DE SOTO TANKS AND PUMP STATION PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

State Clearinghouse No. 2017111073

PREPARED BY

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ACRONYMS AND ABBREVIATIONS

Acronym	Abbreviation
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ADT	average daily traffic
AERMOD	American Meteorological Society/EPA Regulatory Model
AMSL	above mean sea level
AQMP	Air Quality Management Plan
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CH_4	methane
CHRIS	California Historical Resources Information System
CIWM	California Integrated Waste Management
CIWMB	California Integrated Waste Management Board
CMA	Critical Movement Analysis
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	include carbon dioxide
COPD	chronic obstructive pulmonary disease
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CSE	County-Wide Siting Element
CWA	Clean Water Act
DEV	Urban/Developed
DH	Disturbed Habitat
DOT	U.S. Department of Transportation Federal Transit Administration
DPM	diesel particulate matter
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act

Acronym	Abbreviation
EO	Executive Order
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
GHG	greenhouse gas
GWP	global warming potential
HAP	hazardous air pollutant
HCFC	hydrochlorofluorocarbon
HCM	Historic-Cultural Monument
HCP	Habitat Conservation Plans
HFC	hydrofluorocarbon
HPOZ	Historic Preservation Overlay Zone
HRA	health risk assessment
HVAC	heating, ventilation, and air conditioning
I-405	Interstate 405
I-5	Interstate 5
IPCC	Intergovernmental Panel on Climate Change
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
LADOT	City of Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LARWQCB	Los Angeles Regional Water Quality Control Board
LID	Low Impact Development
LOS	level of service
LST	localized significance threshold
MBTA	Migratory Bird Treaty Act
MG	million gallon
MLD	most likely descent
MMT	million metric tons
MOE	measure of effectiveness
MPH	miles per hour
MPO	metropolitan planning organizations
MS4	municipal separate storm sewer systems
MT	metric tons
MW	megawatts
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NABA	North American Butterfly Association
NAHC	Native American Heritage Commission
NF_3	nitrogen trifluoride
NHD	National Hydrology Dataset

Acronym	Abbreviation
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_2	oxygen
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OGR	Olivella grooved rectangle
OHWM	Ordinary High Water Mark
OPR	Office of Planning and Research
OSHA	Office of Safety and Health Administration
PCB	polychlorinated biphenyl
PCE	passenger-car-equivalent
PFC	perfluorocarbon
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
RCNM	Roadway Construction Noise Model
RFS	Renewable Fuel Standard
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SLCP	short-lived climate pollutants
SO_2	sulfur dioxide
SR	State Route
SRA	source receptor area
SUSMP	Standard Urban Stormwater Mitigation Plans
SWPPP	Stormwater Pollution Prevention Plan

Acronym	Abbreviation
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TMDL	total maximum daily load
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
v/c	volume to capacity
VMT	vehicle miles traveled
VOC	volatile organic compound
WQCMP	Water Quality Compliance Master Plan

ES EXECUTIVE SUMMARY

This section provides a summary of the Draft Environmental Impact Report (EIR) for the proposed De Soto Tanks and Pump Station Project (proposed project or project). Included in this summary are areas of known controversy and issues to be resolved, a summary of project alternatives, a summary of all project impacts and associated mitigation measures, and a statement of the ultimate level of significance after mitigation is applied

ES.1 Document Purpose

This Draft EIR was prepared by Los Angeles Department of Water and Power (LADWP), as lead agency, to inform decision makers and the public of the potential significant environmental impacts associated with the proposed project. This Draft EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (PRC Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines; 14 CCR 15000 et seq.) published by the Public Resources Agency of the State of California.

The purpose of this Draft EIR is to focus the discussion on those potential impacts on the environment of the project which the lead agency has determined may be significant. In addition, feasible mitigation measures are recommended, when applicable, that could reduce significant environmental impacts or avoid significant environmental impacts.

