines could end up within the median and require the removal of trees protected by the Los Alamitos tree protection ordinance. Impacts to trees protected by a tree protection ordinance would be considered a significant impact. Additionally, mature trees are present within the Forest Lawn Memorial Park cemetery that could be impacted by the project. The proposed alignment for the Los Alamitos Sub-trunk would extend from Denni Street north of Lincoln Avenue to Guardian Drive just north of Cypress Drive and could impact the trees located between Cypress Drive and Lincoln Avenue between the two parking lots.

Impacts to these trees, including removal, trimming, and pruning, are potentially significant and could conflict with the local policies or the ordinances protecting tree preservation policy. These impacts would be less than significant with the incorporation of mitigation measures AES MM 2 and BIO MM 1.

The Project area is highly urbanized with very little wildlife habitat. Landscaped trees and shrubs may provide nesting habitat for birds, and construction activities may affect nesting birds protected under the MBTA and California Fish and Game Code Section 3503 during tree trimming or removal. The MBTA and Section 3503 make it illegal for anyone to “take⁵” any migratory bird, or the parts, nests, or eggs of such a bird. Disturbance of active nests during construction would be considered a significant impact under the MBTA and the California Fish and Game Code. With implementation of BIO MM 1, impacts would be less than significant.

3.3.4.2 Operational Impacts

Operations would consist of ongoing activities related to operation and maintenance of the Western Regional Sewer lines and Westside Pump Station including completing routine maintenance; cleaning sewer lines and manholes; performing visual inspections utilizing closed-circuit television and camera inspection; and conducting flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. Operational impacts on biological resources would be less than significant.

3.3.4.3 No Build Alternative

Under the No Build Alternative, there would be no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station other than routine operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would have no impacts on biological resources protected by policy or ordinance.

⁵ The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct.

BIO-2: *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

3.3.4.4 Construction Impacts

OCTA HCP/NCCP

Construction of the proposed Project would not conflict with the OCTA HCP/NCCP. Although a portion of the proposed Project site (i.e., Seal Beach Blvd. Interceptor) is located within the OCTA HCP/NCCP planning area (i.e., I-405), it occurs within an area entirely hardscaped with concrete that has little or no biological value. Additionally, the Seal Beach Blvd. Interceptor sewer line would be rehabilitated in place and would not require any open-cut construction.

No other impacts to special status species or sensitive natural communities (including wetlands) are anticipated because none are anticipated to occur within the Project area; nor would the proposed Project interfere substantially with the movement of wildlife species.

3.3.4.5 Operational Impacts

Operations would consist of ongoing activities related to operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station including completing routine maintenance; cleaning sewer lines and manholes; performing visual inspections utilizing closed-circuit television and camera inspection; and conducting flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. Operational impacts on any HCP/NCCP would be less than significant.

3.3.4.6 No Build Alternative

Under the No Build Alternative, there would be no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station other than routine operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would have no impacts on any HCP/NCCP.

3.3.5 Mitigation Measures

AES MM 2 Based on final design and prior to removal or trimming of any tree, OCSD will identify all trees that require removal or trimming. For trees located within the existing easement, OCSD will work with property owners regarding in-kind replacement landscaping for the corresponding municipality or private owner.

BIO MM 1 Shrub and tree trimming and/or removal activities associated with the proposed Project shall be conducted outside the nesting season (February 15 through July 15). However, if shrub and tree removal must occur during the nesting season, a qualified wildlife biologist (as determined by California Department of Fish and Wildlife) shall conduct preconstruction surveys for nesting birds within suitable nesting habitat in the proposed Project area including a 300-foot buffer around the construction limits. The nesting bird

surveys shall be conducted one week before initiation of construction activities within those habitats. If no active nests are detected during surveys, construction may proceed. If active nests are detected, then a no-disturbance buffer shall be established around nests identified during preconstruction surveys. The extent of the no-disturbance buffer shall be 50 feet for non-raptors and 300 feet for raptors. These buffer distances may be altered by a qualified biologist depending on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographic or artificial barriers. These buffers shall be maintained until after the breeding season has ended or until the biologist determines that the young have fledged. Within this buffer, all nonessential construction activities (e.g., equipment storage, meetings) shall be avoided; however, construction activities can proceed if the biologist determines that the nesting birds are not likely to abandon the nest during construction.

3.3.6 Level of Significance after Mitigation

Impacts to biological resources would be reduced to less than significant with the implementation of mitigation measures AES MM 2 and BIO MM 1.

3.4 Cultural Resources

This section identifies cultural resources along the alignment for the proposed Project area, the significance of those resources, and addresses potential impacts to those resources. Cultural resources may include, but are not limited to, prehistoric and historic period artifacts, sites, monuments, landscapes, features, structures, graves, buildings, and entire districts. In addition, under California Assembly Bill 52 (AB 52), Tribal cultural resources generally include sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe (California Public Resources Code § 21074). This analysis has been prepared in accordance with California Environmental Quality Act (CEQA) Guidelines, Section 15064.5, and is supported by the Cultural Resources Constraints Report (see Appendix C).

The paleontological resources analysis presents information pertaining to the existing conditions of geologic features underlying the Project area and the potential for the presence of paleontological resources within the Project area. The analysis is based on a collection of data from the Los Angeles Museum of Natural History, Page Museum, Cooper Center, and other institutions and data maintained by Paleo Solutions, Inc. (PSI).

The assessment of cultural resources in the Project area is based on a records search of existing resources along the proposed Project alignment and an intensive field survey of the Project area. On June 9 and October 19, 2015, PSI conducted records searches of the California Historical Resources Information System at the California South Central Coastal Information Center, housed at California State University, Fullerton. The records search and field survey allowed opportunity to identify the presence and assess the significance of cultural resources, and to recommend appropriate mitigation measures to avoid or minimize impacts to these resources. The field survey along the proposed Project alignment was conducted by PSI on June 25 and October 5, 2015.

3.4.1 Regulatory Setting

The proposed Project is undertaken in compliance with regulatory standards set forth by CEQA, the California Public Resources Code, the California Health and Safety Code, and the Orange County General Plan and, where applicable, standards set forth by municipalities within the Project area.

3.4.1.1 Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) (16 United States Code [U.S.C.] 470 et seq.) establishes the nation's policy for historic preservation and sets in place a program for the preservation of historic properties by requiring federal agencies to consider the effects of all federally funded or permitted projects on historic properties. Specifically, Section 106 of the NHPA requires federal agencies to take into account the effects projects may have on sites listed on or eligible for listing on the National

Register of Historic Places (NRHP or National Register). Federal agencies issuing permits for the proposed project will be required to comply with NHPA requirements.

Executive Order 11593: “Protection and Enhancement of the Cultural Environment”

Executive Order 11593 (36 Federal Register 8921) orders the protection and enhancement of the historic and cultural environment of the United States by requiring federal agencies to (1) administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations; (2) initiate measures necessary to direct their policies, plans, and programs in such a way that federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people; and (3) in consultation with the Advisory Council on Historic Preservation, institute procedures to assure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance (16 U.S.C. 470-1).

National Register of Historic Places

The NRHP is the nation’s official list of districts, sites, objects, buildings, and structures significant in American history, architecture, archeology, engineering, and culture. The National Register is overseen by the National Park Service and requires that a property or resource eligible for listing in the register meet one or more of the following four criteria at the national, state, or local level to ensure integrity and obtain official designation:

- The property is associated with events that have made a significant contribution to the broad patterns of American history.
- The property is associated with the lives of persons significant to the American past.
- The property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- The property has yielded, or is likely to yield, information important to prehistory or history.
- In addition to meeting at least one of these four criteria, listed properties must also retain sufficient physical integrity of those features necessary to convey its significance. The National Register criteria recognize the following seven aspects or qualities that, in various combinations, define integrity: (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association.

Properties are nominated to the National Register by the state historic preservation officer of the state in which the property is located, by the federal preservation officer for properties under federal ownership or control, or by the tribal preservation officer if on tribal lands. Listing in the National Register provides formal recognition of a property’s historic, architectural, or archaeological significance based on national standards used by every state. Once a property is listed on the National Register, it

becomes searchable in the NRHP database of research information. Documentation of a property's historic significance helps encourage preservation of the resource.

3.4.1.2 State

California Environmental Quality Act

Proposed project plans are subject to CEQA analysis as it pertains to cultural resources; and lead agencies or project proponents, such as Orange County Sanitation District (OCSD), are required to comply with the CEQA Statute and Guidelines (as amended through 2016) by determining if the project will cause a substantial adverse change in the significance of a "historic resource," as defined in Title 14 of the California Code of Regulations § 15064.5[a].

For CEQA purposes, a cultural resource is considered a historical resource if the resource is 50 years old or older; possesses integrity of location, design, setting, materials, workmanship, feeling, and association; and meets the requirements for listing on the California Register of Historical Resources (CRHR) including (Title 14, California Code of Regulations, § 15064.5):

- (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- (2) Is associated with the lives of persons important in our past
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value
- (4) Has yielded, or may be likely to yield, information important in prehistory or history

Additionally, the CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The CRHR automatically includes the following (California Public Resources Code § 5024.1[d]):

- California properties listed on the National Register and those formally Determined Eligible for the NRHP
- California Registered Historical Landmarks from No. 770 onward
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation and have been recommended to the State Historical Commission for inclusion on the CRHR

Other resources that may be nominated to the CRHR include:

- Historical resources with a significance rating of Category 3 through 5 (Those properties identified as eligible for listing on the National Register, the CRHR, and/or a local jurisdiction register)
- Individual historical resources

- Historical resources contributing to historic districts
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as a historic preservation overlay zone

The fact that a resource is not listed in or determined eligible for listing in the CRHR, or is not included in a local register of historical resources, does not preclude a lead agency from determining that the resource may be a historical resource (Title 14, California Code of Regulations 15064.5[a][4]).

CEQA includes in its definition of historical resources “any object [or] site ...that has yielded or may be likely to yield information important in prehistory” (Title 14, California Code of Regulations 15064.5[a][3][D]), which is interpreted to include fossil materials and other paleontological resources. More specifically, destruction of a “unique paleontological resource or site or unique geologic feature” constitutes a significant impact under CEQA (CEQA Guidelines Appendix G).

Treatment of paleontological resources under CEQA is generally similar to treatment of archaeological and historical resources, requiring evaluation of resources in the Project area; assessment of potential impacts on significant or unique resources; and development of mitigation measures for potentially significant impacts, which may include monitoring, combined with data recovery excavation and/or avoidance.

State of California Public Resources Code

The State of California Public Resources Code, Sections 5097 et seq. and 30244, include additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands and define the excavation, destruction, or removal of paleontological “sites” or “features” from public lands without the express permission of the jurisdictional agency as a misdemeanor. As used in Section 5097, “state lands” refers to lands owned by or under the jurisdiction of the state or any state agency. “Public lands” is defined as lands owned by or under the jurisdiction of the state, or any city, county, district, authority, or public corporation, or any agency thereof (California Public Resources Code, Section 5097.5[b]).

In addition, archaeological, paleontological, and historical sites are protected pursuant to the policies and regulations enumerated under the California Public Resources Code as follows:

- California Public Resources Code Sections 5020-5029.5 continue the former Historical Landmarks Advisory Committee as the State Historical Resources Commission. The commission oversees the administration of the CRHR and is responsible for the designation of State Historical Landmarks and Historical Points of Interest.
- California Public Resources Code Sections 5079-5079.65 define the functions and duties of the Office of Historic Preservation (OHP). The OHP is responsible for the administration of federally

and state mandated historic preservation programs in California and the California Heritage Fund.

- California Public Resources Code Sections 5097.9-5097.991 provide protection to Native American historical and cultural resources and sacred sites and identify the powers and duties of the Native American Heritage Commission (NAHC). It also requires notification to descendants of discoveries of Native American human remains and provides for treatment and disposition of human remains and associated grave goods.

State of California Health and Safety Code

The California Health and Safety Code Section 7050.5(b) specifies protocol when human remains are discovered. Specifically, burials or human remains found outside a known cemetery are not to be disturbed or removed unless by authority of law. The area of a discovery of human remains should remain undisturbed until a County coroner is notified and has examined the remains prior to determining the appropriate course of action within two days of notice. The County coroner will notify the Native American Heritage Commission within 24 hours should the remains be found to be those of a Native American.

California Senate Bill 18

Senate Bill 18 was signed into law in September 2004 and went into effect on March 1, 2005, as California Government Code Sections 65352.3 et seq. It placed new requirements upon local governments for developments within or near Traditional Tribal Cultural Places (TTCP). The law instituted a new process which would require a city or county to consult with the NAHC and any appropriate Native American tribe for the purpose of preserving TTCPs prior to the adoption, revision, amendment, or update of a city's or county's general plan. TTCPs require a traditional association of the site with Native American traditional beliefs, cultural practices, or ceremonies; or the site must be shown to actually have been used for activities related to traditional beliefs, cultural practices, or ceremonies.

California Assembly Bill 52

Assembly Bill 52 (AB 52) went into effect on July 1, 2015, to amend Section 5097.94 of the California Public Resources Code and to add Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 of the California Public Resources Code. AB 52 requires consultation with the Native American Heritage Commission and Tribal governments to identify and address potential adverse impacts to tribal cultural resources. As per the California Public Resources Code Section 21084.2, "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." The California Public Resources Code requires a lead agency or project proponent to consult with California Native American tribes that request consultation and are traditionally and culturally affiliated with the geographic area of a proposed project. The consultation is required for a negative declaration or negative declaration with

mitigation. The lead agency or project proponent must take into consideration the impacts to tribal cultural resources and any measures to mitigate such impacts, if any. The California Public Resources Code defines “Tribal cultural resources” as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following (California Public Resources Code § 21074[a]):

- (1) Included or determined to be eligible for inclusion in the CRHR
- (2) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1

The NAHC will provide each tribe with a list of all public agencies that may be lead agencies under CEQA within their geographic areas. If a tribe wishes to be notified of projects by the relevant lead agencies, they must submit a written request. Within 14 days of a project application, the lead agency must notify, in writing, the tribes that have requested notification of proposed projects and must state that the tribe has 30 days to request consultation. The lead agencies must begin the consultation process with the tribes that have requested consultation within 30 days of receiving the request. The consultation concludes when the parties agree to measures to mitigate or avoid impact, if any, on tribal resources; or a party, in good faith and after reasonable effort, determines that mutual agreement cannot be reached (California Public Resources Code Section 21080.3.2).

3.4.1.3 Local

The County of Orange and various municipalities have regulations and guidelines pertaining to the identification and treatment of cultural resources. All local regulations applicable to the Project area are presented here.

Orange County

The Orange County General Plan (2011) Resources Element contains explicit guidelines for paleontological and cultural resources in the Cultural Resources portion of the document. Additionally, Orange County has paleontological and archaeological certification programs to identify qualified paleontologists for work within the County. Three goals and seven objectives address both paleontological and cultural resources.

Cultural Resources Goal 1 requires the County to raise the awareness and appreciation of Orange County's cultural and historic heritage. To achieve this, Objective 1.1 requires that the County facilitate and participate in activities that inform people about the social, cultural, economic, and scientific values of Orange County's heritage. Objective 1.2 requires that the County work through the Orange County Historical Commission in the areas of history, paleontology, archaeology, and historical preservation.

Goal 2 states that the County shall encourage, through a resource management effort, the preservation of the County's cultural and historic heritage. Objective 2.1 states that the County shall promote the preservation and use of buildings, sites, structures, objects, and districts of importance in Orange

County through the administration of planning, environmental, and resource management programs. Objective 2.2 requires that the County take all reasonable and proper steps to achieve the preservation of archaeological and paleontological remains or their recovery and analysis to preserve cultural, scientific, and educational values. Objective 2.3 requires that the County take all reasonable and proper steps to achieve the preservation and use of significant historic resources including properties of historic, historic architectural, historic archaeological, and/or historic preservation value.

Goal 3 states that the County shall aim to preserve and enhance buildings, structures, objects, sites, and districts of cultural and historic significance. Objective 3.1 requires that the County undertake actions to identify, preserve, and develop unique and significant cultural and historic resources. Objective 3.2 states that the County shall develop and maintain an archive for historically valuable records, thereby promoting knowledge and understanding of the origins, programs, and goals of the County of Orange. The following policies addressing archaeological, paleontological, and historical resources shall be implemented at appropriate stage(s) of planning, coordinated with the processing of a project application, as follows:

- Identification of resources shall be completed at the earliest stage of project planning and review such as general plan amendment or zone change.
- Evaluation of resources shall be completed at the intermediate stages of project planning and review such as site plan review, subdivision map approval, or at an earlier stage of project review.
- Final preservation actions shall be completed at the final stages of project planning and review such as grading, demolition, or at an earlier stage of project review.

Additionally, Orange County has a well-defined set of guidelines regarding paleontological resources, their disposition, and distribution throughout the County (Cooper and Eisentraut 2002).

City of Anaheim

The City of Anaheim approved the Citywide Historic Preservation Plan in May of 2010 with the following goals:

- (1) Increase the public recognition and awareness of Anaheim's historic resources
- (2) Provide the means to identify historic resources throughout the City
- (3) Provide basic design guidelines and technical assistance to property owners to avoid alterations and additions that compromise the characteristic features of a historic structure
- (4) Promote the importance of preserving and protecting historic structures as a significant component of the City's physical environment and identity, and as a model for environmental sustainability
- (5) Provide information for new design and planning that is compatible with its surroundings on a neighborhood level, and that reflects Anaheim's diverse building types and urban patterns

- (6) Promote the economic health of the City and protect property values by encouraging new construction and investment that is compatible with the scale, style, and character of the City's historic neighborhoods
- (7) Increase property owners' awareness of the economic benefits of designation and preservation, including enhanced property values, financial resources and incentives, and strategic marketing advantages
- (8) Avoid demolition, inappropriate alteration, and neglect of Anaheim's historic resources
- (9) Retain the historic characteristics of streetscapes, street patterns, and landscape features
- (10) Provide an opportunity for property owners within historic districts to propose more specific or rigorous standards and guidelines for the preservation of their historic neighborhoods

The City of Anaheim designates historical resources into three categories of recognition: Historical Districts, Historically Significant Structures, and List of Structures of Historical Interest. As detailed in the Citywide Historic Preservation Plan:

Historic Districts are usually contiguous groups of buildings that are best evaluated together due to their common history and physical characteristics that contribute to the significance of the district. Historically Significant Structures are single properties located outside historic districts, where they act as visually identifiable reminders of the City's history and the development of its built environment. The City maintains a List of Structures of Historical Interest to track properties outside existing districts that have been identified by City staff or the public.

A historic district is eligible for listing if it meets the following criteria:

- (1) It is associated with broad patterns of local, regional, or national history
- (2) It cohesively illustrates the characteristics of a significant architectural style, property type, period, or method of construction; or it represents the work of architects, designers, engineers, or builders who are locally, regionally, or nationally significant

Buildings located within a historic district must meet all of the following conditions to be considered contributors to the significance of the district:

- (1) Constructed within the period of significance documented for the district
- (2) Associated with the significant historic themes identified for the district
- (3) Retain historic integrity from the period of significance

A building, structure, or object that is over 50 years old and possesses sufficient historic integrity may be considered for listing as a Historically Significant Structure if it meets one or more of the following criteria:

- (1) It strongly represents a significant event or broad patterns of local, regional, or national history
- (2) It is associated with the life of a significant person in local, regional, or national history

- (3) It is a very good example of a significant architectural style, property type, period, or method of construction; or it represents the work of an architect, designer, engineer, or builder who is locally, regionally, or nationally significant; or it is a significant visual feature of the City

A building, structure, or object that meets these criteria may be added to the list of Structures of Historical Interest with the approval of the Executive Director of the City's Community Development Department.

City of Buena Park

Adopted in 2010, the Buena Park 2035 General Plan considers historic and cultural resources as "resources that are fundamental components of Buena Park's environment" (Buena Park 2010:5-1). The General Plan has no specific criteria applicable to the preservation or treatment of historic resources, but defers to federal and state regulatory guidelines. In general, the City of Buena Park considers "resources greater than 50 years old as having the potential to be a considered a historic resource," and historic resources are generally "associated with a significant historic event or person(s) and/or have a historically significant style, design, or achievement" (Buena Park 2010:5-1). Buena Park recognizes 16 landmarks within its boundaries as having local or regional significance: the Emery Borrow Fossil Pit, Los Coyotes Monument, Dr. D.W. Hasson Home, Whitaker-Jaynes House, Bacon House, Warren Building, William E. Tice House, Stage Stop Hotel, Knott's Berry Farm, Old Maizel and School, George Trapp House, First Congregational Church, Buena Park Women's Club, Lily Creamery Site, Bacon Avocado, and California Pepper Trees. Old Maizel and School is listed as California Historical Landmark No. 729.

City of La Palma

Adopted in June of 2014, the City of La Palma General Plan does not have specific criteria or treatment guidelines regarding cultural resources. However, as part of the City's objective (Goal LU-4) of continuing "to encourage and facilitate a mix and diversity of land uses that meet the economic, environmental, educational, and social needs of the City while remaining sensitive to La Palma's small town character," the City has adopted Policy LU-4.9, which states that the City will "encourage the maintenance and preservation of historically, culturally, and/or architecturally significant structures and sites in the community" (City of La Palma 2014:2-57).

City of Los Alamitos

Chapter 17.22 of the City of Los Alamitos Municipal Code has specific guidelines applicable to the treatment of cultural resources and landmarks within Los Alamitos. The specific language of the Municipal Code is as follows:

17.22.010 Purpose.

"This section is created to assist in the identification and preservation of historic and cultural resources within the city. These guidelines are necessary in order to preserve those elements of

Los Alamitos' heritage, which may now or in the future be endangered as to their very existence or in maintaining their historic or cultural integrity. (Ord. 688 § 1, 2006)

"17.22.020 Duties of the planning commission.

"The commission shall have the authority to review and make determinations and/or recommendations on various matters relating to a local landmark, as provided in this chapter. (Ord. 688 § 1, 2006)

"17.22.030 Register of local landmarks.

"There shall be created a Los Alamitos register of landmarks that shall contain the name, location, pertinent historic data, and date of entry on the register of structures, or natural or manmade features receiving a local landmark designation. The Los Alamitos register of landmarks shall be maintained in the city clerk's office. (Ord. 688 § 1, 2006)

"17.22.040 Procedure for review of requests for local landmark designations.

"A. Landmark Designation. Upon the written consent of the property owner, the commission may upon its own initiative or upon request of a person or government agency, approve a local landmark designation for a historic or cultural resource in the city.

"B. Public Hearing. The commission shall hold public hearings on requests for local landmark designation in compliance with Chapter 17.66 (Public Hearing Notice Procedures).

"C. Findings and Decision. The commission, after due consideration and public hearing, shall by resolution approve or disapprove the request for local landmark designation, stating the reasons for the action.

"D. Appeal of Decision. The decision of the commission shall be final unless appealed to the council within fifteen (15) days of the decision. If appealed, the decision of the commission shall be reviewed by the council at a public hearing and the council, shall by resolution, approve or disapprove the request, stating the reasons for the action.

"E. Notice with City Clerk. Upon approval of a local landmark, notice shall be placed with the city clerk and in the building permit address file for consideration before issuance of future requested building permits. (Ord. 688 § 1, 2006)

"17.22.050 Criteria for designation.

"In considering a request for a local landmark designation, the following criteria shall be used in determining eligibility:

- "A. Character, interest, or value as part of the heritage of the city;
- "B. Location as a site of historical event;
- "C. Identification with a person or persons or groups who significantly contributed to the culture and development of the city;
- "D. Exemplification of a particular architectural style or way of life important to the city;
- "E. Identification as the work of a person or persons whose work has influenced the heritage of the city, the state of California, or the United States;
- "F. Embodiment of elements of outstanding attention to architectural design, detail, materials, craftsmanship, or the best remaining architectural type in an area;
- "G. Relationship to other landmarks, where the preservation of one has a bearing on the preservation of another;
- "H. A unique location or singular physical characteristic representing an established and familiar visual feature of a neighborhood;
- "I. Integrity as a natural environment that strongly contributes to the well-being of the people of the city. (Ord. 688 § 1, 2006)

"17.22.060 Alteration of a local landmark.

- "A. Rehabilitation Criteria. An alteration of a local landmark shall comply with the Secretary of the Interior's "Standards for Rehabilitation of Historic Properties," the State Historic Building Code, and other design criteria and standards established by resolution of the Council. The primary concern is with the exterior of the local landmark unless there are interior features that greatly contribute to the significance of the property.
- "B. Maintain Historic Nature. Every attempt shall be made to restore or modify the local landmark in a way to maintain the historic nature of the property, but not so as to burden the owner of the local landmark with the requirements that are not practically or economically available in current markets.

“C. Alterations. Alterations of a local landmark shall be subject to review and approval in compliance with the procedures outlined.

“1. Director Review. The following projects shall be reviewed by the director:

- “a. Minor alterations, including the addition, change, or removal of exterior architectural features and existing hardscape;
- “b. Minor improvements (e.g., air conditioning units, skylights, solar panels, greenhouse windows, roof mounted equipment, arbors, and fences);
- “c. Expansion of a local landmark by less than ten (10) percent of the existing floor area provided the expansion is not readily visible from the public street;
- “d. The construction or demolition of accessory structures which have a floor area less than five hundred (500) square feet.

“2. Commission Review. The following projects shall be reviewed by the commission:

- “a. A proposed alteration that the director determines to be inconsistent with the design criteria of the Secretary of Interior’s “Standards for Rehabilitation of Historic Properties” and/or the State Historic Building Code;
- “b. A proposed alteration that involves the construction of a new, detached structure that has a floor area of five hundred (500) square feet or more;
- “c. Expansion of a local landmark by more than ten (10) percent but less than fifty (50) percent of the existing floor area provided such expansion does not exceed five hundred (500) square feet;
- “d. An alteration of a local landmark that is readily visible from the public street.

“3. Site Plan Review Required. The following projects shall be reviewed by the commission and shall require site plan review in compliance with Chapter 17.15. The commission may approve such projects with conditions that the local landmark be memorialized by providing a written history of the site, photo documentation, placement of a historic marker signifying the importance of the site, or other means as deemed appropriate by the commission.

- “a. On appeal, a proposed alteration that the director determines to be inconsistent with the design criteria of the Secretary of Interior’s “Standards for Rehabilitation of Historic Properties” and/or the State Historic Building Code;
- “b. An alteration that results in a local landmark being enlarged by more than fifty (50) percent of the existing floor area or more than five hundred (500) square feet.
- “c. The demolition of a local landmark wherein all or part of it will be removed from a site either by relocation or destruction. (Ord. 688 § 1, 2006)”

City of Seal Beach

The City of Seal Beach provides a detailed Cultural Resources Element within its general plan, most recently adopted in December 2003. The Cultural Resources Element presents specific goals, objectives, and policies applicable to the preservation and protection of historical, archaeological, and paleontological resources. Seal Beach recognizes archaeological resources as “the material remains of an area’s prehistorical (aboriginal/Native American) or historical (European and Euro-American) human activity. ‘Prehistoric’ sites date from the time of early human occupation to the arrival of Juan Cabrillo in 1542. ‘Historic’ sites postdate Cabrillo and include periods of Spanish, Mexican, and American settlement” (City of Seal Beach 2013:CR-1).

The primary goal (Goal 1) of the Cultural Resources Element of the General Plan is to preserve and protect historical, archaeological, and paleontological resources (City of Seal Beach 2013:CR-6). The General Plan presents specific policies to attain this goal:

- “Policy 1: Balance the benefits of development with the project’s potential impacts to existing cultural resources.
- “Policy 2: Identify, designate, and protect sites and buildings of historic importance.
- “Policy 3: Coordinate cultural resources programs and development project review with affected resource agencies and Native American representatives.
- “Policy 4: Identify funding programs to assist private and public property owners in the preservation of buildings and sites of historic importance.
- “Policy 5: Assess development proposals for potential impacts to significant archaeological resources pursuant Section 15064.5 of the California Environmental Quality Act (CEQA). Require a study conducted by a professional archaeologist for all development proposals located in areas known to be sensitive for cultural resources.”

To implement these policies, the City has set the following requirements (Seal Beach 2013:CR-7-CR-9):

“Protect Significant Paleontological Resources: Assess development proposals for potential impacts to significant paleontological resources pursuant to §15064.5 of the California Environmental Quality Act. If the project involves earthwork, require a study conducted by a professional paleontologist to determine if paleontological assets are present and if the project will significantly impact the resources. If significant impacts are identified, either require the project to be modified to avoid impacting the paleontological materials, or require measures to mitigate the impacts. Development Services is the primary City department responsible for ongoing implementation, and funding is anticipated to be provided by development fees.

“Historical, Archaeological and Paleontological Resource Management Guidelines: Prepare and maintain guidelines for historic, archaeological, and paleontological resource management to guide review of development proposals (Presented in Appendix A of the General Plan). These guidelines should be expanded to also address historical and paleontological resource management and also updated periodically to address new technological and legal approaches to cultural resource analysis and management. Development Services is the primary City department responsible for ongoing implementation, and funding is anticipated to be provided by the General Fund and state and federal grants.

“Establishment of Programs for Preservation of Historic/Archaeologic/Paleontological Resources: Identify and implement programs to assist and encourage private property owners to preserve historic, archaeologic, and paleontological resources within the City. Development Services is the primary City department responsible for ongoing implementation, and funding is anticipated to be provided by development fees, and state and federal tax credits and grants.

“Inventory of Historic and Cultural Landmarks: Establish and update as needed a City Inventory of Historic and Cultural Landmarks using criteria and recording standards consistent with state regulations for use in evaluating development proposals under CEQA. The Development Services Department and the Archaeological Advisory Committee are primarily responsible for ongoing implementation, and funding is anticipated to be provided by the General Fund, state and federal funding programs.”

Appendix A of the Cultural Resources Element details the procedures and information to help implement the goals and policies of the Cultural Resources Element. Appendix A-1 presents the procedures, which include archaeological research and survey for undeveloped properties within the boundaries of the City of Seal Beach, to be conducted by archaeological consultants appointed by the City Council. Research will include a literature search and review of the City’s Baseline Survey and a records search at the South Central Coastal Information Center at California State University, Fullerton. The research will also include a site survey which will cover 100 percent of the subject site for properties that have not been previously surveyed, or if the records and literature review indicate that cultural resources are known to exist on the site. If a site is discovered as a result of survey, a test phase that includes excavation must be conducted. If the site is not to be preserved in situ, then a final mitigation program must be implemented. Final mitigation may involve capping the site, relocating the resource (if

applicable), excavating all or part of the site, or renovating or reconstructing historic or archaeological structures. An Archaeological Advisory Committee, comprising members appointed by the City Council to serve one-year terms, will provide guidance and advice pertaining to the treatment of cultural resources.

Per Appendix A-2, all research projects requiring excavation must present a Research Design Document to be approved by the City Council. Per Appendix A-3, all Native American consultants must present documentation verifying tribal affiliation and must have completed a 20-hour course in monitoring methods from an accredited archaeologist or archaeology program prior to appointment. Appendix A-4 requires that all archaeological consultants must comply with the standards set forth by the Register of Professional Archaeologists, regardless of membership. All Principal Investigators must hold a Doctor of Philosophy (Ph.D.) or Master of Arts (M.A.) degree in Anthropology or Archaeology from an accredited college or university; and all Field Directors, Crew Chief, or Research Assistant shall possess at least a Bachelor of Arts (B.A.) degree in Anthropology, Archaeology, or History and have at least two months of relevant accumulated field experience.

3.4.2 Existing Conditions

3.4.2.1 Paleontology

Geologic mapping by Bedrossian and Roffers (2012) and McCrea and Wanish (2010) indicates that the proposed Project area is underlain by Quaternary (Holocene to late Pleistocene) young alluvial fan deposits (Qyf) and recent artificial fill (af). The geographic distributions of the geologic units in the proposed Project area are illustrated in Figure 3.4-2. A literature review indicates that no fossil resources have been recorded within or in the immediate vicinity of the proposed Project area (McLeod 2015; Jefferson 1991; PBDB 2015; UCMP 2015).

Young Alluvial Fan Deposits (Qyf)

The young alluvial fan deposits consist of unconsolidated, undissected silt, sand, gravel, cobbles, and boulders laid down during the Holocene to late Pleistocene. Due to their age, these younger deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers. In this area, the younger deposits are underlain by older alluvial deposits, which are known to preserve paleontological resources (McLeod 2015). The young alluvial fan deposits have a low paleontological sensitivity at the surface based on Society of Vertebrate Paleontology (SVP 2010) procedural guidelines.

Artificial Fill (Qyf)

Artificial fill is late Holocene (recent) in age and consists of previously disturbed sediment resulting from human activities. It is commonly used in construction projects (e.g., structures, roadways, concrete channels, railway embankments, etc.) (McCrea and Wanish 2010). By their very nature, fossils found in artificial fill have lost their native provenance and therefore have marginal scientific value. The origin of the fossil is unknown when discovered in fill, therefore losing its significance for paleontological

resources. Artificial fill, therefore, is generally considered to have no potential to produce significant paleontological resources based on SVP (2010) procedural guidelines⁶.

3.4.2.2 Cultural History

Historical Background

A summary of the historical background of the region is provided here to present the cultural context of the proposed Project area. For a more in-depth history of the region, refer to the Cultural Constraints Report in Appendix C (Kay 2015).

Humans have lived in the region of southern California for at least 10,000 years and have left remnants of their activities in the form of sites, features, objects, structures, and buildings throughout Orange County. Some of these cultural resources are still present today within or in proximity to the Project area.

The Project area encompasses lands that were once inhabited by the Tongva, also known as the Gabrieleños. The Tongva are an Uto-Aztecan (formerly termed “Shoshonean”) group that likely entered the Los Angeles Basin as recently as 1500 Before Present (B.P.) from the southern Great Basin or interior California deserts. However, it is also possible that they migrated in successive waves over a longer period of time beginning around 4000 B.P. It has been proposed that the Uto-Aztecan speakers displaced local Hokan occupants of the southern coast (Kroeber 1925:578–580), as Hokan speakers in the area are represented by the Chumash to the north and the Diegueño to the south.

Before the arrival of the Spanish, the Tongva lived in an area of more than 1,500 square miles that included the watersheds of the Los Angeles River, San Gabriel River, Santa Ana River, and Rio Hondo, as well as the southern Channel Islands. They established at least 50 residential communities, or villages, with 50 to 150 individuals. Each community consisted of one or more lineages associated with a permanent territory. Each territory was represented by a permanent central settlement with associated hunting, fishing, gathering, and ritual areas. A typical settlement would have had a variety of structures used for daily living, recreation, and rituals. In the larger communities, the layout was characterized by a ritualistic or sacred enclosure that was encircled by the residences of the chief and community leaders, around which were the smaller homes of the rest of the community. Sweathouses, cemeteries, and clearings for dancing and playing were also common at larger settlements (McCawley 1996:32–33).

Cultural expressions included beads, baskets, bone and stone tools and weapons, shell ornaments, wooden bowls and paddles, and steatite ornament and cooking vessels (Blackburn 1963). These items

⁶ The origin of the fossil is unknown when discovered in fill, therefore losing its scientific value and significance for paleontological resources. Per the SVP definition of significance, fossils in fill would not meet the criteria since they do not have native provenance.

were traded frequently, especially with the Chumash, who often exchanged olivella-shell beads as currency for Tongva goods.

As with other Native American groups, the settlement of Europeans in California brought many conflicts and diseases to the Tongva as the Spanish sought to claim the lands as their own, and, in the process, incorporated Native American groups into the mission system. Today, the Tongva continue their traditions in southern California with a population of approximately 2,000 individuals.

The proposed Project area encompasses multiple cities and communities in Orange County, including Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, Rossmoor, and Seal Beach. Prior to the twentieth century, most of these cities and communities had their roots in agriculture, dairy production, and cattle ranching. They began to accommodate more commercial and residential development during the first half of the twentieth century. The period after World War II saw a boom of residential and commercial development in the region, spurring growth in population, industry, and commerce.

3.4.2.3 Existing Resources

A cultural resources records search and survey encompassing areas of both build alternatives was completed. The records searches, conducted at the South Central Coastal Information Center on June 9, 2015 and October 7, 2015, accounted for previous investigations and previously-documented cultural resources within the Project area and a 1/8-mile buffer (Figure 3.4-1). The results of the records search are presented in the Cultural Constraints Report (Appendix C). In addition, the field surveys of the Project area, conducted on July 25, 2015 and October 5, 2015, resulted in the discovery of the Forest Lawn Memorial Park in Cypress as a historical resource eligible for listing on the National Register of Historic Places and the California Register of Historical Resources. A review of the records at California Historical Resources Information System indicated no historical resources and two archaeological resources in the Project area. Both of these resources are addressed in Section 3.4.4.3.

The records search conducted at the South Central Coastal Information Center revealed that two previously documented sites intersect the proposed Project area: P-30-001352 and P-30-001502. These sites still maintain potential for archaeological resources.

Site P-30-001352 was described as a secondary marine shell deposit encompassing 10,000 square meters. The southern half of the site was destroyed by the construction of Interstate (I-) 405, and the northern half has since been built over with a parking lot and corporate buildings. As the site's materials were reported to have originated from elsewhere (i.e., introduced) and have been disturbed since, the site has lost integrity and historical context and is not eligible for any historic registers.

Site P-30-001502 was first documented in 1999 as a scatter of prehistoric artifacts. The site is reported to be adjacent to and east of the Seal Beach Blvd. Interceptor alignment along Seal Beach Boulevard, within the United States (U.S.) Naval Weapons Support Facilities, and was reported to have been disturbed by the development of the Orange County Flood Control Channel. The westernmost boundary of the site is within the proposed Project area and was likely disturbed by the construction of the

existing road (Seal Beach Boulevard). The last investigation of this site in 2010 by URS archaeologists reported the presence of prehistoric archaeological materials in areas that had not been disturbed. These areas are outside the proposed Project area.

The field survey resulted in the discovery of one historical resource within the proposed Project area. The resource is the nearly 150-acre Forest Lawn Memorial Park (Forest Lawn) cemetery located at 4471 Lincoln Avenue in Cypress. This cemetery had not been formally documented as a historical resource and therefore had not been recommended for eligibility for listing on the National Register of Historic Places or the California Register of Historical Resources prior to the survey carried out for this Project. Historical research indicates that the cemetery appears to have been built as early as 1958, with key buildings completed by 1961. Forest Lawn was opened to the public in 1964. Forest Lawn qualifies as a significant historical resource because it meets several eligibility criteria of the NRHP and the CRHR. Namely, the resource is 50 years old or older; possesses integrity of location, design, setting, materials, workmanship, feeling, and association; and meets Criterion C of the NRHP and Criterion 3 of the CRHR (Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value) (Kay 2015:29). The individual elements that contribute to the resource's significance and eligibility include the Ascension Mausoleum, the Church of Our Fathers, the mortuary building and its associated facilities, and the maintenance building, all of which comprise the original buildings of the Memorial Park.

Any agency, organization, individual, or other entity can nominate a resource to the CRHR through the Nomination Packet, along with the California Department of Parks and Recreation Form 523 (completed for this study). The local government in whose jurisdiction the resource is located should be notified by certified mail that an application will be filed with the State Historic Preservation Officer (SHPO) and that the local government should provide written comments within 90 days. The application and comments are to be submitted to the SHPO for review, and a determination is made in regard to the site's eligibility on the CRHR. For nomination to the NRHP, the process includes additional applications submitted to the National Park Service, initiating a process that requires the same process of review, notification to property owners and local governments, and public review and comments. The process is undertaken through the SHPO. The application is submitted by the state to the National Park Service in Washington, D.C. for final review and, if approved, listing by the Keeper of the NRHP. The National Park Service makes a listing decision on the NRHP within 45 days.

The proposed Project alignment for the Los Alamitos Sub-trunk along Guardian Drive is immediately adjacent to several hundred interment markers or memorial tablets. The memorial tablets on the east side of Guardian Drive, located in an area called "The Sheltering Trees," are less than 2 feet from the Project area; and their orientation indicates that the interments are parallel to the Project area. The tablets on the west side, located in the "Garden of Protection," are less than 7 feet away from the Project area and appear to be perpendicular to the Project area.

3.4.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the CEQA Guidelines (14 California Code of Regulations 15000 et seq.) and are used to evaluate the potential for significant project impacts related to cultural resources⁷. Project impacts on cultural resources would be significant if the proposed Project would:

- CUL-1:** Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5
- CUL-2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5
- CUL-3:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature
- CUL-4:** Disturb any human remains, including those interred outside formal cemeteries

3.4.4 Impact Analysis

- CUL-1:** *Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?*

3.4.4.1 *Construction Impacts*

Common Build Alternative Element Impacts

Both Build Alternatives 1 and 2 would entail rehabilitation or replacement of the Westside Pump Station force main and wet well, as well as installation of an air scrubber or air jumper line for odor control. In addition, both build alternatives would entail rehabilitation of the Orange-Western Sub-trunk and Seal Beach Blvd. Interceptor pipelines using trenchless cured-in-place pipe (CIPP) methods. Further, portions of the existing Westside Relief Interceptor sewer pipe would be rehabilitated in place using trenchless CIPP methods under both build alternatives. Manholes associated with these pipelines would be replaced or rehabilitated, as appropriate.

The cultural resources survey of the proposed Project identified that an approximately 0.5-mile portion of the Los Alamitos Sub-trunk would require open-cut replacement within the Forest Lawn Memorial

⁷ Please note: Since the publication and circulation of the IS/NOP, recently adopted legislative amendments to the CEQA Checklist have created a separate Tribal Cultural Resource impact category. The significance question contained in the revised checklist is, "Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?" As discussed in Section 3.4.4.3 Construction Impacts, consultation with Native American Tribes has been initiated (See Appendix A) and, to date, two tribes have expressed interest in the Project. OCS D would provide for the presence of Tribal on-site monitors in response to AB 52 consultations. Thus, the present Draft EIR meets the letter and intent of the amended CEQA Checklist.

Park cemetery in the City of Cypress, should either build alternative be adopted. While the proposed Project would be undertaken within the boundaries of the Forest Lawn Memorial Park, replacement of the Los Alamitos Sub-trunk within OCSD easement and Guardian Drive would not affect any of the individual elements that contribute to the resource's significance and eligibility. Forest Lawn historical elements include the Ascension Mausoleum, the Church of Our Fathers, the mortuary building and its associated facilities, and the maintenance building, all of which comprise the original buildings of the Memorial Park.

The Project under either build alternative would intersect the Forest Lawn Memorial Park in Cypress but would have a less than significant impact on the historical resources at Forest Lawn with implementation of mitigation measures CUL MM 3, CUL MM 4, CUL MM 5, and CUL MM 6, as outlined in the Cultural Constraints Report (Appendix C) and in Section 3.4.5, based on the results of the records search and field survey.

Build Alternative 1

Build Alternative 1 is located within paved public rights-of-ways within city streets or OCSD easements. A cultural resources records search and survey encompassing areas of both build alternatives was completed (see Figure 3.4-1). A review of the records at California Historical Resources Information System indicated no historical resources, other than Forest Lawn described above, and two archaeological resources in the Project area. Both of these archaeological resources are addressed in Section 3.4.4.3.

As described under the Common Build Alternative Element Impacts above, Build Alternative 1 would have a less than significant impact on the historical resources at Forest Lawn with implementation of mitigation measures CUL MM 3, CUL MM 4, CUL MM 5, and CUL MM 6, as outlined in the Cultural Constraints Report (Appendix C) and in Section 3.4.5, based on the results of the records search and field survey.

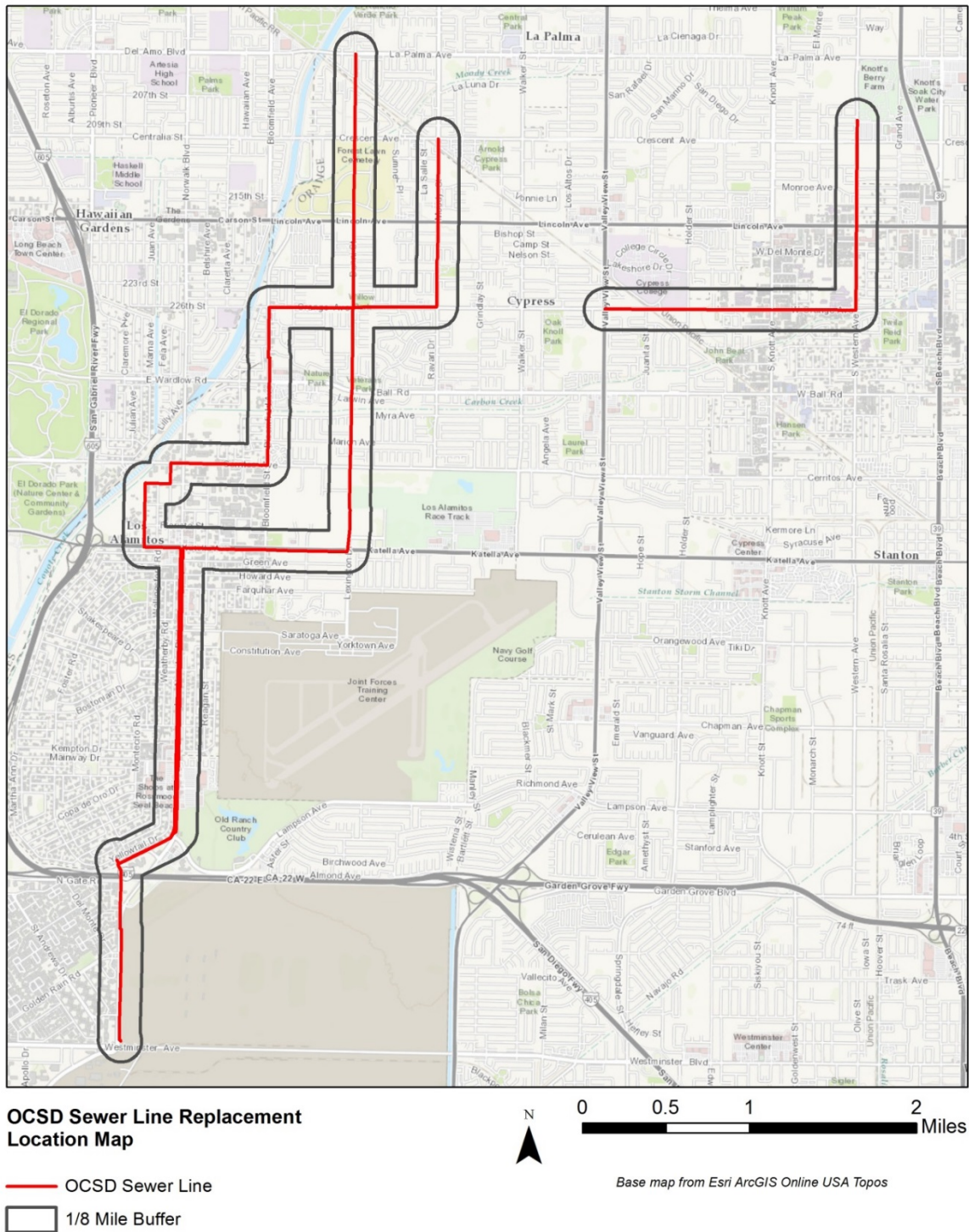
Build Alternative 2

Build Alternative 2 was developed after the records search for Build Alternative 1 was completed. Because the horizontal extent of Alternative 2 is anticipated to be the same as Alternative 1, the results of the records search and the field survey remain applicable to the proposed specifications of Build Alternative 2.

A review of the records at California Historical Resources Information System indicated no historical resources, other than Forest Lawn described above, and two archaeological resources within the Project area. Both of these archaeological resources are addressed in Section 3.4.4.3.

As described under the Common Build Alternative Element Impacts above, Build Alternative 2 would have a less than significant impact on the historical resources at Forest Lawn with implementation of mitigation measures CUL MM 3, CUL MM 4, CUL MM 5, and CUL MM 6, as outlined in the Cultural Constraints Report (Appendix C) and in Section 3.4.5, based on the results of the records search and field survey.

Figure 3.4-1: Build Alternative 1 and 2 Cultural Resources Investigation Buffer Zone



3.4.4.2 Operational Impacts

Operations under both Build Alternative 1 and Build Alternative 2 would consist of ongoing activities related to operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station, including completing routine maintenance; cleaning sewer lines and manholes; performing visual inspection utilizing closed-circuit television and camera inspection; and conducting flow monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. The proposed Project would have no operational impacts to a historic resource as defined in Section 15064.5 of the California Code of Regulations.

CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;

3.4.4.3 Construction Impacts

Common Build Alternative Element Impacts

Both Build Alternatives 1 and 2 would entail rehabilitation or replacement of the Westside Pump Station force main and wet well, as well as installation of an air scrubber or air jumper line for odor control. In addition, both build alternatives would entail rehabilitation of the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines using trenchless CIPP methods. Further, under both build alternatives, portions of the existing Westside Relief Interceptor sewer pipe would be rehabilitated in place using trenchless CIPP methods. Manholes associated with these pipelines would be replaced or rehabilitated, as appropriate.

The records search conducted for the proposed Project indicated that the proposed alignment falls within, or adjacent to, two previously disturbed archaeological sites: P-30-001352 and P-30-001502. Site P-30-001352 was destroyed by the construction of I-405, and the western portion of P-30-001502 was destroyed by the construction of Seal Beach Boulevard and the Orange County Flood Control Channel. The remaining portions of P-30-001502 are on inaccessible property owned by the United States Navy and would not be impacted by the Project's construction activities. Furthermore, the field survey did not identify any archaeological resources within the Project area. Therefore, the impacts of these common build alternative elements are less than significant in those areas where archaeological resources have been identified.

Nevertheless, as the Project calls for open-cut trenching down to depths of up to 18 feet bgs along portions of the Project alignment, the possibility remains that archaeological resources that have yet to be identified or documented may be encountered. The results of the records searches and surveys are based on resources that were exposed on or near the surface; but this does not exclude the possibility of subsurface deposits at lower depths, particularly in areas comprising native or undisturbed soils. In this situation, the potential to adversely impact undiscovered cultural resources is unknown but potentially significant; however, implementation of CUL MM 1, CUL MM 7, and CUL MM 8 would reduce these potential impacts to less than significant.

Build Alternative 1

Build Alternative 1 is located within paved public easements within city streets or OCSD easements. As such, the proposed improvements are expected to affect only areas that have been previously disturbed. The records search conducted for the proposed Project indicated that the proposed alignment falls within, or adjacent to, two previously disturbed archaeological sites: P-30-001352 and P-30-001502. P-30-001352 was destroyed by the construction of I-405, and the western portion of P-30-001502 was destroyed by the construction of Seal Beach Boulevard and the Orange County Flood Control Channel. The remaining portions of P-30-001502 are on inaccessible property owned by the United States Navy and would not be impacted by the Project's construction activities. Furthermore, the field survey did not identify any archaeological resources within the Project area.

The documented disturbance and developed infrastructure through these sites or anywhere else within the proposed Project area do not preclude the potential for the presence of archaeological deposits. While the proposed Project is not expected to disturb these deposits, excavation in the proposed Project area could displace previously undisturbed soils containing archaeological materials, which will result in a significant impact. In this situation, the potential to adversely impact undiscovered cultural resources is unknown but potentially significant; however, implementation of CUL MM 1, CUL MM 7, and CUL MM 8 would reduce these potential impacts to less than significant (see Section 3.4.5 Mitigation Measures).