ES.2 Document Organization

This EIR is organized as follows:

Executive Summary, outlines the conclusions of the environmental analysis and provides a summary of the proposed project and the project alternatives analyzed in the EIR. This section also includes a table summarizing all environmental impacts identified in the EIR along with the associated mitigation measures proposed to reduce or avoid each impact.

Chapter 1, Introduction, serves as a forward to the EIR, introducing the project, the applicable environmental review procedures, and the organization of the EIR.

Chapter 2, Project Description, provides a thorough description of the setting, objectives, characteristics, operation, and construction of the proposed project and required discretionary approvals.

Chapter 3, Environmental Analysis, describes the potential environmental effects of the proposed project, as well as proposed mitigation measures to reduce or avoid any potentially significant impacts. The discussion in Chapter 3.0 is organized by nine environmental issue areas as follows:

- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions

- Hydrology and Water Quality
- Noise
- Transportation
- Utilities and Service Systems
- Energy

For each environmental issue area, the analysis and discussion are organized into eight subsections as described below:

- **Environmental Setting –** This subsection describes the physical environmental conditions in the vicinity of the proposed project at the time of publication of the Notice of Preparation. The environmental setting establishes the baseline conditions by which LADWP will determine whether specific Project-related impacts are significant.
- **Regulatory Framework –** This subsection describes the laws, regulations, ordinances, plans, and policies applicable to the environmental issue area and the proposed.
- **Thresholds of Significance –** This subsection identifies a set of thresholds by which the level of impact is determined. Thresholds that were eliminated from further review in the EIR as part of the Initial Study analysis will be identified here.
- **Methodology –** This subsection describes how the analysis was conducted.
- **Impact Analysis –** This subsection provides a detailed analysis regarding the environmental effects of the proposed project, and whether the impacts of the proposed project would meet or exceed the thresholds of significance.
- **Mitigation Measures –** This subsection identifies potentially feasible mitigation measures that would avoid or substantially reduce significant adverse project impacts.
- **Significance After Mitigation –** This subsection discusses whether project-related impacts would be reduced to below a level of significance with implementation of the mitigation measures identified in the EIR. If applicable, this subsection also identifies any residual significant and unavoidable adverse impacts of the proposed project that would result even with implementation of any feasible mitigation measures.
- **References Cited –** This subsection provides a list of references cited in the environmental analysis.

In addition to the eight subsections listed above, full citations for all documents referred to in each environmental issue area discussion are included at the end of each section or chapter.

Chapter 4, Cumulative Effects, discusses the cumulative effects of the project in combination with the effects of other projects in the vicinity.

Chapter 5, Alternatives, discusses alternatives to the proposed project, including a No Project Alternative. This subsection describes the rationale for selecting the range of alternatives discussed in the EIR and identifies the alternatives considered by LADWP that were rejected from further discussion as infeasible during the scoping process. Lastly, Chapter 5.0 includes a discussion of the environmental effects of the alternatives that were carried forward for analysis and identifies the environmentally superior alternative.

Chapter 6, Other CEQA Requirements, addresses significant environmental effects that cannot be avoided, the significant irreversible environmental changes that would result from implementation of the proposed project, growth-inducing impacts associated with the proposed project, and potential secondary effects of mitigation measures included for the proposed project.

Chapter 7, List of Preparers, gives names and contact information of those responsible for writing this EIR.

Appendices include various technical studies prepared for the proposed project, as listed in the Table of Contents.

ES.3 Significance Thresholds

As discussed in CEQA Guidelines Section 15064.7, a threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the impact will normally be determined to be significant by the agency and compliance with which means the impact normally will be determined to be less than significant. Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental impacts. For purposes of the analysis included within this EIR, LADWP is utilizing the thresholds of significance included within Appendix G of the newly adopted 2019 CEQA Guidelines (December 2018).