Consultation with Native American Tribes has been initiated (See Appendix A), and those that have expressed an interest in this Project will continue to be apprised of Project activities and changes as the construction phase nears. To date, the status of Tribal consultation is:

- **Gabrieleño Band of Mission Indians-Kiz Nation.** On July 15, 2015, in accordance with AB 52, the Gabrieleño Band of Mission Indians-Kiz Nation (Gabrieleño) notified OCSD of their interest in the District's proposed projects. OCSD responded to this request on August 25, 2015, and provided a brief description of various projects and maps. On December 15, 2015, the Gabrieleño responded to OCSD with a request to be consulted about one of the projects — the Rehabilitation of Western Regional Sewers, Project No. 3-64, which is the subject of this Environmental Impact Report (EIR) — and requested to have one of the Tribe's certified Native American monitors on site during ground-disturbing activities. OCSD replied to this request on February 11, 2016, providing additional project-specific information, advising the Tribe that the construction phases are not expected to begin until the year 2019, and inviting the Tribe to a meeting or further correspondence by phone or email, as desired. As of May 6, 2016, the Gabrieleño have not responded; however, the Tribe will continue to be updated on this project and the specifics on which sections of the alignment will require monitoring based on the engineering design.
- **Juaneño Band of Mission Indians.** In accordance with AB 52, the Juaneño Band of Mission Indians (Juaneño) notified OCSD of their interest in the District's proposed projects on August 15, 2015. OCSD responded to this request on August 25, 2015, and provided a brief

description of various projects and maps. No response was received within 30 days; however, on February 11, 2016, a second letter was sent to the Juaneño to ensure that the first letter was received and to ask again about their interest in any of the OCSD's projects. On March 9, 2016, the Juaneño replied to OCSD by phone and requested to have their monitors present during ground-disturbing activities along the Seal Beach Boulevard segment of the alignment. The Juaneño will continue to be updated on this project and the timing of monitoring for the Seal Beach Boulevard segment of the pipeline.

- **Native American Heritage Commission.** On December 13, 2015, PSI, on behalf of the OCSD, contacted the Native American Heritage Commission (NAHC) for a search of their Sacred Lands File for Project No. 3-64's area of potential effects. The NAHC responded on January 13, 2016, indicating that no sites were identified within the area of potential effects for Project No. 3-64. No further consultation with the NAHC is required.

Build Alternative 1 is anticipated to have a less than significant potential impact to archaeological resources as defined in Section 15064.5 of the California Code of Regulations. Based on the results of the records search, the Project would not intersect any previously recorded resources. Furthermore, the field survey resulted in no discovery of archaeological resources. However, as the Project calls for open-cut trenching down to depths of up to 18 feet bgs along portions of the Project alignment, the possibility remains that cultural resources that have yet to be identified or documented may be encountered. The results of the records searches and surveys are based on resources that were exposed on or near the surface; but this does not exclude the possibility of subsurface deposits at lower depths, particularly in areas comprising native or undisturbed soils. In this situation, the potential to adversely impact undiscovered cultural resources is unknown but potentially significant; however, implementation of CUL MM 1, CUL MM 7, and CUL MM 8 would reduce these potential impacts to less than significant (see Section 3.4.5).

Build Alternative 2

Build Alternative 2 requires the Western Relief Interceptor to be rehabilitated in place along its alignment by adopting CIPP methods using concrete slurry. The Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines also would be abandoned in place using CIPP methods. Along with abandoning the existing alignment, Build Alternative 2 also would require manholes to be rehabilitated or replaced, contingent upon conditions and access point sizes. The alignment of the Los Alamitos Sub-trunk pipeline, currently 34,620 feet long, would be increased to accommodate flows from the Westside Relief Interceptor through a new diversion structure at Denni Street and Orange Avenue. In addition, the current pipe diameters of the alignment, 18 inches to 30 inches, would be increased to diameters of 21 inches to 39 inches. The new pipeline would require trenching and open-cut construction to a depth up to 18 feet bgs along the entire Los Alamitos Sub-trunk street alignment. This would require an additional 3,070-linear-foot extension of the alignment compared to Build Alternative 1.

Build Alternative 2 is anticipated to have a less than significant potential impact to archaeological resources as defined in Section 15064.5 of the California Code of Regulations. Based on the results of the records search, the Project would not intersect any previously recorded resources. Furthermore, the field survey resulted in no discovery of archaeological resources. Nevertheless, as the Project calls for open-cut trenching down to depths of up to 18 feet bgs along portions of the Project alignment, the possibility remains that cultural resources that have yet to be identified or documented may be encountered. The results of the records searches and surveys are based on resources that were exposed on or near the surface; but this does not exclude the possibility of subsurface deposits at lower depths, particularly in areas comprising native or undisturbed soils. In this situation, the potential to adversely impact undiscovered cultural resources is unknown but potentially significant; however, implementation of CUL MM 1, CUL MM 7, and CUL MM 8 would reduce these potential impacts to less than significant (see Section 3.4.5).

3.4.4.4 Operational Impacts

Operations under both Build Alternative 1 and Build Alternative 2 would consist of ongoing activities related to operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station including completing routine maintenance, cleaning sewer lines and manholes; performing visual inspections utilizing closed-circuit television and camera inspection; and conducting flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. Operation of the proposed Project would not involve excavation within previously undisturbed soils. The proposed Project would result in no operational impacts to archaeological resources as defined in Section 15064.5, and no mitigation is required.

CUL-3: *Directly or indirectly destroy a unique paleontological resource on site or unique geologic feature?*

3.4.4.5 Construction Impacts

Common Build Alternative Element Impacts

Both Build Alternatives 1 and 2 would entail rehabilitation or replacement of the Westside Pump Station force main and wet well, as well as installation of an air scrubber or air jumper line for odor control. In addition, both build alternatives would entail rehabilitation of the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines using trenchless CIPP methods. Further, under both build alternatives, portions of the existing Westside Relief Interceptor sewer pipe would be rehabilitated in place using trenchless CIPP methods. Manholes associated with these pipelines would be replaced or rehabilitated as appropriate. Anticipated potential impacts to paleontological resources as a result of the construction of these common build alternative elements are less than significant in those areas where such resources have been identified because the proposed improvements would primarily impact areas that have already been disturbed. Additionally, the young alluvial fan deposits and artificial fill that are mapped at the surface of the proposed Project area have low paleontological potential (Figure 3.4-2).

Nevertheless, the discovery of paleontological resources during ground-disturbing activities cannot be discounted entirely, particularly during open-cut excavation within previously undisturbed soils along the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Excavation within previously undisturbed soils and inadvertent discovery and/or disposal of paleontological resources is considered a significant impact. In this situation, the potential to adversely impact undiscovered paleontological resources is unknown but potentially significant; however, implementation of CUL MM 2 and CUL MM 7 would reduce these potential impacts to less than significant (see Section 3.4.5 Mitigation Measures).

Build Alternative 1

The proposed Project is located primarily within paved public rights-of-way within city streets or OCSD easements and adjacent to existing pipelines. As such, the proposed improvements would primarily impact areas that already have been disturbed. Additionally, the young alluvial fan deposits and artificial fill that are mapped at the surface of the proposed Project area have low paleontological potential (Figure 3.4-2).

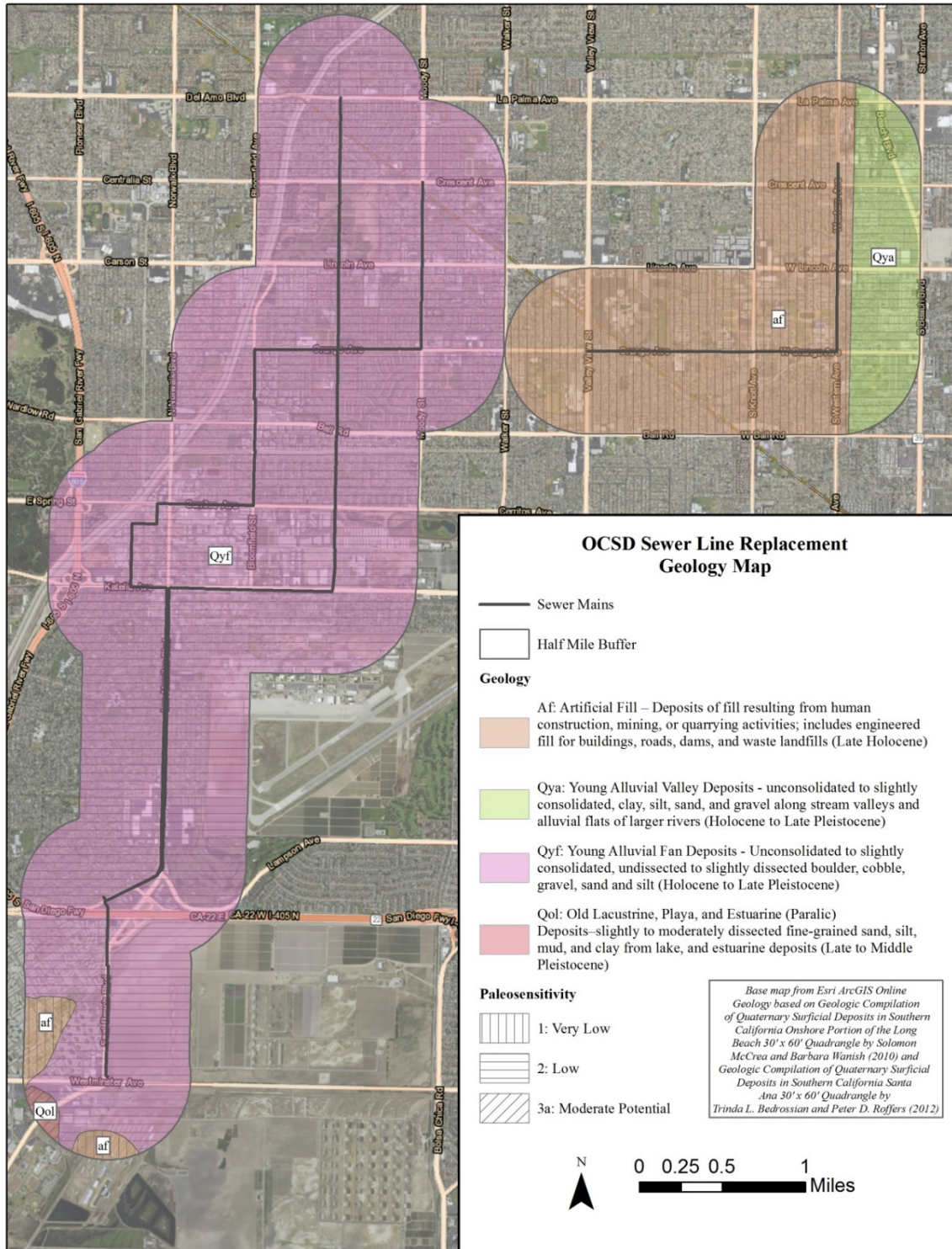
Nevertheless, the discovery of paleontological resources during ground-disturbing activities cannot be discounted entirely, particularly during open-cut excavation within previously undisturbed soils along the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Excavation within previously undisturbed soils and inadvertent discovery and/or disposal of paleontological resources is considered a significant impact. In this situation, the potential to adversely impact undiscovered paleontological resources is unknown but potentially significant; however, implementation of CUL MM 2 and CUL MM 7 would reduce these potential impacts to less than significant (see Section 3.4.5 Mitigation Measures).

Build Alternative 2

Under Build Alternative 2, the general alignment of the proposed Project would remain unchanged, and the results of the analysis for paleontological resources would not be affected. The results provided in Appendix C – Cultural Resources Constraints Report for paleontology accounted for previous investigations within the Project alignment. Because the horizontal extent of the Project is anticipated to be the same as that of the original Project design, the results remain applicable to the proposed specifications of Build Alternative 2. As a result, the Project would not result in construction-related impacts to paleontological resources under Build Alternative 2. The proposed improvements would primarily impact areas that have already been disturbed. Additionally, the young alluvial fan deposits and artificial fill that are mapped at the surface of the proposed Project area have low paleontological potential (Figure 3.4-2).

Nevertheless, the discovery of paleontological resources during ground-disturbing activities cannot be discounted entirely, particularly during open-cut excavation within previously undisturbed soils along the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Excavation within previously undisturbed soils and inadvertent discovery and/or disposal of paleontological resources is considered a significant impact. In this situation, the potential to adversely impact undiscovered paleontological resources is unknown but potentially significant; however, implementation of CUL MM 2 and CUL MM 7 would reduce these potential impacts to less than significant (see Section 3.4.5 Mitigation Measures).

Figure 3.4-2: Project Alignment with Geology and Paleontological Sensitivity Overlaid



3.4.4.6 Operational Impacts

Operations would consist of ongoing activities related to operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station including completing routine maintenance; cleaning sewer lines and manholes; performing visual inspections utilizing closed-circuit television and camera inspection; and conducting flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. Operation of the proposed Project would not involve excavation within previously undisturbed soils. Operation of the proposed Project would not result in operational impacts to paleontological resources.

CUL-4: Disturb any human remains, including those interred outside of formal cemeteries?

3.4.4.7 Construction Impacts

Common Build Alternative Element Impacts

Both Build Alternatives 1 and 2 would entail rehabilitation or replacement of the Westside Pump Station force main and wet well as well as installation of an air scrubber or air jumper line for odor control. In addition, both build alternatives would entail rehabilitation of the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines using trenchless CIPP methods. Further, under both build alternatives, portions of the existing Westside Relief Interceptor sewer pipe would be rehabilitated in place using trenchless CIPP methods. Manholes associated with these pipelines would be replaced or rehabilitated, as appropriate.

A portion of the proposed Project area is located in the Forest Lawn Memorial Cemetery. The proximity of existing interments immediately adjacent to the Project area within the cemetery grounds, some located within 2 feet of the proposed Project area, may result in the disturbance of these interments, and therefore, potentially result in significant impact to human remains. However, because the pipeline alignment would remain within existing OCSD easement within Guardian Drive or other locations approved by Forest Lawn Cemetery, disturbance (damage, exposure, impact) to known interments is unlikely. The proposed construction also involves excavation into native soils (soils that have not been previously exposed) outside the cemetery.

Although unlikely, there is the potential for unforeseen disturbance of human remains within the cemetery property that have not been formally interred with the Forest Lawn Memorial Park (i.e., burials predating the establishment of Forest Lawn), and the Project would have potentially significant impact on such resources. Excavation within previously undisturbed soils within Forest Lawn Cemetery would be a significant impact, and mitigation measures would be required (see Section 3.4.5 Mitigation Measures). Unforeseen disturbance of human remains potentially outside the cemetery is addressed by the environmental control measures (ECMs) delineated in Table 2.10-1. Therefore, the potential to encounter interred human remains during construction of these common build alternative elements is less than significant with application of mitigation measures CUL MM 1, CUL MM 4, CUL MM 5, CUL MM 6, CUL MM 7, and CUL MM 8.

Build Alternative 1

A portion of the proposed Project area is located in the Forest Lawn Memorial Cemetery. The proximity to existing interments immediately adjacent to the Project area within the cemetery grounds, some located within 2 feet of the proposed Project area, may result in the disturbance of these interments, resulting in potentially significant impact. However, because the pipeline alignment would remain within existing OCSD easement within Guardian Drive or other locations approved by Forest Lawn Cemetery, disturbance (e.g., damage, exposure, impact, or displacement) of known interments is unlikely. The proposed construction may also involve excavation into native soils (soils that have not been previously exposed) within the Project area. Although unlikely, there is the potential for unforeseen disturbance of human remains. Excavation within previously undisturbed soils within Forest Lawn Cemetery would be a significant impact, and mitigation measures would be required (see Section 3.4.5 Mitigation Measures). Unforeseen disturbance of potential human remains outside the cemetery, or disturbance of previously unknown human remains within cemetery property that predate the establishment of the Forest Lawn Memorial Park, is addressed by the ECMs delineated in Table 2.10-1 and would be less than significant with implementation of mitigation measures CUL MM 1, CUL MM 4, CUL MM 5, CUL MM 6, CUL MM 7, and CUL MM 8.

Build Alternative 2

Under Build Alternative 2, the proposed Project area is identical to that under Build Alternative 1. Although unlikely, there is the potential for unforeseen disturbance of human remains, resulting in potentially significant impact on burials or human remains. In addition, excavation within previously undisturbed soils within the Forest Lawn Cemetery would be a potentially significant impact; and mitigation measures would be required (see Section 3.4.5 Mitigation Measures). As a result, the potential for construction-related impacts to interred human remains under Build Alternative 2 is identical to that of Build Alternative 1 and, therefore, is less than significant with implementation of mitigation measures CUL MM 1, CUL MM 4, CUL MM 5, CUL MM 6, CUL MM 7, and CUL MM 8.

3.4.4.8 Operational Impacts

Operations under both Build Alternative 1 and Build Alternative 2 would consist of ongoing activities related to operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station, including completing routine maintenance; cleaning sewer lines and manholes; performing visual inspections utilizing closed-circuit television and camera inspection; and conducting flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control. Operation of the proposed Project would not involve excavation within previously undisturbed soils. Operation of the proposed Project would not result in operational impacts to human remains.

3.4.4.9 No Build Alternative

Under the No Build Alternative, there would be no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station other than operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would not impact the

significance of a historical or archaeological resource. The No Build Alternative would not impact paleontological resources or disturb human remains.

3.4.5 Mitigation Measures

CUL MM 1: OCS D shall retain an archaeologist (Project Archaeologist) meeting the Secretary of the Interior’s Standards for Professional Qualified Staff (PQS) to provide worker awareness training regarding archaeological resources to construction personnel prior to the start of construction. The training shall include, at minimum, the following:

- The types of artifacts, features, or structures that could occur at the proposed Project site
- The procedures that should be taken in the event of an archaeological discovery, including human remains
- Laws protecting archaeological resources and burials
- Penalties for destroying or removing archaeological resources, protected historical structures, or burials

CUL MM 2: A qualified professional paleontologist, meeting the professional standards enumerated in Cooper et al 2010, shall provide worker awareness training on paleontological resources to construction personnel prior to the start of construction. The training shall include, at minimum, the following:

- The types of fossils that could occur at the proposed Project site
- The procedures that should be taken in the event of a fossil discovery
- Laws protecting paleontological resources
- Penalties for destroying or removing paleontological resources

CUL MM 3: Final design of the Los Alamitos Sub-trunk within Forest Lawn shall avoid disturbance of historic buildings, structures, or objects on the Forest Lawn property that are outside the OCS D easements. These include the Ascension Mausoleum; the Church of Our Fathers; the Main Mortuary Building; the park’s maintenance facilities building; and the park entrance, memorial tablets, grave markers, stones, statues, and ornaments.

CUL MM 4: OCS D shall work with Forest Lawn Cemetery to ensure that pipeline alignment will remain within existing OCS D easement, Guardian Drive, or other locations to avoid disturbance of existing interments immediately adjacent to the alignment. Pipe realignment shall be coordinated with Forest Lawn Cemetery management prior to implementation. Alignments within existing easements will not require Forest Lawn approval, but Project managers shall coordinate with Forest Lawn managers regarding Project details within Forest Lawn property.

- CUL MM 5:** For the portion of the Los Alamitos Sub-trunk within Forest Lawn Cemetery, the contractor shall avoid disturbance of interment ceremonies and gravesites through the use of protective barriers, visual aids (i.e., signs, flagging, etc.) and defined exclusion areas on plans to provide mutually acceptable distance between construction areas and interments, as determined in consultation with Forest Lawn Cemetery management. Visual aids shall distinguish ornamental or structural elements from locations of known gravesites.
- CUL MM 6:** OCSD shall provide a liaison during construction of the Los Alamitos Sub-trunk within Forest Lawn Cemetery. Although disturbance to existing gravesites is not anticipated, should graves be impacted by construction, the OCSD liaison shall take immediate action to notify Forest Lawn and prevent impact. The liaison will notify project managers and the Forest Lawn management should graves be disturbed. The Project managers shall consult with Forest Lawn management to determine the appropriate course of action in the event that impacts to gravesites are anticipated or, if they occur, in order to avoid any further impacts.
- CUL MM 7:** In the event of unanticipated archaeological, tribal, or paleontological resource discoveries during construction activities, the contractor shall stop work within 50 feet of the discovery until it can be evaluated by a qualified archaeologist meeting the Secretary of the Interior's Standards for Professional Qualified Staff (PQS) or a paleontologist meeting the professional standards enumerated in Cooper et al 2010. Construction activities may continue in other areas of the site. The qualified archaeologist or paleontologist shall evaluate the resource(s) encountered and recommend appropriate disposition of the resource(s) in consultation with the Orange County Sanitation District.
- CUL MM 8:** Should any tribal entity identified on the Native American Heritage Commission contact list request on-site monitoring during construction of particular segments of the Project area out of concern for potential impacts to known or unanticipated tribal resources, OCSD shall provide a Native American monitor/liaison⁸. Sections of the Project area that may require such monitoring are contingent upon engineering design specifics which have yet to be finalized.

3.4.6 Level of Significance after Mitigation

The proposed Project would have less than significant impacts to historical, archaeological, and paleontological resources. A segment of the Project area is in the Forest Lawn Cemetery and would have

⁸ Two such tribes have requested the presence of on-site monitors for the proposed Project in response to AB 52 consultations with OCSD (See Appendix A).

potentially significant impact to human remains and previously undisturbed areas. Mitigation measures are necessary to reduce such impacts to less than significant levels. Therefore, implementation of CUL MM 1 through CUL MM 8 would render potential impacts on historical, archaeological, and paleontological resources to the level of less than significant. In addition, the implementation of these mitigation measures would reduce impact to burials and human remains from potentially significant to less than significant with mitigation.

3.5 Geology and Soils

This section provides an overview of seismic hazards, landslide hazards, soil erosion potential, and potential impacts to the proposed Project area from liquefaction, unstable soils, and expansive soils.

3.5.1 Regulatory Setting

3.5.1.1 *Federal*

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977, as amended by Public Laws 101-614, 105-47, 106-503, and 108-360, created the framework for research into the seismic safety of buildings and structures. The purpose of this Act, as amended, is to reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. With the Act, Congress established the National Earthquake Hazards Reduction Program (NEHRP). The four primary NEHRP agencies that contribute to earthquake mitigation efforts are the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology, the National Science Foundation, and the United States (U.S.) Geological Survey (USGS).

The proposed Project area lies within seismically active areas and, as such, is subject to the Act, which requires federal preparedness and mitigation activities including the “development and promulgation of specifications, building standards, design criteria, and construction practices to achieve appropriate earthquake resistance for new structures.”

Executive Order 12699

Executive Order (EO) 12699 requires an examination of alternative provisions and requirements for reducing earthquake hazards at buildings owned or leased by the federal government and those buildings with federally financed construction, grants, loans, loan guarantees, insurance programs, and licenses (42 United States Code [U.S.C.] 7704(f)(3, 4)) and the incorporation of seismic safety requirements into new building construction. The purpose of these requirements is to reduce risks to the lives of occupants of buildings owned by the federal government and to persons who would be affected by the failures of federal buildings in earthquakes, to improve the capability of essential federal buildings to function during or after an earthquake, and to reduce earthquake losses of public buildings, all in a cost-effective manner. A building means any structure, fully or partially enclosed, used or intended for sheltering persons or property.

International Building Code

The International Building Code (IBC) is a model building code developed by the International Code Council that provides the basis for the California Building Code (CBC). The purpose of the IBC is to provide minimum standards for building construction to ensure public safety, health, and welfare.

Occupational Safety and Health Administration Regulations

The Occupational Safety and Health Administration (OSHA) Excavation and Trenching standard, Title 29 of the Code of Federal Regulations, Part 1926.650, covers the requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

3.5.1.2 State**California Geological Survey: Alquist-Priolo Earthquake Fault Zoning Act**

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to homes, commercial buildings, and other structures and to prevent the construction of buildings used for human occupancy on active faults with a hazard of surface fault rupture. The State of California and County of Orange Building Codes provide standards and requirements for buildings and structures in order to address the potentially damaging effects of surface fault rupture. The most stringent standards and requirements are applied within Alquist-Priolo Earthquake Fault Zones where faults are known to have ruptured in the past 11,000 years (Holocene time).

California Geological Survey: Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990 to mitigate other hazards associated with earthquake faults, meaning non-surface fault rupture earthquake hazards. Among other things, “It is the intent of the State Legislature to provide statewide seismic hazard mapping and a technical advisory program to assist cities and counties in fulfilling their responsibilities for protecting the public health and safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other seismic hazards caused by earthquakes” (California Public Resources Code § 2692(a)).

Under the Seismic Hazards Mapping Act, seismic hazard zones must be identified and mapped in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to mitigate hazards to life and property posed by earthquake-triggered ground failures. The California Division of Mines and Geology gathers information from the earthquake fault zones mapping program, the landslide hazard identification program, and the inundation maps.

Provisions under this law require that a qualified geologist and civil engineer prepare a geotechnical report for each new construction site to evaluate and assess the geologic hazards that may be present. The city and/or county in which a project is located is responsible for reviewing and approving any such report prior to the commencement of construction (California Department of Conservation, California Geological Survey 1991).

California Building Standards Commission: California Building Code

The proposed Project is subject to the applicable sections of the CBC, which is administered by the California Building Standards Commission, Department of Building Safety. The building departments of each city (or the county for unincorporated areas within Orange County) are responsible for ensuring that CBC requirements are met, including provisions for soil and foundation investigations in order to evaluate the presence of critically expansive soils or other soil problems which, if not corrected, could lead to structural defects.

3.5.1.3 Local**OCSD Design and Construction Requirements for Sanitary Sewers**

“Prior to the construction of any facilities for Orange County Sanitation District (OCSD) (or facilities to become the property of OCSD), construction drawings for the subject Work shall be subject to approval by the Resident Engineer and shall be stamped and signed by the Design Engineer preparing the Plans. Approval by the Resident Engineer on drawings for facilities to become the property of OCSD apply only to general design concepts with respect to OCSD’s master planned capacity, maintenance procedures, and quality materials” (OCSD 2012, Section 12.2.5 Plan Checking, Approvals and Fees).

OCSD Sewer System Management Plan

OCSD is required to comply with State Water Control Resources Board (SWRCB) Order No. 2006-0003-DWQ adopted May 2, 2006, titled “Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.” The purpose of the Order is to prevent sewer overflow or spills by establishing a statewide monitoring and reporting program and requiring each local or regional sewer agency to create and implement its own sewer system management plan. The goal is to provide a plan and schedule to properly manage, operate, and maintain all parts of the OCSD sanitary sewer system to prevent and mitigate any sewer overflows (OCSD 2014).

City of Seal Beach General Plan

The City of Seal Beach General Plan Safety Element (2003) provides a guide to identify and understand potential hazards facing the City of Seal Beach. The Safety Element evaluates hazards that could present a danger to the public through the establishment of goals and policies intended to reduce their impacts. Geologic hazards affecting the City are direct, construction-related, and indirect effects that occur only during earthquakes. The most hazardous impacts are those related to and triggered by seismic events, such as ground shaking and liquefaction.

City of Los Alamitos General Plan

The City of Los Alamitos General Plan (2015) establishes a comprehensive framework through which the City manages its growth and development to ensure it efficiently and effectively provides public facilities and services. The Public Facilities and Safety Element provides a guide to identify and understand potential hazards to the City of Los Alamitos. This element evaluates hazards that could present a

danger to the public through the establishment of goals and policies intended to reduce their potential occurrence. These hazards include flooding, surface rupture and ground shaking, landslides, seiches, infrastructure hazards, and earthquakes. While no known active or potentially active earthquake faults are located in the City of Los Alamitos, the entire southern California region is considered to be seismically active. Earthquakes create seismic hazards such as ground shaking, ground displacement, subsidence, and uplift. These actions can, in turn, induce secondary hazards such as ground failure, liquefaction, landslides, seismically induced water waves (tsunamis and seiches), and dam failure.

City of La Palma General Plan

The City of La Palma General Plan Community Safety Element (2014) sets forth goals and policies to protect and safeguard La Palma residents from urban fires, crime, hazardous materials incidents, flooding, earthquakes, and exposure to excessive noise levels. Geologic and seismic hazards detailed in this element include earthquakes and liquefaction. While no active or potentially active faults are located within the City of La Palma, the entire southern California region is considered to be seismically active.

“Goal 4: Building a community with maximum feasible protection from seismic and geologic hazards

“Policy 4.2: Require all new development to comply with the most recent Uniform Building Code seismic design standards and State of California seismic building standards.”

City of Cypress General Plan

The City of Cypress Safety Element (2000) is an official guide for the City Council, government agencies, and individuals to identify and understand potential hazards confronting Cypress. The Element examines manmade and natural hazards that could endanger the public safety and welfare. These concerns are subsequently incorporated into goals, policies, and implementation measures to reduce the impacts of hazards. The Safety Element helps protect the community from natural hazards, including floods, earthquakes, ground rupture, and landslides.

“Goal SAF-2: Protect life and property in Cypress from seismic events and resulting hazards.

“Policy SAF-2.1: Identify and evaluate existing structures for structural safety. Encourage building owners to undertake seismic retrofit improvements.

“Policy SAF-2.2: Implement the Uniform Building Code’s seismic standards for construction of new buildings and maintain seismic safety of existing structures.

“Policy SAF-2.3: Require the review of soils and geologic conditions, and if necessary on-site borings, to determine liquefaction susceptibility of a proposed project site.”

City of Buena Park General Plan

The City of Buena Park General Plan Safety Element (2010) identifies and evaluates public health and safety hazards, and outlines means of limiting risks and minimizing losses that occur as a result of natural and human-caused disasters. Natural hazards that threaten Buena Park include earthquakes, floods, and severe rainstorms. The City of Buena Park is located in a seismically active region, with a number of faults in close proximity, and is subject to seismic ground shaking and liquefaction due to the close proximity and potential earthquake magnitude of nearby faults.

“Goal SAF-1: Decrease in the potential risk of seismic and geologic hazards to the community.

“Policy SAF-1.2: Enforce the requirements of current building codes relative to seismic design for all new development or redevelopment.

“Policy SAF-1.3: Require geologic and soils reports for all new development or redevelopment, especially in identified areas of the Norwalk Fault Zone and areas with high liquefaction potential.

“Policy SAF-1.4: Require appropriate mitigation measures and/or conditions of approval relative to terrain, soils, slope stability, and erosion for new development or redevelopment in order to reduce hazards.”

City of Anaheim General Plan

The City of Anaheim General Plan Safety Element (2004): identifies potential hazards that can significantly impact the City; provides policies to minimize potential dangers to residents, workers, and visitors and to reduce the level of property loss due to a potential disaster; and identifies ways to respond to crisis situations.

“Goal 1.1: Minimize the risk to public health and safety and disruptions to vital services, economic vitality, and social order resulting from seismic and geologic activities.

“Policy 1: Minimize the risk to life and property through the identification of potentially hazardous areas, adherence to proper construction design criteria, and provision of public information.

“Policy 2: Require geologic and geotechnical investigations in areas of potential seismic or geologic hazards as part of the environmental and/or development review process for all structures and enforce structural setbacks from faults that are identified through those investigations.

“Policy 3: Require that lifelines (i.e., water, sewer, electrical, gas facilities, and communication and transportation facilities that are needed in the event of an earthquake, flood, or

other natural disaster) crossing a fault be designed to resist the occurrence of fault rupture.”

3.5.2 Existing Conditions

3.5.2.1 Regional Geologic Setting

The Project area is located in the Los Angeles Basin, which is the coastal sediment-filled plain located at the north end of the Peninsular Ranges province in southern California. The coastal plain is bounded by the Elysian, Repetto, and Puente hills to the northeast; the Santa Ana Mountains to the southeast; the San Joaquin Hills to the south; and the Pacific Ocean to the west. The basin is a coastal lowland area that is characterized by gentle slopes of alluvial deposits and coastal mesas. Natural alluvial soils consist predominantly of interbedded layers of damp to saturated medium-dense to dense silty sand, poorly graded sand, and stiff to very stiff silty clay (OCSD 2005).

Orange County is a geographically diverse area of mountains, hills, flatlands, and shoreline. The Cities of Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, and Seal Beach are located in the western portion of Orange County, near the Los Angeles County border. The portion of the coastal plain within Orange County is underlain by a deep structural depression primarily containing sedimentary rocks. The subsurface of the County varies in thickness and lithology due to the rapid rate of deposition of rock units, folding, and faulting. The sedimentary deposits of the coastal plain are a hybrid of marine and continental sediment. A significant amount of the sedimentary deposits have been removed over time due to erosion (City of Fullerton 2012).

3.5.2.2 Soils

The existing soils underlying the Project area include alluvium deposits (a collection of a variety of materials, including fine particles of silt and clay and larger particles of sand and gravel). The Project area is urbanized and is generally characterized as built out. As a result, surface soils in the area may no longer reflect the natural soil associations and characteristics identified below since the Project area has been developed. According to the U.S. Department of Agriculture Natural Soil Conservation Service (USDA NRCS 2015), the soil types and characteristics of those soils within the Project area include the following:

Bolsa Silt Loam, Drained (Seal Beach Blvd. Interceptor, Los Alamitos Sub-trunk, Westside Relief Interceptor and Westside Pump Station)

This nearly level soil generally occurs on large alluvial fans. If the soil is bare, runoff is slow and the erosion hazard is slight. The water capacity of this soil is 11.5 to 12.5 inches, which is the range of available water that can be stored in soil and is available for growing crops.

Bolsa Silt Clay Loam, Drained (Seal Beach Blvd. Interceptor, Los Alamitos Sub-trunk)

This nearly level soil generally occurs on large alluvial fans. Runoff is very slow and the erosion hazard is none to slight. The water capacity of this soil is 11.5 to 12.5 inches, which is the range of available water that can be stored in soil and is available for growing crops.

Metz Loamy Sand (Orange-Western Sub-trunk)

This nearly level to gently sloping soil generally occurs on large fans and on flood plains. If the soil is bare, runoff is slow and the erosion hazard is slight. It has a water capacity of 4.0 to 6.0 inches.

Hueneme Fine Sandy Loam, Drained (Westside Relief Interceptor, Los Alamitos Sub-trunk)

This nearly level to gently sloping soil generally occurs on large fans and on flood plains. If the soil is bare, runoff is slow and the erosion hazard is slight. It has a water capacity of 7.0 to 9.0 inches.

Metz Loamy Sand, Moderate Fine Substratum (Orange-Western Sub-trunk)

This nearly level to gently sloping soil generally occurs on large fans and on flood plains. If the soil is bare, runoff is slow and the erosion hazard is slight. It has a water capacity of 4.0 to 6.0 inches.

San Emigdio Fine Sandy Loam, 0 to 2 Percent Slopes (Westside Relief Interceptor, Los Alamitos Sub-trunk)

This nearly level soil generally occupies alluvial fans on flood plains and along stream channels. If the soil is bare, runoff is slow and the erosion hazard is slight. The soil has an available water capacity of 7.0 to 9.0 inches.

San Emigdio Fine Sandy Loam, Moderately Fine Substratum, 0 to 2 Percent Slopes (Westside Relief Interceptor, Los Alamitos Sub-trunk)

This nearly level soil generally occurs on alluvial fans on flood plains and along stream channels. Permeability is moderately slow in the underlying material. Runoff is slow and the erosion hazard is slight. Available water capacity for this soil is 7.0 to 10.0 inches.

3.5.2.3 Geologic Hazards

All of Southern California, including Orange County, lies within a seismically active area and thus is subject to some degree of seismic shaking. Although the Project area is not located within an Alquist-Priolo earthquake fault zone, it is located within the boundaries of the Los Alamitos fault (Late Holocene, not active) and is located in an area considered to be seismically active between two major active fault zones: the Newport-Inglewood fault zone and the Whittier-Elsinore fault zone. Table 3.5-1 lists known active faults in the region and their distance to the Project area. The location of these faults relative to the Project area is shown on Figure 3.5-1.

Table 3.5-1: Distance from the Project Area to Active Faults within the Region

Fault	Approximate Distance from Project Area to Active Fault (miles)
Los Alamitos	0.0
Newport-Inglewood	1.1
El Modena	11.4
Whittier-Elsinore	7.6
Data Source: California Geologic Society (2010)	

Surface Rupture

Surface rupture is an offset of the ground surface when fault rupture extends to the Earth's surface. The Project area is located within the boundaries of the Los Alamitos fault and approximately 1 mile from the active Newport–Inglewood fault zone. Specifically, the Los Alamitos Sub-trunk alignment is located over the inactive Los Alamitos fault. According to the Southern California Earthquake Data Center, the age of the fault is uncertain and the fault is indistinct. The fault may be part of the larger Compton-Los Alamitos fault system. Additionally, the Project area is highly urbanized and generally built out; and the locations of faults are not well defined. Typically, faults rupture along existing fault planes, and the risk for fault rupture hazard is higher for sites located over an active fault. The Los Alamitos Sub-trunk portion of the Project area may have a higher risk of fault rupture hazard in comparison to the rest of the Project area because of its proximity to the Los Alamitos fault. Overall, based on the existing mapped fault location, the probability of damage due to surface ground rupture is low to moderate due to the lack of active faults within the immediate Project area.

Ground shaking

Ground shaking refers to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. The closest active fault to the project site is the Los Alamitos fault, which is located within the project limits. The potential probable earthquake magnitude for this fault has not been predicted. The nearest major fault zone near the Project area is the Newport–Inglewood fault zone, which is located within 1 mile of the Project area. It is predicted to be capable of a 6.0 to 7.4 magnitude earthquake on the moment magnitude (M_w) scale. An earthquake of this magnitude could generate strong to violent seismic shaking within the Project area, which could result in structural damage.

Liquefaction Potential

Liquefaction occurs when vibrations or water pressure within a mass of soil cause the soil particles to lose contact with one another. As a result, the soil behaves like a liquid, has an inability to support weight, and can flow down very gentle slopes. This condition is usually temporary and is most often caused by an earthquake vibrating water-saturated fill or unconsolidated soil. Liquefaction may occur at sites that sit on unconsolidated younger alluvial material and have a high groundwater table

(groundwater is within 25 feet of the surface). Figure 3.5-1 shows areas mapped by the California Geologic Service that are potentially liquefiable. According to the California Geological Survey, the entire Project area is located within a Liquefaction Hazard Zone. It is anticipated that the sandy alluvial deposits beneath the Project area are susceptible to soil liquefaction during a large earthquake event.

3.5.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and are used to evaluate potential Project impacts related to geology and soils. Impacts on geology and soils would be significant if the proposed Project would:

GEO-1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- 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 fault⁹
- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction

Other impact significance criteria for Geology and Soils, identified in Appendix G of the CEQA Checklist, have been evaluated previously in Section 4.6 of the Initial Study for the proposed Project (See Appendix A). This previous evaluation determined that the proposed Project would result in either no impact or in less than significant impacts from Geology and Soils under these criteria. As a result, the following impact significance criteria have not been evaluated further within this Environmental Impact Report (EIR):

- Result in substantial soil erosion or the loss of topsoil?
- 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?
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

⁹ Refer to Division of Mines and Geology Special Publication 42.

3.5.4 Impact Analysis

The differences between the two alternatives are minor. Thus, no differences between the two build alternatives are anticipated, and the impacts described in this section are the same for Build Alternative 1 and Build Alternative 2.

GEO-1: *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving*

- *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?*
- *Strong seismic ground shaking?*
- *Seismic-related ground failure, including liquefaction?*

3.5.4.1 Construction Impacts

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

No known active or potentially active faults lie within the proposed Project area (the Los Alamitos fault is inactive). Additionally, the proposed Project area is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest active fault zone is the Newport-Inglewood fault zone located approximately 1.1 miles southwest of the Project area. Based on the existing mapped fault locations, ground surface rupture on or adjacent to the Project area is not likely due to the absence of known active faults traversing the Project area. In addition, the proposed Project would be designed in accordance with the latest CBC (2013). The proposed Project components would be constructed in accordance with the ECMs described in Table 2.10-1. Furthermore, requirements of the U.S. Department of Labor Occupational Safety and Health Administration and the California Health and Safety Code would reduce the potential for risks related to seismic events (e.g., preparation of an Earthquake Preparedness and Response Plan). These include specifications for excavation, the composition of fill, and materials to be used to ensure construction worker safety. Construction impacts associated with fault rupture would therefore be less than significant.

Strong Seismic Ground Shaking

Despite the low likelihood of a large regional earthquake occurring during the construction period, there is the potential for risks to construction workers related to strong seismic ground shaking. The proposed project would be constructed in accordance with latest CBC (2013). Furthermore, the proposed project components would be constructed in accordance with the ECMs described in Table 2.10-1 including the applicable design and construction requirements of OCS, and Cities of Seal Beach, Los Alamitos, La Palma, Cypress, Buena Park and Anaheim. In addition, as listed in Table 2.10-1, proper geotechnical

characterization and design of shoring systems would be developed through further subsurface evaluations; and the implementation of all geotechnical recommendations for excavation activities would be required. Excavations that are unstable or are deeper than 4 feet would be shored. Therefore, construction impacts associated with seismic ground shaking would be less than significant.

Seismic-related Ground Failure, including Liquefaction

The proposed Project is located in an area mapped as a liquefaction hazard zone (see Figure 3.5-1 on page 3-90).

The proposed Project will be constructed in accordance with latest CBC (2013). Furthermore, the proposed Project components would be constructed in accordance with the ECMs described in Table 2.10-1, including the applicable design and construction requirements of OCSD and Cities of Seal Beach, Los Alamitos, La Palma, Cypress, Buena Park and Anaheim. In addition, as listed in Table 2.10-1, proper geotechnical characterization and subsurface evaluations are being conducted as part of Project design; and compliance with all recommendations regarding specific measures to reduce risks of liquefaction (e.g., subsurface soil improvement, dynamic compaction, compaction grouting) would be required for construction activities. The proposed Project's construction impacts related to seismic-related ground failure, including potential liquefaction, would be less than significant.

3.5.4.2 Operational Impacts

Operations under both build alternatives would consist of ongoing activities related to operation and maintenance of the Western Regional Sewer lines and the Westside Pump Station, including routine maintenance, cleaning of sewer lines and manholes, visual inspections, closed-circuit television and camera inspection, flow-monitoring, as-needed repairs and chemical dosing for odor and corrosion control, which are consistent with the existing operational impacts of the Western Regional Sewer lines and the Westside Pump Station. Since the project would be constructed in accordance with the latest CBC (2013) design and the construction requirements of OCSD and the Cities of Seal Beach, Los Alamitos, La Palma, Cypress, Buena Park and Anaheim, no operational impacts associated with the rupture of a known earthquake fault; strong seismic-related ground shaking; or seismic-related ground failure, including liquefaction, are anticipated; and impacts would be less than significant.

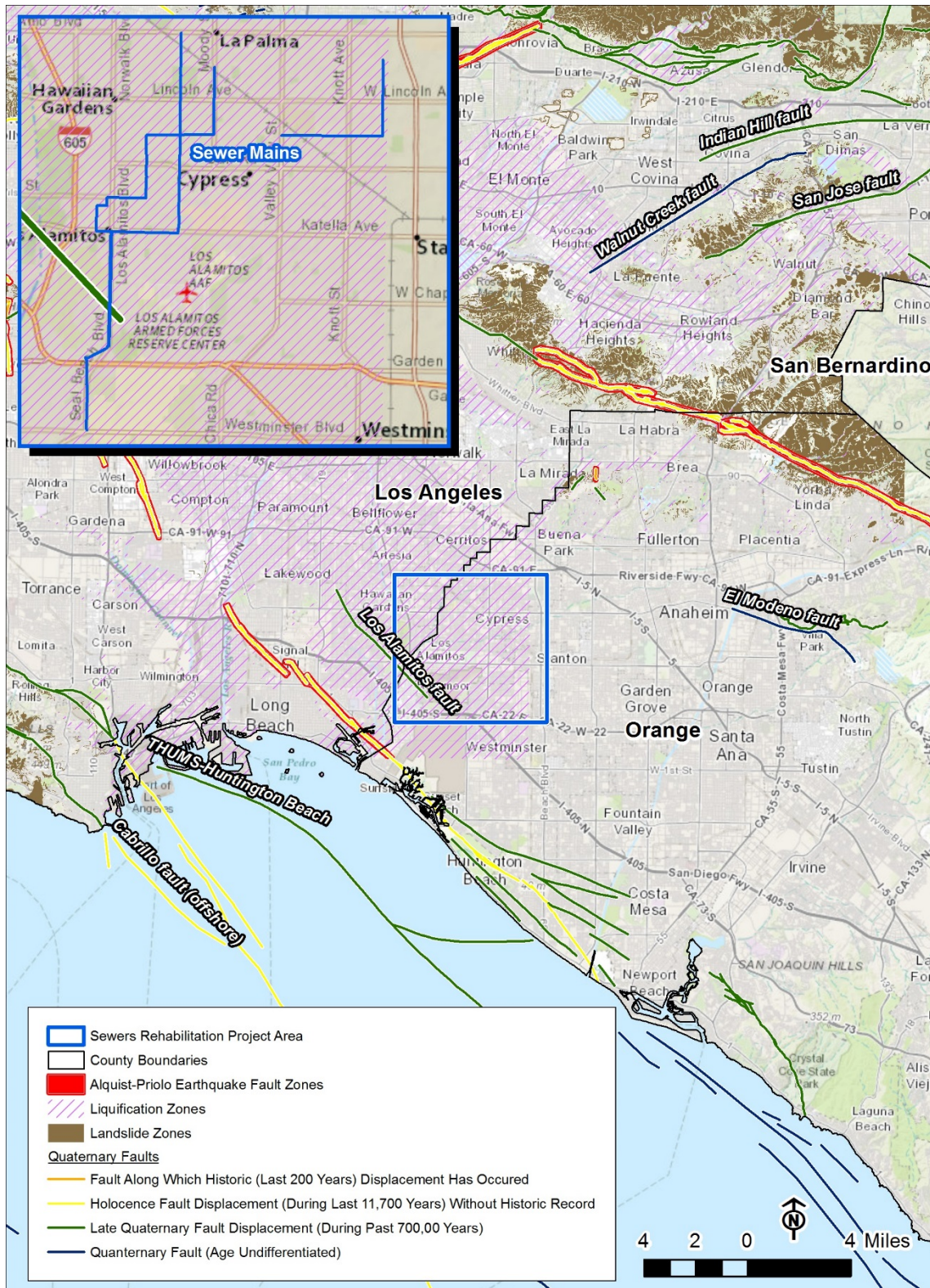
3.5.4.3 No Build Alternative

Under the No Build Alternative, there would be no rehabilitation or replacement of the Western Regional Sewers or Improvements at the Westside Pump Station other than routine operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death due to fault rupture, strong seismic shaking, or seismic-related ground failure, including liquefaction.

3.5.5 Mitigation Measures

No mitigation measures are required.

Figure 3.5-1: Geologic Hazards in the Proposed Project Area



3.6 Greenhouse Gas Emissions

This section addresses the regulatory setting for greenhouse gases (GHGs) as well as the existing GHG conditions in the proposed Project area. Short-term (construction) and long-term (operational) impacts associated with GHGs that would potentially occur as a result of the proposed Project were evaluated and summarized below.

3.6.1 Regulatory Setting

3.6.1.1 **Federal**

Climate change is associated with long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to anthropogenic GHG emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy development. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

Although climate change and GHG emissions reduction are concerns at the federal level, no federal regulations or legislation have been enacted that specifically address GHG emissions reductions and climate change at the project level. Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and Executive Order 13514 — Federal Leadership in Environmental, Energy and Economic Performance.

Executive Order 13514 is focused on reducing GHGs internally in federal agency programs and operations but also directly through federal agencies participating in the interagency Climate Change Adaptation Task Force, which is engaged in developing a United States (U.S.) strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. Environmental Protection Agency (USEPA) has the authority to regulate GHGs. The Court held that the USEPA Administrator must determine whether or not emissions of GHGs from motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases — carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride — in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed greenhouse gases from motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the USEPA's Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles, which was published on September 15, 2009 (USEPA OTAQ 2009). On May 7, 2010, the final Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards were published in the Federal Register.

USEPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first ever GHG regulations for heavy-duty engines and vehicles as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010 (White House 2010).

The final combined USEPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards are estimated to reduce GHG emissions by 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012 through 2016).

On January 24, 2011, the USEPA along with the U.S. Department of Transportation and the State of California announced a single time frame for proposing fuel economy and GHG standards for cars and light-trucks in the model years 2017 through 2025. Shortly thereafter (November 16, 2011), the new standards were proposed to be implemented during the same model year time frame, which signals continued collaboration that could lead to an extension of the current National Clean Car Program. These standards were finalized and posted in the Federal Register for 2017 or later models on October 15, 2012 (Federal Register 62624).

3.6.1.2 State

With the passage of several pieces of legislation, including State Senate and Assembly Bills and Executive Orders, California has launched an innovative and proactive approach to addressing GHG emissions and climate change at the state level.

Executive Order S-3-05

Executive Order S-3-05, signed in June 2005 by Governor Arnold Schwarzenegger, states that California is vulnerable to the impacts of climate change and that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To address those concerns, the Executive Order established the state's first GHG emissions targets:

- Reduce GHG emissions to 2000 levels by 2010
- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

This Executive Order requires biannual reports on progress made toward meeting these targets and the global warming impact on California.

Global Warming Solutions Act of 2006

In September 2006, the State Legislature passed, and Governor Schwarzenegger signed, Assembly Bill (AB) 32 (Chapter 488, States of 2006), the Global Warming Solutions Act of 2006, which set the 2020 GHG emissions reduction goal into law. It directed the California Air Resources Board (CARB) to begin developing discrete early actions to reduce GHG emissions while also preparing the Climate Change Scoping Plan, which outlines a framework of measures that would eventually be adopted and implemented to reach AB 32 goals (CARB 2015c). CARB approved the Climate Change Scoping Plan in 2008 and updated it in May 2014. Regulations are being phased in over time. Adopted regulations include the California Energy Commission's 33 percent Renewable Portfolio Standard, the CARB Cap-and-Trade Program, and the CARB Low Carbon Fuel Standard. Relevant recommended actions of the updated Climate Change Scoping Plan are generally related to transportation/goods movement and gases with a high potential to result in global warming (GWP) including CO₂, CH₄, and N₂O.

The reporting of GHG emissions by major sources is required by AB 32. In 2007, CARB established the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (MRR). Revisions to this GHG reporting regulation were approved by the California Office of Administrative Law, which became

effective on January 1, 2012. Facilities that emit 10,000 metric tons of carbon dioxide equivalents¹⁰ (MtCO₂e) or more per year are required to submit annual reports to CARB.

Subsequently, the SCAQMD established a significance threshold of 10,000 metric tons per year for CO₂ equivalents (MtCO₂e) including NO_x and CH₄ from industrial facilities for which it is the lead agency (SCAQMD 2008).

Senate Bill 97

Senate Bill (SB) 97 was passed by the State Legislature and approved by Governor Schwarzenegger in August 2007. SB 97 acknowledges that climate change is a prominent environmental issue that requires analysis under the California Environmental Quality Act (CEQA). The California Natural Resources Agency adopted amendments to the CEQA Guidelines to address the analysis and mitigation of GHG emissions. The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010.

Executive Order B-16-2012

Executive Order B-16-2012, signed in March of 2012 by Governor Edmund G. Brown, ordered CARB, the California Energy Commission, the California Public Utilities Commission (CPUC), and other relevant agencies to establish benchmarks to achieve numerous goals set for 2015, 2020, and 2025 to reduce GHG emissions in California. These goals include accommodation of zero-emission vehicles in major metropolitan areas, expansion of manufacturing capabilities of zero-emission vehicles, accessibility of zero-emission vehicles to mainstream consumers, and integration of electrical vehicle charging into the electricity grid. Governor Brown also set a target such that GHG emissions from the transportation sector would be reduced to 80 percent less than 1990 levels by 2050.

Executive Order B-30-15

In April 2015, Governor Brown signed Executive Order B-30-15, establishing a new interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030. The interim reduction target was established in order to ensure California meets its goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires state agencies to consider climate change in their planning and investment decisions, giving priority to actions that reduce GHG emissions.

Executive Order S-20-04

Executive Order S-20-04 outlines guiding policies that call for reducing electricity consumption in existing and new State-owned buildings by 20 percent by 2015, through designing, constructing, and operating all new and renovated State-owned facilities to Leadership in Energy and Environmental Design (LEED) “Silver” or higher certified standards.

¹⁰ A metric used to compare emissions of various greenhouse gases. It is the mass of carbon dioxide that would produce the same estimated radiative forcing as a given mass of another greenhouse gas. Carbon dioxide equivalents are computed by multiplying the mass of the gas emitted by its global warming potential.

Executive Order B-18-12

In April 2012, Governor Brown signed a green building Executive Order B-18-12 directing state agencies and departments to take immediate action for State government buildings to serve as models for green building. Executive Order B-18-12 supports California's climate goals by requiring state agencies to reduce entity-wide GHG emissions by 10 percent by 2015 and 20 percent by 2020. It also includes requirements to reduce grid-based energy purchases by at least 20 percent by 2018, achieve LEED “Silver” certification for new or major renovated State buildings, retrofit half of existing buildings to be Zero Net Energy (ZNE) buildings by 2025, and implement electric vehicle charging stations to accommodate future infrastructure demand.

3.6.1.3 Local

The proposed Project is located within the South Coast Air Basin (SCAB) under the jurisdiction of the SCAQMD. SCAQMD Rule 2701 establishes a program to encourage, quantify, and certify voluntary, high-quality certified GHG reductions in the SCAQMD.

The proposed Project would adhere to the following SCAQMD regulations:

- SCAQMD Regulation XXVII, Rule 2702 (2010) - Climate and Greenhouse Gases
 - Rule 2702 creates a program for GHG emissions reduction in the SCAQMD by funding reduction projects or purchasing reductions from other parties

In addition, the proposed Project is located within the jurisdictions of Orange County and six cities. GHGs and climate change are managed through land use and development planning practices, which are implemented through the cities’ general planning processes. The following are city plans applicable to GHGs within the Project area:

- City of La Palma - General Plan Greenhouse Gas Background Report (2012)
 - Goal OS-4: Encourage the use of sustainable practices to reduce energy use and help curb global climate change.
 - OS-4.4: Adopt practices that minimize the amount of materials entering the waste stream. Encourage recycling and composting in all sectors.
 - OS-4.6: Collaborate with State and regional agencies to improve air quality and implement State air quality and climate change goals.
- City of Buena Park - General Plan
 - Principle: Reduction of Greenhouse Gas Emissions (GHG)
 - Goal CS-21: GHG emissions inventories established for all sectors within the City.
 - Goal CS-22: An action plan established to reduce or encourage reductions in GHG emissions from all sectors within the City.

- Goal CS-23: Incentives aimed at reducing unnecessary energy and water consumption are implemented.
- City of Anaheim General Plan – GHG Reduction Plan – Sustainable Electric & Water Initiatives (July 2015)
 - Develop a clear and comprehensive long term strategic framework to reduce greenhouse gas emissions, and have an appreciable impact to the environment.
 - Sustainable management of the City’s power and sustainability measures including control of waste water, storm water, and potable discharges.

3.6.2 Existing Conditions

Climate change refers to global and regional variations in the normal weather of the earth (wind patterns, storm intensity, precipitation, and temperature) that occur over time. While the earth has gone through many natural changes in climate in its history, scientists generally agree that the earth’s climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) GHG emissions contribute to this rapid change. Carbon dioxide makes up the largest component of these GHG emissions, stemming mostly from fossil-fuel combustion. Other prominent sources of GHGs include CH₄ and N₂O, which are primarily transportation related.

Many GHGs occur naturally. Water vapor is the most abundant GHG and makes up approximately two-thirds of the natural greenhouse effect; however, burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries.

California's annual statewide GHG emission inventory is an important tool for establishing historical emission trends and tracking California's progress in reducing GHGs. In concert with data collected through various AB 32 programs, the GHG inventory is a critical piece in demonstrating the state's progress in achieving the statewide GHG target of 1990 levels by 2020. The inventory provides estimates of anthropogenic GHG emissions within California, as well as emissions associated with imported electricity; natural sources are not included in the inventory. The CARB is responsible for maintaining and updating California's GHG Inventory per Health and Safety Code §39607.4.

Statewide emission estimates rely on state, regional, or federal data sources and on aggregated facility-specific emission reports from CARB’s MRR. The current inventory uses GWP values from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report, consistent with current international and national GHG inventory practices. The 2014 inventory estimates 441.5 million megatons of carbon dioxide equivalents (CO₂e) from California sources, including electricity generation, industrial, transportation, commercial, agricultural, and residential. Direct CO₂ accounts for 84.3 percent of emissions, followed by CH₄ (9 percent) and N₂O (2.8 percent), with the remainder comprising gases with high GWP (3.9 percent). The SCAQMD 2009 Annual Report on its carbon footprint estimates that purchased electricity (54 percent), stationary sources (35 percent), and mobile sources (11 percent),

respectively, account for GHG emissions generated by vehicle fleets and facilities owned and/or operated by SCAQMD.

3.6.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and are used to determine the significance of potential GHG impacts. Impacts to GHG emissions would be significant if the proposed Project would:

- GHG-1:** Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
- GHG-2:** Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

3.6.4 Impact Analysis

Construction of the proposed Project has the potential to create temporary GHG emissions. Construction methods would include open-trench excavation, sewer lining and manhole rehabilitation (i.e., cured-in-place pipe installation), and pump station rehabilitation. Sewer lining and manhole rehabilitation would include cured-in-place pipe (CIPP) installation using a felt truck or boiler truck with generators and air compressors. The pump station rehabilitation would involve delivery and replacement of large-volume pumping equipment for the force main, reconstruction of the wet well, and the addition of either an air scrubber or air jumper line.

The proposed Project would construct sewer pipelines in a linear fashion for open-cut trenching and CIPP installation, completing approximately 50 to 150 feet of pipeline per day. The proposed Project would require excavation for installation of new 21- to 39-inch pipes at depths of up to 22.7 feet below ground surface (bgs) and 31.3 feet bgs for Build Alternative 1 and Build Alternative 2, respectively. Trenches to accommodate the new pipe would be up to 7 feet wide. The construction area associated with replacement would be up to 1,000 feet long and 25 feet wide. As discussed in Section 2.5.4 Construction Schedule and Cost, the construction schedule allows sufficient time from March 2019, through March 2023 (approximately 4 years or 1,460 days) to construct each Project segment sequentially for either build alternative; however, construction activities are anticipated to last for approximately 24 to 30 months during this time frame. Section 2.5 provides a detailed description of construction methods. Appendix B summarizes the construction method, construction equipment type, quantity of equipment, hours of operation, number of working days, and number of workers on site for each activity.

Additionally, minor excavations approximately 15 feet wide by 30 feet long would be required for each manhole replacement/rehabilitation on all project segments where exit/entry pits are required (e.g., for

alternative construction methods discussed in Chapter 2.0) and for the improvements at the Westside Pump Station.

Construction equipment and materials would be held in staging areas in parking lots, vacant lots, or segments of street lanes that are temporarily closed to minimize hauling trips and long-term disruption.

Direct emissions of GHGs in terms of CO₂e from construction of the proposed Project were determined using the California Emission Estimator Model (CalEEMod) v 2013.2.2 developed for the California Air Pollution Control Officers Association (CAPCOA) by SCAQMD and other California air districts (EIC 2013). The model quantifies direct emissions from construction for a variety of land use projects.

GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

3.6.4.1 Construction Impacts

Table 3.6-1 summarizes GHG emission estimates from on-site (off-road equipment) and off-site (on-road haul trucks, delivery trucks, and worker vehicles) sources associated with simultaneous construction activities for all Project segments from 2019 to 2023. Per SCAQMD guidance, annual emissions for Build Alternatives 1 and 2 were amortized over an estimated 30-year project lifespan from construction completion in 2023; therefore, emissions during the initial construction year (2019) were amortized for 34 years. Emissions were amortized for 33 to 30 years for the next 4 construction years, respectively. In other words, the 30-year amortization extends from the end of construction, but in this case includes the four preceding years, so the beginning construction emissions span 34 years; year 1 spans 33 years, year 2 spans 32 years, year 3 spans 31 years, and year 4 spans 30 years.

Table 3.6-1: Estimated Annual Construction GHG Emissions

Construction Year	Annual Metric Tons									
	Alternative 1					Alternative 2				
	MT CO ₂	MT CH ₄	MT N ₂ O	MT CO ₂ e	Amortized Over 30 Year Project Life ¹	MT CO ₂	MT CH ₄	MT N ₂ O	MT CO ₂ e	Amortized Over 30 Year Project Life ¹
Year 2019	1544.53	0.25	0	1549.79	45.58	2363.09	0.35	0	2370.40	69.72
Year 2020	1025.37	0.24	0	1030.34	31.22	1938.75	0.42	0	1947.48	59.01
Year 2021	1043.91	0.23	0	1048.79	32.77	1812.89	0.41	0	1861.59	58.17
Year 2022	1251.56	0.33	0	1258.47	40.60	102.89	0.02	0	103.27	3.33
Year 2023	110.08	0.02	0	110.35	3.68	110.08	0.02	0	110.35	3.68
	Total				153.85	Total				193.91

1. Amortization over an estimated 30-year project lifespan is suggested by the South Coast Air Quality Management District in its draft guidance for CEQA analysis of GHG emissions (SCAQMD 2008). Amortized 34 years from initial construction.
 MT: metric tons per year CO₂: carbon dioxide MTCH₄: metric methane N₂O: nitrous oxide CO₂e: carbon dioxide equivalent

Common Build Alternative Element Impacts

Because the GHG analysis considers GHG emissions from all project elements amortized over the lifetime of the Project for each build alternative as a whole rather than for each specific Project segment, there are no common elements to the impact analysis. Overall, the Build Alternative 1 annual GHG emissions would be lower than those associated with Build Alternative 2 because of the greater amount of excavation/pipe replacement and more equipment-intensive construction activities associated with Build Alternative 2.

Build Alternative 1

As shown in the Table 3.6-1, annual amortized emissions during the construction period would be well below the SCAQMD 10,000 MtCO₂e threshold for Build Alternative 1. There would be some slight variation in the annual and amortized emissions estimates depending on the order in which project segments are constructed and the amount of potential construction overlap. The numbers in the table assume the project segments with the highest daily emissions of GHGs and criteria pollutants, the Los Alamitos Sub-trunk and the Westside Relief Interceptor, would be constructed first. The greatest amount of GHGs in terms of total CO₂e would be generated in the first year of construction in 2019 with a general reduction in annual emissions in subsequent years through 2023 as fuel standards improve and construction activities become less intense. Peak annual emission of 153.85 MtCO₂e would begin in the fifth (final) year of construction and continue through the twenty-fifth year after project completion; therefore, construction GHG impacts for Build Alternative 1 would be less than significant.

Build Alternative 2

As shown in the Table 3.6-1, annual amortized emissions during the construction period would also be well below the SCAQMD 10,000-MtCO₂e threshold for Build Alternative 2. There would be some slight variation in the annual and amortized emissions estimates depending on the order in which project segments are constructed and the amount of potential construction overlap. The numbers in the table assume the project segments with the highest daily emissions of GHGs and criteria pollutants, the Los Alamitos Sub-trunk and the Westside Relief Interceptor, would be constructed first. The greatest amount of GHGs in terms of total CO₂e would be generated in the first year of construction in 2019 with a general reduction in annual emissions in subsequent years through 2023 as fuel standards improve and construction activities become less intense. Peak annual emission of 193.91 MtCO₂e would begin in the fifth (final) year of construction and continue through the twenty-fifth year after project completion; therefore, construction GHG impacts for Build Alternative 2 would be less than significant.

3.6.4.2 Operational Impacts

Operational air quality emissions for both of the build alternatives would be associated with vehicle trips to complete routine maintenance; clean sewer lines and manholes; perform visual inspections utilizing closed-circuit television and camera inspection; conduct flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber if it is selected for the

proposed Project. These activities would occur periodically and are already occurring under existing conditions. Potential repair activities would be temporary and not a source of long-term operational GHG emissions. Therefore, the Project would not generate significant GHG emissions, and operational impacts would be less than significant.

GHG-2: *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

3.6.4.3 Construction and Operational Impacts

The CARB 2016 Edition of the California GHG Emission Inventory, California Greenhouse Gas Emissions for 2000 to 2014 – Trends of Emissions and Other Indicators (CARB 2016a), summarizes statewide emissions of GHGs from seven source categories in the AB 32 Scoping Plan including transportation, industrial, electric power, commercial and residential, agriculture, recycling and waste, and high global warming potential which consist primarily of substitutes for ozone-depleting substances (CARB 2015d). Trends in GHGs indicate a 1.5-million MtCO₂e decrease from 2012 to 2013 and 7-percent decrease since peak levels in 2004. As described previously in Section 3.6.2, emissions from the transportation sector represented 37 percent of total emissions in 2014, with the majority of emissions coming from on-road vehicles. Trends in this sector indicate an 11-percent decrease from 2007 peak levels, primarily due to low-carbon fuel standards and incentives for vehicles using alternative fuel such as compressed natural gas. Emissions from the industrial sector represented 24 percent of statewide GHG emissions in 2014, with emissions decreasing by approximately 6 percent from peak levels in 2004. Emissions from the industrial sector declined through 2009 but have remained relatively constant over the past few years. During the period from 2000 to 2013, California per capita GHG emissions continued to drop from a peak 14 MtCO₂e in 2001 to 12 MtCO₂e in 2013.

Common Build Alternative Element Impacts

The proposed Project would be required to comply with AB 32 to achieve GHG emissions reduction targets from transportation sources (e.g., worker personal vehicles and maintenance vehicles – trucks, tractors, etc.) in 2020 and 2025 established by Executive Order B-16-2012 and a statewide emissions level reduction of 80 percent from 1990 levels by 2050 as established by Executive Order S-3-05, which would directly further reduce GHG emissions. In addition, SCAQMD Regulation XXVII Rules 2701 & 2702, City of La Palma Goals OS-4.4/4.6, City of Buena Park Goals CS-21 through 23, and the City of Anaheim General Plan establish voluntary programs to reduce GHGs within their jurisdictions. Because the GHG analysis considers GHG emissions from all project segments amortized over the lifetime of the project for each build alternative as a whole, rather than for each specific Project segment, there are no common elements to the impact analysis. However, neither build alternative would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions; therefore, the contribution to statewide emissions, which are trending downward for transportation sources, would be less than significant.

Build Alternative 1

As shown in Table 3.6-1, GHG emissions for Build Alternative 1 would be below the SCAQMD thresholds for all proposed Project construction years. Compliance with the SCAQMD significance thresholds for GHGs would not trigger mandatory reporting of project emissions to CARB and demonstrates that the contribution to statewide emissions, which are trending downward for transportation sources, would be less than significant.

Build Alternative 2

As shown in Table 3.6-1, GHG emissions for Build Alternative 2 would be below the SCAQMD thresholds for all proposed Project construction years. Compliance with the SCAQMD significance thresholds for GHGs would not trigger mandatory reporting of project emissions to CARB and demonstrates that the contribution to statewide emissions, which are trending downward for transportation sources, would be less than significant.

3.6.4.4 No Build Alternative

Under the No Build Alternative, no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station would occur other than routine operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would not generate significant amounts of GHGs or conflict with any applicable, plan, policy, or regulation adopted for the purposes of reducing GHGs.

3.6.5 Mitigation Measures

Construction and operation of the proposed Project would not result in significant GHG emission impacts that would require mitigation. In addition, as demonstrated in Sections 3.2.4.5 and 3.2.4.6 (AQ-3), project emissions of NO_x, a precursor to O₃ which can contribute to the greenhouse gas effect, are below SCAQMD significance thresholds, do not result in a cumulatively considerable net increase in this pollutant, and do not conflict with or obstruct the implementation of the SCAQMD 2012 AQMP.

3.7 Hazards and Hazardous Materials

This section describes the existing hazards and hazardous materials setting of the proposed Project and analyzes the proposed Project's impacts related to hazards and hazardous materials. Mitigation measures are identified as necessary to reduce or avoid significant impacts of the proposed Project. Information presented in the discussion and subsequent analysis is based on the Hazards Assessment in Appendix D.

3.7.1 Regulatory Setting

3.7.1.1 *Federal*

Federal Toxic Substances Control Act and Resource Conservation and Recovery Act

The federal Toxic Substances Control Act of 1976 (15 U.S.C. 2601–2697) and the Resource Conservation and Recovery Act (RCRA) of 1976 (42 United States Code [U.S.C.] 6901–6992) established a program administered by the United States (U.S.) Environmental Protection Agency (USEPA) for regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (Public Law 98-616), which affirmed and extended the “cradle-to-grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act. Under the authority of RCRA, the regulatory framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste, is found in 40 Code of Federal Regulations, Parts 260–299.

Hazardous Materials Transportation Act

The U.S. Department of Transportation regulates hazardous materials transportation under Title 49 of the United States Code. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation (Caltrans). These agencies also govern permitting for hazardous materials transportation. Title 49 Code of Federal Regulations reflects laws passed by Congress as of January 2, 2006.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA; 42 U.S.C. 9601–9675), commonly known as “Superfund,” was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National

Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants.

Superfund Amendments and Reauthorization Act of 1986

The Superfund Amendments and Reauthorization Act (SARA) (42 U.S.C. Section 9601 et seq.) established a nationwide emergency planning and response program and imposed reporting requirements for businesses that store, handle, or produce substantial quantities of extremely hazardous materials. SARA requires the states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility. Additionally, SARA identifies requirements for planning, reporting, and notification concerning hazardous materials. USEPA maintains a database of sites that are included on the National Priorities List (NPL) (40 Code of Federal Regulations Part 300). The NPL is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories.

Occupational Safety and Health Act

The Occupational Safety and Health Act was passed by Congress in 1970 and is the primary federal law that governs occupational health and safety in the workplace. In part, it governs hazards in a working environment, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions.

Clean Water Act

The Clean Water Act (33 U.S.C. Section 1251 et seq.) was enacted to restore and maintain the chemical, physical, and biological integrity of the nation's waters by regulating point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. This includes the creation of the National Pollutant Discharge Elimination System (NPDES), which requires states to establish discharge standards specific to waterbodies and regulates stormwater discharge from construction sites through the implementation of a stormwater pollution prevention plan (SWPPP).

Spill Prevention, Control, and Countermeasure Rule

The Federal Spill Prevention, Control, and Countermeasure Rule (40 Code of Federal Regulations Part 112) was enacted to require response and cleanup after a spill occurs and to prevent the discharge of oil into navigable waters of the United States or adjoining shorelines. Facilities subject to the rule must prepare and implement a plan called a spill prevention, control and countermeasure (SPCC) plan.

Federal Response Plan

The Federal Response Plan of 1999 (FEMA 1999) is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating the delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford

Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

3.7.1.2 State

California Government Code Section 65962.5

California Government Code Section 65962.5 requires the California Environmental Protection Agency to prepare an annual hazardous waste and substances list, commonly referred to as the Cortese List. Although the Cortese List is a state requirement, there are federal databases characterized as Cortese List databases. A review of federal, state, and local Cortese List databases identified a number of known and potentially contaminated sites within the Project area.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor workers' exposure to listed hazardous substances and notify workers of exposure (8 California Code of Regulations 330 et seq.). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

California Hazardous Waste Control Act

The Department of Toxic Substances Control (DTSC) is responsible for the enforcement of the Hazardous Waste Control Act (California Health and Safety Code, Section 25100 et seq.), which creates the framework under which hazardous wastes are managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA cradle-to-grave waste management system in California. It also provides for the designation of California-only hazardous waste and the development of standards that are equal to or, in some cases, more stringent than the federal requirements. While the Hazardous Waste Control Act is generally more stringent than RCRA, both the state and federal laws apply in California. The DTSC, one of six departments that comprise the California Environmental Protection Agency, is the primary agency in charge of enforcing both the federal and state hazardous materials laws in California.

The Hazardous Waste Control Act lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Hazardous waste is defined as waste that has the potential to be dangerous or harmful to human health or the environment. According to 22 California Code of Regulations 66261.2, waste is considered hazardous waste if it is on the RCRA hazardous waste list (F-list, K-list, P-list, or U-list) or exhibits characteristics of hazardous waste (ignitability, corrosivity, reactivity, or toxicity) or is used oil or mixed wastes.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as “mixed wastes.” Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses (22 California Code of Regulations 66261.1 et seq.).

California Accidental Release Prevention Program

Similar to the USEPA Risk Management Program, the California Accidental Release Prevention (CalARP) Program (19 California Code of Regulations 2735.1 et seq.) regulates facilities that use or store regulated substances, such as toxic or flammable chemicals, in quantities that exceed established thresholds. The overall purpose of CalARP is to prevent accidental releases of regulated substances and reduce the severity of releases that may occur. The CalARP Program meets the requirements of the USEPA Risk Management Program, which was established pursuant to the Clean Air Act Amendments.

California Hazardous Material Management Act

In California, the handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95, of the California Health and Safety Code (Section 25500 et seq.). Under Sections 25500–25543.3, facilities handling certain amounts of hazardous materials are required to prepare a hazardous materials business plan. Hazardous materials business plans contain basic information about the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the facility.

In the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by California code, facilities are also required to prepare a risk management plan and California accidental release prevention plan. The risk management plan and accidental release prevention plan provide information about the potential impact zone of a worst case release and require plans and programs designed to minimize the probability of a release and mitigate potential impacts.

California Fire Code

The California Fire Code (CFC) is Chapter 9 of Title 24 of the California Code of Regulations. It was created by the California Building Standards Commission, and it is based on the International Fire Code (IFC) created by the International Code Council (ICC). It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage

requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every three years.

California Emergency Services Act

Under the Emergency Services Act (California Government Code, Section 8550 et seq.), the State of California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an integral part of the plan, which is administered by the Governor's Office of Emergency Services. The Office of Emergency Services coordinates the responses of other agencies, including the USEPA, California Highway Patrol, Regional Water Quality Control Boards (RWQCBs), air quality management districts, and county disaster response offices.

Sanitary Sewer Overflow Reduction Program

Sanitary sewer overflow (SSO) is the diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs have the potential to pollute surface and ground waters, which could threaten public health, affect aquatic life, and impair recreational use of surface waters. The State Water Resources Control Board (SWRCB) adopted statewide general Waste Discharge Requirements (WDRs) for sanitary sewer systems which require public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the SWRCB.

Hazardous Material Transport

Hazardous waste transporters must comply with the California Vehicle Code, California Highway Patrol Regulations (California Code of Regulations Title 13); the California State Fire Marshall Regulation (California Code of Regulations Title 19); United States Department of Transportation Regulations, Title 49 Code of Federal Regulations; and the Health and Safety Code and California Code of Regulations, Title 22, which is administered by DTSC.

3.7.1.3 Local

Integrated Emergency Response Program

In accordance with Occupational Safety and Health Administration regulations, Orange County Sanitation District (OCS D) has implemented an integrated emergency response program (IERP) to cover worker safety, spill prevention, emergency response, and hazardous materials management. The IERP provides structural design specifications for storage tanks, including over-flow alarms and secondary containment volumes; visual monitoring schedules for aboveground storage tanks; underground storage tank tightness testing schedules; emergency response procedures; and reporting requirements. The IERP also includes safety procedures for operations and maintenance workers that include worker safety

training, hazard communications, personal protective equipment, site security, and departmental organization. Furthermore, the IERP includes training in and implementation of the Incident Command System during crisis situations.

Hazardous Materials and Business Emergency Plan Programs

The Environmental Health Division was designated as the Certified Unified Program Agency (CUPA) for Orange County. The CUPA is the local administrative agency that coordinates the regulation of hazardous materials and hazardous wastes in Orange County through six programs: hazardous materials disclosure, business emergency plan, hazardous waste, underground storage tank, aboveground petroleum storage tank, and California Accidental Release Prevention (CalARP).

South Coast Air Quality Management District Rule 1166

The purpose of SCAQMD Rule 1166 is to limit volatile organic compound (VOC) emissions from wastewater systems and not to emit greater than 500 parts per million (ppm) above background levels. The facility operator would need to comply with all appropriate sections of the rule and submit detailed plans identifying the location of the facility and all associated components of the wastewater system.

3.7.2 Existing Conditions

3.7.2.1 Hazardous Materials

Based on results of the regulatory database review, the potential for hazardous materials may exist within the Project area or on properties adjacent to the Project area at facilities that generate, store, and dispose of these substances or at the location of past releases of these substances. Examples of hazardous material sites adjacent to the project include many industrial sites with known or potential soil and/or groundwater contamination. Other potential sources of hazardous material adjacent to the Project area include leaking underground storage tanks, surface runoff from contaminated sites, and migration of contaminated groundwater plumes. The potential hazardous materials on or adjacent to the proposed Project area include petroleum hydrocarbons (e.g., gasoline and diesel fuels), dry-cleaning solvents, asbestos, lead-based paint, and heavy metals, which could be harmful to human health and the environment. These materials are regulated by federal, state, and local agencies.

California Government Code Section 65962.5 requires the California Environmental Protection Agency to prepare an annual hazardous waste and substances site list, commonly referred to as the Cortese List.

Federal, state, and local databases were reviewed to evaluate potential hazardous material concerns in the proposed Project area. A detailed discussion of relevant sites appears below in Section 3.7.2.2 (See also Appendix D – Hazardous Materials Technical Memo).

3.7.2.2 Regulatory Database Review

In addition to the EnviroSite Report discussed below, file review requests were submitted to Cal-Recycle, the Orange County Health Care Agency (OCHCA), and the RWQCB, depending on the lead agency

responsible for ensuring cleanup of affected soil and or groundwater. The OCHCA is under contract from the State Water Resources Control Board to administer a Local Oversight Program for the cleanup of leaking underground storage tanks (USTs) for all the cities and unincorporated areas of Orange County, except for the Cities of Anaheim, Fullerton, and Santa Ana.

The RWQCB oversees the site cleanup program for activities at non-UST sites where soil or groundwater contamination have occurred. Many of these sites are former industrial facilities and dry cleaners where chlorinated solvents were spilled or have leaked into the soil or groundwater.

Cal-Recycle is responsible for the permitting and closure of landfills.

Additional site information from these agencies is discussed below as applicable.

Envirosite

The proposed Project Area includes four pipelines and a pump station: the Orange Western Sub-trunk, the Westside Relief Interceptor, the Los Alamitos Sub-trunk, the Seal Beach Blvd. Interceptor, and the Westside Pump Station. Per the American Society for Testing and Materials (ASTM) 1527-13 standard, the search of government records reports for potential listed sites up to 1 mile from the proposed Project Area was conducted. Due to the length of the pipelines (up to 2 to 3 miles) and the location of each, three separate government records reports were obtained from EnviroSite Corporation. Two reports were obtained that listed 330 and 445 sites, respectively, within the ASTM 1527-13 standard search radius of up to 1 mile from the Westside Relief Interceptor, the Los Alamitos Sub-trunk, the Seal Beach Blvd. Interceptor, and the Westside Pump Station. Some sites overlap and are listed in multiple reports. One report was obtained for the Orange-Western Sub-trunk that listed 200 sites within the ASTM 1527-13 standard search radius of up to 1 mile. Although numerous sites are listed within each report, the number of actual listed sites is lower since the same site could be listed in several different databases. For example, a service station could be listed in both the underground storage tank and leaking underground storage databases.

Table 3.7-1: Listed Sites within One Mile of Proposed Project

Table 3.7-1 summarizes all listed sites identified within 1 mile of the proposed Project area.

Figure 3.7-1 through Figure 3.7-12 show all sites within 0.25 mile of the proposed Project area.

Table 3.7-1: Listed Sites within One Mile of Proposed Project

Database	Orange-Western Sub-trunk (Order # 2452)				Western Relief Interceptor, Los Alamitos Sub-trunk, and Seal Beach Blvd. Interceptor							
					Order # 2453				Order # 2454			
	Up to 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile	Up to 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile	Up to 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
Fed CERCLIS NFRAP					1		1		2			
Fed RCRA Corraacts								1	1			1
Fed RCRA CESQG	1								1			
Fed RCRA LQG					3	1			9	2		
Fed RCRA SQG	4	1			5	9			23	16		
State AST	1				1				1			
Orange County AST					2				2	1		
State FID UST	5	1			9	3			12	3		
State Hist UST	8	4			9	1			15	4		
State UST	5	1			9	3			12	3		
Orange County UST	3				2				7			
Orange County LUST											1	
State LUST Reg 4							1					
State LUST Reg 8	8	3	20		8	4	26		21	6	13	
GeoTracker State SLIC Reg 8						1	1		4			
State SWF/LF	1					1	1		1			
State response						1			1	1		
State VCP									1			
RCRA Nongen									3	2		
State Haulers					1		1					
State SCH										2		

Table 3.7-1: Listed Sites within One Mile of Proposed Project

Database	Orange-Western Sub-trunk (Order # 2452)				Western Relief Interceptor, Los Alamitos Sub-trunk, and Seal Beach Blvd. Interceptor							
					Order # 2453				Order # 2454			
	Up to 1/8 mile	1/8 to ¼ mile	¼ to ½ mile	½ to 1 mile	Up to 1/8 mile	1/8 to ¼ mile	¼ to ½ mile	½ to 1 mile	Up to 1/8 mile	1/8 to ¼ mile	¼ to ½ mile	½ to 1 mile
Envirostor State DTSC			2	2	2	2	5	5	6	3		5
Orange County industrial cleanup	1				3				8			
State MCS												20
BRS									4			
Coal Gas									1		1	1
Digital obstacle sites		1	3	2				1			2	5
FRS					1							
DOD					1				2			
Bond Expenditure Plan									1			
CHMIRS												
FTTS INSP					1							
Fed lands					1				2			
Daycare					3							
State – Cortese									1			
State drycleaners	2				3	1			10	1		
State drycleaners south coast						1						
State Haznet	27	36			50	51			79	59		
Orange County Hazwaste	3		13	41	23	2	22	42	19	5	15	21
Hist Cortese							2					
State HWP								1	1			
State NFA cleanup sites			1			2				1		
State NFE –							1			1		

Table 3.7-1: Listed Sites within One Mile of Proposed Project

Database	Orange-Western Sub-trunk (Order # 2452)				Western Relief Interceptor, Los Alamitos Sub-trunk, and Seal Beach Blvd. Interceptor							
					Order # 2453				Order # 2454			
	Up to 1/8 mile	1/8 to ¼ mile	¼ to ½ mile	½ to 1 mile	Up to 1/8 mile	1/8 to ¼ mile	¼ to ½ mile	½ to 1 mile	Up to 1/8 mile	1/8 to ¼ mile	¼ to ½ mile	½ to 1 mile
unconfirmed contaminated properties												
Total	69	47	39	45	136	83	61	50	250	110	32	53
Source: EnviroSite 2015												
AST: aboveground storage tank						UST: underground storage tank						
LUST: leaking underground storage tank												

For the proposed Project, all work would be within public rights-of-way and easements; no property acquisitions are anticipated. The depth of open-trench construction is anticipated to range from approximately 13 feet to 31 feet. Therefore, only sites within 0.25 mile of the proposed Project were evaluated further and discussed in detail in the Hazards Assessment Memorandum (Appendix D). On this basis, all sites within 0.25 mile of the proposed Project area with potential hazardous material concerns are discussed below. All other sites beyond 0.25 mile with potential hazardous material concerns are not likely to impact the proposed Project since potential contamination plumes would likely dissipate over time and not migrate off site at that distance.

Orange-Western Sub-trunk Listed Sites

The state and County databases list 28 sites within the vicinity of the proposed Project as having aboveground storage tanks (ASTs) and USTs. No violations or active violations for these sites have been reported. In addition, any acquisition of these sites that would require removal of storage tanks is not anticipated as a part of the proposed Project. However, nine sites, which are listed in the Hazards Assessment Memorandum (Appendix D), are adjacent to the proposed improvements.

Westside Relief Interceptor, Los Alamitos Sub-trunk, Seal Beach Blvd. Interceptor, and Westside Pump Station Listed Sites and Unmappable Sites

Corrective Action (CORRACTS)

Two sites are listed in the CORRACTS database (Safety Kleen is listed twice). The corrective action database is used to investigate and remediate hazardous releases.

Safety Kleen Corporation – This facility is located at 3876 Florista Street, approximately 500 feet north from the Westside Relief Interceptor. The Los Alamitos Medical Center currently owns the site and is

located in the northwest corner of the intersection of Katella Avenue and Bloomfield Street. The facility consists of a hospital, various medical arts buildings, a physical plant, and several asphalt parking lots. Although no documented spills have been reported for this site, previous investigations indicate soil and groundwater has been impacted by releases from historic operations on site. Shallow groundwater was observed on site approximately 10 feet below ground surface (bgs) and flows in a southwesterly direction. Site assessment results indicated hazards for on-site workers do not exceed health risk thresholds. Therefore, no further active remediation was recommended; however, DTSC has not officially closed the active cases on this site.

Naval Weapons Station Seal Beach –This facility is located southeast of Seal Beach Boulevard and Westminster Avenue and includes approximately 5,000 acres of land. A portion of the site is located adjacent to the Seal Beach Blvd. Interceptor. The Naval Weapons Station Seal Beach is a weapons and ammunition storage, disbursing, and reconditioning base for the United States Navy. Past operations at the station have included aerospace manufacturing/maintenance, fire training areas, firing range, landfill for construction, oil/water separators, open burn/open detonation, weapons research, and industrial treatment facility that have contributed to contamination on site. Numerous investigations have been conducted on the site, which have identified the following contaminants: acids, alkalines, explosives, waste oils, polychlorinated biphenyls (PCBs), fuels, solvents, paint thinners, asbestos, mercury, volatile organic compounds (VOCs), heavy metals, oil drilling fluids, and paint wastes. Due to the size of the site and the numerous areas that contain contamination, the site was divided into separate operating units (OUs). A portion of this site (labeled as IR Site 70) located within OU8, is approximately 40 acres; however, the contamination plume extends beyond the site boundaries. The site is known as the Research, Testing, and Evaluation area, consisting of multistory office and production buildings, asphalt-paved parking area, an assortment of aboveground tanks and attendant above and belowground piping distribution systems, and several concrete-lined sumps. The groundwater flow is generally to the southeast with relatively low gradients, consistent with historical data, and away from the proposed Project. Concentrations on site are relatively stable, with some samples decreasing and others increasing. The site is active and has been undergoing groundwater monitoring. A site feasibility study is scheduled to be completed in 2016.

Leaking Underground Storage Tank (LUST)

Eighty sites are listed in the Leaking Underground Storage Tank (LUST) databases. Of the 80 sites listed in the LUST databases, 10 are open with active remedial activities and are discussed below. The other sites have been closed with No Further Action (NFA) granted by the lead agency.

John Phu & Vivian Lam – This facility is located at 22429 South Bloomfield Avenue, in the northwest quadrant of the intersection with Bloomfield Avenue and Orange Avenue and adjacent to the Los Alamitos Sub-trunk. This site is currently occupied by a liquor store. According to the 2003 tank closure report, a hole was observed in the bottom of the tanks during tank removal. Based on field observations at that time, it is likely an unauthorized release of petroleum occurred on site. Discoloration of soil was

noted in the western portion of the site where the former USTs were located. Soil samples indicated a high concentration of benzene. Groundwater contamination was not confirmed. Additional subsurface investigation was recommended, including possible groundwater sampling.

Former Mercury Rentals Inc. – This facility is located at 4664 Lincoln Avenue (south side of Lincoln Avenue) less than 0.25 mile east from the Los Alamitos Sub-trunk off Denni Street and approximately 0.25 mile west from the Westside Relief Interceptor off Moody Street. During the early 1960s, Top Oil Station occupied this site and was closed in 1964. The site was then occupied by Mercury Rentals facility in the mid-1960s. Six USTs were historically present on site and stored diesel fuel, gasoline, and possibly motor oil. Motor oil may also have been stored in ASTs on site. The presence of free product and product plume that exceeds 100 feet in length was detected during site monitoring. On site, the depth to groundwater ranges from 7 feet to 10 feet with a shallow historic groundwater flow direction to the north to northeast, towards the proposed Project. Remediation is ongoing including a Phase II of the revised vapor intrusion Work Plan to remove residual contaminants on site.

Hyatt Die Cast and Engineering – This facility is located at 4656 Lincoln Avenue (south side of Lincoln Avenue) less than 0.25 mile east from the Los Alamitos Sub-trunk off Denni Street and approximately 0.25 mile west from the Westside Relief Interceptor off Moody Street. In 1966, Hyatt Die Cast and Engineering operated on site to provide die castings for aerospace, electronics, and commercial applications. Two USTs were used to store diesel and gasoline for delivery trucks. In 1992, the USTs were removed; and samples were collected which identified contamination around the tanks. In 1993, monitoring of the site was initiated to determine the extent of the contamination on site. The depth to groundwater on site ranges from approximately 4.5 feet to 7 feet with the groundwater flow direction primarily to the southwest, toward the proposed Project. Elevated concentrations in the groundwater samples are still present, and monitoring of the site is ongoing.

Parking lot (Former Shell Service Station/Shell Oil) – This facility is located at 4001 Ball Road, east of Bloomfield Street and adjacent to the Los Alamitos Sub-trunk, and is listed in the LUST database. In 1986, an unauthorized release was reported following removal of four USTs. Remedial activities and monitoring of the site began shortly after the release was identified. The petroleum release affected the soil and shallow groundwater. In 1999, the existing service station, including the USTs, dispenser islands, and product piping, were removed from the site. The site has been redeveloped and is currently a parking lot for a local grocery store. Hydrocarbons were detected in the soil and groundwater at the Goodyear Tire Center east of this site. In addition, the property to the west was a historic service station; and the property to the south is an existing service station. Concentrations of benzene were detected in groundwater samples on the west side of the site. Landfill debris was also found in the subsurface along the western half of the site. The debris was observed during monitoring well installation but not during UST removal. The debris was found at depths ranging from 2 feet to 12 feet and was approximately 4 feet thick. The extent of the debris is unknown. Landfill debris was also found on the Goodyear Tire site during removal of a tank. Groundwater flow direction is primarily to the west, toward the proposed Project, with an average groundwater elevation of approximately 19 feet. The

historic monitoring data indicates that the concentrations in the samples are generally stable or decreasing over time.

76 #5792 (Former Tosco) — This facility is located at 4002 Ball Road, east of Bloomfield Street and adjacent to the Los Alamitos Sub-trunk. This site is listed in the LUST database as having two in-service USTs used to store gasoline, one in-service AST of propane, and one in-service AST of waste oil. Petroleum constituents were discovered during the removal and replacement of USTs in 1997. Remedial activities have been conducted on the site. The average depth to groundwater is approximately 9 feet, with a groundwater flow direction toward the southwest, toward the proposed Project. In December 2015, the SWRCB closed the case.

Circle K Store #2211205 (Former Mobil #18-GOT/Seal Beach Mobil Mart) – This facility is located at 12240 Seal Beach, north of Rossmoor Center Way, east of Seal Beach Boulevard, and adjacent to the Westside Relief Interceptor and the Los Alamitos Sub-trunk. Three in-service USTs are used to store gasoline, one in-service UST is used to store diesel, and one in-service AST stores propane. In 2001 facility upgrade activities were performed, and an unauthorized release was reported. Groundwater monitoring wells were installed and monitored. The depth to groundwater ranges from approximately 13 feet to 14.5 feet with a groundwater flow direction to the southwest, toward the proposed Project. Concentrations are above Low Threat Closure Policy criteria in groundwater west of the site. A remedial action plan was prepared to address the off-site contamination. Monitoring is ongoing at this site.

Rossmoor Car Wash – This facility is located at 11031 Los Alamitos in the southwest corner of the intersection with Katella Avenue and Los Alamitos Boulevard and adjacent to the Los Alamitos Sub-trunk and the Westside Relief Interceptor. An unauthorized release was reported in 1991; however, three USTs were not removed until 2003. Site assessments and preliminary remedial activities have been conducted on the site. The depth to groundwater ranges from approximately 10.5 feet to 13.5 feet; and the groundwater flow is to the southeast, toward the Los Alamitos Sub-trunk and the Westside Relief Interceptor. The northeastern portion of the property has been identified as the area of hydrocarbon-impacted groundwater. A drinking water well is located within 2,000 feet of the site near Cherry Street and Catalina Street. Monitoring of the site is ongoing.

Shell Oil – This facility is located at 10961 Los Alamitos Boulevard in the northwest corner of the intersection with Katella Avenue and Los Alamitos Boulevard and adjacent to the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Three in-service USTs are registered on site. In 2001, collection of groundwater and soil samples detected petroleum constituents 21 feet bgs. Monitoring and remedial activities have been conducted on the site. Groundwater flow direction is generally to the southeast, toward the proposed Project. Groundwater beneath the site was encountered at an average depth of 14 feet. Since 2011, the groundwater plume has been stable or decreasing. No public supply wells or surface waterbodies are within 1,000 feet of the site. Any residual petroleum constituents would pose a low risk to human health, safety, and the environment. The SWRCB granted case closure in September 2015.

Circle K Store #2211150 (Former Mobil #18-GQ0) – This facility is located at 3971 Cerritos Avenue in the northwest quadrant of Cerritos Avenue and Bloomfield Street and adjacent to the Los Alamitos Sub-trunk. Two in-service USTs are used to store gasoline, and one in-service UST is used to store waste oil. Three USTs that stored gasoline were removed in 2000. Site assessments have been conducted since 2000 and have identified the primary source area of contamination near the former USTs in the southern portion of the site. Depth to groundwater on site ranges from approximately 8.5 feet to 10.5 feet with a groundwater flow direction generally to the southwest, toward the proposed Project. Per the low-threat closure review by Orange County Local Oversight Program, on-site groundwater sampling is ongoing.

Unocal #4686 (aka Tosco/76)/Russell Conkle Unocal #4686 – This facility is located at 12071 Seal Beach Boulevard in the southwest quadrant of Bradbury Road and Seal Beach Boulevard and adjacent to the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Two in-service USTs store gasoline, one in-service UST stores diesel, and one in-service UST stores waste oil. In 1997, site monitoring identified the presence of fuel hydrocarbons in the soil. In 1998, remedial activities and monitoring began on site. The source areas of concern are located near the current USTs and the dispenser islands. Surface bodies of water and water production wells are located over 2,000 feet away from the site. The average groundwater elevation beneath the site was approximately 4.5 feet; and the estimated groundwater flow direction is to the east, toward the proposed Project. Monitoring of the site is ongoing to confirm residual contamination is stable and/or decreasing overtime.

Response – CA

Two sites are listed in the Response – CA database (Joint Forces Training Base is listed twice). This database contains California response sites with a confirmed release of hazardous materials. The Joint Forces Training Base is discussed below, and the Naval Weapons Station Seal Beach was previously discussed above.

Joint Forces Training Base – This facility is located near the intersection of Lexington Drive and Farquhar Avenue, approximately 0.25 mile east of the Westside Relief Interceptor and the Los Alamitos Sub-trunk off Los Alamitos Boulevard and approximately 0.25 mile south of the Westside Relief Interceptor off Katella Avenue. This site includes approximately 1,300 acres of relatively flat terrain. The facility is operated by the California Army National Guard (CA ARNG) and is the coordinating center for the Governor’s Office of Emergency Services and is a disaster support site. A preliminary assessment was conducted in 1993 which lead to monitoring and remediation on the site. Groundwater contamination was identified in several areas of the site including the JP-4 Tank Farm; Fuel Farm Office; New Crash Fire Rescue Training Area; Seabee Compound; Hangar 1; Hangar 2/Building 9; and Buildings 34, 35, 158, and 159. In addition, between the mid-1950s through 1988, the site accumulated landfill waste and in 2008 was transferred to a waste consolidation cell. The Four Seasons Gas Station in the northern portion of the site was in operation since the early 1950s. Three USTs were removed in 1996, and two additional tanks were removed in 2009. Several site investigations of this area identified elevated levels of total

petroleum hydrocarbons as gasoline (TPH-g), benzene, and methyl tert butyl ether (MTBE) in the soil and groundwater samples. According to the 2015 groundwater monitoring report, groundwater monitoring on the site has identified groundwater depth ranging from 6 feet to 17 feet bgs; and the groundwater flow direction is to the southwest, toward the proposed Project. Monitoring and remedial activities are being conducted on the site in several areas due to past activities. Although contaminant levels in most areas continue to decrease, no further action has been granted for the Fuel Farm Office, Building 35 Wells, Buildings 158 and 159, and Hangar 1.

Ten sites are listed as Certified Cleanup, No Further Action or otherwise listed in Permitting Databases. These sites are listed as having completed cleanup activities on site, no further action required, or listed as a permitted facility. Therefore, these sites would not impact the proposed Project. Of these 10 sites, one site is listed four times in another database with action required as follows:

Los Alamitos Elementary School – This facility is located at 10862 Bloomfield Street, approximately 400 feet north of the Westside Relief Interceptor. From at least 1930 to 1950, the site was used for agricultural purposes with potential use of pesticides. From 1950 to 1980 the site operated as a railroad line with potential use of arsenic to treat railroad ties. The site has operated as a school since 1980: McAuliffe Intermediate School to the north and Los Alamitos Elementary School to the south. A historic railroad easement approximately 100 feet by 800 feet is between the two schools. According to the site screening in 2009, a preliminary environmental assessment conducted on site revealed the presence of elevated levels of arsenic in the shallow soils in the vicinity of the historic railroad line. Pesticides were also detected. The depth to groundwater on site ranges from 8 feet to 12 feet bgs, and the groundwater flows in a southwesterly direction, toward the proposed Project Area. Further investigation was conducted to delineate the extent of arsenic contamination on site. The impacted soil has not been removed from the site.

SLIC Reg 8

Six sites are listed in the SLIC Reg 8 database. This database contains sites in the region 8 GeoTracker site cleanup program. The following two are listed as active open sites:

Rossmoor Center (Former Goodyear Waste Dumpster Area) – This facility is located at 12239 Seal Beach Boulevard adjacent to the proposed Project. The Goodyear Tire Store occupied the site between 1994 and June 2004. Waste materials were stored in a dumpster area located south of the former building and west of the Parasol building, which was occupied by a restaurant. This area was also used for work on cars and to store containers of waste materials. The pavement in this area was reported to be degraded. The Goodyear building was demolished in 2006, and the property was redeveloped. Groundwater was encountered at 23 feet bgs. A water sample was collected that showed high concentrations of benzene, toluene, ethylbenzene, xylene, 1,2-dichloroethane (1,2-DCA), and naphthalene. MTBE or other oxygenate compounds were not detected in the groundwater sample. No VOCs were detected in the soil vapor sample. There has been no record of USTs on site, thus the source and/or approximate date of release of these hydrocarbons remains unknown. Remedial activities were

performed on site from 2006 to 2012 which included excavation and off-site disposal. Soil was excavated to a depth of 20 to 22 feet to remove contaminated soil. Very moist soil was encountered at 18 feet bgs. The excavation could not be extended beyond 22 feet bgs due to slumping and caving of the moist, sandy soil. Approximately 567 cubic yards of soil was removed from the excavation. The excavated soils were transported off site. Groundwater was detected at approximately 12 to 14 feet bgs. Although the site is relatively flat, there are local variations in the groundwater flow and gradient in this area. Groundwater flow on the adjacent property to the east (Mobil) was measured in a southwest direction, toward the Los Alamitos Sub-trunk and the Westside Relief Interceptor; however, the groundwater flow in the upper zone on site is toward the northwest to southeast. According to the 2015 closure report and based on monitoring of the site after remediation, residual contaminants remain on site but are stable and should not impact deeper usable groundwater or human health. The remaining impacts are anticipated to degrade through natural attenuation; however, the RWQCB requested a Work Plan for additional soil sampling, groundwater plume delineation, and cleanup goals.

Best Cleaners – This facility is located at 11139 Los Alamitos Boulevard adjacent to the proposed Project and within a commercial shopping center situated immediately southwest of the intersection of Los Alamitos Boulevard and Katella Avenue. Best Cleaners currently occupies this site as a dry cleaning facility that has clothing, cleaning, drying, and pressing equipment on site. Past uses of the site included agricultural use from the 1940s to late 1950s, part of a commercial shopping center in the late 1960s, and a dry cleaning facility since 1995. Tetrachloroethene (PCE) is the main product associated with dry cleaning processes. Since 2008, the facility has been using a petroleum-based solvent. The concerns on site are the presence of PCE and its breakdown products, which may pose a threat to groundwater quality. Sampling results concluded that the source of the contaminants was a former dry cleaning machine. The highest concentrations of contaminants were located adjacent to the machine. PCE-impacted soil migrated up to 40 feet from the former dry cleaning machine and to a depth of 22 feet beneath and immediately adjacent to the western portion of the dry cleaning facility. PCE-impacted groundwater has not migrated off site. According to the 2015 groundwater report, groundwater elevations have decreased; and the flow remains in an easterly direction, toward the proposed Project. Water was detected at approximately 13 feet bgs. According to the soil vapor survey and health risk assessment report, additional soil vapor samples were collected from the residential apartment complex to the west to determine if impacted soil vapors were a threat to the residents. The results concluded these potential containments were not considered a threat to the health of the residents of the apartment complex; however, due to contaminants still present beneath the dry cleaning facility, the RWQCB recommended a remedial action plan for the site. Following construction of a vapor extraction system and associated testing, a formal report will be submitted and closure of the site proposed.

Aboveground and Underground Storage Tanks

Ninety-nine sites are listed in state and county aboveground and underground storage tanks database. The state and county aboveground storage tanks (ASTs) and underground storage tanks (USTs) databases contain 99 listed sites. No violations or active violations have been reported for these sites. In

addition, any acquisition of these sites that would require removal of storage tanks is not anticipated. However, 25 sites which are listed in the Hazards Assessment Memorandum (Appendix D) are adjacent to the proposed improvements.

Unmappable Sites

Fifty-eight sites are unmappable sites.

The Envirosearch government records report identified 58 sites as unmappable due to limited address information. These sites are discussed in further detail in the Hazards Assessment Memorandum (Appendix D). The majority of these sites were unmappable due to the owner address being searched instead of the facility address. One site is listed in the SLIC REG 4 CA database and discussed below. This database contains sites in the region 4 GeoTracker site cleanup program.

Texaco USA-Bryant Lease – This facility is located at 7000 Pacific Coast Highway, approximately 0.25 mile west of the Seal Beach Blvd. Interceptor. The site case is open but has been designated as inactive since 1965 by the Department of Conservation, Division of Oil, Gas and Geothermal Resources.

Oil, gas, and related well records were searched from the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). According to DOGGR, three wells within approximately 700 feet to 1,000 feet from the proposed Project were identified as inactive and plugged; and one well within approximately 1,700 feet from the proposed Project was identified as active and plugged (see Appendix D). Although wells were identified within the proposed Project area, it is not likely that these wells would have impacted the Project area during installation. Nonetheless, during subsurface activities within the vicinity of the wells, construction personnel should still take precaution in the unlikely event that potentially stained soil or oil field debris is encountered.

Historical Aerial and Topographic Photography Review

In addition to the government records report, historic topographic and aerial photographs were obtained from Envirosearch and reviewed for the proposed Project. A total of 46 topographic photographs dated from 1896 to 2015 and 36 aerial photographs dated from 1972 to 2014 were reviewed. During the early 1900s, the proposed Project area consisted mostly of the railroad, agricultural uses, and minor development. The Texas Oil Tank Farm located north of Ball Road and west of Moody Street was in operation during the 1930s. South of Cerritos Avenue, a railroad station appears visible on the 1935 topographic maps; it is later labeled as “stacks” on the 1949 topographic maps. Commercial and residential development started to increase during the 1940s, including the Naval Reservation which later became the Los Alamitos Naval Air Station in the early 1960s. In addition, power plants were constructed in the early 1960s in the Seal Beach area. Sanborn coverage was not available within the proposed Project area.

Emergency Action Plans

Orange County Emergency Operations Center

The Orange County Emergency Operations Center (EOC) functions as the communication and coordination center for the County and operational area members and assists in communication and coordination between mutual aid coordinators and the state Office of Emergency Services during a county-wide or state-wide emergency response and recovery operation. The EOC is responsible for implementing emergency preparedness and emergency management or disaster management functions in an emergency situation. The EOC assures central coordination and support activities such as public official alerting, care and shelter, evacuation, search and rescue, resource mobilization, and recovery operations.