ES.4 Project Location

The proposed project site is located at 11200 De Soto Avenue, in the Chatsworth community of City of Los Angeles. The project site is generally bounded by the 118 Freeway to the north, De Soto Avenue to the west, Rinaldi Street to the south and east. Adjacent to the De Soto Reservoir property on the east side, are three undeveloped, privately-owned parcels of land that would be acquired in order to facilitate construction of the proposed project. The project is located in Council District No. 12 and in the Chatsworth Neighborhood Council area. The project site is located in the southeastern portion of the Oat Mountain U.S. Geological Survey (USGS) 7.5-minute quadrangle within Section 8, Township 2 North, Range 16 West. The project site is characterized by relatively flat areas with some rolling hills in the northeast corner and along the northern extent of the property with elevations on site ranging approximately between 1,088 and 1,191 feet above mean sea level.

The proposed project would occur on several assessor's parcels owned by LADWP. The southernmost parcel (APN 2706007901) is developed with the existing De Soto Reservoir, which would be demolished after completion of the proposed tanks. The two northernmost parcels (APNs 2701003907 and 2707001904) are essentially undeveloped. Three additional undeveloped parcels (APN 2707-001-058, APN 2707-001-059 and APN 2707-001-060), not owned by LADWP, are proposed for acquisition to facilitate project construction. The project site is highly disturbed, consisting primarily of ruderal vegetation that is maintained through mowing and/or tilling. A 12-foot wide dedicated equestrian trail easement, which serves as a connection to the Chatsworth Momonga/Mission Trail, extends from Rinaldi Street on the south adjacent to the eastern edge of the southernmost LADWP parcel, where the reservoir is located. This formal easement does not continue across the northernmost LADWP parcels, but LADWP has allowed equestrian access across these parcels between Rinaldi Street on the east and the dedicated equestrian easement on the west.

Throughout construction and operation of the proposed project, equestrian access would be maintained and limited to a path along the southern edge of LADWP property to avoid interference with construction and operation activities. A sound wall will separate the path and construction site.

Existing development that adjoins the LADWP property includes Sierra Canyon School to the south/southeast of the project site and residential properties to the southwest. Undeveloped property adjoins the LADWP property to the northwest, and northeast. The 118 Freeway is located directly north of the project site. Surrounding uses include Sierra Canyon School to the west of De Soto Avenue, residential development south and southeast of Rinaldi Street, and open space and residential development north of the 118 Freeway.

ES.5 Project Description

ES.5.1 Project Overview

The proposed project is a water project that is being proposed by the LADWP. The project would functionally replace the existing 3 MG De Soto Reservoir, located at 11200 De Soto Avenue, with two buried, circular, pre-stressed concrete storage tanks and a pump station at the existing reservoir site. The combined operating storage capacity upon completion of the new storage tanks would be approximately 20 MG. These tanks and pump station would provide additional local storage and pumping capability to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. A detailed overview of the project is shown in Figure 2-2, Site Plan, and discussion of project construction and operations is provided below.

ES.5.1.1 Construction

The proposed project involves excavation of the site north of the existing De Soto Reservoir to a depth of approximately 50 feet, followed by the construction of two pre-stressed concrete tanks, each of which would be approximately 245 feet in diameter and approximately 40 feet in height. The majority of the excavated material would be hauled from the project site via the 118 Freeway to both the Mojave Yard, located in the City of Mojave, California, and a facility permitted to accept excavated soil materials. Upon completion of the tanks, the existing reservoir would be demolished in order to facilitate construction of the future pump station.

Excavation for the tanks would involve the use of heavy equipment, including excavators, front loaders, and dozers. Based on preliminary estimates, approximately 350,000 loose cubic yards of soil would need to be excavated at the project site to accommodate the tanks. Approximately 116,000 cubic yards of material would be used to backfill around the tanks once they are constructed. The majority of the excavated material, approximately 340,000 cubic yards, would be hauled off site, requiring approximately 160 truck trips per day, assuming 50% of the haul trucks are 10 cubic-yard haul trucks and 50% of the haul trucks are 15 cubic-yard haul trucks, for 8 hours per day for hauling activities. Excavation and hauling would occur over a period of approximately 8.5 months. Approximately 10,000 cubic yards of the excavated soil would be stockpiled on site, approximately 100,000 cubic yards of excavated soil would be hauled to LADWP's Mojave Yard, and the remaining approximately 240,000 cubic yards of excavated material would be hauled to a facility permitted to accept excavated soil materials.