City of Anaheim Emergency Operation Plan

The Emergency Management and Preparedness section within the City of Anaheim is a support service that is responsible for the management and oversight of the City's EOC, disaster preparedness, grants, homeland security, and Orange County intelligence assessment center and hazard mitigation plan as well as the community emergency response team (CERT) volunteer program and radio amateur civil emergency services (RACES) volunteer program. This section ensures City employees and residents are prepared as much as possible for disasters by providing education in preparedness to employees and citizens; training employees in disaster response, management, and recovery; and maintaining the City's Emergency Operation Plan (EOP) and Hazard Mitigation Plan.

3.7.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and are used to evaluate potential for significant proposed Project impacts related to hazards and hazardous materials. Project impacts on hazards and hazardous materials would be significant if the proposed Project would:

- HAZ-1:** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- HAZ-2:** 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
- HAZ-3:** Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

Other impact significance criteria for Hazards and Hazardous Materials identified in Appendix G of the CEQA Checklist have been evaluated previously in Section 4.8 of the Initial Study (See Appendix A) for the proposed Project. This previous evaluation determined that the proposed Project would result in either no impact or in less than significant impacts from hazards and hazardous materials under these

criteria. As a result, the following impact significance criteria have not been evaluated further within this Environmental Impact Report (EIR):

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- 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?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

3.7.4 Impact Analysis

Common Build Alternative Element Impacts

Minor excavation would be required for the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor pipelines using trenchless cured-in-place pipe (CIPP) methods (see section 2.5.3). In addition, minor excavation would be required for manhole replacement/rehabilitation and on all Project segments where exit/entry pits are required (see Chapter 2.0 for discussion of alternative construction methods) and for the improvements at the Westside Pump Station.

Construction equipment and materials would be held in staging areas in parking lots, vacant lots, or segments of street lanes that are temporarily closed to minimize hauling distances and long-term disruption. Pavement and excavated soil and pipes would be hauled off site and disposed of in accordance with applicable state and local regulations in accordance with the ECMs described in Table 2.10-1.

Trenches to accommodate the new pipe would be up to 7 feet wide. The construction area associated with replacement would be up to 1,000 feet long and 25 feet wide.

Build Alternative 1

Impacts associated with the construction of Build Alternative 1 would have the potential to result in temporary, short-term impacts primarily due to the potential to encounter hazardous materials in soil and groundwater. This potential arises, in particular, from excavation and dewatering activities near sites along the replacement portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor pipelines where active remediation occurs or where the proposed Project is adjacent to sites that use hazardous materials (see

Figure 3.7-1 through Figure 3.7-12). The proposed Project would require excavation for installation of new 21- to 39-inch pipes at depths of up to 22.7 feet bgs.

Build Alternative 1 would have a greater potential of encountering hazardous materials in soil and groundwater along portions of the Westside Relief Interceptor compared to Build Alternative 2, since excavation and dewatering activities are proposed in this segment with construction of this alternative.

Build Alternative 2

Impacts associated with the construction of Build Alternative 2 would be similar to impacts discussed above for Build Alternative 1 along portions of the Los Alamitos Sub-trunk. However, excavation and dewatering activities are proposed along the entire Los Alamitos Sub-trunk with this alternative, resulting in a greater potential of encountering hazardous materials in this segment where active remediation occurs or where the proposed Project is adjacent to sites that use hazardous materials (see

Figure 3.7-1 through Figure 3.7-12). The construction of Build Alternative 2 would require excavation for installation of new 21- to 39-inch pipes at depths of up to 31.3 feet bgs.

HAZ-1: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The proposed Project is located within a dense urban area of Orange County. Table 3.7-2 lists 23 schools located within 0.25 mile of the proposed Project area.

Table 3.7-2: Schools within 0.25 Mile of the Proposed Project Area

Name	Address	City
St John's-Episcopal	641 South Western Avenue	Anaheim
Walton Middle	3715 W. Orange Avenue	Anaheim
Tubman (Harriet) Cont. High	501 S. Western Avenue	Anaheim
Foxborough Elementary	320 Danbrook Street	Anaheim
Wood Canyon Elementary	195 N. Western Avenue	Anaheim
Holder Elementary	720 S. Western Avenue	Anaheim
Sawyers Bar Elementary	9500 Holder Street	Buena Park
Elk Grove Montessori Elementary	8271 Gay Street	Cypress
Adventist Union School	4321 Cerritos Avenue	Cypress
Center For Early Education	4460 Lincoln Avenue	Cypress
Rosecrans Elementary	4351 Orange Avenue	Cypress
Valencia Elementary	9281 Denni Street	Cypress
Workman Avenue Elementary	4545 Myra Avenue	Cypress
Cox Bar Elementary	8710 Moody Street	Cypress
El Rincon Elementary	9739 Denni Street	Cypress
Cuddeback Elementary	4631 La Palma Avenue	La Palma
Montessori School-Eureka	4161 Green Avenue	Los Alamitos
Christ the King Elementary School	3591 Orangewood Avenue	Los Alamitos
Avalon (K-12)	10821 Oak Street	Los Alamitos
Two Harbors Elementary	10862 Bloomfield Street	Los Alamitos
International Elementary	3591 Cerritos Avenue	Los Alamitos
California Academy of Mathematics & Science	4112 Cerritos Avenue	Los Alamitos
Educational Partnership High (Ind. Study)	10291 Bloomfield Street	Los Alamitos

3.7.4.1 Construction Impacts

Common Build Alternative Element Impacts

Hazardous waste is “acutely” hazardous if it is fatal to humans or animals at low doses. “Acutely” hazardous wastes are identified by USEPA in 40 Code of Federal Regulation Section 261.33. No acutely hazardous waste is anticipated to be emitted or used during construction. The common hazardous

materials (fossil fuels, lubricants, solvents, resins) emitted and used during the construction activities would occur with construction of either Build Alternative 1 or 2. The contractors are responsible for accident prevention, containment, and spill response. The hazardous materials used for the proposed Project would be handled in accordance with federal, state, and local laws, which ensure the safe transport, use, storage, and disposal. In addition, any hazardous material emissions would be reduced through control measures in accordance with federal, state, and local laws. Therefore, temporary construction impacts associated with hazardous emissions and handling of hazardous waste would be less than significant for both Build Alternatives 1 and 2.

3.7.4.2 Operational Impacts

The operation of either of the build alternatives would be the same as existing operations consisting of maintenance of the pipelines and odor control. Operations of the Western Regional Sewers require use of chemicals including, but not limited to, magnesium hydroxide, hydrogen peroxide, sodium hydroxide, and ferrous chloride to control odor and corrosion. These chemicals would be transported throughout the proposed Project area. The transportation of these chemicals is regulated by federal and state law. OCSD, therefore, cannot regulate the transportation of these chemicals. The transport and use of the chemicals would be completed in accordance with labeling and all state and federal laws and regulations regarding the transport and use of hazardous materials. No complaints by the schools adjacent to the proposed Project area regarding the existing operations are known. The operational impacts associated with the emissions or handling of hazardous waste on the schools within 0.25 mile of the proposed Project would therefore be less than significant.

HAZ-2: *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?*

3.7.4.3 Construction Impacts

Common Build Alternative Element Impacts

According to California Government Code Section 65962.5 (Cortese List), one site on this list, the Naval Weapons Station Seal Beach, is located southeast of the intersection of Seal Beach Boulevard and Westminster Avenue and adjacent to the Seal Beach Blvd. Interceptor. This site was discussed in detail in Section 3.7.2. Also discussed in Section 3.7.2 are the 17 sites associated with the release of hazardous materials. Proposed excavation and/or dewatering activities adjacent to these sites could create a significant hazard to the public or the environment since remedial activities are ongoing. Several sites were also discussed in Section 3.7.2.2 with shallow groundwater contamination located upgradient and flowing toward the Project areas where replacement activities would occur and where excavation for Build Alternatives 1 and 2 could be up to 22.7 feet bgs and 31.3 feet bgs, respectively.

As a result, the construction activities may encounter contaminated groundwater and soils requiring special materials handling, disposal, and appropriate personnel protection equipment to protect against worker exposure. Additionally, the presence of VOCs introduces additional worker safety concerns

through the vapor intrusion/inhalation pathway. Excavation and dewatering near these sites adjacent to replacement areas could be a significant hazard to the public or environment because of the possible presence of contaminated groundwater and/or soil. Mitigation measures are required, and impacts would be less than significant with implementation of mitigation measure HAZ MM 1.

As described in Chapter 2.0, Section 2.10 Environmental Control Measures, all work activities will be conducted to be consistent with Cal/OSHA regulations for safety, including those outlined in California Code of Regulations, Title 8, Section 1540, *Excavations*; and the proposed Project would have less than significant impacts on worker safety.

3.7.4.4 Operational Impacts

The operations for both build alternatives would be similar to existing conditions as discussed above and consist of trips within the Project area to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber if it is selected for the proposed Project. The operation of the Project would not be impacted by sites on the Cortese List, and impacts for the build alternatives would be less than significant.

HAZ-3: *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

3.7.4.5 Construction Impacts

Common Build Alternative Element Impacts

None of the roadways within the Project area were identified as emergency response or evacuation routes on the California Office of Emergency Services website or in any of the general plans within the cities in the Project area or in the Orange County General Plan. Construction of the proposed Project would require temporary closure of traffic lanes to install new pipes, rehabilitate existing pipes, replace/rehabilitate manholes, and reconnect local sewers. Daily lane closures would involve a maximum reduction of up to 25 feet of roadway for a distance up to 1,000 feet for each project under construction. The proposed Project would not result in closure of major arterials. As discussed in Section 3.12 Traffic, prior to construction, the contractor would be required to submit traffic control plans for approval by each affected jurisdiction. A component of each traffic control plan would require the maintenance of local and emergency access at all times. Construction activities would be coordinated in advance with each jurisdiction and would not substantially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The construction of the proposed Project would have a less than significant effect on emergency response and evacuation.

3.7.4.6 Operational Impacts

Operations for both build alternatives would be similar to existing conditions as discussed above and consist of trips within the Project area to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber if it is selected for the proposed Project. Many of these activities would also require temporary lane closures to accommodate sewer maintenance. Maintenance activities would be coordinated in advance with each jurisdiction. OCS D would comply with each corresponding jurisdiction's requirements for encroachment into the city streets (e.g., prepare traffic control plans, comply with Work Area Traffic Control Handbook, etc.), a component of which would require the maintenance of local and emergency access at all times prior to any encroachment into city streets. The operation of the proposed Project would have a less than significant impact on emergency response and evacuation.

3.7.4.7 No Build Alternative

Under the No Build Alternative, there would be no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station. The No Build Alternative would not result in hazardous emissions, create a significant hazard to the public or environment, or interfere with emergency plans. Operations of the Western Regional Sewers, as described in Section 2.6, would continue, including the use and handling of hazardous chemicals for corrosion and odor control.

3.7.5 Mitigation Measures

HAZ MM 1: The contractor shall be responsible for providing trained personnel for monitoring and operation of construction activities and spill management, including cleanup and replacement of damaged property and fines. In the event an unauthorized spill occurs during construction activities, the contractor shall contact the appropriate agencies for cleanup and disposal pursuant to all applicable federal, state, and local laws and regulations.

3.7.6 Level of Significance after Mitigation

With implementation of HAZ MM 1, contaminated soil and/or groundwater would be identified prior to construction. Information obtained during the subsurface soil and groundwater sampling program would ensure proper handling and disposal of contaminated soil and/or groundwater encountered within the proposed Project area. With implementation of HAZ MM 1, hazards to the public and the environment would be less than significant with mitigation.

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Figure 3.7-1: Project 3-64 Hazardous Materials Sites, Map 1

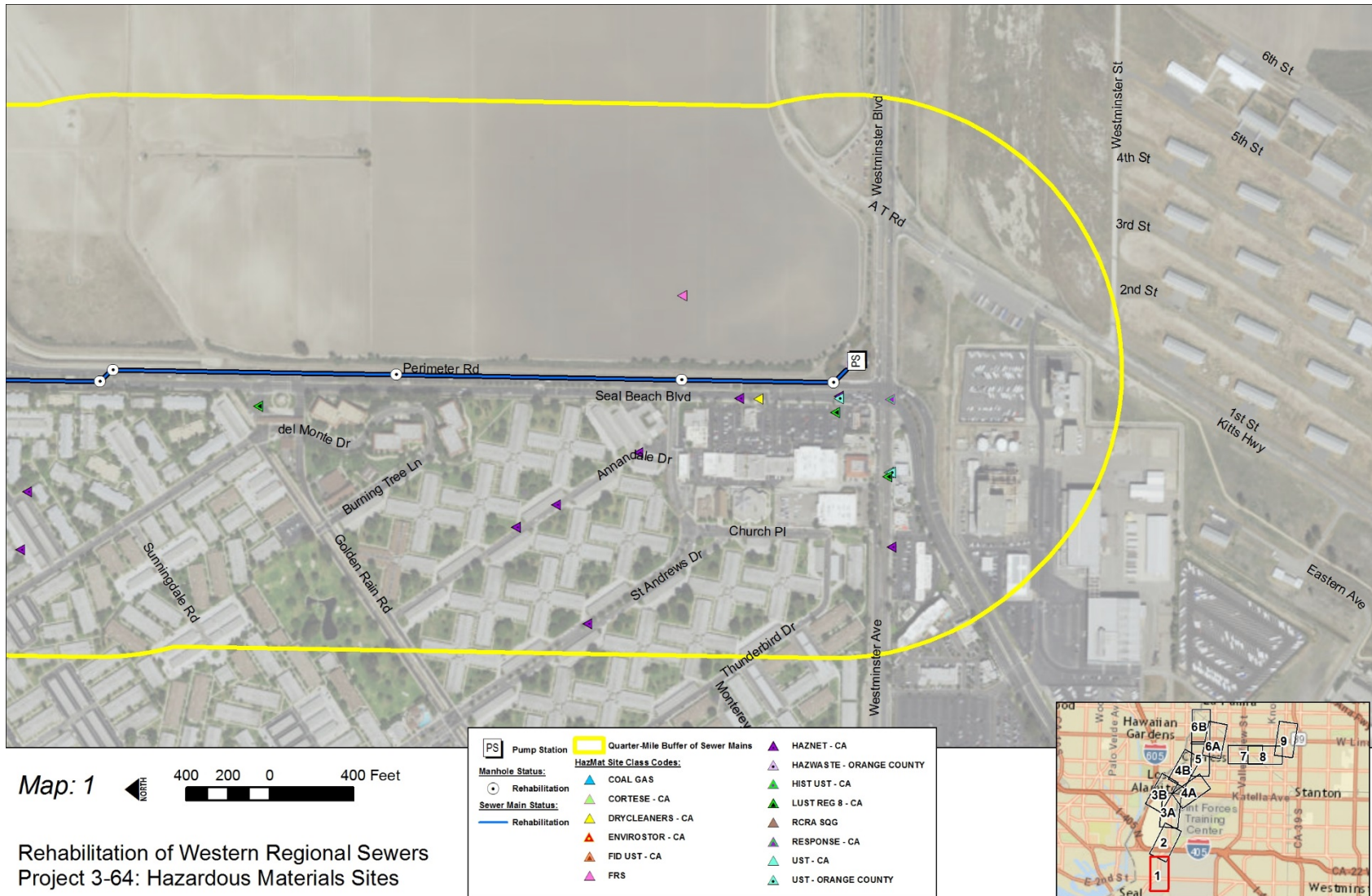


Figure 3.7-2: Project 3-64 Hazardous Materials Sites, Map 2

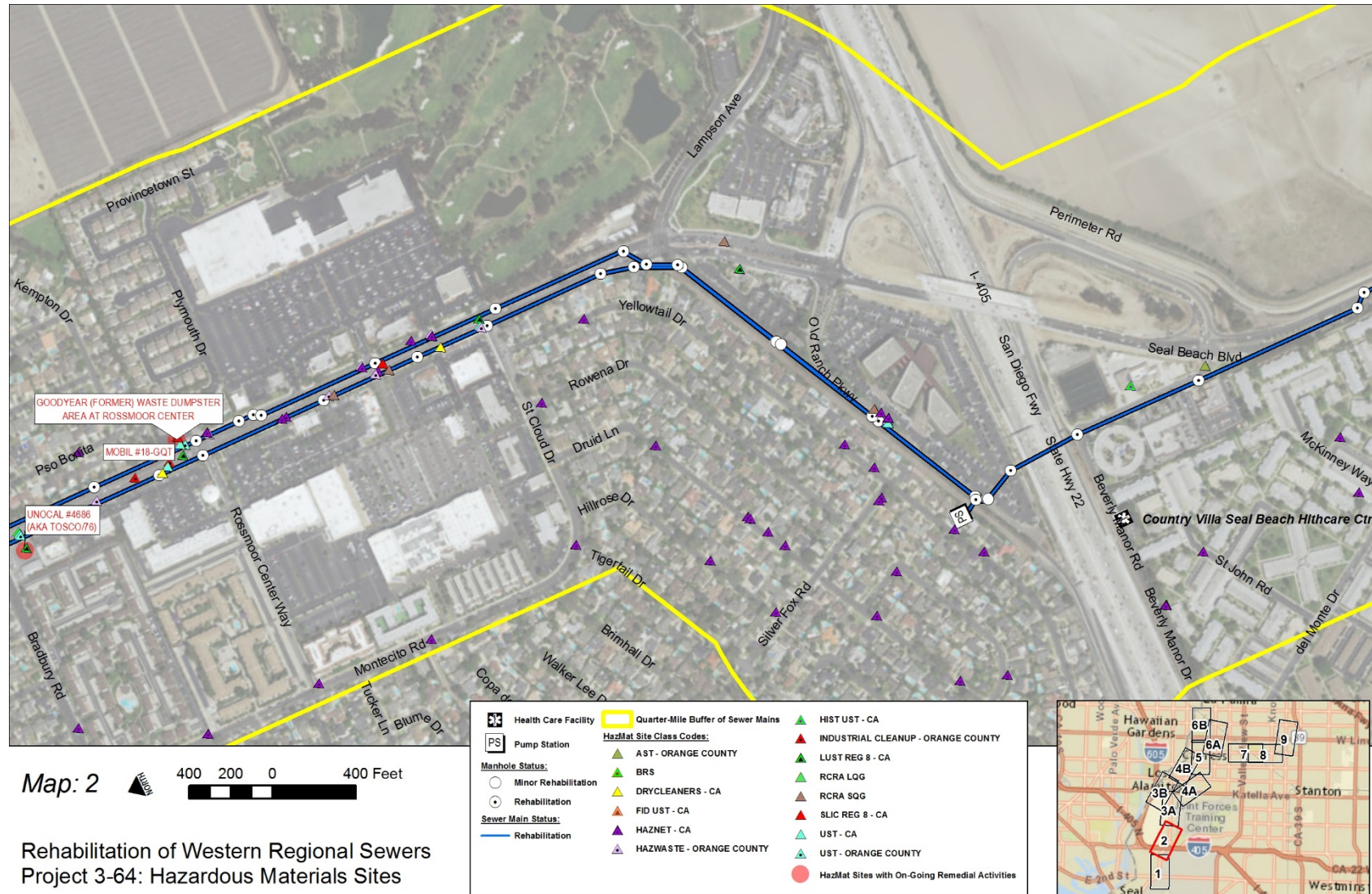


Figure 3.7-3: Project 3-64 Hazardous Materials Sites, Map 3A

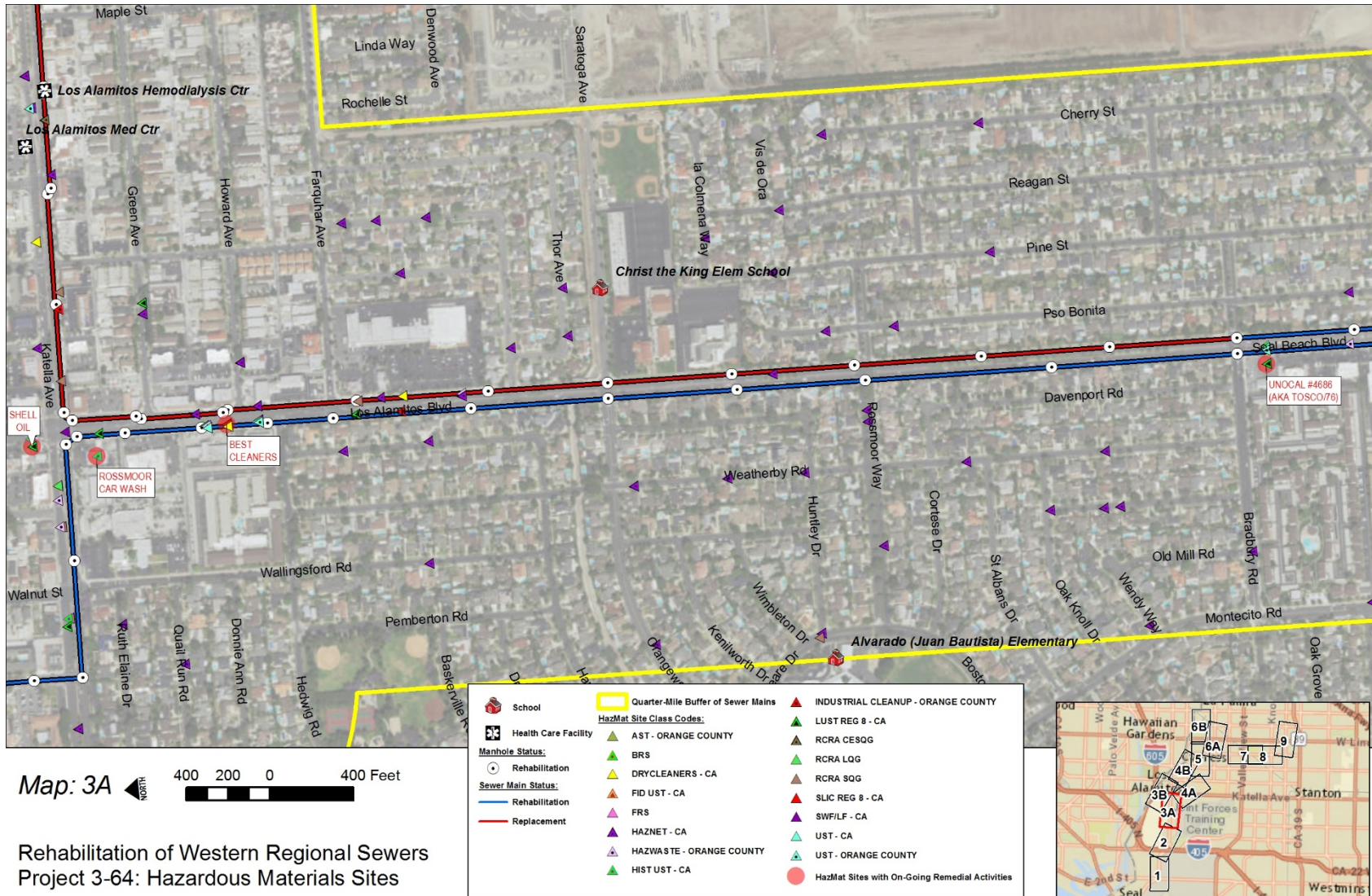


Figure 3.7-4: Project 3-64 Hazardous Materials Sites, Map 3B

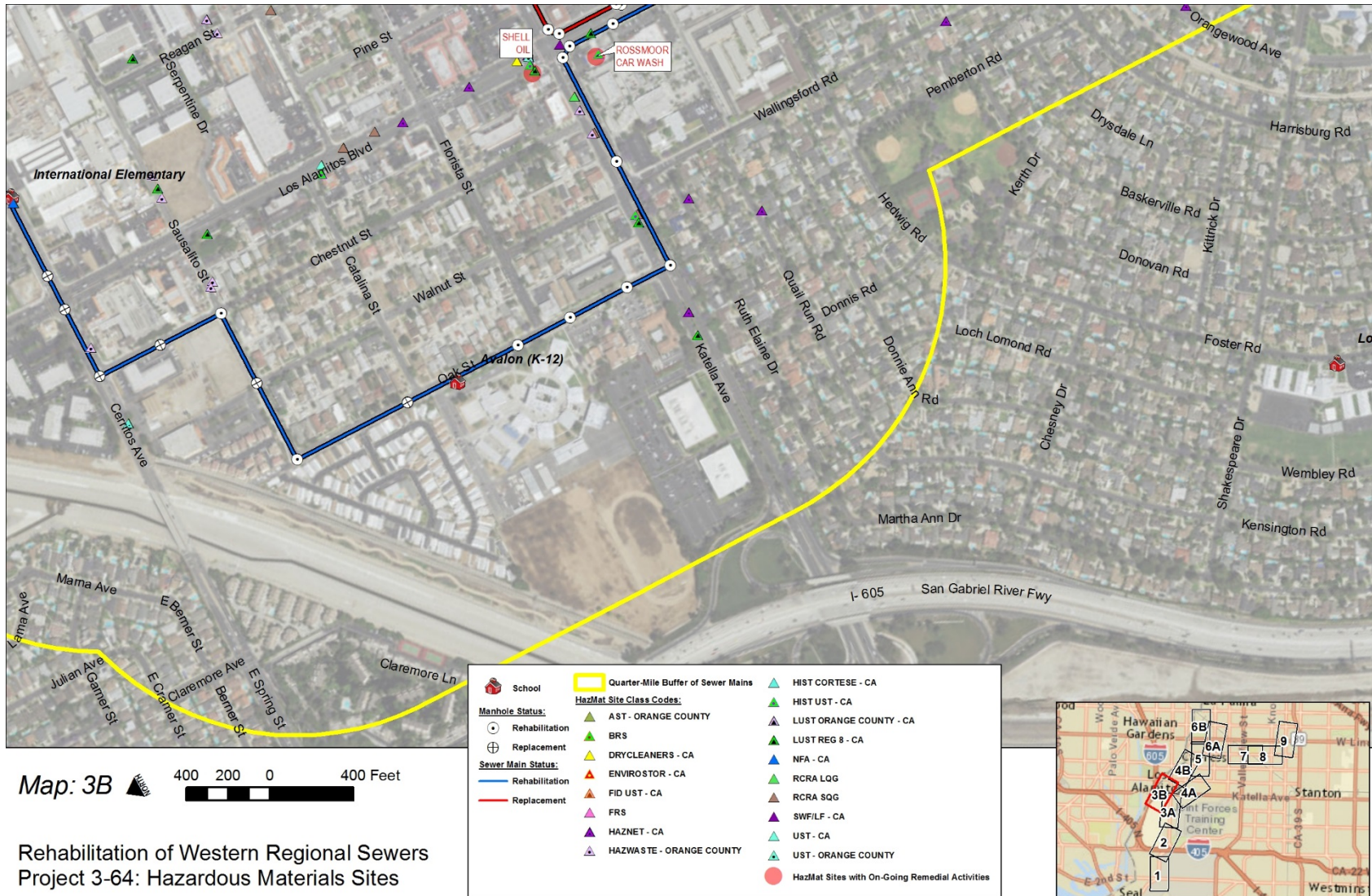


Figure 3.7-5: Project 3-64 Hazardous Materials Sites, Map 4A

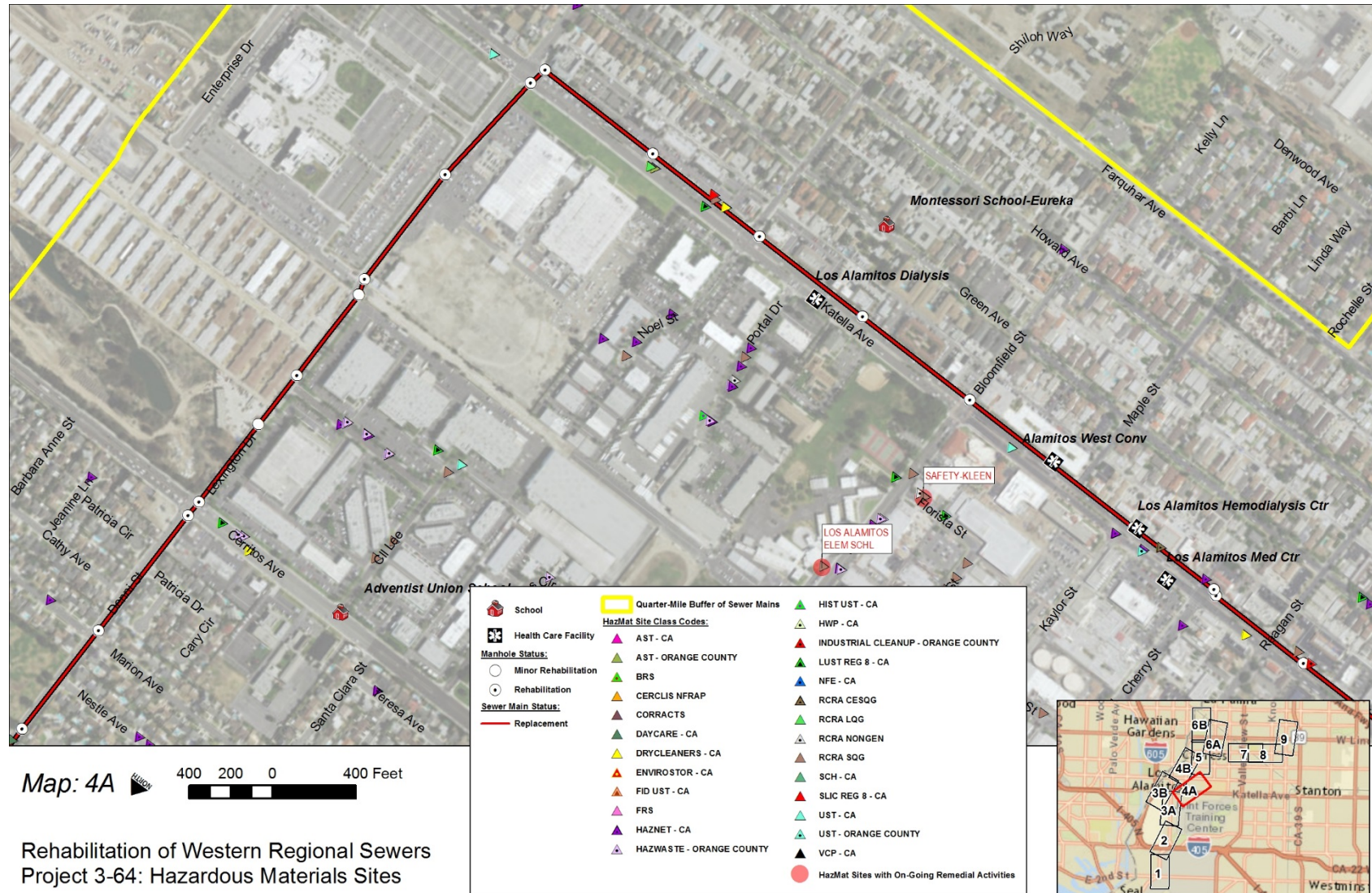


Figure 3.7-6: Project 3-64 Hazardous Materials Sites, Map 4B

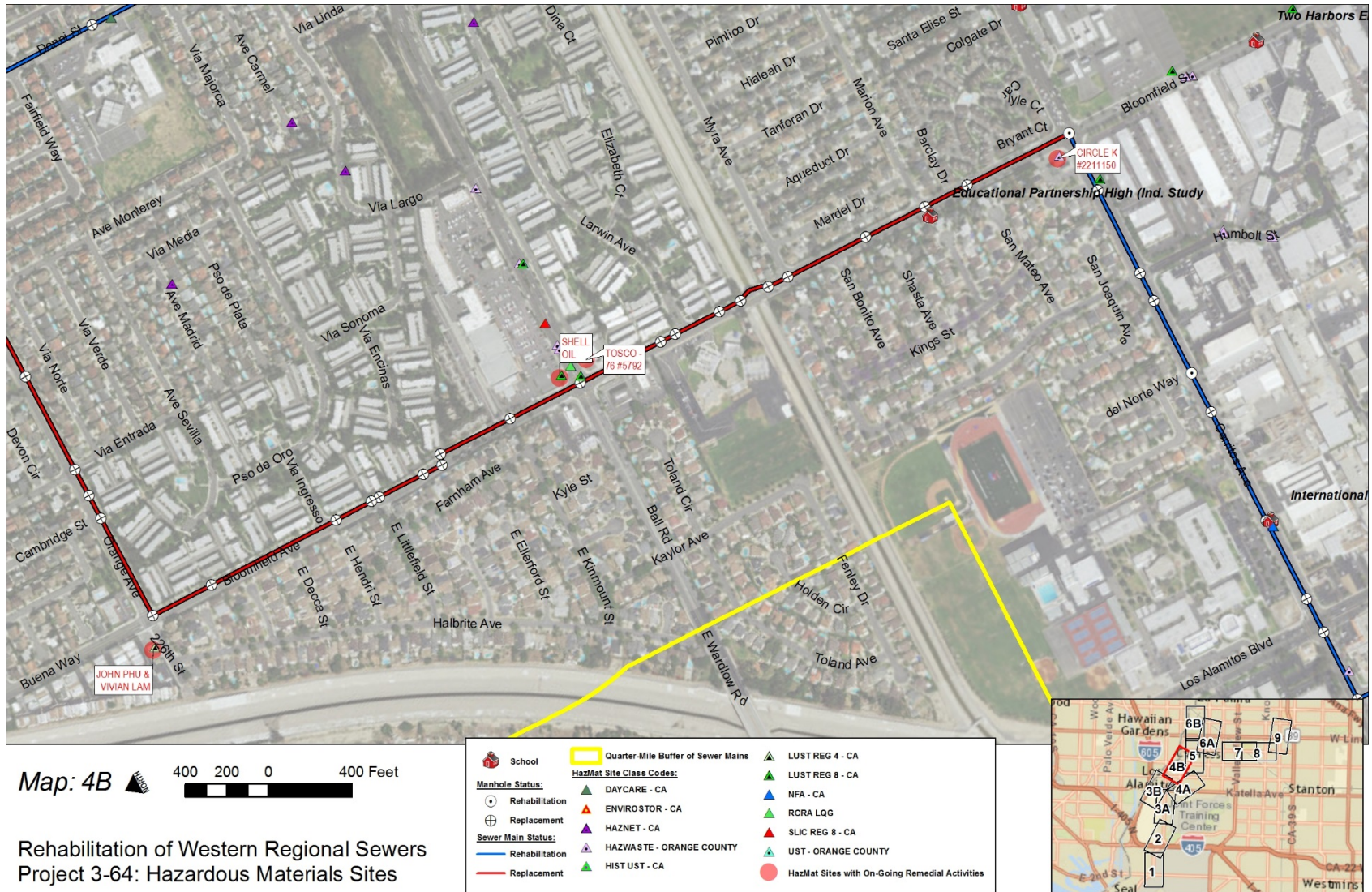


Figure 3.7-7: Project 3-64 Hazardous Materials Sites, Map 5

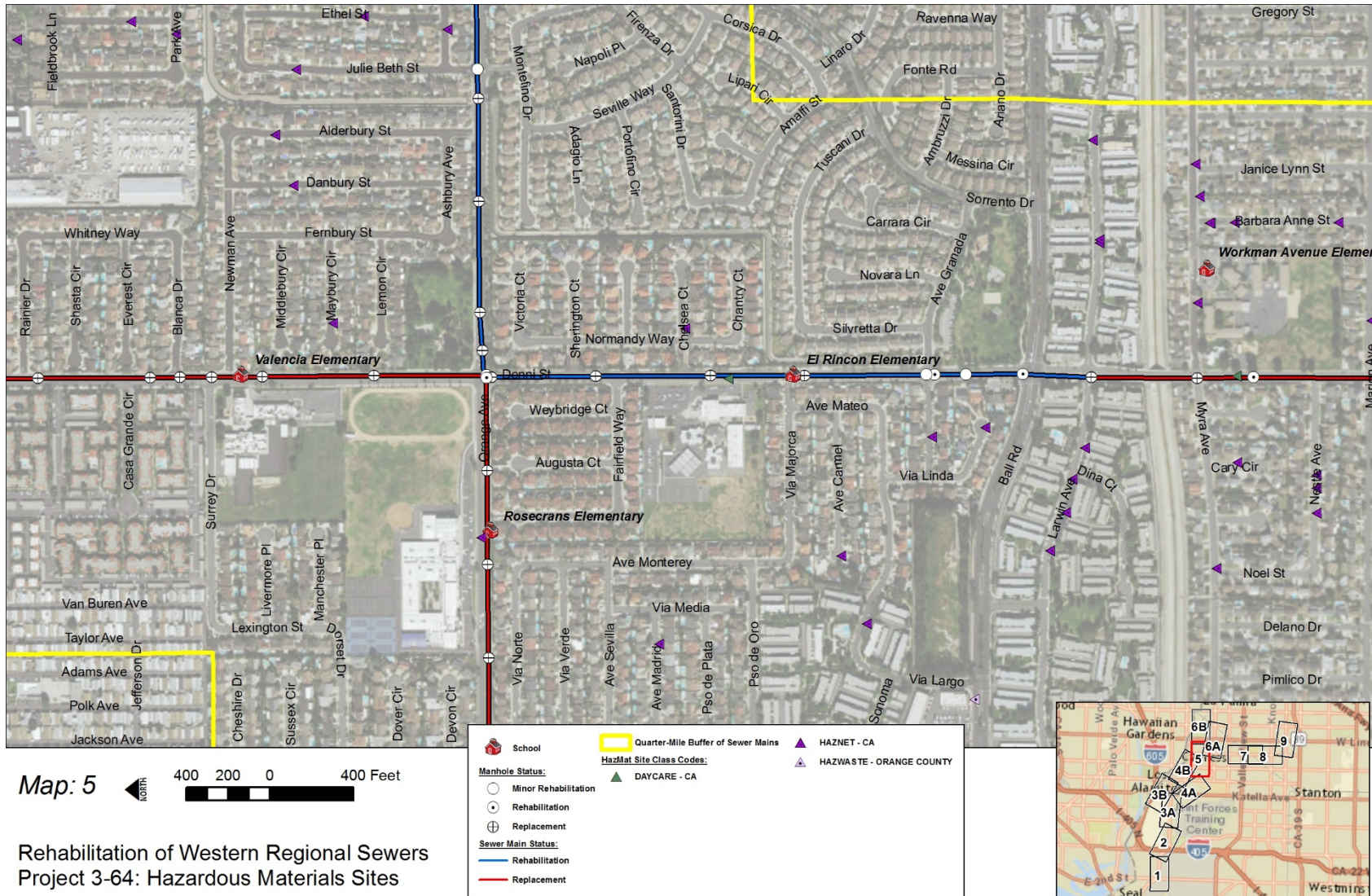


Figure 3.7-8: Project 3-64 Hazardous Materials Sites, Map 6A

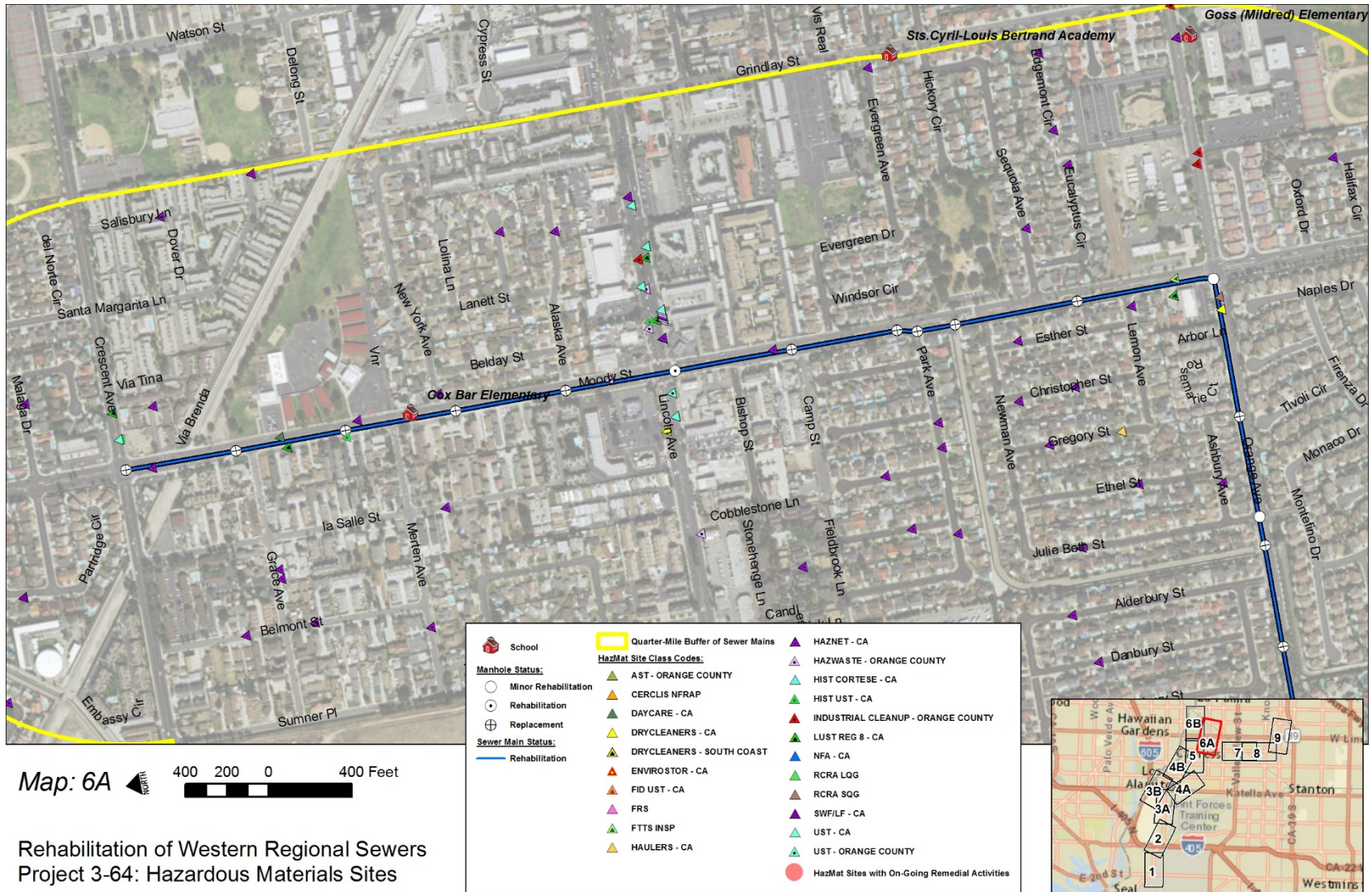


Figure 3.7-9: Project 3-64 Hazardous Materials Sites, Map 6B

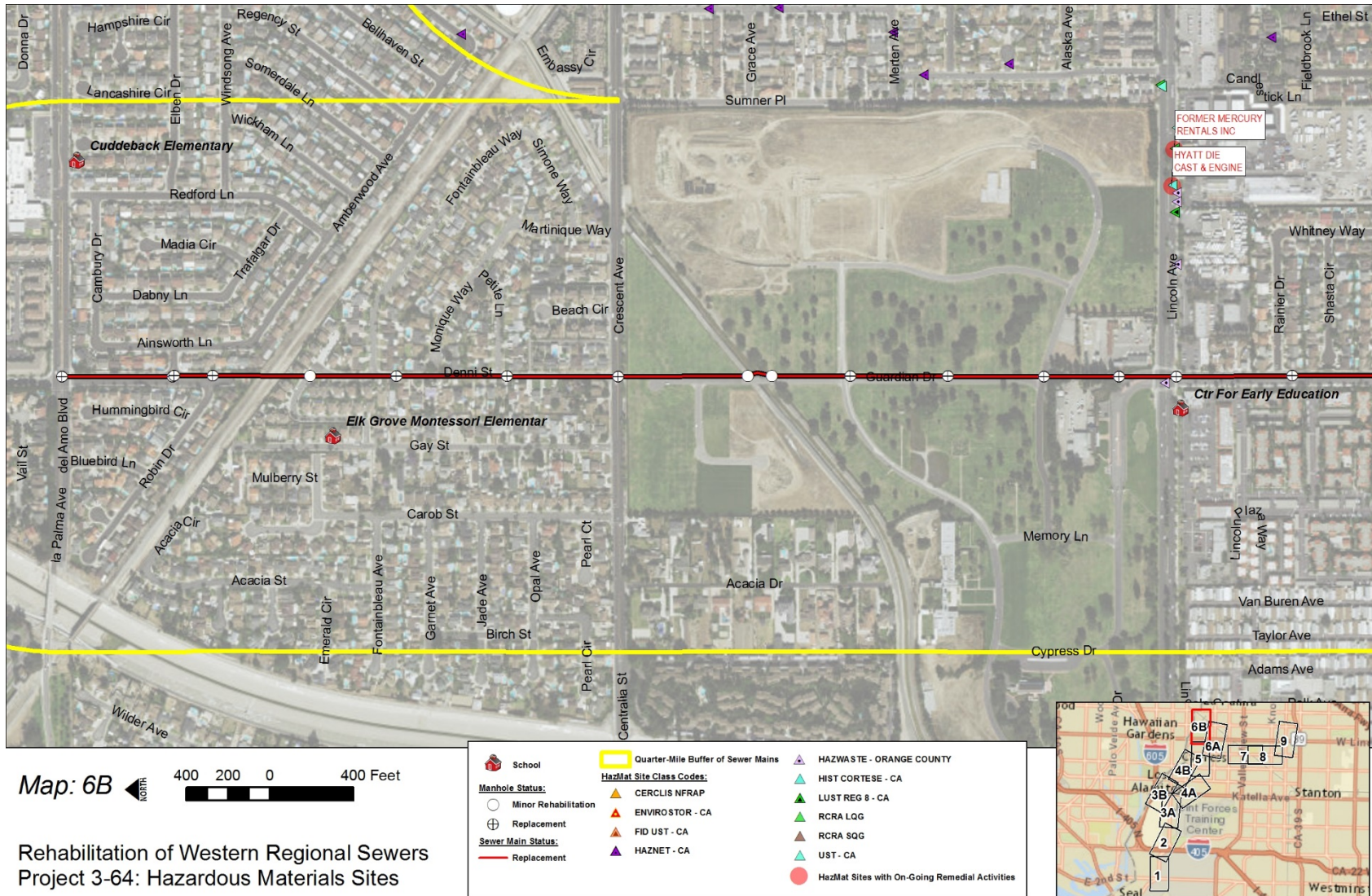


Figure 3.7-10: Project 3-64 Hazardous Materials Sites, Map 7

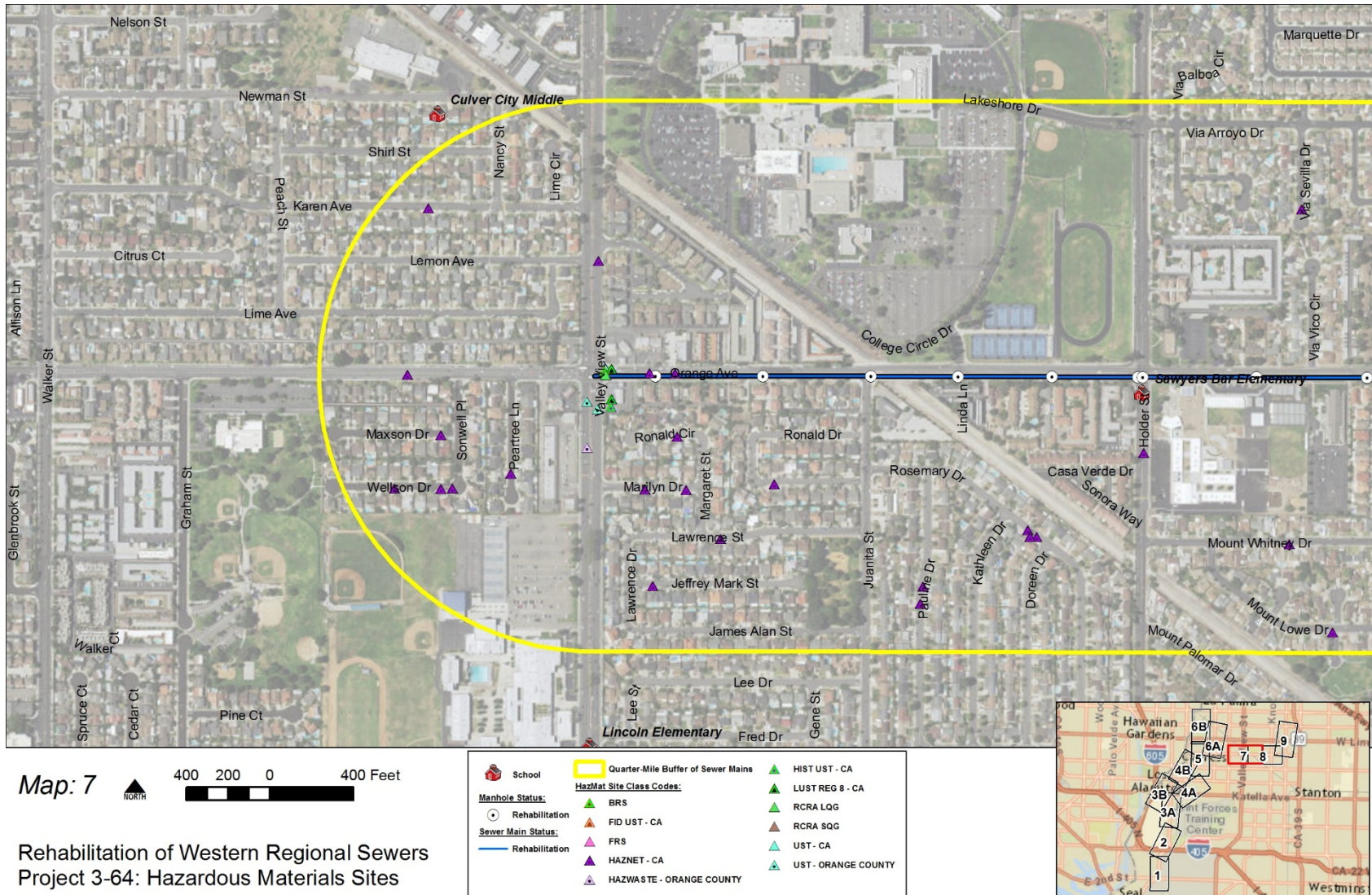


Figure 3.7-11: Project 3-64 Hazardous Materials Sites, Map 8

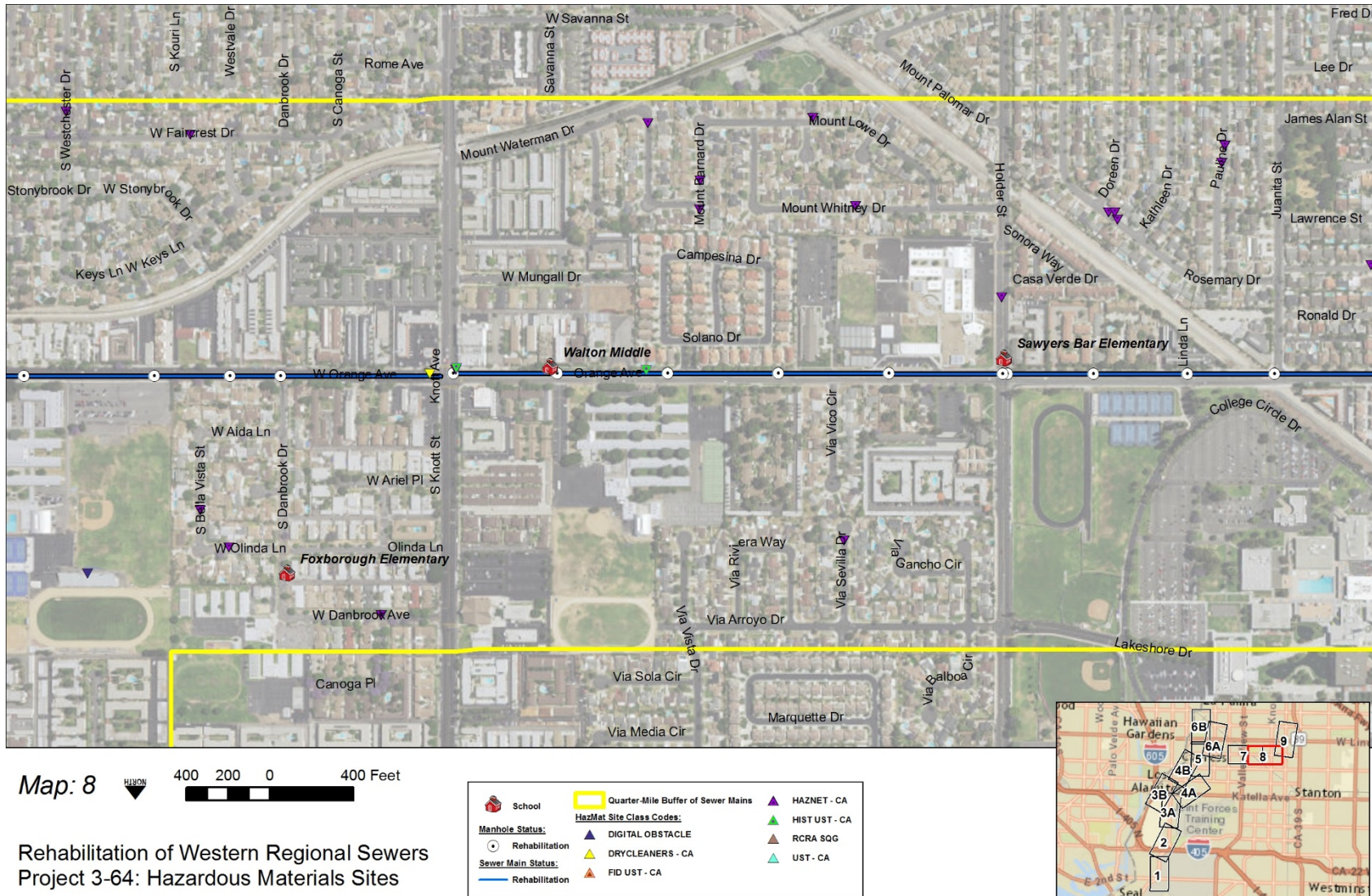
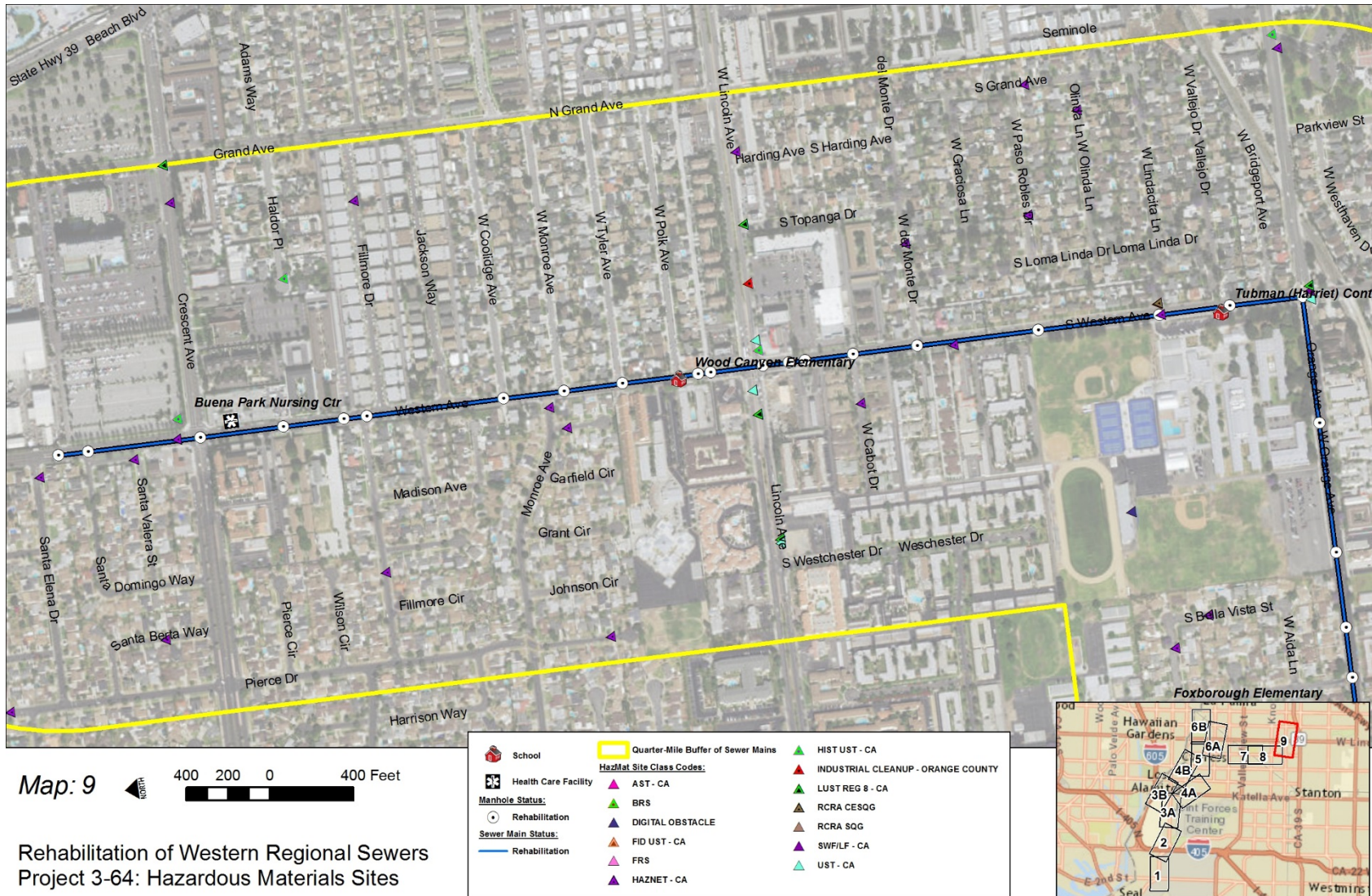


Figure 3.7-12: Project 3-64 Hazardous Materials Sites, Map 9



3.8 Land Use and Planning

This section provides an overview of the land uses within the proposed Project area and surrounding region, the regulatory framework, an analysis of potential conflicts with existing land use plans that could result from implementation of the proposed Project, and identification of mitigation measures.

3.8.1 Regulatory Setting

3.8.1.1 *Local*

County of Orange General Plan

The Orange County General Plan was adopted in 2005. It is the County's blueprint for growth and development. While the General Plan primarily focuses on the unincorporated area, it also addresses regional services and facilities provided by the County, such as regional parks, roads, flood control facilities, and other services. It contains the following elements: Land Use, Transportation, Public Services and Facilities, Resources, Recreation, Noise, Safety, Housing, and Growth Management.

The Land Use Element (2015) provides objectives, policies, and land use patterns for all unincorporated territory in both narrative and graphic terms and establishes development criteria and standards, including population density and building intensity. The Westside Pump Station is located at 3112 Yellowtail Drive in the community of Rossmoor in unincorporated Orange County. General land use adjacent to the Westside Pump Station is shown in Figure 3.8-1 and Figure 3.8-2.

City of Los Alamitos General Plan

The City of Los Alamitos General Plan (2015) establishes a comprehensive framework through which the City manages its growth and development to ensure it efficiently and effectively provides public facilities and services. The General Plan consists of the following elements: Land Use; Economic Development; Housing; Open Space, Recreation and Conservation; Mobility and Circulation; Public Facilities and Safety; and Growth Management.

The Land Use Element is the long-range planning guide for development in the City and indicates the location and type of permitted development. Land use policies and land use designations are intended to guide and help inform decisions of residents, businesses, and organizations. Portions of the Westside Relief Interceptor and the Los Alamitos Sub-trunk projects fall within the City's jurisdiction within city streets and rights-of-way. Land uses adjacent to the Project area are categorized as Single Family Residential, Public/Quasi Public Facility, Commercial, General Office, Medical Office, Parks, Business Park, and Industrial. General land uses adjacent to the Westside Relief Interceptor and the Los Alamitos Sub-trunk projects are shown in Figure 3.8-3.

City of Los Alamitos Zoning Code

Within Los Alamitos, the majority of the Project area is within roadways. The portion of the Project area within the City of Los Alamitos that is not located within a roadway is zoned Residential 1 (R-1). The R-1 zoning district identifies parcels designed to accommodate single-family dwellings on individual parcels and planned-unit development with no mixed or incompatible uses. The maximum density is up to six dwelling units per acre (See Figure 3.8-3).

City of La Palma General Plan

The City of La Palma General Plan (2014) provides the framework for future development-related decisions. The General Plan consists of the following elements: Land Use, Circulation, Open Space and Conservation, Public Health and Safety, Noise, Housing, Growth Management, and Technology.

The Land Use Element designates the proposed general distribution, location, and extent of land uses. It defines the location and development intensities of residential neighborhoods, commercial and industrial districts, parks and other open spaces, mixed-use centers, and public/institutional uses of property. The land use vision for the City includes protecting and maintaining established residential neighborhoods, maintaining balanced growth and development, and establishing a true town center. Small portions of both the Westside Relief Interceptor and the Los Alamitos Sub-trunk projects fall within the City's jurisdiction and include city streets and rights-of-way, including beneath Denni Street Park. The land uses adjacent to the Project area are categorized as Single Family Residential. General land uses adjacent to the Westside Relief Interceptor and the Los Alamitos Sub-trunk projects within the City of La Palma are shown in Figure 3.8-4.

City of La Palma Zoning Code

The portion of the Project area within the City of La Palma that is not located within a roadway is Denni Street Park, zoned Open Space/Recreation (OS) and covered by the Open Space/Recreation regulations. The Open Space/Recreation zoning district encompasses parkland and utility easements developed for recreational use. Only accessory buildings or those structures related to parks and recreation facilities are intended for open-space lands. This designation may also accommodate certain commercial outdoor recreation uses as a conditional use.

City of Anaheim General Plan

The City of Anaheim General Plan (2004) projects conditions and needs into the future as a basis for determining long-term objectives and policies for day-to-day decision making. The General Plan consists of the following elements: Land Use, Circulation, Public Services and Facilities, Growth Management, Safety, Noise, Economic Development, Housing, and Community Design.

The Land Use Element designates the general distribution and intensity of all uses of land in the City. This includes residential, commercial, office, industrial, mixed use, public and quasi-public facilities, and open space and recreation uses. The Element also provides development intensity standards related to

each land use category and general policy direction for a variety of land use-related issues. The majority of the Orange-Western Sub-trunk project area that falls within the City's jurisdiction includes City streets and rights-of-way. Land adjacent to the Project area includes areas categorized as Low Density Residential, Low Medium Density Residential, Medium Residential, and School (Institutional). General land uses adjacent to the Orange Western Sub-trunk project areas within the City of Anaheim are shown in Figure 3.8-5.

City of Seal Beach General Plan

The City of Seal Beach General Plan (2003) contains policies and programs that are intended to guide land use and development decisions for the future. It contains the following elements: Land Use, Circulation, Conservation and Open Space, Safety, Housing, Noise, Cultural Resources, and Growth Management.

The Land Use Element designates the proposed general distribution, location, and extent of land uses within the City and establishes population density and building intensity standards. It provides a guide for making decisions by the public and private sectors to direct growth and development of the community into the type of environment desired by its residents. Portions of the Westside Relief Interceptor and the Los Alamitos Sub-trunk projects and the entire Seal Beach Blvd. Interceptor project areas that fall within the City's jurisdiction include city streets and rights-of-way. Land adjacent to the Project area includes areas categorized Medium Density Residential, Commercial, Community Facility, and Military. General land uses adjacent to the Westside Relief Interceptor and the Los Alamitos Sub-trunk projects and the Seal Beach Blvd. Interceptor project areas within the City of Seal Beach are shown in Figure 3.8-2.

City of Seal Beach Zoning Code

The portion of the Project area within the City of Seal Beach that is not located within a roadway is zoned General Commercial (GC). The General Commercial zoning district allows sub-regional and regional centers of commercial activity and may include both pedestrian- and auto-oriented development. Other typical uses are auto service stations, auto repair, and sales.

City of Cypress General Plan

The City of Cypress General Plan (2000) is the primary source of long-range planning and policy direction that guides growth and preserves the quality of life within the community. It contains the following elements: Land Use; Housing; Circulation; Safety; Noise; Conservation, Open Space and Recreation; Air Quality; and Growth Management.

The Land Use Element provides a focused discussion of economic development issues as well as goals and policies to ensure long-term economic development throughout the City. Portions of the Westside Relief Interceptor, the Los Alamitos Sub-trunk, and the Orange-Western Sub-trunk project areas that fall within the City's jurisdiction include city streets and rights-of-way and the Forest Lawn Memorial Park

cemetery, categorized as Community Service and Facilities. Land adjacent to the Project area includes areas categorized as Low Density Residential, Medium Density Residential, High Density Residential, Commercial, Parks, and Education Facilities. General land uses adjacent to the Westside Relief Interceptor, the Los Alamitos Sub-trunk, and the Orange-Western Sub-trunk project areas within the City of Cypress are shown in Figure 3.8-6.

Lincoln Avenue Specific Plan (2009)

The Project area also extends through the Lincoln Avenue Specific Plan Area within the City of Cypress. This plan is intended to provide development flexibility within the Lincoln Avenue Corridor and economic inducements for revitalization. It authorizes incentives for the development of uses and design features that would improve the aesthetics of the area. The development of larger scale uses, such as furniture, appliance, and retail outlets; theaters; and entertainment, is encouraged, as are groupings of complementary uses, such as restaurants and specialty retail. Multi-family residential is encouraged as a means of stimulating commercial activity on the corridor.

City of Cypress Zoning Code

The portion of the Project area within the City of Cypress that is not located within a roadway is zoned Public and Semi Public (PS-1). The Public and Semi Public zoning district is established to set aside properties other than street rights-of-way to be developed with public uses. This zoning district is also intended to identify and preserve areas of historic and community significance for the enjoyment of future generations. Land uses allowed in the PS-1A zoning district shall only be those land uses allowed at the enactment of Ordinance No. 790. Amendments to the allowed land uses shall be approved by a majority of City voters voting at any regular or special municipal election.

City of Buena Park General Plan

The City of Buena Park General Plan (2010) establishes policy direction for the long-range planning and growth of the City. It contains the following elements: Land Use and Community Design; Mobility; Community Facilities, Conservation and Sustainability; Open Space and Recreation; Safety; Noise; Economic Development; and Housing.

The Land Use and Community Design Element describes the type of appropriate land uses, including development intensity and density throughout the City. This Element addresses the design issues related to community image and discusses elements that contribute to the City's urban form and character. Portions of the Orange-Western Sub-trunk project area that fall within the City's jurisdiction include city streets and rights-of-way. Land adjacent to the Project area includes areas categorized as Low Density Residential, Medium Density Residential, High Density Residential, and Commercial. General land uses adjacent to the Orange-Western Sub-trunk project area within the City of Buena Park are shown in Figure 3.8-7.

3.8.2 Existing Conditions

The Los Alamitos Sub-trunk, the Westside Relief Interceptor, the Orange-Western Sub-trunk, and the Seal Beach Blvd. Interceptor are primarily located within paved roadways and are not subject to general plan and zoning regulations. However, portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor are located within properties that are subject to zoning regulations (see Table 3.8-1).

Table 3.8-1: Portions of the Los Alamitos Sub-trunk and Westside Relief Interceptor Located in Areas Subject to Zoning Regulations

Project Component	Description	City Jurisdiction	General Plan Land Use Designation	Zoning
Los Alamitos Sub-trunk	Denni Street Park	La Palma	Park	Open Space/ Recreation (OS)
Los Alamitos Sub-trunk	Forest Lawn Memorial Cemetery	Cypress	Community Service and Facilities	Public and Semi-public (PS-1)
Los Alamitos Sub-trunk	Westside Pump Station	Los Alamitos/ Rossmoor	Residential	Residential (R-1)
Los Alamitos Sub-trunk	Portion of the sewer line extending from Seal Beach Blvd./ Lampson Ave. Intersection along Old Ranch Pkwy.	Seal Beach	Commercial	General Commercial (GC)
Westside Relief Interceptor	Portion of the sewer line extending from Seal Beach Blvd./ Lampson Ave. Intersection along Old Ranch Pkwy.	Seal Beach	Commercial	General Commercial (GC)

3.8.3 Thresholds of Significance

The following significance criterion is based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and is used to evaluate the potential for implementation of the proposed Project to result in significant impacts related to land use and planning. The proposed Project's impacts on land use and planning would be significant if the proposed Project would:

- LU-1:** Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Other impact significance criteria for land use, identified in Appendix G of the CEQA Checklist, have been evaluated previously in Section 4.10 of the Initial Study for the proposed Project (See Appendix A). This previous evaluation determined that the proposed Project would result in either no impact or in less than significant impacts to land use under these criteria. As a result, the following impact significance criteria have not been evaluated further within this Environmental Impact Report (EIR):

- Physically divide an established community?
- Conflict with any applicable habitat conservation plan or natural community conservation plan?

3.8.4 Impact Analysis

No differences between the two build alternatives are anticipated as they relate to impacts to land use. Thus, the impacts described in this section are the same for Build Alternative 1 and Build Alternative 2.

LU-1: *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

3.8.4.1 Construction Impacts

Implementation of the proposed Project would entail nighttime (typically after 7:00 p.m. or 8:00 p.m. until 6:00 a.m. or 7:00 a.m., as defined by the applicable cities’ noise ordinances as indicated in Table 3.8-2) construction in various locations in order to minimize disruptions to traffic. An example of such an occurrence would be construction activities at major intersections. Construction activities at such times may conflict with local plans, ordinances, or requirements pertaining to nighttime lighting and noise. Implementation of appropriate mitigation measures and coordination with pertinent jurisdictional authorities would reduce construction-related impacts during nighttime hours to less than significant levels (see Section 3.8.5). The applicable policies regarding construction lighting and glare and noise are summarized in Table 3.8-2.

Table 3.8-2: Land Use and Planning Consistency Analysis

County of Orange		
Section and Policy	Analysis	Consistency
County of Orange Municipal Code (Division 6, Article 1, Section 4-6) states that construction activities are prohibited between 8:00 p.m. and 7:00 a.m. on weekdays	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction. Mitigation Measures AES MM 5, NOI	Consistent with Mitigation. AES MM 5: Should nighttime construction be required, OCS D will require that the lighting be focused and directed onto the work area only. OCS D will monitor lighting to ensure that that there will be no spillover to residential areas or

Table 3.8-2: Land Use and Planning Consistency Analysis

County of Orange		
Section and Policy	Analysis	Consistency
	MM 1, and NOI MM 2, in addition to noise- and traffic-related environmental control measures (ECMs) identified in Table 2.10-1 and local variance conditions, would minimize construction impacts.	<p>other sensitive receptors.</p> <p>NOI MM 1: OCSD will require the contractor to prepare a Noise Control Plan (NCP) demonstrating noise reduction, at minimum of 5 dBA to 10 dBA and below the 90-dBA Federal Transit Authority threshold, prior to commencing any construction. The NCP will specifically address noise control near sensitive receptors and for construction for which a variance has been obtained from the appropriate jurisdiction (e.g., weekend and nighttime construction). The NCP will identify the location of noise-sensitive receptors and list the types of noise control measures proposed (e.g., sound blankets and temporary noise barriers providing 5- dBA to 23 dBA of noise reduction) and any conditions specified in the variance. Once approved by OCSD, the contractor will be required to implement the plan. To ensure compliance with the NCP, the contractor will be required to monitor all construction noise for activities potentially affecting sensitive receptors in areas approved by variance, as well as all schools, hospitals, convalescent homes,</p>

Table 3.8-2: Land Use and Planning Consistency Analysis

County of Orange		
Section and Policy	Analysis	Consistency
		<p>churches, and other noise-sensitive areas within 1,000 feet of the construction activities.</p> <p>NOI MM 2: The contractor will adhere to the specified hours in all local ordinances when construction activities are permitted. A variance will be required prior to construction if activities are planned to occur outside the permitted hours. OCSD will comply with any conditions specified in the variance. The following will minimize noise generated by all construction activities:</p> <ul style="list-style-type: none"> • All construction equipment shall be maintained according to manufacturer’s specifications and inspected regularly. • All noise-producing construction equipment shall be equipped with muffling devices, quiet use generators, or other equivalent noise-reducing features to minimize temporary noise. • Stationary sources shall be located as far from noise-sensitive receptors as practicable. • The use of noise-producing signals such as horns, whistles, alarms, bells, etc. shall be in accordance with

Table 3.8-2: Land Use and Planning Consistency Analysis

County of Orange		
Section and Policy	Analysis	Consistency
		<p>federal, state, and local regulations.</p> <ul style="list-style-type: none"> • Sound blankets and temporary sound barriers shall be located adjacent to construction activities where noise impacts above the regulated maximum levels are anticipated near noise sensitive receptors.

City of Los Alamitos		
Section and Policy	Analysis	Consistency
Los Alamitos Municipal Code Title 17, Division 3, Chapter 17.24 Noise and the Orange County Municipal Code (Rossmoor) Division 6, Article 1, Section 4-6. Construction activities are prohibited between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or any time on Sunday and federal holidays.	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside of the allowable hours would require approval by the local jurisdiction. Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. AES MM 5 NOI MM 1 NOI MM 2
Los Alamitos Municipal Code 17.14.040 Light and Glare: Shielding of Light Source. Mechanical or Chemical Processes. Sky-reflected Glare. Where the light source is visible from outside the project boundary, shielding shall be required to reduce glare so that neither the light source nor its image from a reflective surface shall be directly visible from a point five feet or more beyond	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction. Mitigation Measure AES MM 5, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. AES MM 5

the property line. Glare would not inconvenience or annoy persons or interfere with the use and enjoyment of nearby property.		
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City of Seal Beach		
Section and Policy	Analysis	Consistency
Seal Beach Municipal Code Title 7, Chapter 7.15 Noise. Construction activities are prohibited between 8:00 p.m. and 7:00 a.m. on weekdays, 8:00 p.m. and 8:00 a.m. on Saturdays, or any time on Sundays and holidays.	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction. Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. AES MM 5 NOI MM 1 NOI MM 2
General Plan objective to maintain the relatively quiet areas of Seal Beach by regulating existing and potential noise sources, especially in public open space and the designated Wildlife Refuge areas.	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. The Seal Beach National Wildlife Refuge is located approximately 0.7 mile south of the Seal Beach Pump Station. Mitigation Measures NOI MM 1 and NOI MM 2 would eliminate potential for construction noise impacts at the refuge.	Consistent with Mitigation. NOI MM 1 NOI MM 2

City of La Palma		
Section and Policy	Analysis	Consistency
The City of La Palma Municipal Code (Article III, Division 1, Section 44-267. Construction activities are prohibited on Monday – Friday from 5:00 p.m. to 7:00 a.m.,	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would	Consistent with Mitigation. AES MM 5 NOI MM 1 NOI MM 2

City of La Palma		
Section and Policy	Analysis	Consistency
Saturday from 5:00 p.m. to 7:00 a.m., and Sundays and holidays.	require approval by the local jurisdiction. Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	
City of La Palma General Plan Policy N-1.2. Enforce the City's noise ordinance for those noise sources that are not pre-empted by other agencies. The Noise Ordinance does not include specific noise level limits for construction activities.	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. NOI MM 1 NOI MM 2
City of La Palma General Plan: Performance standards provide specific criteria limiting noise, air pollution, emissions, odors, vibration, dust, dirt, glare, heat, fire hazards, wastes, traffic impacts, and visual impact of a use.	Noise from construction equipment and vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts. Nighttime construction activities adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction. Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. AQ MM 1: OCSD shall require its construction contractor, either through the use of scheduling, sequencing of equipment usage, or other means, to demonstrate that construction-related activities for all Project segments will not generate cumulative daily emissions exceeding the SCAQMD NO _x threshold shown in Table 3.2-5. NOI MM 1 NOI MM 2 AES MM 5

City of Cypress		
Section and Policy	Analysis	Consistency
City of Cypress Municipal Code Article VII, Chapter 13, Section 13-70. Noise. Restrict construction to between 8:00 p.m. and 7:00 a.m. on weekdays, between 8:00 p.m. and 9:00 a.m. on Saturdays, and any time on Sundays and federal holidays.	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction. Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. AES MM 5 NOI MM 1 NOI MM 2
City of Cypress General Plan Policy Noise-2.4: Require noise-reduction techniques in site planning, architectural design, and construction where noise reduction is necessary.	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. NOI MM 1 NOI MM 2
City of Cypress General Plan Policy Noise-5.4: Reduce noise generated by building activities by requiring sound attenuation devices on construction equipment.	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. NOI MM 1 NOI MM 2
City of Cypress General Plan Policy Land Use-2.4: Mitigate traffic congestion and unacceptable levels of noise, odors, dust, and light and glare	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site and could	Consistent with Mitigation. AQ MM 1 NOI MM 1 NOI MM 2

City of Cypress		
Section and Policy	Analysis	Consistency
which affect residential areas and sensitive receptors, where feasible.	result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures AQ MM 1, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	
City of Cypress General Plan Circulation Element Policy 1.6: Encourage the development of aesthetic streetscapes to promote a positive City image and provide visual relief.	Trees that are within median landscaping may need to be removed during the installation of the new pipes and/or the rehabilitation of the existing pipes. Temporary visual impacts associated with tree trimming/removal could degrade the existing visual character or quality of the affected area.	Consistent with Mitigation. AES MM 2: Based on final design and prior to removal or trimming of any tree, OCSD will identify all trees that require removal or trimming. For trees located within the existing easement, OCSD will work with property owners regarding in-kind replacement landscaping for the corresponding municipality or private owner.

City of Buena Park		
Section and Policy	Analysis	Consistency
City of Buena Park Municipal Code Title 8, Chapter 8.28 Noise. Prohibits noise generated by construction activities between the hours of 8:00 p.m. and 7:00 a.m. Monday through Saturday, and at any time on Sundays. The Noise Ordinance does not include specific noise level limits for construction activities.	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction. Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. AES MM 5 NOI MM 1 NOI MM 2
City of Buena Park General Plan Policy N-2.1: Regulate construction activities to ensure all noise associated with construction activities complies with the City's Noise Ordinance. The Noise Ordinance does not include	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation measures NOI MM 1 and	Consistent with Mitigation. NOI MM 1 NOI MM 2

City of Buena Park		
Section and Policy	Analysis	Consistency
specific noise level limits for construction activities.	NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	
City of Buena Park General Plan Policy N-2.2: Employ construction noise reduction methods to the maximum extent feasible. These measures may include, but are not limited to, shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied sensitive receptor areas, and use of electric air compressors and similar power tools rather than diesel equipment.	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. NOI MM 1 NOI MM 2
City of Buena Park General Plan Policy N-2.4: Exceedance of noise standards may occur on a case-by-case basis for special circumstances including emergency situations, special events, and expedited development projects.	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts. Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction.	Consistent with Mitigation. AES MM 5 NOI MM 1 NOI MM 2

City of Buena Park		
Section and Policy	Analysis	Consistency
	Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2 would further reduce construction impacts associated with nighttime construction.	
City of Buena Park General Plan Policy N-2.5: Ensure acceptable noise levels are maintained near schools, hospitals, convalescent homes, churches, and other noise-sensitive areas	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. NOI MM 1 NOI MM 2

City of Anaheim		
Section and Policy	Analysis	Consistency
City of Anaheim Municipal Code Title 6, Chapter 6.70 Sound Pressure Level. Noise Ordinance: Sound created by construction or building repair of any premises within the city is also exempt from the applications of the Municipal Code during the hours between 7:00 a.m. and 7:00 p.m. The Noise Ordinance does not include specific noise level limits for construction activities.	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction. Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. AES MM 5 NOI MM 1 NOI MM 2
City of Anaheim Policy 3.1.3: Enforce standards to regulate noise from construction activities. Particular emphasis shall be placed on the restriction of the hours in which work other than	Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction.	Consistent with Mitigation. AES MM 5 NOI MM 1 NOI MM 2

City of Anaheim		
Section and Policy	Analysis	Consistency
emergency work may occur. Discourage construction on weekends or holidays except in the case of construction proximate to schools where these operations could disturb the classroom environment.	Mitigation Measures AES MM 5, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	
City of Anaheim Policy 3.1.4: Require that construction equipment operate with mufflers and intake silencers no less effective than originally equipped.	Noise generated from the use of construction equipment as well as vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. NOI MM 1 NOI MM 2
City of Anaheim Municipal Code 18.08.1202 Commercial Zones. Operational Uses/ 18.10.030 Uses. Industrial Zones: All uses shall be conducted in a manner so as not to be objectionable by reason of noise, odor, dust, fumes, smoke, vibrations, excessive lighting (glare), or other similar causes	Noise from construction equipment and vehicle trips generated by construction workers and supply trucks traveling to and from the project site could result in short-term, temporary impacts in the immediate area of construction. Mitigation Measures NOI MM 1 and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize impacts. Nighttime construction activities within and adjacent to residential areas would minimize construction impacts (traffic, schools, etc.). Any construction activities required outside the allowable hours would require approval by the local jurisdiction. Mitigation Measures AES MM 5, AQ MM 1, NOI MM 1, and NOI MM 2, in addition to ECMs (Table 2.10-1) and local variance conditions, would minimize construction impacts.	Consistent with Mitigation. AES MM 5 AQ MM 1 NOI MM 1 NOI MM 2

3.8.4.2 Operational Impacts

Project operations under both build alternatives would consist of trips within the Project area to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber if it is selected for the proposed Project. Operation of the proposed Project would be the same as existing operations and will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.8.4.3 No Build Alternative

Under the No Build Alternative, there would be no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station other than operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.8.5 Mitigation Measures

Implementation of the following mitigation measures would reduce the potential conflict with applicable policies concerning noise and nighttime lighting during construction to a less than significant level.

Aesthetics/Visual Resources

AES MM 5: Should nighttime construction be required, OCSD will require that all lighting would be focused and directed onto the work area only. OCSD will monitor lighting to ensure that that there will be no spillover outside the Project area.

Air Quality

AQ MM 1: OCSD shall require its construction contractor, either through the use of scheduling, sequencing of equipment usage, or other means, to demonstrate that construction-related activities for all Project segments will not generate daily emissions exceeding the SCAQMD NO_x threshold shown in Table 3.2-5.

Noise

NOI MM 1: OCSD will require the contractor to prepare a Noise Control Plan (NCP) demonstrating noise reduction, at minimum of 5 dBA to 10 dBA and below the 90-dBA Federal Transit Authority threshold, prior to commencing any construction. The NCP will specifically address noise control near sensitive receptors and for construction for which a variance has been obtained from the appropriate jurisdiction (e.g., weekend and nighttime construction). The NCP will identify the location of noise-sensitive receptors and list the types of noise control measures proposed (e.g., sound blankets and temporary noise

barriers providing 5 dBA to 23 dBA of noise reduction) and any conditions specified in the variance. Once approved by OCS D, the contractor will be required to implement the plan. To ensure compliance with the NCP, the contractor will be required to monitor all construction noise for activities potentially affecting sensitive receptors in areas approved by variance, as well as all schools, hospitals, convalescent homes, churches, and other noise-sensitive areas within 1,000 feet of construction activities.

NOI MM 2: The contractor will adhere to the specified hours in all local ordinances when construction activities are permitted. A variance will be required prior to construction if activities are planned to occur outside the permitted hours. OCS D will comply with any conditions specified in the variance. The following will minimize noise generated by all construction activities:

- All construction equipment shall be maintained according to manufacturer's specifications and inspected regularly.
- All noise-producing construction equipment shall be equipped with muffling devices, quiet use generators, or other equivalent noise-reducing features to minimize temporary noise.
- Stationary sources shall be located a minimum of 25 feet (the closest distance used to estimate construction noise impacts) from noise-sensitive receptors, unless otherwise constrained by site-specific conditions.
- The use of noise-producing signals such as horns, whistles, alarms, bells, etc. shall be in accordance with federal, state, and local regulations.
- Sound blankets and temporary noise barriers shall be located adjacent to construction activities where noise impacts above the regulated maximum levels are anticipated near noise-sensitive receptors.

3.8.6 Level of Significance after Mitigation

With implementation of measures NOI MM 1, NOI MM 2, AQ MM 1, and AES MM 5, impacts on land use and planning from noise-sensitive receptors, unless otherwise constrained by site-specific conditions would be less than significant.

Figure 3.8-1: General Land Use in the County of Orange adjacent to the Westside Pump Station

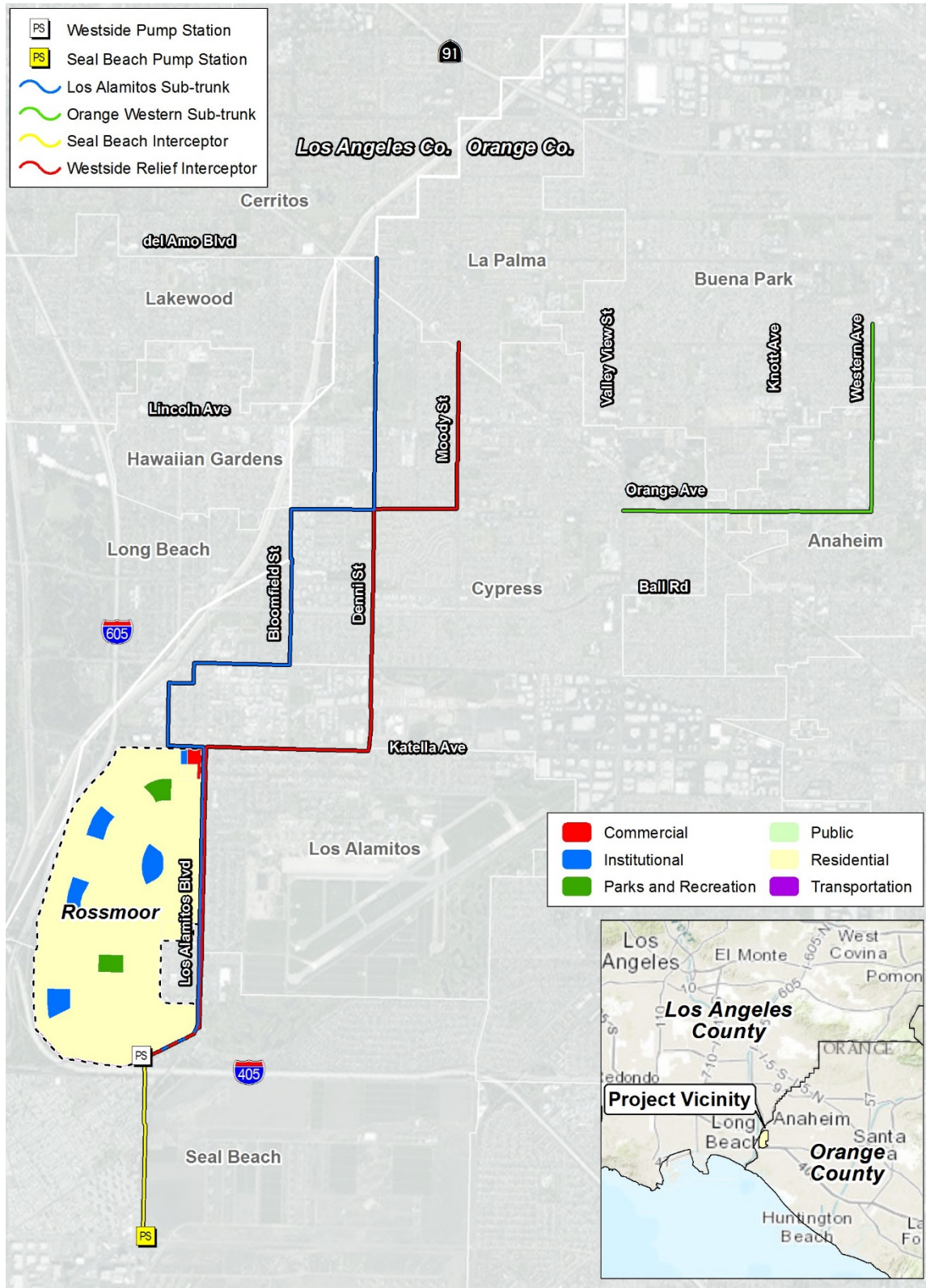


Figure 3.8-2: General Land Uses in the City of Seal Beach adjacent to the Westside Pump Station

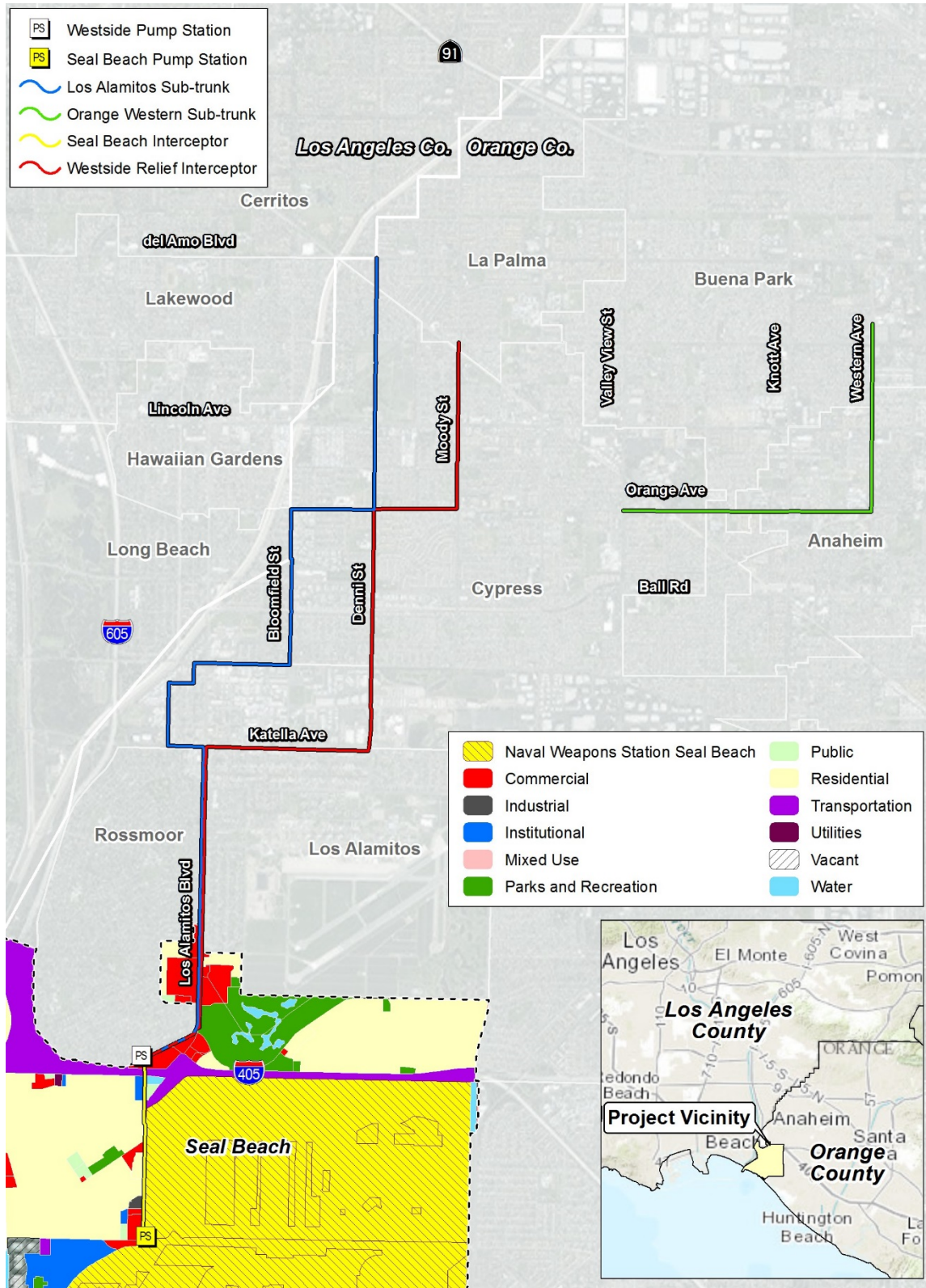


Figure 3.8-3: General Land Uses in the City of Los Alamitos adjacent to the Project Area

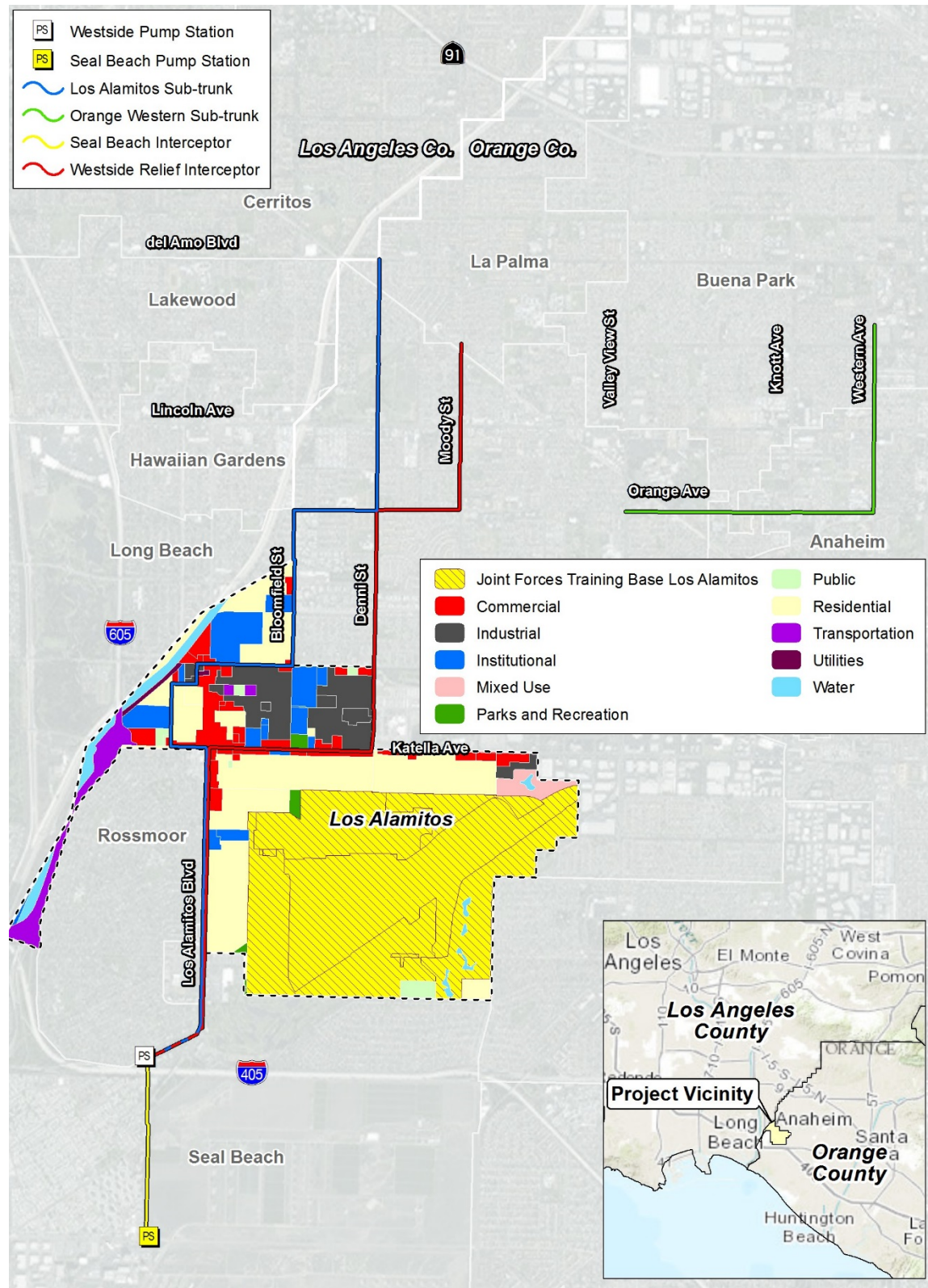


Figure 3.8-4: General Land Uses in the City of La Palma adjacent to the Westside Relief Interceptor and the Los Alamitos Sub-trunk

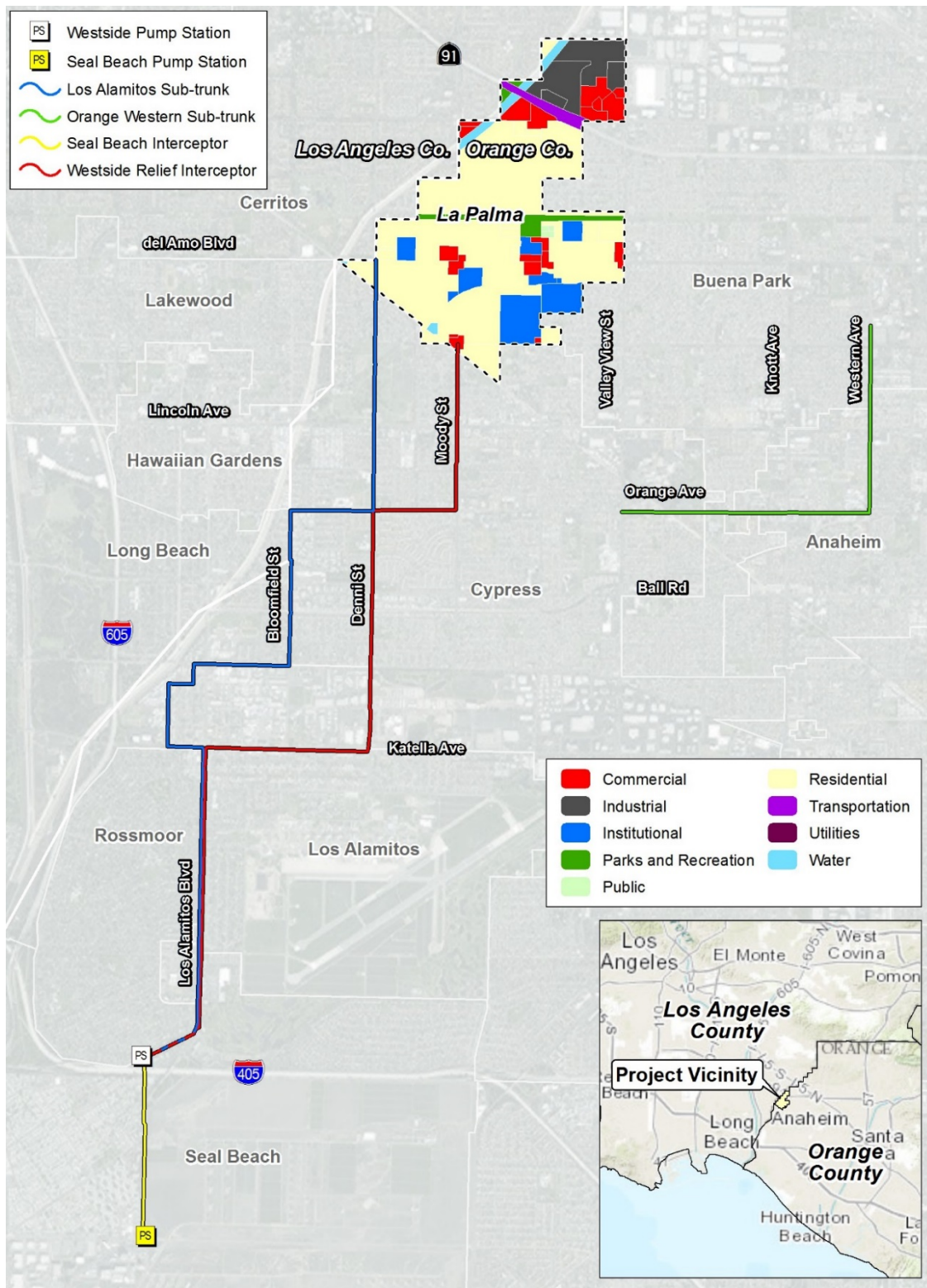


Figure 3.8-5: General Land Uses in the City of Anaheim adjacent to the Project Area

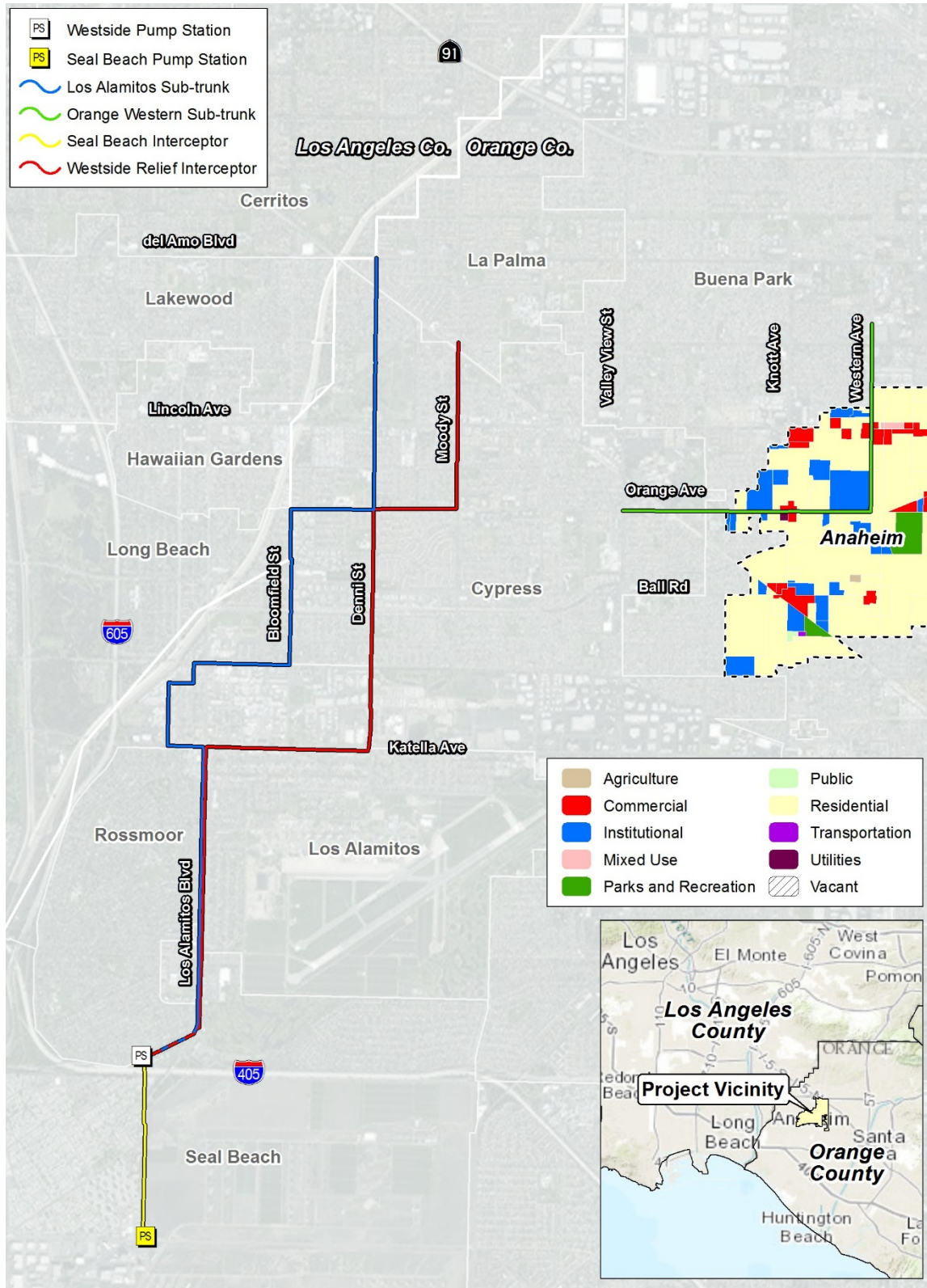


Figure 3.8-6: General Land Uses in the City of Cypress adjacent to the Project Area

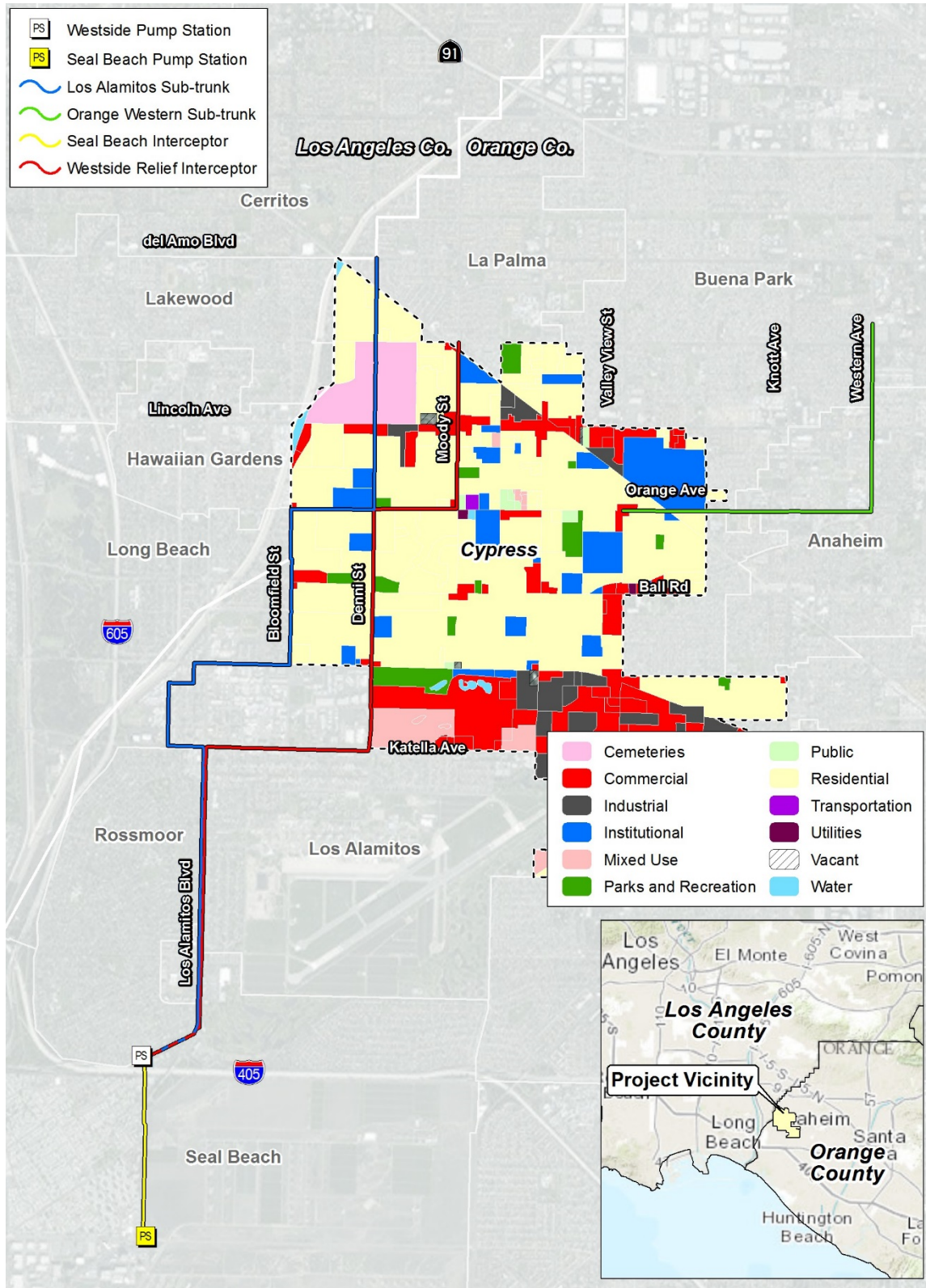
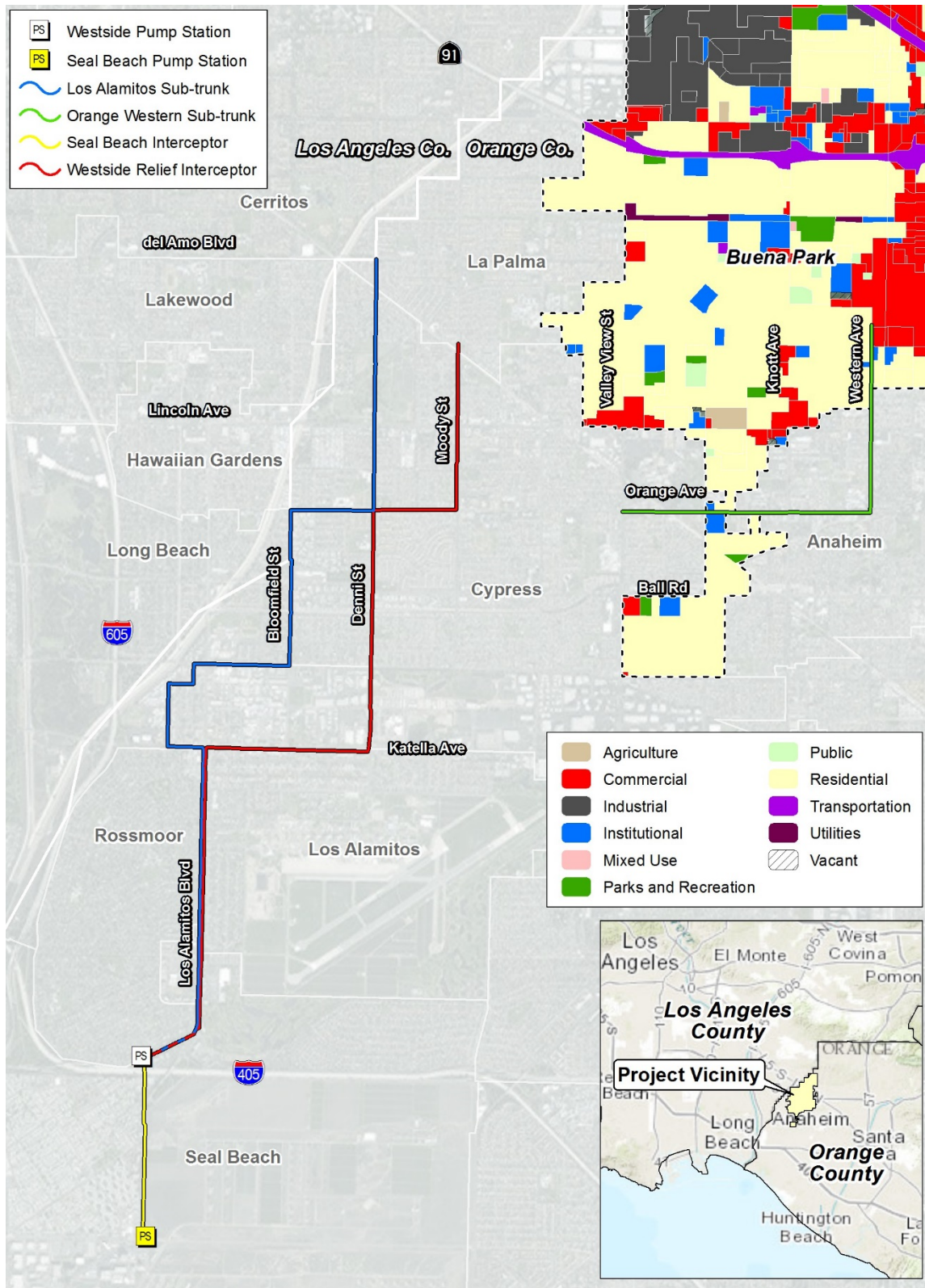


Figure 3.8-7: General Land Uses in the City of Buena Park adjacent to the Project Area



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3.9 Noise

This noise analysis identifies the proposed Project's potential construction and operational noise impacts. It discusses the existing noise environment as well as the regulatory framework for noise control. It also analyzes the proposed Project's effect on the existing ambient noise environment during construction and operation. Potential impacts would be temporary only during construction, and no long-term operational impacts are anticipated.

3.9.1 Regulatory Setting

3.9.1.1 *Federal*

Federal Noise Control Act

The United States (U.S.) Environmental Protection Agency (USEPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, the USEPA Office of Noise Abatement and Control established the Federal Noise Control Act of 1972 (42 United States Code [U.S.C.] 4901 et seq.) to identify and address the effects of noise on public health, welfare, and the environment. In 1981, USEPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments; however, noise control guidelines and regulations contained in the USEPA rulings in prior years remain in place for enforcement by designated federal agencies where relevant.

Federal Highway Administration Standards

The standards in 23 Code of Federal Regulations, Part 772, set procedures for the abatement of highway traffic noise and construction noise. Title 23 is implemented by the Department of Transportation Federal Highway Administration (FHWA). The purpose of these regulations is to provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways.

Federal Transit Administration Standards and Federal Railroad Administration Standards

As described in the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment* (FTA 2006), groundborne vibration can be a serious concern for nearby neighbors of a transit system route or construction site. Groundborne vibration can cause buildings to shake and rumbling sounds to be heard. The FTA assessment guidelines indicate that 90 A-weighted decibels (dBA; see Section 3.9.3.1 for a discussion of decibel weighting) during daytime hours (7:00 a.m. to 10:00 p.m.) and 80 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.) are thresholds where adverse community reaction could occur for construction activities on a temporary basis.

3.9.1.2 State

California Department of Health Services

Section 65302(f) of the California Government Code establishes the requirement that local land use planning jurisdictions prepare a General Plan. The Noise Element is a mandatory component of the General Plan. It includes general community noise guidelines developed by the California Department of Health Services (DHS) and specific planning guidelines for noise/land use compatibility developed by the local jurisdiction. The California Department of Health Services has developed guidelines (1987) for Community Noise Equivalent Levels (CNELs), as discussed in Section 3.9.3 below, that are acceptable for use by local agencies. Selected relevant levels are as follows:

- CNEL below 60 dBA: normally acceptable for low-density residential use
- CNEL of 55 to 70 dBA: conditionally acceptable for low-density residential use
- CNEL below 65 dBA: normally acceptable for high-density residential use
- CNEL of 60 to 70 dBA: conditionally acceptable for high-density residential, transient lodging, churches, educational and medical facilities
- CNEL below 70 dBA: normally acceptable for commercial uses
- CNEL below 77 dBA: conditionally acceptable for commercial uses
- CNEL below 75 dBA: normally acceptable for industrial uses
- CNEL below 80 dBA: conditionally acceptable for industrial uses

“Normally acceptable” is defined as satisfactory for the specified land use, assuming that normal conventional construction is used in buildings. “Conditionally acceptable” may require some additional noise attenuation or special study. “Normally unacceptable” levels begin where the conditionally acceptable ranges end. The “normally acceptable” thresholds listed above were used to establish significance thresholds for operational noise.

California Noise Control Act of 1973

Sections 46000–46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, find that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that a continuous and increasing level of noise is a presence in California’s urban, suburban, and rural areas. The California Noise Control Act declares that the state has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Department of Transportation

Because the local municipalities do not have regulatory standards for vibration sources, potential structural damage and human annoyance associated with vibration from construction activities were evaluated based on California Department of Transportation (Caltrans) vibration limits (see Table 3.9-1). A vibration level of 0.20 peak particle velocity inches per second (ppv/ips) was used to evaluate impacts on nearby receptors, since this level represents the threshold at which temporary vibrations typically become annoying and at which there is a risk of architectural damage, such as plaster cracking, in normal dwellings (Caltrans 2004).

Table 3.9-1: Reaction of People and Damage to Buildings at Various Continuous Vibration Levels

Vibration Level (ppv/ips)	Human Reaction	Effect on Buildings*
0.006 – 0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of “architectural” damage to normal buildings
0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibration)	Threshold at which there is a risk of “architectural” damage to normal dwelling-houses with plastered walls and ceilings; special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize “architectural” damage
0.4 – 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic but would cause “architectural” and possibly minor structural damage

Source: Caltrans 2004; *Distance at which noted vibration level would occur

3.9.1.3 Local

Municipal Code

The proposed Project is located within portions of Orange County and within the jurisdiction of six cities within Orange County. The applicable local noise and vibration regulations are summarized in Table 3.9-2. None of the local ordinances has established a noise level threshold for construction activities. All local ordinances exempt noise and vibration from construction activities either at all times or within specified hours of the day and/or night.

Table 3.9-2: Construction Noise and Vibration Level Restrictions per Local Ordinances

City or County	Applicable Noise Ordinance	Noise Level Threshold	Noise Restrictions	Vibration Restrictions
City of La Palma	Article III, Division 1, Section 44-267 Noise	n/a	Construction activities are prohibited on Monday – Friday from 5:00 p.m. to 7:00 a.m., Saturday from 5:00 p.m. to 7:00 a.m., and Sundays and holidays. Modification of construction hours may be granted for temporary uses per section 44-1007(7).	n/a
City of Buena Park	Title 8, Chapter 8.28 Noise	n/a	Construction is prohibited on Sundays and any other day between the hours of 8:00 p.m. and 7:00 a.m. Variances may be permitted by the city engineer.	See noise restrictions
City of Anaheim	Title 6, Chapter 6.70 Sound Pressure Level	n/a	Construction is prohibited during the hours of 7:00 p.m. to 7:00 a.m. Modification of construction hours may be granted by Director of Public Works or Building Official.	n/a
City of Cypress	Article VII, Chapter 13, Section 13-70 Noise	n/a	Construction activities are prohibited between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, 8:00 p.m. and 9:00 a.m. on Saturdays, and any time on Sunday and federal holidays. A variance would be required if construction activities occur outside the specified days and times.	n/a
City of Los Alamitos	Title 17, Division 3, Chapter 17.24 Noise	n/a	Construction activities are prohibited between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or any time on Sunday and federal holidays. A variance would be required if construction activities occur outside the specified days and times.	n/a
City of Seal Beach	Title 7, Chapter 7.15 Noise	n/a	Construction activities are prohibited between 8:00 p.m. and 7:00 a.m. on weekdays, 8:00 p.m. and 8:00 a.m. on Saturdays, or any time on Sundays and holidays.	n/a
Unincorporated Orange County	Division 6, Article 1, Section 4-6	n/a	Construction activities are prohibited between 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or any time on Sunday or federal holidays.	n/a
n/a=not available				

General Plans

City of La Palma

The City of La Palma General Plan Noise Element indicates residential neighborhoods must be protected from new noise intrusions. The careful review of site design and operational characteristics of individual commercial uses allows the City to address any site-specific noise concerns through design and operational conditions applied to individual projects. For single-family and multiple-family areas, a 55 to 65 dBA CNEL is “normally acceptable.” Other land uses such as commercial, industrial, and recreational areas have a CNEL up to 70 dBA as “normally acceptable.” Construction noise standards are established by the City Municipal Code as listed above.

City of Buena Park

For single-family and multiple-family areas, the City of Buena Park General Plan Noise Element has established 50 to 60 dBA CNEL and 50 to 65 dBA CNEL, respectively, as “normally acceptable.” Other land uses such as schools, places of worship, commercial, and recreational areas have a CNEL up to 70 dBA as “normally acceptable.” Industrial areas have a CNEL up to 75 dBA as “normally acceptable.” Construction noise standards are established by the City Municipal Code as listed above.

City of Anaheim

The City of Anaheim General Plan recognizes that construction is a necessity, and noise control for construction needs to be carefully balanced. Measures to reduce construction noise should be implemented when necessary. “Normally acceptable” noise levels by land use type follow the California DHS criteria listed above. Construction noise standards are established by the City Municipal Code listed above.

City of Cypress

The City of Cypress General Plan Noise Element Land Use Compatibility Index lists 50 to 60 dBA CNEL as “normally acceptable” for single-family and multiple-family uses, schools, and places of worship; up to 65 dBA CNEL for hotels and commercial uses; and up to 70 dBA CNEL for recreational areas and industrial uses. Construction noise standards are established by the City Municipal Code listed above.

City of Los Alamitos

The City of Los Alamitos General Plan considers excessive noise to adversely affect human health and well-being, economic productivity, and property values. Mobile and stationary noise sources contribute to overall noise levels, and the impacts of both must be analyzed when planning the City’s future growth and management. The General Plan Land Use and Noise Compatibility Matrix lists 60 to 65 dBA CNEL as “normally acceptable” for single-family and multiple-family uses, hotels, schools, and places of worship and 70 dBA CNEL or more for commercial and industrial uses. The City Municipal Code sets thresholds for stationary sources. Standards for construction noise from the Code are listed above.

City of Seal Beach

The City of Beach General Plan Noise Element establishes “normally acceptable” noise levels by land use type following the California DHS criteria listed above. Construction noise standards are established by the City Municipal Code listed above.

Unincorporated Orange County

The Orange County General Plan Noise Element establishes compatibility standards for different land use types. For example, in residential areas the CNEL standard is 65 dBA or below. Construction noise standards are established by the Noise Ordinance listed above.

3.9.1.4 Methodology

The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) is used to assess potential short-term construction impacts. In estimating noise exposures for construction equipment, it was assumed that attenuation would be by geometric spreading and ground surface absorption. Sound from a stationary or point noise source (i.e., manholes, pump stations) diminishes with distance. The sound level attenuates (or decreases) at a rate of 6 dBA for each doubling of distance from a point source. Sound from a mobile or line noise source (i.e., sewer pipelines) could affect a larger area and potentially more receptors due to movement representing the effect of several point sources. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Construction methods would include open-trench excavation, sewer lining and manhole rehabilitation (i.e., cured-in-place pipe installation), and pump station rehabilitation. Construction equipment used for the proposed Project would include: excavators, front-end loaders, cranes, dump trucks, delivery trucks, concrete trucks, pickup trucks, backhoes, pavement saws, diesel generators, air compressors, asphalt trucks, paving machines, rollers, contractor support trucks, and bypass pumps. For an example of the type of equipment used to reconstruct the Westside Pump Station, refer to Table 2.4-1, Estimated Construction Work Effort and Associated Equipment. Cured-in-place pipe (CIPP) installation would include a felt truck or boiler truck. The loudest piece of equipment operating during CIPP installation would be the air compressors. The generators on the trucks would be contained in an enclosure to reduce noise levels. Section 2.5 provides a detailed description of construction methods.

Construction of the proposed sewer pipelines is considered a linear activity and would continuously move during the Project construction phases. Therefore, excavation, installation, and paving activities were analyzed concurrently for open-trench excavation, which is essentially the worst-case condition. Rehabilitation of the manholes and pipelines using CIPP installation would be considered a stationary activity, since construction equipment would remain in one place. Construction of the pump station would be considered a stationary activity and could occur at any time.

The majority of the residential development within the proposed Project area is shielded by existing privacy walls ranging in height from 6 to 8 feet tall. Since the actual noise reduction from the existing

walls is unknown, existing mitigation was not included in the model calculations in order to analyze a worst-case scenario.

3.9.2 Existing Conditions

The existing conditions section explains the fundamentals of noise and groundborne vibration and describes existing noise sources and the location of noise-sensitive receptors in the proposed Project area and the ambient noise conditions throughout the Project area.

3.9.2.1 Fundamentals of Noise and Groundborne Vibration

Sound is created when an object vibrates and radiates part of its energy as acoustic pressure or waves through a medium, such as air, water, or a solid object. Sound levels are expressed in units called decibels (dB). The logarithmic scale compresses the wide range in sound levels resulting in a more usable range of sound level values, similar to the Richter scale used to measure earthquakes. Noise is generally defined as any loud or undesired sound and is also expressed in dB. The ability of an average individual to perceive a change in noise levels is well documented. Generally, changes in noise levels of 3 dB would be barely perceived by most listeners, whereas a 10-dB change normally is perceived as a doubling of noise for the listener. This is consistent with FHWA noise policy guidance and with the approach utilized within the Caltrans Technical Noise Supplement (Caltrans 2013a). The general principal that most noise acceptability criteria are based upon is that a perceptible change in noise is likely to cause annoyance wherever it intrudes upon existing noise from all other sources. Annoyance depends upon the noise that exists before the introduction of a new sound.

The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called “A-weighting,” or “dBA.” The A-weighted sound level is widely accepted by acousticians as a proper unit for describing environmental noise. Typical daily sounds in the environmental range from 30 dBA (a very quiet rural or interior environment) to 85 dBA (occurring on a sidewalk adjacent to heavy traffic). Table 3.9-3 describes typical A-weighted noise levels for various noise sources.

Table 3.9-3: Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet fly-over at 1000 feet		
	100	
Gas lawn mower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet

Table 3.9-3: Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		
	20	Bedroom at night
	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing
Source: Caltrans 2013b		

To characterize the noise environment in a given area, the following noise descriptors are commonly used.

- Maximum Sound Level (L_{max}). The maximum sound level measured during the measurement period
- Minimum Sound Level (L_{min}). The minimum sound level measured during the measurement period
- Equivalent Sound Level (L_{eq}). The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy
- Day/night Average Noise Level (L_{dn} or CNEL). Both descriptors provide the same 24-hour level with 10 dBA applied to the actual noise level during the hours from 10:00 p.m. to 7:00 a.m. The CNEL also requires that 5 dBA be applied to the actual noise level during the hours from 7:00 p.m. to 10:00 p.m. The applied increments take into account a person's increased sensitivity to noise during these periods.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

Geometric Spreading

Sound from a stationary or point noise source (i.e., manholes, pump stations) diminishes with distance. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Sound from a mobile or line noise source (i.e., sewer pipelines) could affect a larger area and potentially more receptors due to movement representing the effect of several point sources. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a roadway to receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective-wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed.

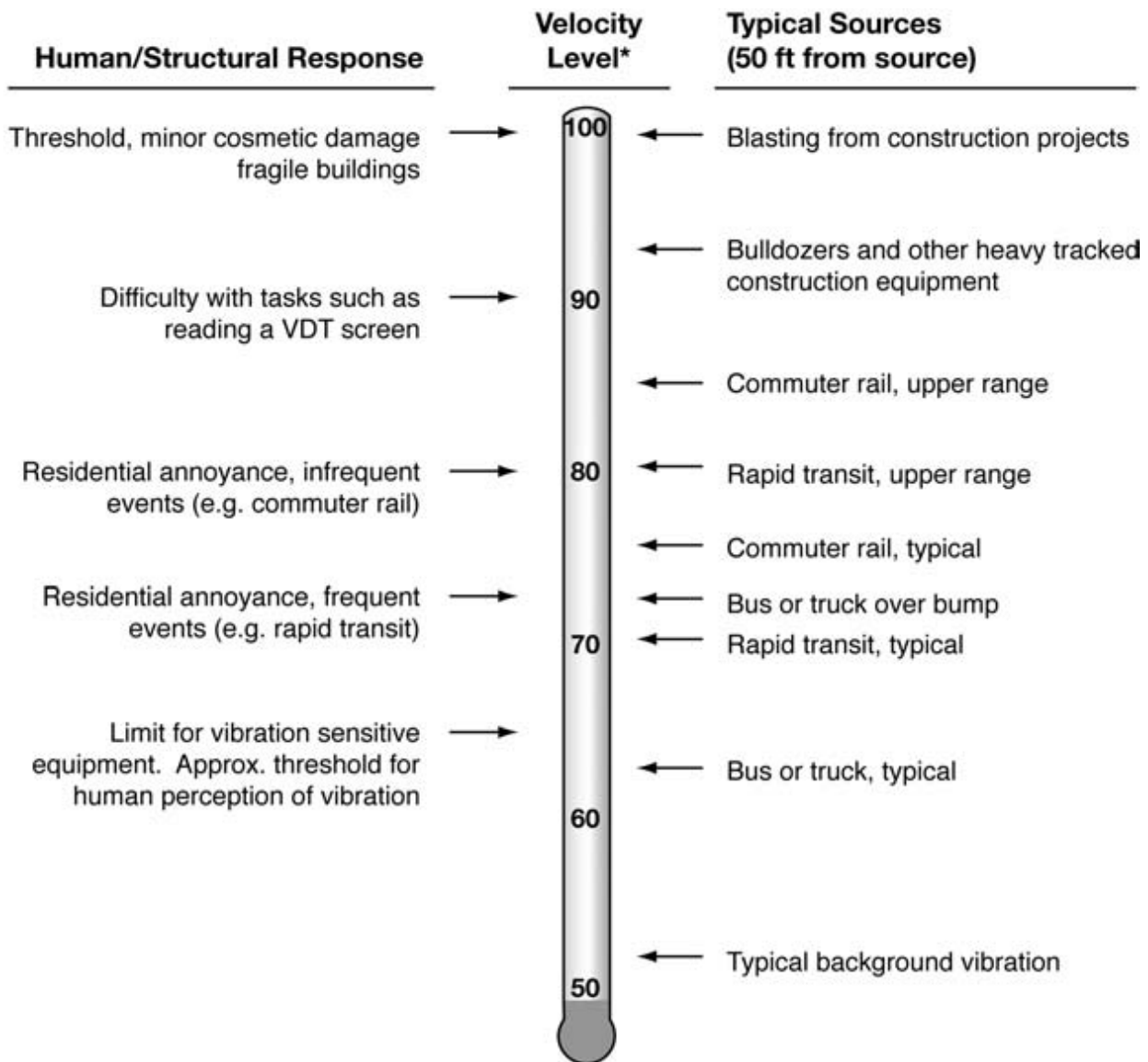
Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receptor specifically to reduce noise. A barrier that breaks the line of sight between a source and a receptor would typically result in at least 5 dB of noise reduction. Taller barriers provide increased noise reduction. Vegetation between the noise source and receptor is rarely effective in reducing noise because it does not create a solid barrier.

Groundborne Vibration

In contrast to airborne noise, groundborne vibration (GBV) is not a phenomenon experienced by most people on a daily basis. Typical outdoor sources of perceptible GBV are construction equipment and traffic on rough roads. Figure 3.9-1 depicts the typical levels of GBV. The effects of GBV include perceptible (without the use of instruments) movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Groundborne noise (GBN) is the rumbling sound caused by the vibration of room surfaces. The annoyance potential of GBN is usually characterized with the A-weighted sound level. GBV is almost never annoying to people who are outdoors. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB).

Figure 3.9-1: Typical Levels of Groundborne Vibration



* RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second

Source: FTA, 2006

Existing Noise Conditions

Existing noise sources in the Project area generally include transportation noise (e.g., vehicle traffic, aircrafts), mechanical equipment (e.g., air conditioning), and natural sources (e.g., wind, birds, insects).

Noise-sensitive receptors can best be defined as those locations or areas where dwelling units or other fixed, developed sites of frequent human use occur. Noise-sensitive receptors identified for the proposed Project include residences, lodging (hotels, motels, and similar uses), places of worship,

restaurants, educational facilities (schools), childcare facilities, recreational (golf courses, parks), hospitals, and libraries (see Figure 3.9-2 through Figure 3.9-13). The majority of the Project area is urban with dense residential development adjacent to the proposed Project corridors.

Ambient Noise Levels

Ambient noise levels within the Project area vary depending on the location, degree of development, and general human activity in the area. Due to the numerous noise-sensitive sites in the Project area, noise levels were determined based on a combination of field-measured levels at representative locations along each proposed pipeline alignment and estimated noise exposure levels as defined in the Federal Transit Administration Transit Noise and Vibration Impact Assessment manual (FTA 2006). The field-measured ambient noise levels were compared to the FTA estimates to ensure the estimates were representative of existing conditions (see Figure 3.9-2 through Figure 3.9-13).

In November 2015, noise measurements were collected at 13 locations within the Project area using a Quest 2900 sound level meter categorized as a Type I (precision grade) device. The sound level meter was placed 5 feet above ground surface to represent the average height of a human ear. Noise measurements were collected during typical weekday hours (between 8:00 a.m. and 5:00 p.m.) for a duration of 30 minutes at each location.

Table 3.9-4 summarizes the field noise measurement data. At some measurement locations, the recorded levels were compromised by individual events such as local construction, emergency vehicle sirens, or other atypical noise sources that temporarily raised the ambient noise environment above what would typically be expected. The table also presents ambient noise levels based on estimates of existing noise exposure as function of population density, defined in the FTA Transit Noise and Vibration Impact Assessment manual (FTA 2006).

Table 3.9-4: Field Noise Measurement Data

Meter ID	Measurement Location	Representative Area	Noise Sources	Field Measured L_{eq} adjacent to Roadway (dBA)	Estimated L_{eq} at outdoor use (dBA)	FTA Estimated L_{eq} (dBA)	Existing Privacy/Noise Wall?***
M1	Residence at 3189 West Coolidge Avenue	Orange-Western Sub-trunk	Western Avenue and local traffic	79.6	76.6	70	Yes – 6 feet tall on both sides
M2	Denni Street Park	Westside Relief Interceptor; Denni Street from La Palma Avenue to Crescent Avenue	Local traffic	53.8	47.8	55	No

Table 3.9-4: Field Noise Measurement Data

Meter ID	Measurement Location	Representative Area	Noise Sources	Field Measured L_{eq} adjacent to Roadway (dBA)	Estimated L_{eq} at outdoor use (dBA)	FTA Estimated L_{eq} (dBA)	Existing Privacy/Noise Wall?***
M3	Cemetery at 4471 Lincoln Avenue	Westside Relief Interceptor; Guardian Drive from Crescent Avenue to Lincoln Avenue	Ambient – no traffic	Unusable ¹	47.8 (M2)	55	No
M4	Residence at 9237 Moody Street	Los Alamitos Sub-trunk; Moody Street from Crescent Avenue to Orange Avenue	Moody Street and local traffic	58.9	55.9	70	Yes – 6 feet tall on both sides
M5	Residence at 4511 Orange Avenue	Westside Relief Interceptor and Los Alamitos Sub-trunk; Orange Avenue from Bloomfield Avenue to Moody Street	Orange Avenue and local traffic	66.2	63.2	70	Yes – 6 feet tall on both sides
M6	Residence at 4003 Via Ingresso	Westside Relief Interceptor; Bloomfield Street from Orange Avenue to Cerritos Avenue	Bloomfield Street and local traffic	78.9	75.9	70	Yes – SB side only ranges from 3 to 6 feet tall
M7	Residence at 3713 Cerritos Avenue	Westside Relief Interceptor; Cerritos Avenue from Humboldt Street to Chestnut Street	Cerritos Avenue and local traffic	80.6	77.6	70	Yes – 6 feet tall on WB side only
M8	Residence at 10808 Oak Street	Westside Relief Interceptor; Oak Street from Katella Avenue to Cerritos Avenue	Local traffic	Unusable ¹	60*		Yes – 6 feet tall SB side only
M9	Residence at 3242 Katella Avenue	Los Alamitos Sub-trunk; Katella Avenue from Oak Street to Los	Katella Avenue and local traffic	61.5	55.5	65	Yes – 6 feet tall on EB side only

Table 3.9-4: Field Noise Measurement Data

Meter ID	Measurement Location	Representative Area	Noise Sources	Field Measured L_{eq} adjacent to Roadway (dBA)	Estimated L_{eq} at outdoor use (dBA)	FTA Estimated L_{eq} (dBA)	Existing Privacy/Noise Wall?***
		Alamitos Boulevard					
M10	Residence at 11521 Los Alamitos Boulevard	Westside Relief Interceptor and Los Alamitos Sub-trunk; Los Alamitos Boulevard from Katella Avenue to Lampson Avenue	Los Alamitos Boulevard and local traffic	62.3	57.8	65	Yes – 6 feet tall on both sides
M11	Residence at 3110 Yellowtail Drive	Seal Beach Blvd. Interceptor	Local traffic	Unusable ¹	60*		Yes – row of homes
M12	Residence at 13335 Seal Beach Boulevard	Seal Beach Blvd. Interceptor from Old Ranch Parkway to Westminster Boulevard	Seal Beach Boulevard and local traffic	Unusable ¹	65**		Yes – 8 to 10 feet tall on SB side only
M13	Place of Worship at 13901 Seal Beach Boulevard	Seal Beach Blvd. Interceptor from Old Ranch Parkway to Westminster Boulevard	Seal Beach Boulevard and local traffic	Unusable ¹	65**		No
<p>¹. Unusable = Local conditions prohibited completion of a usable measurement; therefore FTA ambient noise guidelines establish the ambient noise environment at these locations.</p> <p>* based on FTA guidance for low-density Residential areas.</p> <p>** based on FTA guidance for high-density Residential areas</p> <p>***noise reduction not accounted for. Only included to describe existing conditions.</p>							

3.9.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and are used to evaluate the potential for significant project impacts related to noise and vibration. Project noise impacts would be significant if the proposed Project would result in:

- NOI-1:** Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies
- NOI-2:** Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- NOI-3:** A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- NOI-4:** A substantial temporary or periodic increase in ambient noise levels in the project vicinity above the ambient noise conditions

Other impact significance criteria for Noise, identified in Appendix G of the CEQA Checklist, have been evaluated previously in Section 4.12 of the Initial Study for the proposed Project (See Appendix A). This previous evaluation determined that the proposed Project would result in either no impact or in less than significant impacts to noise resources under these criteria. As a result, the following impact significance criteria have not been evaluated further within this Environmental Impact Report (EIR):

- 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 expose people residing or working in the project area to excessive noise levels?
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

3.9.4 Impact Analysis

This section discusses the proposed Project's short-term (construction-related) and long-term (operations) potential noise and vibration impacts.

Construction of the proposed Project would generate noise from the use of construction equipment as well as vehicle trips by construction workers and supply trucks traveling to and from the Project area and could result in temporary noise impacts. The areas where most noise and vibration would be generated would be associated with the replacement activities along portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor pipelines, as well as the Westside Pump Station where numerous noise-sensitive receptors are located (see Figure 3.9-1).

The proposed Project would construct sewer pipelines in a linear fashion for open-cut trenching and CIPP installation, and approximately 50 to 150 feet of pipeline would be completed per day depending on site conditions. The proposed Project would require excavation for installation of new 21- to 39-inch pipes at depths of up to 22.7 feet below ground surface (bgs) and 31.3 feet bgs for Build Alternative 1 and Build Alternative 2, respectively. Trenches to accommodate the new pipe would be up to 7 feet wide. The construction area associated with replacement would be up to 1,000 feet long and 25 feet wide.

As discussed in Section 2.5.6 Construction Schedule and Cost, the construction schedule allows sufficient time (4 years or 1,460 days) to construct each Project segment sequentially for either build alternative; however, construction activities for the proposed Project are anticipated to last for approximately 24 to 30 months within this time frame. Section 2.5 provides a detailed description of construction methods. Appendix E summarizes the construction method, construction equipment type, quantity of equipment, hours of operation, number of working days, and number of workers on site for each activity.

Construction equipment and materials would be held in staging areas in parking lots, vacant lots, or segments of street lanes that are temporarily closed to minimize hauling trips and long-term disruption.

NOI-1: Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?

3.9.4.1 Construction Impacts

Noise levels would vary depending on the type of equipment used, how and when it operates, and how well it is maintained. Appendix E provides detailed estimates of construction noise levels by activity. Table E1 in Appendix E summarizes the results of the construction noise analysis presented in detail in Appendix E.

Noise level thresholds have not been established in any of the local noise ordinances listed in Table 3.9-4 or related general plan documents; and there are no federal or state regulations for construction noise. As set forth above, construction noise is exempt from each of the local noise ordinances listed in Table 3.9-4. Construction is assumed to occur within the hours specified in those local ordinances when construction activities are exempt. Therefore, construction of the proposed Project would not generate noise levels in excess of established standards.

Implementation of the proposed Project would entail nighttime (typically after 7:00 p.m. or 8:00 p.m. until 6:00 a.m. or 7:00 a.m., as defined by the applicable cities' noise ordinances) construction in various locations in order to minimize disruptions to traffic. An example of such an occurrence would be construction activities at major intersections. Construction activities at such times may conflict with local plans, ordinances, or requirements pertaining to nighttime lighting and noise. This would constitute a significant impact. Implementation of appropriate ECMs and mitigation measures NOI MM 1 through NOI MM 3, as well as coordination with pertinent jurisdictional authorities, would reduce construction-related impacts to less than significant levels.

Common Build Alternative Element Impacts

Noise levels generated during construction of the Seal Beach Blvd. Interceptor and the Orange-Western Sub-trunk, which would include the CIPP rehabilitation and manhole replacement/rehabilitation activities, would be identical (89 dBA at a distance of 25 feet) under both build alternatives. These noise levels would exceed FTA thresholds where adverse community reaction could occur for construction activities on a temporary basis during nighttime hours (10:00 p.m. to 7:00 a.m.). Similarly, noise levels

generated from construction activities for the Westside Pump Station would be identical (100 dBA at a distance of 15 feet) under both build alternatives. These noise levels would exceed FTA thresholds where adverse community reaction could occur for construction activities on a temporary basis during daytime hours (7:00 a.m. to 10:00 p.m.).

Noise-sensitive receptors include residents, schools, places of worship, and recreational areas; and the nearest receptors are located within 15 feet, 25 feet, and 50 feet from the proposed improvements for the Westside Pump Station, the Orange Western Sub-trunk, and the Seal Beach Blvd. Interceptor, respectively.

Construction would generate noise within the Project area that would be temporary and of short duration (representing a maximum level). However, FTA thresholds, where adverse community reaction could occur for construction activities on a temporary basis, would be exceeded; and impacts would be significant. Implementation of appropriate ECMs and mitigation measures NOI MM 1 and NOI MM 2, as well as coordination with pertinent jurisdictional authorities, would reduce construction-related impacts to less than significant levels.

Build Alternative 1

Construction activities for the Los Alamitos Sub-trunk replacement areas from approximately La Palma Avenue to West Cerritos Avenue would generate noise levels of 92 dBA at a distance of 25 feet. However, from West Cerritos Avenue to Seal Beach Boulevard, where rehabilitation is anticipated, construction activities would generate noise levels of 89 dBA at a distance of 25 feet. Noise-sensitive receptors include residents, schools, and recreational areas; and the nearest receptor is located approximately 15 feet from the proposed improvements. These noise levels would exceed FTA thresholds where adverse community reaction could occur for construction activities on a temporary basis.

Construction activities for the Westside Relief Interceptor replacement areas from approximately Ball Road to Bradbury Road would generate noise levels of 92 dBA at a distance of 25 feet. However, from Crescent Avenue to Ball Road and Bradbury Road to Seal Beach Boulevard, where rehabilitation is anticipated, construction activities would generate noise levels of 89 dBA at a distance of 25 feet. Noise-sensitive receptors include residents, schools, and places of worship; and the nearest receptor is located approximately 15 feet from the proposed improvements. These noise levels would exceed FTA thresholds where adverse community reaction could occur for construction activities on a temporary basis.

Compared to Build Alternative 2, overall noise impacts would be less for the Los Alamitos Sub-trunk, due to portions of this pipeline that would only be rehabilitated, and greater with the Westside Relief Interceptor, due to portions of the pipeline being replaced.

Construction would generate noise within the Project area that would be temporary and of short duration (representing a maximum level). Adherence to the Project noise-related ECMs identified in Table 2.10-1 would help reduce these noise levels. However, FTA thresholds, where adverse community reaction could occur for construction activities on a temporary basis, would be exceeded and impacts would be significant. Implementation of mitigation measures NOI MM 1 and NOI MM 2, as well as coordination with pertinent jurisdictional authorities, would reduce construction-related impacts to less than significant levels.

Build Alternative 2

As shown in Table E1 (Appendix E), noise-sensitive receptors including schools, recreational uses, and residences that are located near construction activities for the Los Alamitos Sub-trunk replacement would be exposed to 92 dBA at a distance of 25 feet. Noise-sensitive receptors that are located near construction activities for the Westside Relief Interceptor rehabilitation would be exposed to 89 dBA at a distance of 25 feet. Compared to Build Alternative 1, overall noise impacts for the entire pipeline would be greater for the Los Alamitos Sub-trunk, since the entire pipeline would be replaced, and less with the Westside Relief Interceptor, since the pipeline would only be rehabilitated. These noise levels would exceed FTA thresholds where adverse community reaction could occur for construction activities on a temporary basis.

Construction would generate noise within the Project area that would be temporary and of short duration (representing a maximum level). Adherence to the Project noise-related ECMs identified in Table 2.10-1 would help reduce these noise levels. However, FTA thresholds, where adverse community reaction could occur for construction activities on a temporary basis, would be exceeded; and impacts would be significant. Implementation of mitigation measures NOI MM 1 and NOI MM 2, as well as coordination with pertinent jurisdictional authorities, would reduce construction-related impacts to less than significant levels.

3.9.4.2 Operational Impacts

Operational noise associated with both of the build alternatives would be similar to existing conditions and associated with vehicle trips to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber, if included in the proposed Project. During operation, the air scrubber would produce a maximum of 85 dBA at a reference distance of 25 feet. Should it be determined that the air scrubber unit would be necessary, Orange County Sanitation District (OCSD) would construct a new enclosure to house the air scrubber unit. Typical noise attenuation across a masonry building exterior ranges from 10 dBA (with open windows) to 35 dBA (with closed double-glazed windows). OCSD's new enclosure would be designed to common construction standards and attenuate operational noise to achieve the maximum noise reduction and obtain an exterior noise level of 50 dBA adjacent to the building, which is below 60 dBA and would be considered "normally acceptable" for outdoor residential exposure. Since

existing and future operations are similar and noise from the proposed air scrubber would be reduced to “normally acceptable” levels, completion of the proposed Project would result in no significant change of operational noise from the baseline conditions. Therefore, operational noise would be less than significant.

NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

3.9.4.3 Construction Impacts

Groundborne vibration and groundborne noise levels are generally caused by impact devices such as pile driving. Use of these devices would not be utilized during construction of the pipelines; however, operation of heavy equipment may generate localized groundborne vibration and noise that could be perceptible to sensitive receptors within close proximity.

Annoyance Assessment

No vibration thresholds for annoyance are specified in the local ordinances. Therefore, vibration levels were estimated and compared to Caltrans annoyance criteria listed in Table 3.9-1. Vibration levels from construction equipment used for excavation and pipe replacement were estimated to range from 0.003 to 0.089 inch per second (IPS) at a distance of 25 feet along segments of the Los Alamitos Sub-trunk and Westside Relief Interceptor, based on average levels for similar construction equipment reported in the FTA general assessment guidance (FTA 2006). This is below the 0.2 IPS Caltrans guideline indicating when vibrations are perceived as an annoyance by building inhabitants.

In the vicinity of where the proposed Project pipe rehabilitation would occur, people in the closest residences, schools, and daycare facilities are not anticipated to perceive vibration during these construction activities as annoyances, including OC Kids Childcare, located adjacent to Denni Street and approximately 25 to 30 feet from the proposed Westside Relief Interceptor rehabilitation improvements. This is because the anticipated vibration would be below the cited Caltrans annoyance criteria (0.2 IPS).

The pump station is located in a residential subdivision adjacent to residences (within approximately 15 feet). As such, should the project require pile driving equipment for shoring installation (see Appendix E), a non-vibratory type of equipment would be used. Since non-vibratory equipment would be used and with implementation of mitigation measures NOI MM 1 and NOI MM 2, as described in Section 3.9.5 below, people in the adjacent residences are not anticipated to experience annoyance from vibration generated from construction. Vibration impacts would be less than significant with implementation of mitigation measures NOI MM 1 and NOI MM 2.

Damage Assessment

Construction vibration damage criteria (inches per second or IPS), as defined by Caltrans, were used for the damage assessment of vibration during project construction and range from a 0.2 IPS threshold, at

which there is a risk of “architectural” damage to normal dwellings with plastered walls and ceilings, to 0.6 IPS, where “architectural” and possibly minor structural damage would occur.

According to FTA guidelines, vibration levels from construction equipment used for excavation and pipe replacement would range from 0.003 to 0.089 IPS at 25 feet along segments of the Los Alamitos Sub-Trunk and Westside Relief Interceptor; therefore, vibration damage associated with replacement and rehabilitation activities for both of the build alternatives to the buildings closest to these proposed activities is not anticipated.

The pump station is located in a residential subdivision adjacent to residences (within approximately 15 feet). As such, should the project require pile driving equipment for shoring installation (see Appendix E), a non-vibratory type of equipment would be used. Since non-vibratory equipment would be used and with implementation of mitigation measures NOI MM 1 through MOI MM 3, as described in Section 3.9.5 below, vibration impacts relative to damage assessment would be reduced to a less than significant level.

3.9.4.4 Operational Impacts

Following construction, only the potential operation of the air scrubber at Westside Pump Station could result in groundborne noise or vibration. During operation, the air scrubber would be anticipated to operate at or below the 0.08-IPS level of perceptibility at a reference distance of 25 feet. The air scrubber would be constructed within a new enclosure adjacent to the existing building, which would attenuate the vibration of this equipment during operation, as discussed above. Therefore, operation of the proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.

NOI-3: A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

3.9.4.5 Construction Impacts

Construction activities would be short-term at specific sites along the proposed Project alignment and temporary overall in that construction would be completed within approximately 24 to 30 months, as discussed previously. Construction activities would not result in permanent increases in ambient noise levels, and construction noise impacts would be less than significant.

3.9.4.6 Operational Impacts

All noise-sensitive receptors identified near the proposed Project area are located in Orange County. The County ordinance has established 20 dB over exterior noise level standards as the threshold for noise level increases. As defined in the County ordinance, the exterior noise level standard for residential areas during daytime hours (7:00 a.m. to 10:00 p.m.) is 55 dBA and during nighttime hours (10:00 p.m. to 7:00 a.m.) is 50 dBA, resulting in a maximum threshold of 75 dBA and 70 dBA for noise level increases

during daytime and nighttime hours, respectively. All cities within the Project area and within Orange County are consistent with the County ordinance.

Following construction, only the operation of the air scrubber at the Westside Pump Station could result in a permanent increase in ambient noise levels. During operation, the air scrubber would produce a maximum 85 dBA at a reference distance of 25 feet. The air scrubber would be constructed within a new enclosure adjacent to the existing building. Typical noise attenuation across a masonry building exterior ranges from 10 dBA (with open windows) to 35 dBA (with closed double-glazed windows). OCSD's new enclosure would be designed to common construction standards and attenuate operational noise to achieve the maximum reduction level and obtain a 50-dBA exterior noise level adjacent to the building. Adding the operational noise (after accounting for noise attenuation) to ambient conditions (ranging from 48 dBA to 78 dBA) would not result in noise level increases of 20 dB over ambient conditions or exceed the maximum threshold of 75 dBA as defined by the County ordinance. Therefore, operation of the proposed Project would not result in a substantial permanent increase in ambient noise levels. Operational noise would be less than significant.

NOI-4: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above the ambient noise conditions?

3.9.4.7 Construction Impacts

Although construction activities associated with the proposed Project would generate increases in noise levels, these increases would be temporary and of short duration. The local noise ordinances listed in Table 3.9-4 and related general plan documents have not established thresholds for noise level increases above ambient conditions during construction. In addition, there are no federal or state regulations that define a substantial noise increase threshold for construction. Therefore, the FTA 90-dBA guideline was used as an average threshold where adverse community reaction could occur on a temporary basis during daytime construction hours (7:00 a.m. to 7:00 p.m.). Construction noise levels were estimated per activity at 25 feet and for each doubling of distance. Noise-sensitive receptors that would experience construction noise levels at approximately 90 dBA or more are located 25 feet or less from the proposed improvements. Appendix E includes Table E1 detailing estimated construction noise levels per activity. Table E2 summarizes the results of the construction noise analysis. Figure 3.9-2 through Figure 3.9-13 depict the 90-dBA noise contour within the Project area.

Common Build Alternative Element Impacts

Existing noise levels range approximately from 63 dBA to 77 dBA in the area of the Orange-Western Sub-trunk and are estimated to be 65 dBA in the area of the Seal Beach Blvd. Interceptor. Near the Westside Pump Station, existing noise levels are estimated to be 65 dBA. Adding noise levels from construction of the proposed Project to ambient conditions would generate temporary increases in ambient noise levels at or above 90 dBA, mostly in the pipe replacement areas where open-trench construction would occur along portions of the Los Alamitos Sub-trunk. Because the ultimate pipe location and construction method would not be determined until final design, Figure 3.9-2 through Figure 3.9-13 depict the worst-

case 90-dBA noise contour. This contour is based on open-cut construction with the sources generating construction noise being located within street rights-of-way. Therefore, the majority of the 90-dBA contour would likely fall within the roadway right-of-way, resulting in less than significant impacts to noise-sensitive receptors.

Noise-sensitive receptors most impacted by construction noise include numerous residential developments along the proposed Project corridors where replacement activities would occur. Several schools at the following locations within close proximity to the proposed Project would also experience temporary noise increases during construction:

- Rosecrans Elementary — The nearest outdoor use is located approximately 30 feet north from Orange Avenue and the Los Alamitos Sub-trunk proposed improvements. Estimated maximum construction noise levels at this location would be approximately 90 dBA during the excavation phase. Therefore, mitigation measures NOI MM 1 and NOI MM 3, as described in Section 3.9.5 below, are required; and noise impacts to the school would be less than significant with mitigation.
- Educational Partnership High — The nearest building is located north of Bloomfield Street and approximately 60 feet west from the Los Alamitos Sub-trunk replacement improvements. Estimated maximum construction noise levels at this location would be approximately 89 dBA during the excavation phase. The nearest outdoor use is located further west and would be shielded by the school buildings. In addition, interior noise levels are anticipated to be substantially lower. Typical noise attenuation across a masonry building exterior ranges from 10 dBA (with open windows) to 35 dBA (with closed double-glazed windows). Therefore, noise impacts to the school would be less than significant.
- Valencia Elementary — The nearest building is located approximately 100 feet west from Denni Street and the Los Alamitos Sub-trunk replacement improvements. Estimated maximum construction noise levels at this location would be approximately 87 dBA during the excavation phase. The nearest outdoor use is located further west and would be shielded by the school buildings. In addition, interior noise levels are anticipated to be substantially lower. Typical noise attenuation across a masonry building exterior ranges from 10 dBA (with open windows) to 35 dBA (with closed double-glazed windows). Therefore, noise impacts to the school would be less than significant.
- Center for Early Education – The nearest building is located approximately 200 feet west from Denni Street and the proposed Los Alamitos Sub-trunk replacement improvements. Estimated maximum construction noise levels at this location would be approximately 84 dBA during the excavation phase. Interior noise levels are anticipated to be substantially lower. Typical noise attenuation across a masonry building exterior ranges from 10 dBA (with open windows) to 35 dBA (with closed double-glazed windows). Noise impacts to the school would be less than significant.

Construction noise levels are not anticipated to exceed 90 dBA in pipe rehabilitation areas where CIPP installation would occur; however, in all areas, substantial increases over ambient noise levels up to approximately 20 dBA or more would still occur. As mentioned in the discussion of noise fundamentals, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving sound level. Construction noise would be more noticeable in areas with low ambient noise levels such as those in the range of 40 to 50 decibels recorded at measurement locations M2 and M3 along Denni Street, M4 along Denni Street and Moody Street, and M10 along Los Alamitos Boulevard (Table 3.9-4). Temporary noise impacts would be significant and unavoidable even with implementation of mitigation measures NOI MM 1 and NOI MM 3.

Existing privacy/noise walls ranging in heights from approximately 6 to 10 feet were observed adjacent to most of the residential developments identified within the proposed Project area. Therefore, estimated construction noise levels are anticipated to be lower due to shielding from the existing walls and at residences beyond the first row of homes due to shielding from existing structures. Noise walls can generally provide at least 5 dBA noise reduction if the wall breaks the line of sight from the noise source to the receptor. Although noise levels are anticipated to be lower with existing shielding (e.g., sound blankets on equipment could achieve a noise reduction level of as much as 23 dBA), as identified in ECM Table 2.10-1, as well as with implementation of mitigation measures NOI MM 1 and NOI MM 3, substantial noise increases are anticipated in the pipe rehabilitation areas based on the FTA daytime guideline (FTA 2006). Therefore, temporary noise impacts would be significant and unavoidable.

If nighttime construction is required, exceedance of the FTA 80-dBA nighttime guideline could occur throughout the proposed Project area along all five of the proposed segments. Therefore, construction noise impacts would be significant; and mitigation measures NOI MM 1 and NOI MM 3, as described in Section 3.9.5 below, would be required. After mitigation, noise levels during construction would be reduced from 5 dBA to 23 dBA; however, even with these measures, temporary significant noise increases are still anticipated. Therefore, temporary noise impacts would be significant and unavoidable.

Build Alternative 1

Existing noise levels in the areas of the Los Alamitos Sub-trunk and the Westside Relief Interceptor range from approximately 48 dBA to 76 dBA and 58 dBA to 76 dBA, respectively. Adding noise levels from construction of the proposed Project to ambient conditions would generate temporary increases in ambient noise levels at or above 90 dBA, mostly in the pipe replacement areas where open-trench construction would occur along portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Because the ultimate pipe location and construction method would not be determined until final design, Figure 3.9-2 through Figure 3.9-13 depict the worst-case 90-dBA noise contour. This contour is based on open-cut construction with the sources generating construction noise being located within street rights-of-way. Therefore, the 90-dBA contour would likely fall within the roadway right-of-way, resulting in less than significant impacts to noise-sensitive receptors.

Noise-sensitive receptors most impacted by construction noise include numerous residential developments along the proposed Project corridors where replacement activities would occur. The following school in close proximity to the proposed Project would also experience temporary noise increases during construction:

- Christ the King Elementary School — The nearest building is located south of Orangewood Avenue and approximately 300 feet east of Los Alamitos Boulevard and the Westside Relief Interceptor replacement improvements. Estimated maximum construction noise levels near this location would be approximately 82 dBA during the excavation phase. The nearest outdoor use is located further east and would be partially shielded by the school buildings. In addition, interior noise levels are anticipated to be substantially lower. Typical noise attenuation across a masonry building exterior ranges from 10 dBA (with open windows) to 35 dBA (with closed double-glazed windows). Therefore, noise impacts to the school would be less than significant.

Build Alternative 2

Existing noise levels in the area of the Los Alamitos Sub-trunk and the Westside Relief Interceptor range from approximately 48 dBA to 78 dBA and 56 dBA to 76 dBA, respectively. Adding noise levels from construction of the proposed project to ambient conditions would generate temporary increases in ambient noise levels at or above 90 dBA mostly in the pipe replacement areas where open-trench construction would occur along the Los Alamitos Sub-trunk. Because the ultimate pipe location and construction method would not be determined until final design, Figure 3.9-2 through Figure 3.9-13 depict the worst-case 90-dBA noise contour. This contour is based on open-cut construction with the sources generating construction noise being located on both sides of the Project area; however, the preferred location is anticipated to be within the median. Therefore, the 90-dBA contour would fall within the roadway right-of-way, resulting in less than significant impacts to noise sensitive receptors.

The noise-sensitive receptors most impacted by construction noise include numerous residential developments along the proposed Project corridors where replacement activities would occur. Several schools at the following locations within close proximity to the proposed Project would also experience temporary noise increases during construction:

- Avalon – The nearest building is located west of Oak Street and approximately 30 feet west from the proposed Los Alamitos Sub-trunk replacement improvements. The estimated maximum construction noise levels at this location would be approximately 90 dBA during the excavation phase. Therefore, mitigation (NOI MM 1 and NOI MM 3), as described in Section 3.9.5 below, is required; and noise impacts to the school would be less than significant with mitigation.
- International Elementary – The nearest building is located north of Cerritos Avenue and approximately 170 feet north from the proposed Los Alamitos Sub-trunk replacement improvements. The estimated maximum construction noise levels at this location would be approximately 87 dBA during the excavation phase. The nearest outdoor use is located further north and would be shielded by the school buildings. In addition, interior noise levels are

anticipated to be substantially lower. Typical noise attenuation across a masonry building exterior ranges from 10 dBA (with open windows) to 35 dBA (with closed double-glazed windows). Therefore, noise impacts to the school would be less than significant.

3.9.4.8 Operational Impacts

Following construction, only the potential operation of the air scrubber at the Westside Pump Station could result in a periodic increase in ambient noise levels. The air scrubber would be constructed within a new enclosure adjacent to the existing building, which would be designed to attenuate the overall noise, as discussed in Section 3.9.4.6. Therefore, operation of the proposed Project would not result in a substantial permanent increase in ambient noise levels. The operational noise would be less than significant.

3.9.4.9 No Build Alternative

Under the No Build Alternative, no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station would occur other than routine operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would have no impacts on people as a result of exceeding standards or excessive groundborne vibration. The No Build Alternative would not result in substantial or temporary increases in ambient noise. Noise impacts associated with the No Build Alternative would be less than significant.

3.9.5 Mitigation Measures

NOI MM 1: OCSD will require the contractor to prepare a Noise Control Plan (NCP) demonstrating noise reduction, at minimum of 5 dBA to 10 dBA and below the 90-dBA Federal Transit Authority threshold, prior to commencing any construction. The NCP will specifically address noise control near sensitive receptors and for construction for which a variance has been obtained from the appropriate jurisdiction (e.g., weekend and nighttime construction). The NCP will identify the location of noise-sensitive receptors and list the types of noise control measures proposed (e.g., sound blankets and temporary noise barriers providing from 5 dBA to 23 dBA noise reduction) and any conditions specified in the variance. Once approved by OCSD, the contractor will be required to implement the plan. To ensure compliance with the NCP, the contractor will be required to monitor all construction noise for activities potentially affecting sensitive receptors in areas approved by variance, as well as all schools, hospitals, convalescent homes, churches, and other noise-sensitive areas within 1,000 feet of the construction activities.

NOI MM 2: The contractor will adhere to the specified hours in all local ordinances when construction activities are permitted¹¹. A variance will be required prior to construction if activities are planned to occur outside the permitted hours. OCSD will comply with any

¹¹ Except at Westside Pump Station, where construction hours would be reduced voluntarily by OCSD.

conditions specified in the variance. The following will minimize noise generated by all construction activities:

- All construction equipment shall be maintained according to manufacturer's specifications and inspected regularly.
- All noise-producing construction equipment shall be equipped with muffling devices, quiet use generators, or other equivalent noise-reducing features to minimize temporary noise.
- Stationary sources shall be located a minimum of 25 feet (the closest distance used to estimate construction noise impacts) from noise-sensitive receptors, unless otherwise constrained by site-specific conditions.
- The use of noise-producing signals such as horns, whistles, alarms, bells, etc. shall be in accordance with federal, state, and local regulations.
- Sound blankets and temporary sound barriers shall be located adjacent to construction activities where noise impacts above the regulated maximum levels are anticipated near noise sensitive receptors.

NOI MM 3: The following will minimize vibration generated by all construction activities:

- Route heavily loaded trucks away from residential local streets.
- Operate earthmoving or other construction equipment with the potential to create vibration-induced impact as far away from vibration-sensitive sites as construction location-specific conditions allow.
- Pile-driving equipment for shoring installation, if utilized, will be of a non-vibratory type, will have short starting and stopping capabilities and will be able to operate at high revolutions. In addition, soil particle velocity will be monitored during the use of such equipment. If any vibration levels are measured above the 0.20 IPS threshold level, construction will be stopped immediately.

3.9.6 Level of Significance after Mitigation

Implementation of mitigation measures NOI MM 1, NOI MM 2, and NOI MM 3 would reduce noise and vibration levels during construction and operation; however, even with these measures, significant noise during construction, as identified in Impact NOI-4, would still occur. Impact NOI-4 is a significant and unavoidable impact.

Figure 3.9-2: Project 3-64 Decibel Contours, Map 1



Figure 3.9-3: Project 3-64 Decibel Contours, Map 2



Figure 3.9-4: Project 3-64 Decibel Contours, Map 3A



Figure 3.9-5: Project 3-64 Decibel Contours, Map 3B

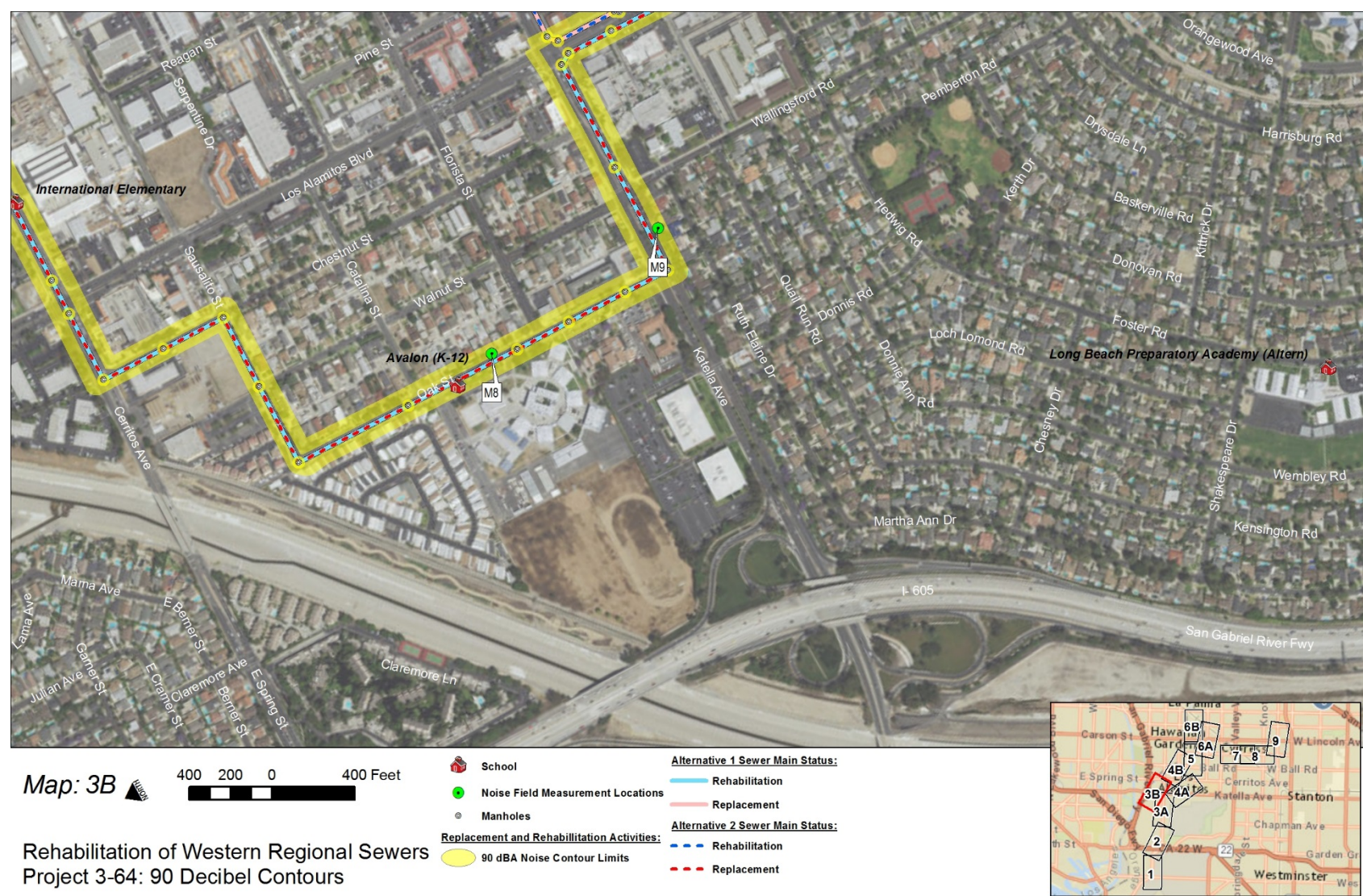


Figure 3.9-6: Project 3-64 Decibel Contours, Map 4A



Figure 3.9-7: Project 3-64 Decibel Contours, Map 4B



Figure 3.9-8: Project 3-64 Decibel Contours, Map 5

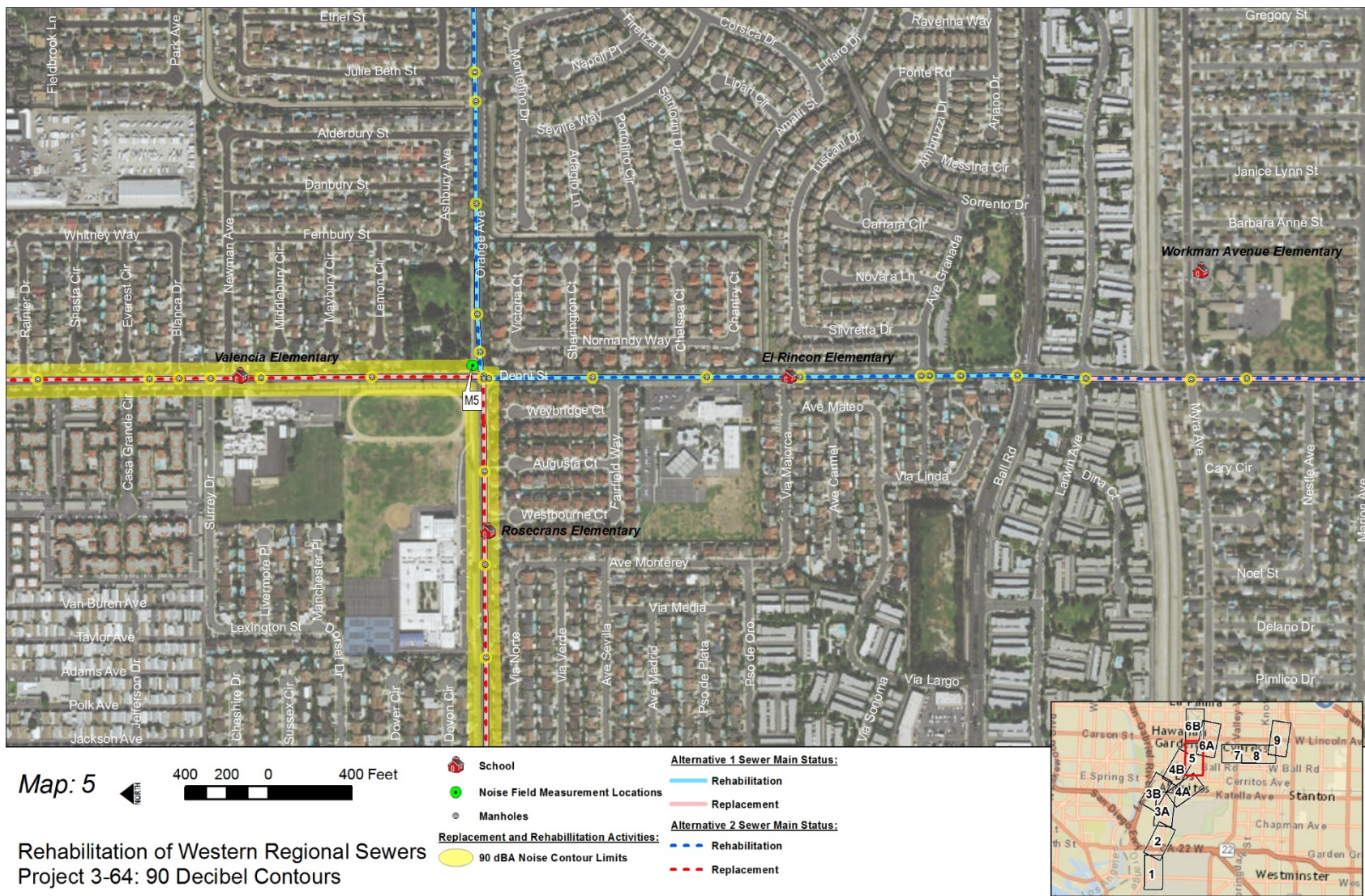


Figure 3.9-9: Project 3-64 Decibel Contours, Map 6A



Figure 3.9-10: Project 3-64 Decibel Contours, Map 6B



Figure 3.9-11: Project 3-64 Decibel Contours, Map 7

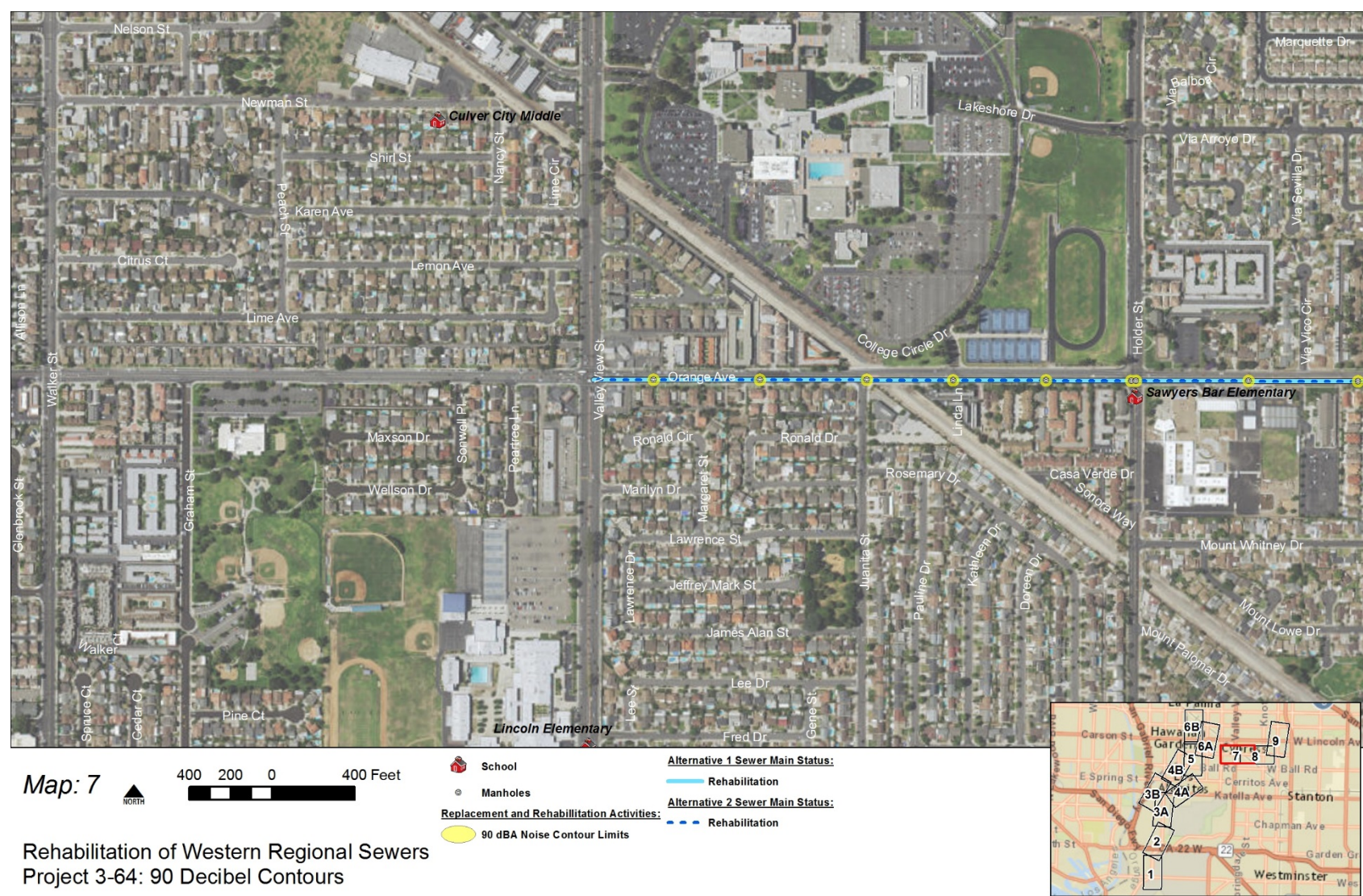


Figure 3.9-12: Project 3-64 Decibel Contours, Map 8

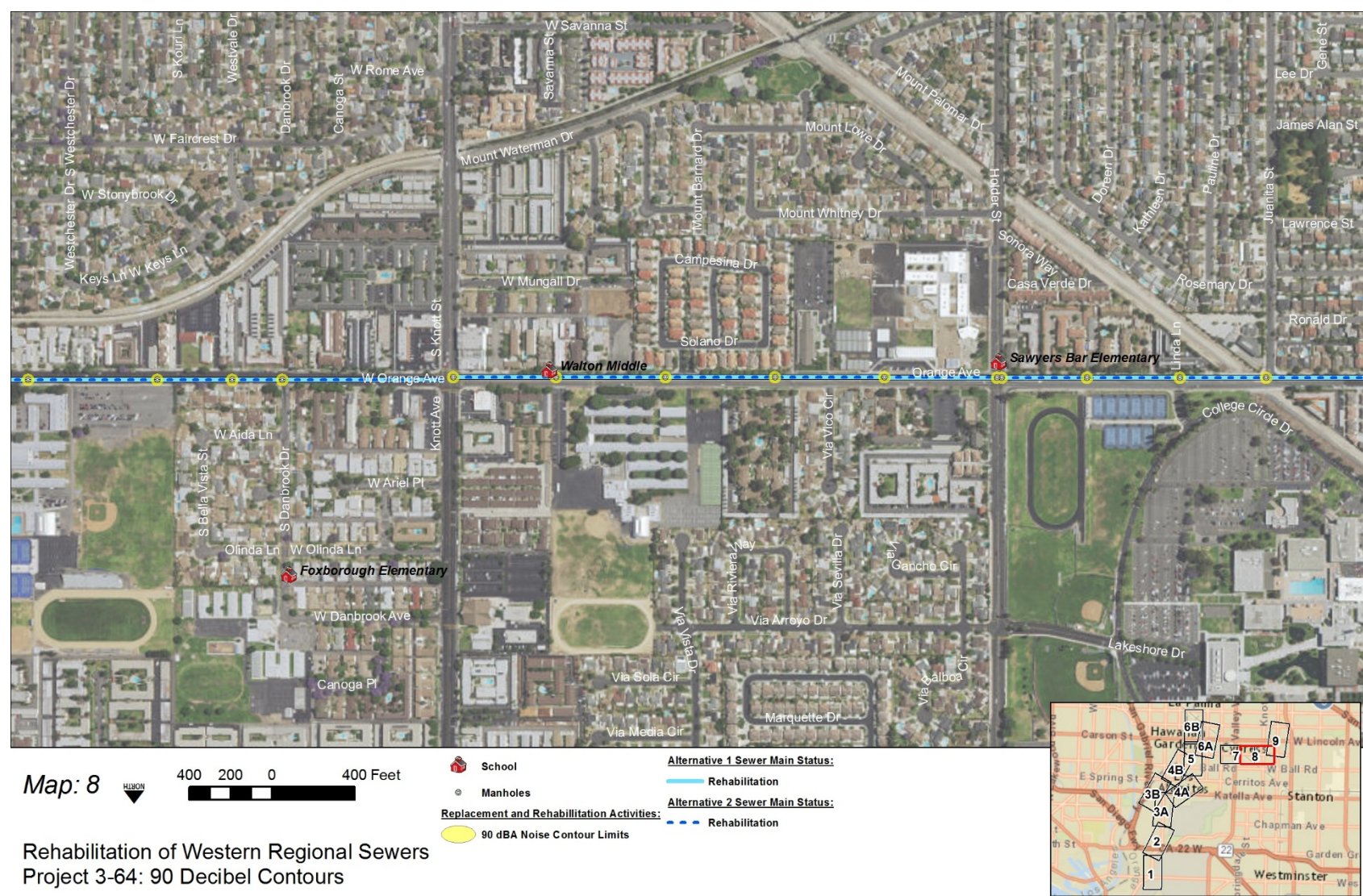


Figure 3.9-13: Project 3-64 Decibel Contours, Map 9



3.10 Public Services

This section describes the existing public services in the proposed Project area and identifies potential impacts to those resources associated with the proposed Project's implementation. The requirement to consider impacts on public services is found within the California Environmental Quality Act (CEQA) and the Guidelines for Implementation of CEQA. Specifically, public services are included as a component of the general resource base that may be affected by a program or project (CEQA Guidelines Sec. 15126.2), as related to loss of essential public services under emergency conditions (CEQA Guidelines Sec. 15359), and as an element of the CEQA Checklist (Appendix G). Public services are defined in the CEQA Guidelines as including governmental facilities, acceptable service ratios, and response times. Specific public services covered in the CEQA Guidelines consist of fire protection, police protection, schools, parks, and other public facilities.

3.10.1 Existing Conditions

Public Services within or adjacent to the Project area include the following:

3.10.1.1 Emergency Services:

- Orange County Fire Station: 3131 North Gate Road, Seal Beach, CA 90740
- Los Alamitos Police Department: 3201 Katella Avenue, Los Alamitos, CA 90720

3.10.1.2 Schools:

- Cypress College: 9200 Valley View Street, Cypress, CA 90630
- Western High School: 501 South Western Avenue, Anaheim, CA 92804
- Clara J. King Elementary School: 8710 Moody Street, Cypress, CA 90630
- Lexington Junior High School Middle School: 4351 Orange Avenue, Cypress, CA 90630
- Laurel High School High School: 10291 Bloomfield Street, Los Alamitos, CA 90720
- McAuliffe Middle School: 4112 Cerritos Avenue, Los Alamitos, CA 90720
- Los Alamitos High School: 3591 Cerritos Avenue, Los Alamitos, CA 90720
- Oak Middle School: 10821 Oak Street, Los Alamitos, CA 90720
- St. Hedwig School Private School: 3591 Oranewood Avenue, Los Alamitos, CA 90720
- Margaret Landell Elementary School: 9739 Denni Street, Cypress, CA 90630
- A. E. Arnold Elementary School: 9281 Denni Street, Cypress, CA 90630

3.10.1.3 Parks:

- Evergreen Park: 9300 Moody Street, Cypress, CA 90630
- Willow Park: 5700 Orange Avenue, Cypress, CA 90630

- Laurel Park: 10862 Bloomfield Street, Los Alamitos, CA 90720
- Veterans Park: 4554 Avenida Granada, Cypress, CA 90630
- Denni Street Park: Denni Street, La Palma, CA 90623

3.10.1.4 Buses:

- Orange County Transportation Authority (OCTA) Bus Routes: 1A, 21, 25, 38, 42, 46, 50, 60, 104, 211, 701

3.10.2 Thresholds of Significance

The following significance criterion is based on Appendix G of the CEQA Guidelines (14 California Code of Regulations 15000 et seq.) and is used to evaluate potential for significant project impacts related to public services. Project impacts on public services would be significant under the following conditions:

PSER-1: 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 following public services: fire protection, police protection, schools, parks, or other public facilities.

3.10.3 Impact Analysis

Both of the build alternatives would result in construction activities in the same locations. There are no substantive differences between the two build alternatives' locations from a public services perspective. With the exception of potential impacts to emergency vehicular access, the two build alternatives are similar and have the same level of significance findings, thus no differences between the alternatives are anticipated as they relate to impacts to public services. Therefore, the impacts described in this section are the same for Build Alternatives 1 and 2.

PSER-1: 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 following public services: fire protection, police protection, schools, parks, or other public facilities?

3.10.3.1 Construction Impacts

The construction of the proposed Project would repair and replace existing pipelines. The proposed Project would not impact the surrounding community in the form of public services or increases in demand for schools or parks under either build alternative. Public use of select parks and roads may be

restricted until construction is completed. No public facilities would be added; and, thus, increased population growth in these areas would have no potential to occur.

The proposed rehabilitation or replacement of the Western Regional Sewers and proposed improvements at the Westside Pump Station could result in additional temporary areas of traffic congestion associated with staging and construction of the proposed Project within public street rights-of-way. Construction of the proposed Project could also result in disruption or delay of fire and police protection, potential delays for school buses or other vehicles transporting students to and from schools, and temporary relocation/closure of bus stops.

The construction of either build alternative would affect emergency vehicular access within and through the proposed Project area. Build Alternative 2 would have proportionately greater impacts on Los Alamitos Boulevard, resulting in greater overall impacts on emergency access, as compared to Build Alternative 1. As a result, Build Alternative 2 would be expected to have a proportionately greater potential to affect emergency vehicular access, as compared to Build Alternative 1.

As discussed in Transportation/Traffic (Section 3.12), traffic control plans (TCPs) would be submitted to the affected jurisdiction for approval. Orange County Sanitation District (OCSD) would contractually require that the TCPs specifically address construction traffic and road closures within the public rights-of-way of the Cities of Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, and Seal Beach and the County of Orange. The traffic control plans would specify provisions for construction times and for allowance of bicyclists, pedestrians, and bus access throughout construction. The traffic control plans would also specify provisions to ensure emergency vehicle passage at all times, include signage and flagmen when necessary, and be approved by each affected city in advance of construction. Temporary relocation of bus stops or closure of bike lanes would be coordinated with OCTA service planning staff as required. Emergency access would be maintained throughout the duration of the proposed Project construction. Impacts related to emergency services and bus and school access, thus, would be less than significant under either build alternative.

Additionally, as described in Section 3.11 (Recreation), two parks (i.e., Denni Street Park and Willow Park), located adjacent to the project site, could experience temporarily reduced access due to construction; specifically, a reduction in parking near these facilities. It was determined that the remaining parks (Laurel Park, Evergreen Park, and Veterans Park) all have dedicated parking lots, and none would experience a reduction in access during construction. The ECMs identified in Table 2.10-1 would be incorporated. The proposed Project is not anticipated to result in a significant adverse impacts related to access to public facilities (e.g., parks); and, therefore, impacts would be less than significant under either build alternative.

3.10.3.2 Operational Impacts

Operations under either build alternative would consist of trips within the Project area to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit

television and camera inspection; conduct flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber if it is selected for the Project. Occasionally, some of these activities may also require temporary lane closures to accommodate sewer maintenance. Maintenance activities would be coordinated in advance with each jurisdiction to ensure appropriate preparation measures are taken to mitigate for temporary lane or road closures or restricted public use of certain areas. OCSD would comply with each corresponding jurisdiction's requirements for encroachment into the city streets (e.g., prepare traffic control plans, comply with Work Area Traffic Control Handbook, etc.). Operational impacts on public services would be less than significant.

3.10.3.3 No Build Alternative

Under the No Build Alternative, there would be no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station other than operations and maintenance activities as discussed in Section 2.6. Occasionally, some of these activities may also require temporary lane closures to accommodate sewer maintenance. Maintenance activities would be coordinated in advance with each jurisdiction, for which OCSD would prepare traffic control plans for approval prior to any maintenance activities. Public services impacts associated with the No Build Alternative would be less than significant.

3.10.4 Mitigation Measures

No mitigation measures are required.

3.11 Recreation

This section identifies the recreational resources in the Project area and the proposed Project's potential impacts on those recreation facilities.

3.11.1 Regulatory Setting

3.11.1.1 *State*

California Public Park Preservation Act

This act protects and preserves parkland in California. Under the California Public Resource Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation, land, or both are provided to replace the parkland acquired. This ensures that no net loss of parkland and facilities will occur.

3.11.1.2 *Local*

City of Cypress General Plan

The City of Cypress General Plan Conservation/Open Space/Recreation Element (2000) provides goals and policies concerned with managing all open space areas, including undeveloped lands and outdoor recreation areas. The Recreation Element identifies planned park and recreation facilities designed to support the recreational needs of the City's population. The City has approximately 82 acres of parks, including community, neighborhood, mini, and nature parks. The following goal and policy apply within the proposed Project area.

"Goal 6: Provide recreation/park facilities and programs for all those who live and work in Cypress.

"Policy 6.8: Preserve public and private open space lands for active and passive recreational opportunities."

City of La Palma General Plan

The City of La Palma General Plan Open Space and Conservation Element provides direction to maintain and expand recreational opportunities and to protect environmental quality (City of La Palma 2014). Open space areas consist of community parks, utility easements, school playfields, and landscaping included in parkways, medians, and public spaces. The following goal and policy apply within the proposed Project area.

"Goal 1: Develop and maintain parks, recreational, and cultural facilities that reflect the broadest range of interests and that meet the needs, desires, and interests of the La Palma community.

"Policy 1-1: Maintain and improve existing parkland and recreation facilities, as the City budget permits."

City of Los Alamitos General Plan

The City of Los Alamitos General Plan Open Space, Recreation, and Conservation Element provides direction to guide community members, staff, and elected officials to maintain and expand recreational opportunities and to protect environmental quality (City of Los Alamitos 2015). The City of Los Alamitos provides parks, school fields, and recreation facilities and programming that directly serve the residents of Los Alamitos, Rossmoor, Seal Beach, and Long Beach.

3.11.2 Existing Conditions

Five parks or recreation areas are located adjacent to the proposed Project area: Willow Park, Evergreen Park, Veterans Park, Laurel Park, and Denni Street Park.

3.11.2.1 Denni Street Park

Denni Street Park is located in the City of La Palma at the south end of Denni Street in a residential neighborhood. This park is adjacent to the existing Los Alamitos Sub-trunk and Westside Relief Interceptor pipeline that would have some portions replaced under Build Alternative 1 or would be entirely replaced under Build Alternative 2. The park is 0.3 acre and contains landscaped vegetation, including a grassy area, trees, and shrubs. This park connects to the Southern California Edison right-of-way easement located south of the park, which is also used as a multi-use trail that connects to Coyote Creek Bikeway. Denni Street Park has a play structure surrounded by a concrete sidewalk, as well as benches, picnic tables, and trash cans. This park does not contain a dedicated parking lot.

3.11.2.2 Evergreen Park

Evergreen Park is located in the City of Cypress along Moody Street north of Orange Avenue in a residential neighborhood. Evergreen Park is adjacent to the Orange-West Sub-trunk Interceptor pipeline rehabilitation portion of both Project Build Alternatives 1 and 2. The park is 5.1 acres and contains landscaped vegetation, including a grassy area, trees, and shrubs. It has a picnic area, basketball court, grass athletic field with a backstop, and restrooms, as well as benches, picnic tables, concrete paths, and trash cans. This park contains dedicated parking lot accessible from Moody Street.

3.11.2.3 Laurel Park

Laurel Park is located in the City of Los Alamitos at the northeast corner of the intersection of Katella Avenue and Bloomfield Street and adjacent to the Los Alamitos Elementary School. Laurel Park is adjacent to the existing Westside Relief Interceptor pipeline that would be replaced for Project Build Alternative 1 and rehabilitated for Project Build Alternative 2. It is located in a mix of commercial offices, light industrial, and community facilities. The park is 4.3 acres and contains landscaped vegetation, including a grassy area, trees, and shrubs. It has a picnic area, lighted multi-purpose field, tennis courts, and restrooms, as well as benches, picnic tables, and trash cans. This park contains dedicated parking lot accessible from Bloomfield Street.

3.11.2.4 Veterans Park

Veterans Park is located in a residential neighborhood in the City of Cypress at the northeast corner of the intersection of Ball Road and Denni Street. Veterans Park is adjacent to the Orange-West Sub-trunk Interceptor pipeline that would be rehabilitated for both Build Alternatives 1 and 2. The park is 6.4 acres and contains landscaped vegetation, including a grassy area, trees, and shrubs. It has a picnic area with a pavilion, skate park, basketball court, sand volleyball court, and restrooms, as well as benches, picnic tables, and trash cans. This park contains dedicated parking lot accessible from Avenida Granada.

3.11.2.5 Willow Park

Willow Park is located in the City of Cypress at the northeast corner of Orange Avenue and Denni Street across from Lexington Junior High School and is generally located in a residential neighborhood. Willow Park is adjacent to the segment of the Orange-West Sub-trunk Interceptor pipeline that would be rehabilitated and the existing Los Alamitos Sub-trunk and the Westside Relief Interceptor pipelines that would be replaced for both Build Alternatives 1 and 2. The park is 2.9 acres and contains landscaped vegetation, including a grassy area, trees, and shrubs. It has a play structure, basketball court, restrooms, and a pond, as well as benches, picnic tables, and trash cans. This park does contain a dedicated parking lot.

3.11.3 Thresholds of Significance

The following significance criterion is based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and is used to evaluate potential for significant Project impacts related to recreation. Project impacts on recreation would be significant if the proposed Project would:

REC-1: 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, or decrease access to parks or recreational facilities.

Other impact significance criteria for recreation identified in Appendix G of the CEQA Checklist have been evaluated previously in Section 4.15 of the Initial Study for the proposed Project (See Appendix A). This previous evaluation determined that the proposed Project would result in either no impact or in less than significant impacts to recreation under these criteria. As a result, the following impact significance criterion has not been evaluated further within this EIR:

- Potential for the project to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

3.11.4 Impact Analysis

The differences between the two build alternatives are minor and have the same level of significance findings relative to the impact analysis for recreation. Thus, the impacts described in this section are the same for Build Alternative 1 and Build Alternative 2.

REC-1: *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, or decrease access to parks or recreational facilities?*

3.11.4.1 Construction Impacts

Under either build alternative, the proposed Project would not increase the use of parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Additionally, construction activities would not occur within the boundaries of any parks or recreational areas or cause their closures. Five parks (Evergreen Park, Denni Street Park, Laurel Park, Veterans Park, and Willow Park) whose access could be temporarily reduced due to construction are located adjacent to the proposed Project site; specifically, park visitors could experience a reduction in parking near these facilities. The proposed Project would require lane closures for the replacement and/or rehabilitation of the pipelines and routine maintenance of sewage lines which could impact potential parking availability on streets near the above-mentioned parks. It was determined that Laurel Park, Evergreen Park, and Veterans Park all have dedicated parking lots; none would experience a reduction in access during construction because the replacement and/or rehabilitation of the pipelines would not encompass these areas. Additionally, the Westside Relief Interceptor sewer line rehabilitation work adjacent to Veterans Park would use the cured-in-place pipe (CIPP) construction method and would not require any open-cut construction. Thus, disruption from lane closures and routine maintenance near Veterans Park would be relatively low.

Reconstruction of the Los Alamitos Sub-trunk sewer line near Denni Street Park and Willow Park could temporarily reduce access due to construction. The sewer line beneath the Denni Street Park needs to be reconstructed and would use trenchless technology (e.g., pipe bursting, micro tunneling, directional drilling, etc.) instead of open-cut construction to install the replacement sewer line. This method would minimize construction disturbance such as lane closures and routine maintenance and would prevent any construction from occurring within the park. However, construction along Denni Street near the park could reduce access to the park due to the equipment and entry/exit pit that may be required in Denni Street adjacent to the park. It should be noted that although street parking near Denni Street Park may be temporarily reduced during daytime hours, ample parking that enables access to the park is available along Denni Street and Robin Drive.

Reconstruction of the Los Alamitos Sub-trunk sewer line near Willow Park along Denni Street would use open-cut construction requiring lane closures, which could reduce access to the park. Specifically, the lane closures could result in the temporary reduction of street parking along north- and southbound Denni Street between Orange Avenue and Newman Avenue. It should be noted that although street

parking along Denni Street near Willow Park may be reduced, ample parking at the nearby Lexington Junior High School to the west and A.E. Arnold Elementary School to the north would enable access to the park.

Impacts from the proposed Project on park access and parking would be temporary, and disruptions would be short in duration (days to weeks). All of the identified parks would remain open, and impacts to access for these parks discussed above would be less than significant.

3.11.4.2 Operational Impacts

Under either build alternative, most of the proposed Project elements would be located underground, except for the Westside Pump Station, where certain upgrade elements (e.g., air scrubber) would be located above ground. No operational impacts to recreational facilities are anticipated as a result of the proposed Project in relation to the sewer lines, manholes, or the Westside Pump Station. Moreover, the project would not induce growth or increase demand for park facilities.

3.11.4.3 No Build Alternative

Under the No Build Alternative, there would be no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station other than routine operations and maintenance activities as discussed in Section 2.6. The No Build Alternative would have no impacts on existing neighborhood and regional parks or other recreational facilities.

3.11.5 Mitigation Measures

No mitigation measures are required.

3.12 Traffic and Circulation

This section provides an overview of the existing transportation network; evaluates the potential impacts to traffic, transportation, and circulation that could result from the proposed Project; and identifies mitigation measures, as appropriate.

3.12.1 Regulatory Setting

This section describes the applicable regulations pertaining to the transportation network within the proposed Project area. All work would require encroachment permits for work in city streets or within the California Department of Transportation (Caltrans) right-of-way (See Table 2.10-1 and Table 2.11-1).

3.12.1.1 Federal

No applicable federal regulations address the transportation facilities or infrastructure within the proposed Project area.

3.12.1.2 State

Streets and Highways Code Section 660

The California Department of Transportation (Caltrans) is the steward of the California state highway system. The safety of the traveling public, highway workers, and permittees is a primary concern. Caltrans also cooperates with other public agencies and with private parties to promote the safe use of state highways.

An encroachment is defined in Section 660 of the California Streets and Highways Code as “any tower, pole, pole line, pipe, pipeline, fence, billboard, stand or building, or any structure, object of any kind or character not particularly mentioned in the section, or special event, which is in, under, or over any portion of the State highway right-of-way.”

An encroachment permit issued by Caltrans gives authority for the permittee to enter the state highway right-of-way to construct, alter, repair, improve facilities, or conduct specified activities.

3.12.1.3 Local

Orange County’s Congestion Management Program policy requires that intersections identified in the Orange County Transportation Authority (OCTA) Congestion Management Program Highway System maintain a level of service (LOS) grade of E or better (OCTA 2013: 5). If the LOS of a particular intersection falls below this, a deficiency plan must be developed; however, Congestion Management Program legislation specifies that construction, rehabilitation, or maintenance of facilities that impact the system shall be excluded from deficiency determinations (OCTA 2013: 14).

3.12.2 Existing Conditions

The transportation setting for the study area, including the regional access routes in the proposed Project area, local and site access and parking, traffic conditions, public transit routes, bicycle networks, and pedestrian facilities are described below.

3.12.2.1 Regional Access

Interstate 5

Interstate (I-) 5 is a north-south freeway that runs through the center of Orange County between the Pacific Coast Highway and the Santa Ana Mountains. In the vicinity of the proposed Project area, I-5 is a 10-lane freeway with five travel lanes in each direction. Access to the general Project area from the north or south would be from the Buena Park exit at State Route (SR-) 91 and/or the Orange Exit at SR-22.

Interstate 405

Interstate 405 (I-405) is a north-south freeway that runs along the coastal region of Orange County between the Pacific Coast Highway and I-5. In the vicinity of the proposed Project, I-405 is a 14-lane freeway with seven travel lanes in each direction. Access to the general Project area from the north or south would be from the Seal Beach Boulevard or Valley View Street exits.

Interstate 605

Interstate 605 (I-605) is a north-south connector freeway that runs from Interstate 210 in the north near Pasadena with a terminus in the Project area at Rossmoor (I-405/SR-22). In the vicinity of the proposed Project, I-605 is an eight-lane freeway with four travel lanes in each direction. Access to the general Project area from the north or south would be from the Del Amo Boulevard, Carson Street, Cerritos Avenue, and Los Alamitos exits.

State Route 22

State Route 22 (SR-22) is an east-west connector highway that runs from State Route 1 (SR-1, Pacific Coast Highway) in the west to State Route 55 in the east in Orange, California. SR-22 is located on the southern portion of the Project area which provides access to the various local streets: Los Alamitos Street, Seal Beach Boulevard, and Valley View Street.

State Route 39

State Route 39 (SR-39), known as Beach Boulevard within the Project area, is a north-south connector highway that runs from SR- 72 in the north at La Habra to SR-1 in the south at Huntington Beach. SR-39 is located along the western portion of the Project area which provides access to various local streets, including La Palma Avenue, Lincoln Avenue, Orange Avenue, Cerritos Avenue, and Katella Avenue.

State Route 91

State Route 91 (SR-91), known as the Artesia Freeway within the Project area, is an east-west connector highway that runs from Interstate 110 in the west at Gardena to Riverside, California, at Interstate 215. Located along the northern part of the Project area, SR-91 provides access to various local streets including Moody Street, Valley View Street, and Beach Boulevard.

3.12.2.2 Local and Site Access and Parking

The proposed Project is located primarily within public rights-of-way (e.g., streets and easements) in the Cities of Anaheim (Western Avenue and Orange Avenue), Buena Park (Western Avenue and Orange Avenue), Cypress (Denni Street, Guardian Drive, Moody Street, Orange Avenue, Bloomfield Street, West Cerritos Avenue, Chestnut Street, Sausalito Street, Oak Street, and Katella Avenue), La Palma (Denni Street and Moody Street), Los Alamitos (Katella Avenue and Los Alamitos/Seal Beach Boulevard), Seal Beach (Seal Beach Boulevard and North Gate Road), and Rossmoor (unincorporated County of Orange). The Westside Pump Station is located at 3112 Yellowtail Drive (see Figure 2.2-1).

Los Alamitos Sub-trunk Project Area

The Los Alamitos Sub-trunk starts at the intersection of Denni Street and La Palma Ave in the City of La Palma. The pipeline continues south in Denni Street until Crescent Avenue where Denni Street is intersected by Forest Lawn Memorial Parkway. The pipeline continues south in Forest Lawn Memorial Parkway until Denni Street resumes at the intersection of Denni Street and Lincoln Avenue. The pipeline then continues south in Denni Street until the intersection of Denni Street and Orange Avenue. The pipeline continues west in Orange Avenue until the intersection of Bloomfield Street and Orange Avenue. The pipeline continues south in Bloomfield Street until the intersection of Bloomfield Street and Cerritos Avenue. The pipeline then continues west in Cerritos Street until the intersection of Cerritos Avenue and Chestnut Street. The pipeline then continues south in Chestnut Street until the intersection of Chestnut Street and Sausalito Street. The pipeline then continues west in Sausalito Street until the intersection of Sausalito Street and Oak Street. The pipeline continues south in Oak Street until the intersection of Oak Street and Katella Avenue. The pipeline continues east in Katella Avenue until the intersection of Katella Avenue and Los Alamitos Boulevard. The pipeline continues south in Los Alamitos Boulevard until Los Alamitos Boulevard becomes Seal Beach Boulevard. The pipeline continues south in Seal Beach Boulevard until the intersection of Seal Beach Boulevard and Old Ranch Parkway. The pipeline continues southwest in Old Ranch Parkway until the pipeline ends approximately 600 feet northeast of East 7th Street on Old Ranch Parkway in the community of Rossmoor.

Denni Street begins as a north-south two-lane roadway with one travel lane in each direction. It is intersected by the Forest Lawn Memorial Park between Crescent and Lincoln avenues, after which it becomes a four-lane roadway with two travel lanes in each direction. Some on-street parking is permitted on both sides.

Orange Avenue is an east-west four-lane roadway with two travel lanes in each direction and no on-street parking on either side due to operating bicycle lanes. There is a school crossing between Somerset Lane and Denni Street.

Bloomfield Street is a north-south four-lane roadway with two travel lanes in each direction. On-street parking is permitted on both sides north of Ball Street. South of Ball Street, on-street parking is permitted only on the east side of the street due to operating bicycle lanes.

Cerritos Avenue is an east-west four-lane roadway with two travel lanes in each direction, and on-street parking is permitted on both sides. A school zone is designated between Sierra Crescent and Humboldt Street.

Chestnut Street is a north-south two-lane roadway with one travel lane in each direction, and on-street parking is permitted on both sides.

Sausalito Street is an east-west two-lane roadway with one travel lane in each direction, and on-street parking is permitted on both sides.

Oak Street is a north-south two-lane roadway with one travel lane in each direction, and on-street parking is permitted on both sides.

Katella Avenue is an east-west six-lane roadway with three travel lanes in each direction, and on-street parking is permitted on both sides.

Los Alamitos is a north-south six-lane roadway with three travel lanes in each direction. On-street parking is permitted in some sections on either side.

Seal Beach Boulevard is a north-south six-lane roadway with three travel lanes in each direction, and on-street parking is available in some sections on either side.

Old Ranch Parkway is a northeast-southwest two-lane roadway with one travel lane in each direction, and no on-street parking is permitted on either side.

Orange-Western Sub-trunk Project Area

The Orange-Western Sub-trunk starts approximately 100 feet south of Santa Elena Drive on Western Avenue in the City of Buena Park. The pipeline continues south in Western Avenue until the intersection of Western Avenue and Orange Avenue. The pipeline then continues west in Orange Avenue until it ends at the intersection of Orange Avenue and Valley View Street in the City of Cypress.

Western Avenue is a north-south five-lane roadway with two lanes travelling in each direction and a shared turning lane in the center. Some on-street parking is permitted on both sides between Crescent Avenue and Jackson Way, otherwise there is no on-street parking on either side. Two school crossings are located on the corner of Jackson Way and between Del Monte Drive and Lindacita Way.

Orange Avenue is an east-west, four-lane roadway with two travel lanes in each direction and an intermittent shared turning lane in the center. Some on-street parking is permitted on both sides, generally in locations with no center turning lane. Two school crossings are located west of Holder Street and west of Danbrook Drive.

Seal Beach Blvd. Interceptor Project Area

The Seal Beach Blvd. Interceptor begins just south of the Westside Pump Station at the end of Old Ranch Parkway in the City of Seal Beach. The pipeline continues south across the I-405 right-of-way and in North Gate Road south of I-405 until merging with Seal Beach Boulevard. The pipeline then continues south in Seal Beach Boulevard until it ends at the Seal Beach Pump Station located at the intersection of Seal Beach Boulevard and Westminster Boulevard. The Naval Weapons Station Seal Beach extends to the centerline of Seal Beach Boulevard.

North Gate Road is a north-south two-lane roadway with one travel lane in each direction. On-street parking is permitted on both sides.

Seal Beach Boulevard is a north-south six-lane roadway with three travel lanes in each direction. On-street parking is not permitted on either side due to operating bike lanes.

A majority of the proposed Project area, approximately 3,500 feet of Seal Beach Blvd. Interceptor, is on easement on United States Navy land.

Westside Relief Interceptor Project Area

The Westside Relief Interceptor starts approximately at the intersection of Crescent Avenue and Moody Street in the City of La Palma. It continues south in Moody Street until the intersection of Moody Street and Orange Avenue. The pipeline then continues west in Orange Avenue until the intersection of Orange Avenue and Denni Street. The pipeline continues south in Denni Street until West Cerritos Avenue where Denni Street becomes Lexington Drive. The pipeline continues south in Lexington Drive until the intersection of Lexington Drive and Katella Avenue. The pipeline continues west in Katella Avenue until the intersection of Katella Avenue and Los Alamitos Boulevard. The pipeline continues south in Los Alamitos Boulevard until Los Alamitos Boulevard becomes Seal Beach Boulevard. The pipeline continues south in Seal Beach Boulevard until the intersection of Seal Beach Boulevard and Old Ranch Parkway. The pipeline then continues southwest in Old Ranch Parkway until the pipeline ends approximately 600 feet northeast of East 7th Street on Old Ranch Parkway in the community of Rossmoor.

Moody Street is a north-south five-lane roadway with two travel lanes in each direction and a shared turning lane in the center. On-street parking is limited and works in interaction with the bicycle lanes on both sides (some areas are designated no parking at any time).

Orange Avenue is an east-west four-lane roadway with two travel lanes in each direction. On-street parking is not permitted due to operating bicycle lanes. One school crossing is on the corner of Denni Street.

Denni Street is a north-south four-lane roadway with two travel lanes in each direction. On-street parking is not permitted due to operating bicycle lanes. One school crossing is on the corner of Nestle Avenue.

Lexington Drive is a north-south two-lane roadway with one travel lane in each direction. On-street parking is not permitted on either side.

Katella Avenue is an east-west six-lane roadway with three travel lanes in each direction, and on-street parking is permitted on both sides.

Los Alamitos is a north-south six-lane roadway with three travel lanes in each direction. On-street parking is permitted in some sections on either side.

Seal Beach Boulevard is a north-south six-lane roadway with three travel lanes in each direction and some on-street parking available on both sides.

Old Ranch Parkway is a northeast-southwest two-lane roadway with one travel lane in each direction and no on-street parking permitted on either side.

Westside Pump Station

The Westside Pump Station is located at 3112 Yellowtail Drive in the unincorporated community of Rossmoor. Force main rehabilitation or replacement would extend approximately 70 feet south, from Bixby Channel to Old Ranch Parkway.

3.12.2.3 Traffic Conditions

This section describes the traffic volumes in the study area and the existing operating conditions at a few Congestion Management Program locations as defined by OCTA.

Traffic Volumes

Table 3.12-1 summarizes the daily traffic volumes on the major regional access routes at the relevant exits for access to the proposed Project area.

Table 3.12-1: Annual Average Daily Traffic Volumes on Regional Facilities

Facility and Location	Annual Average Daily Traffic (AADT) Volumes
I-5 at Buena Park Exit	217,740
I-5 at Orange Avenue Exit	328,760
I-405/SR-22 at Valley View Street	319,070
I-405/SR-22 at Seal Beach Boulevard	372,000
I-605 at Del Amo Boulevard	220,570
I-605 at Carson Street	203,310
I-605 at Cerritos Avenue	182,100

Table 3.12-1: Annual Average Daily Traffic Volumes on Regional Facilities

Facility and Location	Annual Average Daily Traffic (AADT) Volumes
I-605 at Los Alamitos Boulevard	163,610
SR-22 at Valley View Street	319,070
SR-39 at La Palma Avenue	372,000
SR-39 at Lincoln Avenue	220,570
SR-39 at Orange Avenue	203,310
SR-39 at Cerritos Avenue	182,100
SR-39 at Katella Avenue	163,610
SR-91at Moody Street	319,070
Source: KSS Fuels	

Table 3.12-2 summarizes the daily traffic volumes on the sections of local roads within the proposed Project area.

Table 3.12-2: Project Area Local Daily Traffic Volumes

Roadway	Project Site	Annual Average Daily Traffic (AADT) Volumes
Western Avenue	Orange-Western	19,180
Orange Avenue	Orange-Western	16,400
Denni Street	Los Alamitos	7,200
Orange Avenue	Los Alamitos	7,390
Bloomfield Avenue	Los Alamitos	16,430
Cerritos Avenue	Los Alamitos	22,420
Los Alamitos Boulevard	Los Alamitos/Westside Relief	44,070
Seal Beach Boulevard	Los Alamitos/Westside	42,090
Moody Street	Westside Relief	20,840
Orange Avenue	Westside Relief	9,770
Denni Street	Westside Relief	7,780
Lexington Drive	Westside Relief	1,240
Katella Avenue	Westside Relief	47,680
Source: KSS Fuels		

Intersection Operations

Four Congestion Management Program locations are identified by OCTA in the vicinity of the proposed Project area. Table 3.12-3 summarizes these four Congestion Management Program locations, showing the OCTA 2015 baseline for Level of Service (LOS) and Intersection Capacity Utilization (ICU) for both the AM peak period (6:00 to 9:00 a.m.) and the PM peak period (3:00 p.m. to 7:00 p.m.).

Table 3.12-3: Existing Congestion Management Plan Intersection Operating Conditions

Intersection/Interchange	2015 Baseline AM		2015 Baseline PM	
	LOS	ICU	LOS	ICU
SR-91 EB Ramp/Valley View	A	0.58	D	0.86
SR-91WB Ramp/Valley View	C	0.80	E	0.94
Valley View St/Katella Avenue	B	0.63	D	0.87
I-605 NB Ramps/Katella Avenue	B	0.69	B	0.65

Source: OCTA

3.12.2.4 Public Transit

OCTA provides bus services within Orange County (Table 3.12-4). Long Beach Transit, operated by the Long Beach Public Transportation Company, provides bus services between Long Beach and surrounding counties, including Orange County.

In the vicinity of the Westside Relief Interceptor rehabilitation site, OCTA Route 42 runs along Katella Avenue between Lexington Drive and Los Alamitos Boulevard; and OCTA Route 50 and Route 701 run along Los Alamitos Boulevard between Katella Avenue and Lampson Avenue. In the vicinity of the Los Alamitos Sub-trunk rehabilitation site, OCTA Route 42 runs along Los Alamitos Boulevard between Katella Avenue and Lampson Avenue; Route 46 runs along Cerritos Avenue between Bloomsfield Street and Los Alamitos Boulevard; and Routes 50 and 701 run along Katella Avenue between Oak Street and Los Alamitos Avenue. Long Beach Transit Route 104 also enters the Los Alamitos site at the corner of Cerritos and Los Alamitos avenues. No bus routes are in the vicinity of the Orange-Western Sub-trunk site or the Seal Beach Blvd. Interceptor site.

Table 3.12-4: Transit Routes Potentially Affected within the Project Area

Site	Route	Stop Numbers Potentially Affected*
Orange-Western Sub-trunk	N/A	N/A
Westside Relief Interceptor	42-Eastbound	4592, 4593, 4594, 4595, 6868, 6869
Westside Relief Interceptor	50-Eastbound	4574, 4576, 4577, 4578
Westside Relief Interceptor	701-Eastbound	6868
Los Alamitos Sub-trunk	42-Westbound	4603, 4604, 4605, 4606, 6870, 6871, 6872, 6873
Los Alamitos Sub-trunk	46-Westbound	4569, 4570, 4571
Los Alamitos Sub-trunk	50-Eastbound	8064

Table 3.12-4: Transit Routes Potentially Affected within the Project Area

Site	Route	Stop Numbers Potentially Affected*
Los Alamitos Sub-trunk	701-Southbound	8064
Seal Beach Blvd. Interceptor	N/A	N/A

Source: OCTA

* Each of these stops is located within the potential construction zone area immediately surrounding the pipelines to be rehabilitated/replaced. Whether each and every stop listed would be affected depends on factors to be determined (such as preferred replacement alignment and mix of rehabilitation or replacement).

3.12.2.5 Bicycle Network

Commuter bikeways are classified as Class I, II, or III facilities (California Streets and Highway Code Section 890.4). Class I bikeways are bike paths that are on a separate right-of-way from roadways and are usually shared by bicyclists and pedestrians. Class II bikeways are bike lanes that are on-street facilities that use painted stripes and stencils to delineate the rights-of-way assigned to bicyclists and motorists. Class III bikeways are bike routes that are signed on-street facilities that accommodate vehicles and bicycles in the same travel lane.

In the vicinity of the Orange-Western Sub-trunk, Orange Avenue east of Holder Street and finishing at Holder Street is a designated bikeway (Class III). In the vicinity of the Westside Relief Interceptor, Moody Street between Crescent and Orange avenues, Orange Avenue between Moody and Denni streets, and Denni Street between Orange Street and Ball Road all provide bicycle lanes (Class II). In the vicinity of the Los Alamitos Sub-trunk designated bike routes (Class III) are on Bloomfield Street between Orange Avenue and Ball Road and on Cerritos Avenue between Bloomfield and Chestnut streets. In addition, bike lanes (Class II) are provided on Orange Avenue between Denni and Bloomfield streets and on Bloomfield Street between Ball Road and Cerritos Avenue.

3.12.2.6 Pedestrian Facilities

In the Orange-Western Sub-trunk portion of the Project area, sidewalks are provided on both sides of the street for the duration of both Western and Orange avenues. In the Westside Relief Interceptor portion of the Project area, sidewalks are generally provided on both sides of the road except on Lexington Drive between Cerritos and Katella avenues where, for the first half, sidewalks are provided only on the east side of the road and, for the second half, sidewalks are provided only on the west side of the road. For the section of both the Westside Relief Interceptor and the Los Alamitos Sub-trunk on Old Ranch Parkway from Seal Beach Boulevard until the end of the proposed Project area, no sidewalks are on either side of the road. In the Los Alamitos Sub-trunk portion of the Project area, sidewalks are generally provided on both sides of the road. The exceptions are on Denni Street between Fontainebleau Way and Crescent Avenue, where only the east side of the road has a sidewalk, and on Guardian Drive between Crescent Avenue and Cypress Drive, where no sidewalks are on either side of the road.

3.12.2.7 Emergency Services

Fire protection and emergency medical services in the proposed Project area are provided by the Orange County Fire Authority (OCFA). Four fire stations are located within the proposed Project area: OCFA Station #2, located southwest of the proposed Project area at 3642 Green Avenue in Los Alamitos; OCFA Station # 17, located south of the proposed Project area at 4991 Cerritos Avenue in Cypress; OCFA Station #63, located in the center of the proposed Project area at 9120 Holder Street in Buena Park; and OCFA Station # 61, located northeast of the proposed Project area at 8081 Western Avenue in Buena Park. Additionally, Long Beach Fire Department Station #5 is located adjacent to the proposed Project area to the west, and Los Angeles County Fire Department Station #34 is located adjacent to the proposed Project area to the north.

Two medical centers with emergency rooms are located within the proposed Project area: Los Alamitos Medical Center, located at 3751 Katella Avenue, Los Alamitos, southwest of the Project area; and La Palma Intercommunity Hospital, located at 7901 Walker Street, La Palma, northeast of the Project area.

3.12.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations 15000 et seq.) and are used to determine the significance of potential traffic and circulation impacts. Impacts to traffic and circulation would be significant if the proposed Project would:

- TRANS-1:** Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit
- TRANS-2:** Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways
- TRANS-3:** Result in inadequate emergency access

Other impact significance criteria for Traffic/Circulation, identified in Appendix G of the CEQA Checklist, have been evaluated previously in Section 4.16 of the Initial Study for the proposed Project (See Appendix A). This previous evaluation determined that the proposed Project would result in either no impact or in less than significant impacts to traffic and transportation under these criteria. As a result, the following impact significance criteria have not been evaluated further within this Environmental Impact Report (EIR):

- Potential to result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

- Potential to substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

3.12.4 Impact Analysis

TRANS-1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

3.12.4.1 Construction Impacts

As described in Section 2.5, the anticipated construction area necessary for replacement work would be up to 25 feet wide and 500 to 1,000 feet long. The anticipated construction area for rehabilitation work would involve two locations measuring 15 feet by 60 feet (at an upstream location) and 15 feet by 30 feet (at a downstream location). Manhole rehabilitation/replacement would result in some traffic disruption and driver inconveniences. Although lane closures are likely, full road closures on primary streets are not anticipated with either pipeline rehabilitation/replacement or manhole rehabilitation/replacement. On smaller streets or where other constraints occur, one-way traffic control and/or on-street parking restrictions may be required within the construction area. Additionally, construction on all major streets would occur during hours approved by the corresponding jurisdiction. It is anticipated that nighttime work may be required at certain times or in certain locations to reduce either traffic or other impacts; however, all nighttime work would require prior approval by the affected corresponding jurisdiction.

Common Build Alternative Element Impacts

In addition to the rehabilitation and/or replacement activities previously discussed for the Los Alamitos Sub-trunk and the Westside Relief Interceptor, both build alternatives would require rehabilitation of the Orange-Western Sub-trunk and the Seal Beach Blvd. Interceptor. They would also both require rehabilitation/replacement of the Westside Pump Station force main and wet well and the addition of either an air scrubber in a separate enclosure or an air jumper line.

If the construction areas for the rehabilitation or replacement activities occupy Orange County Sanitation District's (OCS) preferred location (inside lanes), access to bicycle lanes (see Section 3.12.2.5) and transit bus stops (see Section 3.12.2.4) within that area would not be affected. At this time, however, the new alignment of the replaced pipe is unknown. Because replacement may be required in the outside lanes, access to bicycle lanes and bus stops may be temporarily reduced during construction. However, as outlined below, where this is the case, any impacts would be reduced as part of the traffic control plan (TCP) process.

It is a contractual requirement and a listed ECM that, as a part of the proposed Project, OCSD would require the contractor to prepare traffic control plans (TCPs). TCPs must be prepared by a licensed California Traffic Engineer. The TCPs would be submitted to the corresponding jurisdiction for review and approval. OCSD would contractually require that the TCPs specifically address construction traffic and necessary lane or road closures within the public rights-of-way of the Cities of Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, and Seal Beach and the County of Orange. The TCPs would specify permissible construction times and ensure bicyclist, pedestrian, and bus access throughout construction through the use of signage and flagmen when necessary and temporary relocation of bus stops and detours of bike lanes and pedestrian walkways. The traffic control plans would also specify provisions to ensure emergency vehicle passage at all times, including the use of signage and flagmen when necessary to allow emergency vehicles to pass. Temporary relocation of bus stops would be coordinated with OCTA service planning staff as required to ensure no interruption of service. Temporary closure/detour of bike lanes would be coordinated with local jurisdictions as required.

Additionally, under both build alternative scenarios, rehabilitation activities associated with Seal Beach Blvd. Interceptor would encroach into Caltrans right-of-way for SR-22 and I-405. Replacement and/or rehabilitation activities associated with the Westside Pump Station force main and the Los Alamitos Sub-trunk and rehabilitation activities associated with the Westside Relief Interceptor may also affect access to the freeway from Old Ranch Parkway. Work that would affect on-ramp access or would require encroachment into state highway right-of-way cannot occur without first obtaining approval from the Caltrans District 12 encroachments permit office. During final design, OCSD would obtain an encroachment permit, as required, for all work that could affect freeway operations or encroach within state highway right-of-way. The permitting process establishes terms and conditions under which the permittee is granted permissive authority to enter onto State right-of-way to perform construction-related activities. In order to obtain this permit, OCSD would have to establish to Caltrans through the application process that any construction activities ensure the safety of the traveling public, highway workers, and permittees; and protect, maintain, and enhance the quality of the state highway system during and after the permitted work in compliance with Caltrans requirements. This is done through the submittal of detailed plans outlining existing conditions and proposed construction work.

Build Alternative 1

Both rehabilitation and replacement activities would encroach into traffic lanes and require temporary lane closures, parking restrictions, and nighttime construction to minimize traffic impacts at key project locations. Locations where pipeline replacement is required would result in the largest encroachment into traffic lanes and the greatest impacts to traffic. It should be noted that both rehabilitation and replacement activities are expected to require temporary lane closures within the construction area; however, as stated above, the TCPs would be required to ensure that local and business access is maintained at all times during construction.

For the reasons outlined above, construction impacts on the effectiveness of the performance of the circulation system under Build Alternative 1 would be less than significant.

Build Alternative 2

As outlined in Section 2.4.2.2, Build Alternative 2 would require construction of a second diversion structure at the intersection of Denni Street and Orange Avenue; and the Los Alamitos Sub-trunk would be replaced along its entire length. The Westside Relief Interceptor would be rehabilitated along its entire length. This would result in an additional replacement of approximately 19,080 linear feet of the Los Alamitos Sub-trunk. This means that the locations generally south of the intersection of Bloomfield Street and Cerritos Avenue along the Los Alamitos Sub-trunk (Cerritos Avenue, Chestnut Street, Sausalito Street, Oak Street, Katella Avenue, Los Alamitos Boulevard, Seal Beach Boulevard, and Old Ranch Parkway) would be subject to an increase in anticipated construction area associated with the replacement activities over rehabilitation activities as outlined above, with respect to the work on the Los-Alamitos Sub-trunk. This would be offset by the rehabilitation of approximately 16,010 linear feet of the Westside Relief Interceptor. This means that the locations generally south of the intersection of Denni Street and Myra Avenue (Denni Street, Lexington Drive, Katella Avenue, Los Alamitos Boulevard, Seal Beach Boulevard, and Old Ranch Parkway) would be subject to a decrease in anticipated construction area associated with rehabilitation activities over replacement activities. Further, the locations associated with both the Los Alamitos Sub-trunk and the Westside Relief Interceptor (Katella Avenue, Los Alamitos Boulevard, Seal Beach Boulevard, and Old Ranch Parkway) would alternately be subject to both replacement and rehabilitation activities. The result is an overall increase in pipe replacement of approximately 3,070 linear feet (approximately 3.5 percent of total pipeline to be replaced or rehabilitated).

Additionally, as tabulated in Appendix B-1, Construction Details for Build Alternatives 1 & 2, the increased construction associated with pipeline replacement would result in an associated increase in construction time for pipeline replacement. The increased overall level of pipeline replacement under Build Alternative 2 would result in an increased number of total working days under this build alternative. As tabulated in Appendix B-1, Build Alternative 2 would result in an additional 140 total working days for the Los Alamitos Sub-trunk, due to increased pipeline replacement. This would be offset by a decrease of 65 total working days for the Westside Relief Interceptor due to the substitution of pipe replacement with pipe rehabilitation under this build alternative. This would result in a net total of an additional 75 working days for Build Alternative 2. This increase in working days would result in an increased impact on traffic under this build alternative, as compared to Build Alternative 1, by increasing both the duration of lane closures and the number of days that traffic levels within the Project area would be affected by construction-related trips.

While Build Alternative 2 would result in an increase in construction area and construction duration, the measures outlined above would remain effective. For these reasons, and despite the differences outlined between Build Alternative 1 and Build Alternative 2, construction impacts on the effectiveness

of the performance of the circulation system under Build Alternative 2 would still be less than significant.

3.12.4.2 Operational Impacts

The operation of both build alternatives would be similar and consist of trips within the Project area to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber if it is selected for the proposed Project. Occasionally, these activities would also require temporary lane closures to accommodate sewer maintenance. Such operational impacts are already part of the baseline conditions due to existing ongoing sewer maintenance. Maintenance activities would be coordinated in advance with each corresponding jurisdiction. OCSD would comply with each affected jurisdiction's requirements for encroachment into the city streets (e.g., prepare traffic control plans, comply with Work Area Traffic Control Handbook, etc.) in order to ensure minimal impact on traffic circulation. Operation impacts on effectiveness of the performance of the circulation system would therefore be less than significant.

TRANS-2: Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?

3.12.4.3 Construction Impacts

Two Congestion Management Program roadways are within the proposed Project area, Valley View Boulevard and Katella Avenue. Construction on all Congestion Management Program roadways would be completed outside AM (6:00 a.m. to 9:00 a.m.) and PM (3:00 p.m. to 7:00 p.m.) peak hours. Through the process of developing traffic control plans as part of the construction effort, it may be determined through that review process that construction is required outside of peak hours. As noted in the ECMs shown in Table 2.10-1, the contractor would be contractually required to implement a Traffic Control Plan (TCP) which, among other things, would specify permissible construction times to ensure continued vehicular and pedestrian access based upon the specific jurisdictional requirement. Based on these ECMs, potential impacts would be less than significant.

Common Build Alternative Element Impacts

Both build alternatives would require construction activities on Katella Avenue associated with both the Los Alamitos Sub-trunk and the Westside Relief Interceptor. As shown in Section 2.10, Environmental Control Measures (Table 2.10-1, Traffic and Circulation) OCSD would contractually prohibit concurrent construction for the Westside Relief Interceptor and the Los Alamitos Sub-trunk on Katella Avenue.

The Orange-Western Sub-trunk ends at the intersection of Valley View Boulevard and Orange Avenue. Orange Avenue is a four-lane roadway. Both build alternatives require rehabilitation of the Orange-Western Sub-trunk along its entirety. As described in Section 2.5, Construction, rehabilitation activities have a lower anticipated construction area than replacement activities. Even if closure of one lane is

required for the final section of rehabilitation on Orange Avenue leading up to Valley View Boulevard, the disparity in annual average daily traffic volumes, as shown in Table 3.12-2, indicates that this rehabilitation work would have little if any impact on traffic on Valley View Boulevard.

Table 3.12-3 shows the four Congestion Management Program intersections within the vicinity of the proposed Project area. OCTA policy requires that Congestion Management Program intersections maintain at least LOS E or higher; otherwise, a deficiency plan must be devised. The 2015 baselines during both AM and PM peak periods are all LOS E or better. Further, OCTA policy indicates that construction activities are excluded from deficiency determinations. In addition, the proposed Project would require TCP approval for work on all roadways, including Congestion Management Program roadways, which would ensure that any impact to circulation is mitigated.

Build Alternative 1

Under Build Alternative 1, Katella Avenue would be subject to replacement activities, as outlined in Section 3.12.4.1, for the Westside Relief Interceptor from the intersection of Los Alamitos Boulevard to Lexington Drive and to rehabilitation activities, as outlined in Section 3.12.4.1, associated with the Los Alamitos Sub-trunk from the intersection of Los Alamitos Boulevard to Oak Street. Build Alternative 1 replaces approximately 5,300 linear feet of pipeline along Katella Avenue and rehabilitates approximately 1,250 linear feet of pipeline. This would result in an overall anticipated construction area of approximately 151,250 square feet.

For the reasons outlined above, any impacts on the Congestion Management Program under Build Alternative 1 would be less than significant.

Build Alternative 2

Under Build Alternative 2, Katella Avenue would be subject to rehabilitation activities, as outlined in Section 3.12.4.1, for the Westside Relief Interceptor from the intersection of Los Alamitos Boulevard to Lexington Drive and by replacement activities, as outlined in Section 3.12.4.1, associated with the Los Alamitos Sub-trunk from the intersection of Los Alamitos Boulevard to Oak Street. Build Alternative 2 replaces approximately 1,250 linear feet of pipeline along Katella Avenue and rehabilitates approximately 5,300 linear feet along Katella Avenue. This would result in an overall anticipated construction area of approximately 79,500 square feet. Compared to Build Alternative 1, this alternative would result in an overall decrease in anticipated construction area of 71,750 square feet due to the overall increase in rehabilitation activities, which have a smaller anticipated construction zone. This decrease in anticipated construction area results in a lower potential for impact on Katella Avenue from encroachment into traffic under Build Alternative 2; however, proportionately greater impacts occur on Los Alamitos Boulevard under Build Alternative 2, resulting in greater overall traffic impacts under Build Alternative 2 as compared to Build Alternative 1.

For the reasons outlined above, and despite the differences outlined between Build Alternative 1 and Build Alternative 2, any impacts on the Congestion Management Program under Build Alternative 2 would be less than significant.

3.12.4.4 Operational Impacts

The operation of both build alternatives would be similar and consist of trips within the Project area to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber if it is selected for the proposed Project. Occasionally, some of these activities may also require temporary lane closures to accommodate sewer maintenance. It should be stated that these operational impacts are already part of the baseline conditions due to existing ongoing sewer maintenance. As noted in Section 3.12.4.2, operational differences between the two build alternatives would be negligible. Maintenance activities would be coordinated in advance with each jurisdiction. OCSD would comply with each affected jurisdiction's requirements for encroachment (e.g., prepare traffic control plans, comply with Work Area Traffic Control Handbook, etc.) prior to any encroachment. OCSD would prepare traffic control plans for approval prior to any maintenance activities on Congestion Management Program roadways. Operation impacts on Congestion Management Program roadways or the Congestion Management Program system would be less than significant.

TRANS-3: *Result in inadequate emergency access?*

3.12.4.5 Construction Impacts

The construction of either build alternative would affect emergency access within and through the proposed Project area. As discussed above, however, Build Alternative 2 would have proportionately greater impacts on Los Alamitos Boulevard, resulting in greater overall traffic impacts under Build Alternative 2, as compared to Build Alternative 1. As a result, Build Alternative 2 would be expected to have a proportionately greater potential to affect emergency access, as compared to Build Alternative 1.

The potential effects on emergency access within and through the proposed Project area associated with the construction area for rehabilitation or replacement of the pipelines, as described under TRANS-1, include: *Would encroach into traffic lanes and may require temporary lane and/or street closures; parking restrictions and, potentially, nighttime construction to minimize traffic impacts during the day.* As described under TRANS-1, it is a contractual requirement and a listed ECM that, as part of this project, OCSD would require the contractor to prepare TCPs. TCPs must be prepared by a licensed California Traffic Engineer and would be submitted to the affected jurisdiction for approval. OCSD would contractually require that the TCPs specifically address construction traffic and road closures within the public rights-of-way of the Cities of Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, and Seal Beach and the County of Orange. The traffic control plans would also specify provisions to ensure emergency vehicle passage at all times and include signage, flagmen, or any other means necessary to

maintain emergency access within and through the construction area. The proposed Project would result in less than significant impacts on emergency access within and through the Project area.

Implementation of the proposed Project would entail nighttime (typically after 7:00 p.m. or 8:00 p.m. until 6:00 a.m. or 7:00 a.m., as defined by the applicable cities' noise ordinances) construction in various locations in order to minimize disruption to traffic. An example of such an occurrence would be construction activities at major intersections. Construction activities at such times may conflict with local plans, ordinances, or requirements pertaining to nighttime lighting and noise. Adherence to the Traffic and Circulation ECMs identified in Table 2.10-1 and coordination with pertinent jurisdictional authorities would result in less than significant impacts.

Build Alternative 1

Build Alternative 1 would require a mixture of rehabilitation and replacement activities along both the Los Alamitos Sub-trunk and the Westside Relief Interceptor. As outlined in Section 3.12.4.1, areas where pipeline replacement is required have a greater potential to encroach into traffic lanes due to an increased anticipated construction area. As such, the locations subject to replacement along the Los Alamitos Sub-trunk (Denni Street, Orange Avenue, and Bloomfield Street) and the Westside Relief Interceptor (Denni Street, Lexington Drive, Katella Avenue, Los Alamitos Boulevard, Seal Beach Boulevard, and Old Ranch Parkway) would have a greater potential to encroach into traffic lanes.

For the reasons outlined above, any impact on emergency access under Build Alternative 1 would be less than significant.

Build Alternative 2

As outlined in Section 2.4.2.2, Build Alternative 2 would require construction of a second diversion structure at the intersection of Denni Street and Orange Avenue; and the Los Alamitos Sub-trunk would be replaced along its entire length. The Westside Relief Interceptor would be rehabilitated along its entire length. As outlined in Section 3.12.4.1, this would mean an overall increase in pipeline replacement of 3,070 linear feet under Build Alternative 2, resulting in an increase in the potential encroachment into traffic lanes under this build alternative due to the increased anticipated construction zone.

Additionally, as discussed in Section 3.12.4.1, the increased construction associated with the increased overall levels of pipeline replacement under Build Alternative 2 would lead to an increase of 75 total working days. This would have a greater impact on emergency access due to the increased duration of lane closures and the increased number of days that traffic levels within the Project area would be affected by construction-related trips.

While an increase in construction area and construction duration under this build alternative would affect emergency access, the measures outlined above would remain effective. For these reasons, and

despite the differences outlined between Build Alternative 1 and Build Alternative 2, any impact on emergency access under Build Alternative 2 would be less than significant.

3.12.4.6 Operational Impacts

The operation of both build alternatives would be similar and consist of trips within the Project area to complete routine maintenance; clean sewer lines and manholes; perform visual inspection utilizing closed-circuit television and camera inspection; conduct flow-monitoring, as-needed repairs, and chemical dosing for odor and corrosion control; and operate the air scrubber, if it is selected for the proposed Project. Occasionally, some of these activities would require temporary lane closures to accommodate sewer maintenance. These operational impacts are already part of the baseline conditions due to existing ongoing sewer maintenance. Maintenance activities would be coordinated in advance with each jurisdiction. OCSD would comply with each affected jurisdiction's requirements for encroachment into the city streets (e.g., prepare traffic control plans, comply with Work Area Traffic Control Handbook, etc.), a component of which would require maintenance of local and emergency access at all times, prior to any encroachment into city streets. Operation impacts on emergency access would be less than significant.

3.12.4.7 No Build Alternative

Under the No Build Alternative, no rehabilitation or replacement of the Western Regional Sewers or improvements at the Westside Pump Station would occur other than operations and maintenance activities as discussed in Section 2.6. Occasionally, some of these activities may also require temporary lane closures to accommodate sewer maintenance. Maintenance activities would be coordinated in advance with each jurisdiction, for which OCSD would prepare traffic control plans for approval prior to any maintenance activities. Traffic and circulation impacts associated with the No Build Alternative would be less than significant.

3.12.5 Mitigation Measures

No mitigation measures are required.

4.0 Cumulative Effects

Section 15355 of the California Environmental Quality Act (CEQA) Guidelines defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” Section 15130 of the CEQA Guidelines provides guidance for analyzing significant cumulative impacts in an Environmental Impact Report (EIR). According to Section 15130, the discussion of cumulative impacts “...need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness.” The discussion should also focus only on significant effects resulting from the project’s incremental effects and the effects of other projects. According to Section 15130(a)(1), “[a]n EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.” Cumulative impacts more result from the combined effect over time of other related past, present, and reasonably foreseeable future projects located in proximity to the project under review. Therefore, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future developments whose impacts might compound or interrelate with those of the project under review.

4.1 Cumulative Impact Analysis

According to Section 15130(b) of the CEQA Guidelines, cumulative impact analysis may be conducted and presented by either of two methods: (1) a list of past, present, and probable projects producing related or cumulative impacts; or (2) a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact. The cumulative list approach has been utilized in the cumulative analysis presented in this chapter, as discussed below in Section 4.1.1.

4.1.1 Cumulative Project List

Cumulative impacts for all environmental issue areas are based on a list of projects within the Project area that are in planning or design, are under construction, or have recently been completed. The cumulative projects list provided in Table 4.1-1 was developed by contacting the planning departments in the affected local jurisdictions and reviewing their websites. The Project area includes the affected streets, easements, and OCSD property within the affected jurisdictions described in Chapter 2.0.

Table 4.1-1: Cumulative Project List

Jurisdiction	Cumulative Project Number	Project: Status
Caltrans/OCTA	1	I-405 Widening Project: Design Caltrans/OCTA are proposing to improve the San Diego Freeway (I-405) by adding one general purpose lane and a tolled express lane in each direction between SR-73 and I-605. The project would include improvements on I-405, including approximately 16 miles within the County of Orange, as well as portions of SR-22, SR-73, and I-605. Final design and construction of the project are anticipated to occur between 2017 and 2022.
	2	Katella Avenue/I-605 Interchange Project: Planning Caltrans/OCTA are proposing improvements to the Katella Interchange on I-605.
	3	SR-22 West County Connectors Project: Completed Caltrans/OCTA constructed SR-22/I-405 and I-405/I-605 HOV connectors. The project also included improvements to the Valley View and Seal Beach interchanges, widening of the I-405, and reconstruction of the 7 th Street off-ramp.
OCTA	4	OC Loop Project: Planning/Design/Construction OCTA is currently implementing projects to close approximately 20 miles of gaps in the multi-use network throughout Orange County. Once completed, the OC Loop will be a 66-mile Class I facility.
	5	Katella Ave. BRT: OCTA has proposed the construction and operation of a bus rapid transit (BRT) line on Katella Avenue between Valley View Street on the east and Studebaker Road in Long Beach on the west. Within the Western Regional Sewers Project area, BRT stations are proposed at the intersections of Katella Avenue/Bloomfield and Katella Avenue/Los Alamitos Boulevard.
City of Los Alamitos	6	Expansion of Los Alamitos Medical Center: Design Expansion of the Los Alamitos Medical Center, located on the north side of Katella Avenue between Bloomfield and Cherry streets, is anticipated to be completed in 2025.
	7	Los Alamitos Plaza Redevelopment: Planning Los Alamitos Plaza, located between Reagan Street and Los Alamitos Boulevard on the north side of Katella Avenue was identified for redevelopment in Los Alamitos' 2014 General Plan.
	8	Los Alamitos Boulevard Bike and Pedestrian Improvements: Planning The planned improvement of Los Alamitos Boulevard would include vehicle, multi-modal, and pedestrian improvements.
	9	Class II Bikeway/Oak Street: Planning The creation of a Class II bikeway is planned on Oak Street from

Table 4.1-1: Cumulative Project List

Jurisdiction	Cumulative Project Number	Project: Status
		Sausalito Street to Katella Avenue.
Buena Park	N/A	No project identified within Project area.
Seal Beach	N/A	No project identified within Project area.
La Palma	N/A	No project identified within Project area.
Cypress	10	Barton Place Project: Design A Final EIR was certified in October 2015 by the City of Cypress for the Barton Place Project, a 33-acre development located on the north side of Katella Avenue at Enterprise Drive. The proposed development would include a senior residential community and commercial space in the location of the former Cypress Golf Club.
	11	Forest Lawn New Mausoleum and Garden of Completion projects: Mausoleum construction is underway and anticipated to be completed in 2017. The Garden of Completion is anticipated to be completed by 2016 or 2017.
Anaheim	TBD	No projects identified within the Project area; however, development of an apartment building located on a vacant lot at 3701 West Mungal Drive has been proposed.

The discussion in the following sections evaluates the potential for the proposed Project to result in a significant adverse cumulative effect on the environmental resources discussed in Chapter 3.0. The analysis evaluates: (1) whether the combined impact of the proposed Project and other projects is significant, and if so (2) whether the project's incremental effect is cumulatively considerable. (CEQA Guidelines § 15130.)

4.1.2 Aesthetics

The geographic area affected by cumulative projects for aesthetics is primarily restricted to the surrounding areas with direct views of the Project area.

A significant adverse cumulative aesthetic impact would occur if the construction and operation of the proposed Project, when considered with the cumulative projects listed in Table 4.1-1, would result in permanent impacts that would degrade the existing visual character and quality of the Project area or day or nighttime views of the area.

As described in Section 3.1, replacement of the Los Alamitos Sub-trunk within the Forest Lawn Cemetery would result in the presence of construction equipment and activities within the Forest Lawn Cemetery that would temporarily degrade the existing character and quality of the site and surroundings during interment ceremonies. During replacement of the Los Alamitos Sub-trunk within the Forest Lawn

Cemetery, the proposed Project would also require trimming and/or removal of mature trees that have been planted over or near the pipeline. Additionally, depending on final design, the replacement of the Westside Relief Interceptor pipeline within the City of Los Alamitos on Los Alamitos Boulevard and Katella Avenue may require removal of trees within the median. Following construction of the proposed Project, the Project area would be restored to its existing condition and not require any new lighting.

The proposed Project may also require the construction of a new enclosure at the Westside Pump Station if an air scrubber is constructed. The Westside Pump Station would not be visible from any of the other cumulative projects and would not contribute to cumulative visual impacts. The new enclosure, if necessary, would be consistent with the existing visual character and quality.

As discussed in Section 3.1, all proposed Project visual impacts were mitigated to less than significant with implementation of mitigation measures AES MM 1 through AES MM 5. When the proposed Project is considered with the other cumulative projects listed in Table 4.1-1, it would not contribute to significant adverse cumulative effect. All other cumulative projects are within urbanized areas that will not greatly alter the aesthetics or introduce new sources of light and glare. The construction and operation of proposed Project in combination with the other cumulative projects listed in Table 4.1-1 would not create cumulatively considerable impacts relative to visual resources.

4.1.3 Air Quality

The geographic area affected by cumulative projects for air quality includes the cumulative projects within the Project area and within the SCAB.

A significant adverse cumulative air quality impact would occur if emissions from the construction and operation of the proposed Project, when considered with the emissions from construction and operation of the cumulative projects listed in Table 4.1-1, would degrade the air quality below acceptable levels.

As described in Section 3.2, if the proposed Project requires the construction in a manner that would exceed 100 lbs./day of NO_x, then the project would result in significant air quality impacts. With implementation of AQ MM 1, project impacts would be less than significant. Construction of the cumulative projects listed in Table 4.1-1 could overlap with the construction of the proposed Project and could potentially contribute to a significant cumulative air quality impact. However, when considered with the cumulative projects listed in Table 4.1-1, it is not anticipated that the proposed Project would result in a significant contribution due to implementation of AQ MM 1, construction phasing, and adherence to SCAQMD Rules. Construction of the proposed Project would not result in cumulatively considerable air quality impacts.

Operation of the proposed Project would not result in any increase in operational emissions. Operation of the proposed Project would not result in cumulatively considerable air quality impacts.

4.1.4 Biological Resources

The geographic area affected by cumulative projects for biological resources includes the immediate surroundings of the proposed Project area.

A significant adverse cumulative biological resource impact would occur if the construction and operation of the cumulative projects would affect biological resources protected by policies or ordinances.

As described in Section 3.3, the Cities of Los Alamitos and Seal Beach are the only cities with tree protection ordinances. Replacement of the Westside Relief Interceptor pipeline within the City of Los Alamitos on Los Alamitos Boulevard and Katella Avenue may require removal of trees. With implementation of BIO MM 1, the proposed Project impacts would be less than significant. Construction of the cumulative projects listed in Table 4.1-1 within the City of Los Alamitos could contribute to a significant effect on biological resources protected by policy or ordinance. However, when considered with the cumulative projects listed in Table 4.1-1, it is not anticipated that the construction or operation of the proposed Project would result a significant contribution due to replacement of trees provided by BIO MM 1. Construction and operation of the proposed Project would not result in cumulatively considerable impacts to special status species or sensitive natural communities or conflict with any local policies or ordinances protecting biological resources.

4.1.5 Cultural Resources

The geographic area affected by cumulative projects for cultural resources is the project construction disturbance area.

A significant adverse cumulative cultural resource impact would occur if the construction and operation of the cumulative projects would cause a substantial adverse change in the significance of historical archaeological or paleontological resources or disturb human remains.

As described in Section 3.4, excavation for open-cut construction for the Los Alamitos Sub-trunk and the Westside Relief Interceptor would require excavation in previously undisturbed soils that may contain archaeological sites or objects; paleontological resources; and, although unlikely, human remains both within and outside Forest Lawn Cemetery. The Project would have potential impacts to archaeological, historical, and paleontological resources, and human remains; however, with implementation of CUL MM 1 through CUL MM 8 the impacts would remain or be rendered less than significant. Construction and operation of the proposed Project, when considered with the cumulative projects listed in Table 4.1-1, are not anticipated to result in a significant contribution due to implementation of CUL MM 1 through CUL MM 8 and ECMs listed in Table 2.10-1 regarding procedures for inadvertent discovery listed in Chapter 2.0.

4.1.6 Geology and Soils

The geographic area affected by cumulative projects for geology and soils includes the immediate surroundings of the Project area.

A significant adverse cumulative effect on geology and soils would result from projects that combine to create geologic hazards, including unstable geologic conditions, or substantially contribute to erosion.

As described in Section 3.5, the proposed Project would result in less-than-significant impacts related to geology and soils. Environmental control measures (ECMs), described in Chapter 2.0 and listed in Table 2.10-1, would ensure that the potential for geological impacts resulting from the proposed Project would be less than significant. Construction of the cumulative projects listed in Table 4.1-1 would be subject to similar geologic hazards due to their location in seismically active southern California. However, all of the cumulative projects listed would be required to adhere to similar geotechnical design specifications and construction provisions in order to minimize and avoid significant geologic hazards. The construction and operation of the proposed Project, when considered with the cumulative projects listed in Table 4.1-1, would not result in a significant cumulative impact related to geology and soils.

4.1.7 Greenhouse Gas Emissions

The geographic area affected by cumulative projects for greenhouse gas (GHG) emissions includes the immediate surroundings of the Project area, the region, and the State of California.

A significant adverse cumulative effect would result if the combined construction and operation of the cumulative projects would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or would conflict with an applicable plan or policy adopted to reduce GHG emissions.

As described in Section 3.6, trends in GHGs indicate a 1.5-million-MtCO₂e decrease from 2012 to 2013 and 7-percent decrease since peak levels in 2004. The proposed Project will have a less than significant impact on GHG emissions. The cumulative projects listed in Table 4.1-1 would not likely detract from the downward trend in GHG emissions during construction. Due to the nature of these projects (i.e., non-industrial), current construction standards for use of energy-efficient fixtures, operation of the proposed Project, when considered with the projects listed in Table 4.1-1, would not conflict with any plan or policy to reduce GHG emissions. It should be noted that construction of the proposed Project would result in a temporary increase in GHGs; however, the increase is anticipated to be minor and would not contribute to cumulative impacts. Operation of the proposed Project, when considered with the cumulative projects listed in Table 4.1-1, would not result in a significant cumulative impact related to GHGs.

4.1.8 Hazards and Hazardous Materials

The geographic area affected by cumulative projects for hazards and hazardous materials includes the immediate surroundings of the proposed Project area.

A significant adverse cumulative effect on hazards and hazardous materials would result from the additional exposure to people and the environment within the geographic area due to the presence of soil and groundwater contamination in the Project area.

As described in Section 3.7, the proposed Project would result in potentially significant impacts associated with hazards and hazardous materials. With implementation of HAZ MM 1, impacts of the proposed Project would be less than significant. In addition, the proposed Project would be required to comply with all federal, state, and local regulations associated with construction near hazardous materials and the use, handling, transportation, and storage of hazardous materials. Significant hazards associated with the proposed Project include the potential to encounter contaminated soil and groundwater during excavation to replace portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor, their close proximity to surrounding schools, and the potential to create a hazard to the public or the environment due to the proximity to the Naval Weapons Station Seal Beach (site listed pursuant to Government Code Section 65962.5). Cumulative projects listed in Table 4.1-1 located within the immediate vicinity of the proposed Project could contribute to similar hazards or result in similar impacts related to hazardous materials; however, the cumulative projects would also be required to comply with federal, state, and local regulations that would minimize or avoid potentially significant impacts. The construction and operation of the proposed Project, when considered with the cumulative projects listed in Table 4.1-1, would not result in a significant cumulative impact related to hazards and hazardous materials.

4.1.9 Land Use and Planning

The geographic area affected by cumulative projects for land use and planning includes the immediate surroundings of the proposed Project area.

A significant adverse cumulative effect on land use and planning would result from projects that contribute to development that is inconsistent with applicable plans or are incompatible with existing or planned uses or planned addition of incompatible uses.

As described in Section 3.8, Land Use and Planning, the proposed Project would result in significant impacts to land use and planning associated with construction noise and nighttime construction. Applicable land use plans or regulations of agencies with jurisdiction over the Project area can be found in Section 3.8.1. Consistency analysis for the plans is included in Table 3.8-2. With implementation of measures NOI MM 1, NOI MM 2, AQ MM 1, and AES MM 5, in addition to the requirement that a variance must be obtained prior to any nighttime work, impacts would be less than significant. Construction of the cumulative projects listed in Table 4.1-1 that occur within the proposed Project area could contribute to significant effects related to construction noise or nighttime construction. It is

assumed that the cumulative projects listed in Table 4.1-1 would be required to comply with the respective city's general plan, zoning ordinance, and any applicable community plans. Projects that are not consistent with their city's general plan land use designation, zoning, or community plan designations would require adoption of a general plan amendment, zone change, and/or community plan amendment. Projects that require a general plan amendment and/or community plan amendment are required to demonstrate conformance with pertinent goals, policies, and recommendations. The construction and operation of the proposed Project when considered with the cumulative projects listed in Table 4.1-1 would not result in a significant cumulative impact related to Land Use and Planning.

4.1.10 Noise

The geographic area affected by cumulative projects for noise includes sensitive receptors within the 90-A-Weighted decibel (dBA) contours shown in Figure 3.9-2 through Figure 3.9-13.

A significant adverse cumulative effect on noise would result when projects generate noise levels that, when combined, would be considered a substantial temporary increase in noise levels above the ambient conditions.

As discussed in Section 3.9, temporary increases in ambient noise levels at or above 90 dBA would mostly be experienced in the replacement areas where open-trench activities would occur along portions of the Los Alamitos Sub-trunk and the Westside Relief Interceptor. Because the ultimate pipe location and construction method would not be determined until final design, Figure 3.9-2 through Figure 3.9-13 depict the worst-case 90-dBA noise contour for the proposed Project. This contour is based on open-cut construction with the construction generating noise sources being located at the curb on both sides of the Project area. Construction noise impacts on receptors within the 90-dBA contour would be significant, and mitigation measures (NOI MM 1 and NOI MM 2) would be required to reduce impacts; however, impacts would remain significant and unavoidable after mitigation. When considered with the cumulative projects listed in Table 4.1-1, the cumulative projects located nearest the proposed Project area would involve construction that may overlap with construction of the proposed Project and result in cumulative noise impacts during construction. Although all cumulative projects would be required to adhere to the respective cities' noise ordinances and impacts would be mitigated on a project-by-project basis, the potential exists for overlapping construction noise to combine to exceed these standards. The proposed Project would result in potentially significant cumulative noise impacts. Mitigation measures would be implemented to reduce potential impacts; however, during construction impacts to sensitive receptors within the 90-dBA contour would remain significant. When the construction of the proposed Project is considered in combination with cumulative projects listed in Table 4.1-1, impacts are cumulatively considerable and remain significant and unavoidable. Noise from operation of the proposed Project would be the same as existing conditions and, when considered with the cumulative projects listed in Table 4.1-1, would not result in a cumulatively considerable impact related to noise.

4.1.11 Public Services

The geographic area affected by cumulative projects for public services includes the immediate surroundings of the Project area.

A significant adverse cumulative effect on public services would result from projects that would substantially affect service ratios, response times, or other performance objectives for any of the public services.

As described in Section 3.10, the proposed Project would result in less-than-significant impacts related to public services. Construction of the proposed Project could result in temporary traffic congestion associated with staging and construction of the proposed Project within public street rights-of-way. Construction of the proposed Project could also result in disruption or delay of fire and police protection, potential delays for school buses or other vehicles transporting students to and from schools, and temporary relocation/closure of bus stops. Environmental control measures (ECMs) described in Chapter 2.0 and listed in Table 2.10-1 would ensure that the potential impacts resulting from the proposed Project would be less than significant. Transportation control plans (TCPs) would be submitted to the affected jurisdiction for approval. Construction of the cumulative projects listed in Table 4.1-1 would be subject to similar requirements to ensure that project effects on service ratios, response times, or other performance objectives affected public services would be minimized and would avoid significant impacts on public services. The construction and operation of the proposed Project when considered with the cumulative projects listed in Table 4.1-1 would not result in a significant cumulative impact related to public services.

4.1.12 Recreation

The geographic area affected by cumulative projects for recreation includes public parks in the immediate surroundings of the Project area.

A significant adverse cumulative effect on recreation would result from any closure of parks.

As described in Section 3.11, the proposed Project would result in less-than-significant impacts related to recreation. Construction of the proposed Project could result in temporary parking restrictions within the Project area. Impacts from the proposed Project on park access and parking would be temporary, and disruptions would be short in duration (days to weeks). Parks would remain open. The construction and operation of the proposed Project when considered with the cumulative projects listed in Table 4.1-1 would not result in a cumulatively considerable impact related to recreation.

4.1.13 Traffic and Circulation

The geographic area affected by cumulative projects for traffic and circulation includes roadways and intersections within immediate surroundings of the Project area.

A significant adverse cumulative effect on traffic and circulation would result from trip-generating projects that impact the same roadways.

As described in Section 3.12, the proposed Project would not result in significant impacts associated with transportation and traffic. Environmental control measures (ECMs) described in Chapter 2.0 and listed in Table 2.10-1 would be implemented. All construction within existing roadways would be temporary, and the roadways would be restored to their existing conditions after construction is complete. In addition, OCSD would contractually require that the traffic control plans (TCPs) specifically address construction traffic and road closures within the public rights-of-way of the Cities of Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, and Seal Beach and the County of Orange. The traffic control plans would specify provisions for construction times and for allowance of bicyclists, pedestrians, and bus access throughout construction. The traffic control plans would also specify provisions to ensure emergency vehicle passage at all times, include signage and flagmen when necessary, and would be approved by each corresponding city in advance of construction. Temporary relocation of bus stops or closure of bike lanes would be coordinated with Orange County Transportation Authority (OCTA) service planning staff and local jurisdictions as required. During final design, Orange County Sanitation District (OCSD) would obtain an encroachment permit, as required, for all work that could affect freeway operations or encroach within state highway right-of-way. OCSD would contractually prohibit concurrent construction for the Westside Relief Interceptor and the Los Alamitos Sub-trunk on Katella Avenue. Once constructed, the proposed Project would not result in any increase in traffic, since existing staff would maintain the proposed pipelines. The cumulative projects listed in Table 4.1-1 have the potential to substantially increase traffic on surrounding roadways due to an increase in residential and commercial uses. Although the cumulative impact from these projects may be significant, the proposed Project's traffic impacts under either build alternative would be temporary and, due to the measures outlined above, would not be cumulatively considerable.

5.0 Other CEQA Considerations

5.1 Significant and Unavoidable Environmental Impacts

As described in Chapter 3.0, Environmental Analysis, the proposed Project would result in significant impacts related to Aesthetics (3.1), Air Quality (3.2), Biological Resources (3.3), Cultural Resources (4.4), Hazards and Hazardous Materials (3.7), Land Use/Planning (3.8), and Noise (3.9). All of the significant impacts would be reduced to below a level of significance through implementation of mitigation measures, as described in each section, with the exception of impacts to temporary increases in ambient noise levels during construction of the proposed Project (Impact NOI-4), which would remain significant and unavoidable after mitigation. As a result, Impact NOI-4 would be the only significant and unavoidable environmental impacts associated with the proposed Project.

5.2 Growth Inducement

The CEQA Guidelines (Section 15126.2(d)) require that an EIR evaluate the growth-inducing impacts of a proposed project. Section 15126.2(d) calls for the EIR to:

Discuss the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a reclaimed water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Construction of the proposed Project would continue for approximately four years, although it is not anticipated to create employment opportunities beyond the levels normally available to construction workers in the area. While additional workers would be required during construction of the proposed Project, it is anticipated that most of these workers would commute to the Project area from surrounding communities. In addition, once constructed, the proposed Project components would not require additional employees to maintain them. Therefore, the proposed Project would not have direct impacts on growth.

As discussed in Section 4.13 of the initial study (Appendix A), rehabilitation and/or replacement of the Western Regional Sewers and improvements of the Westside Pump Station would not directly or indirectly induce substantial population growth in the area because the proposed Project involves

rehabilitation and/or replacement of the Western Regional Sewers and new construction to replace a wet well at an existing pump station; these components have exceeded their functional life. Capacity-deficient segments, as identified in Section 2.3, Purpose and Objectives, would be increased to accommodate 2040 wet weather peak flows (10-Year Storm); however, the proposed rehabilitation and/or replacement segments would not increase the capacity of the system, as the pipes would be replaced in-kind with no increase in pipe diameter and would not directly or indirectly induce substantial growth.

5.3 Energy Conservation

The guidance on energy conservation in CEQA Guidelines Appendix F is based on the statutory requirement that the mitigation measures in an EIR include “measures to reduce the wasteful, inefficient, and unnecessary consumption of energy” (Public Resources Code Section 21100(b)(3)). Consistent with this mandate, CEQA Guidelines Appendix F lists possible energy impacts and potential conservation measures that should be considered in an EIR when they are “applicable or relevant to the project” and the impacts are “potentially significant.” Appendix F does not mandate the analysis of particular energy-related impacts or include specific significance criteria by which to measure a project’s energy impacts. For the purposes of this analysis, consideration is given to whether the project would result in the wasteful, inefficient, or unnecessary consumption of energy.

5.3.1 Construction Energy Impacts

Construction of the proposed Project would require the use of electricity and diesel fuel.

5.3.1.1 Electricity

Construction of the proposed Project would utilize existing electrical service, when available on-site (e.g., during construction of the improvements at the Westside Pump Station). Electrical demand during construction would be minimal and required only for operation of power hand tools, lighting, and other minor equipment needed for rehabilitation and/or replacement of the Western Regional Sewers and improvements of the Westside Pump Station. Electrical demand during construction would primarily be provided by generators in the field. Total energy consumption would be temporary and less than 100 kilowatts (kWh) per day. This is considered de minimis compared to 56 million kWh per day of electricity consumed in Orange County in 2014. Construction of the proposed Project would not use large amounts of electricity and would not use it in a wasteful manner (e.g., construction equipment not in use would be turned off), and impacts associated with use of electricity during construction would be less than significant.

5.3.1.2 Diesel Fuel

Large construction equipment typically burns 4 to 10 gallons of diesel fuel an hour. Assuming all equipment consumed 10 gallons of diesel per hour and operated 8 hours per day, maximum daily diesel consumption would range from 1,040 gallons per day (construction of Westside Pump Station) to

2,800 gallons per day (construction of the Los Alamitos Sub-trunk under either build alternative). Use of fuel during construction would be temporary. Construction of the proposed project would use only what is necessary and would not use large amounts of diesel fuel in a wasteful manner (e.g., construction equipment not in use would be turned off). Impacts associated with use of fuel for energy during construction would be less than significant.

5.3.2 Operational Energy Impacts

Operational energy use would consist only of maintenance trips to the field and potential operation of an air scrubber at the Westside Pump Station in addition to the existing energy usage at the pump station. Operational energy use would be minimal and not result in the wasteful, inefficient, or unnecessary consumption of energy during operation.

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