After excavation, the tank construction would entail the installation of inlet/outlet pipelines, a reinforced concrete floor, the erection of scaffolding for the walls and roof, the installation of reinforced concrete wall and roof panels, the construction of reinforced concrete columns to support the roof, wrapping the tanks with pre-stressing cables, and the application of shotcrete over the pre-stressing cables. This process would involve the delivery of materials and concrete and the use of heavy equipment, including cranes and concrete pump trucks.

East of the tank site would be a new below ground flow control station. The purpose of the flow control station would be to control the water flow into the tanks from the Rinaldi Trunk Line to the east. The flow control station would be approximately 2,500 square feet in size and house mechanical equipment and controls to control water flow into the tanks. Additionally, below ground and between the tanks would be a new inlet/outlet vault that would house the valves to direct flow into and out of the tanks.

After completion of the tanks, flow control station, and inlet/outlet vault, the area surrounding the tanks would be backfilled, and a perimeter road would be constructed around the tanks for maintenance access. All permanent cut slopes from excavation would be properly stabilized and revegetated. Although the tanks themselves would be buried, the roof of the tanks would not be covered. The top of the tanks would be approximately 2 feet above the perimeter access road.

New pipelines, inlet, and outlet pipelines of the tanks would be constructed on site as well as extend off site to connect with Rinaldi Trunk Line to the east and De Soto Trunk Line to the south. After completion of the tanks and pipelines, the existing De Soto Reservoir would be demolished and the new pump station would be constructed. To install the new 66-inch pipeline connection to the Rinaldi Trunk Line to the east, two excavation pits would be constructed to facilitate pipe jacking below grade. A total of 620 feet of pipeline would be required for this connection. One excavation pit would be located on the project site and the second excavation pit would be located within the existing 60-foot LADWP easement on the east side of Rinaldi Street. With pipe jacking occurring below grade, Rinaldi Street would remain open to through traffic throughout the estimated 9 month pipeline installation process.

To connect the project with the De Soto Trunk Line, new piping would be installed below ground on the project site and south along De Soto Avenue. Approximately 570 feet of pipe jacking from the storage tanks to the project site's western boundary would be done on site. Upon reaching the project site's western boundary at De Soto Avenue, open-trench pipeline installation would occur along the eastern side (approximately 35 feet of work area required) of De Soto Avenue. Pipeline installation along De Soto Avenue would occur along approximately 2,650 feet extending from the project site at the north to Chatsworth Street at the south. With the exception of pipe jacking beneath the intersection of De Soto Avenue and Rinaldi Street, all other pipeline installation would be done via cut-and-cover construction, therefore requiring the closing of 2 traffic lanes and the median lane along De Soto Avenue throughout the approximately 24 month construction period. Upon completion of pipeline installation, the roadway would be repaired, repaved, and the lanes along De Soto Avenue would be reopened.

Access to and egress from the site during construction would be from Rinaldi Street on the east and/or De Soto Avenue on the west. Construction of the proposed project would take approximately 6 years to complete, beginning 2023.

Upon completion of the storage tanks, the existing De Soto Reservoir would no longer be necessary and as such would be demolished. Demolition of the reservoir would entail demolition of the following: aluminum roof decking, timber roof framing, concrete columns, perimeter concrete walls, and asphalt concrete paving. This would result in approximately 560 tons or 440 cubic yards of material that would be hauled from the project site. As with the excavated earth removed during the construction of the storage tanks, the demolition material would be hauled off site, requiring approximately 50 truck trips. Demolition material would be hauled from the project site via the 118 Freeway to a facility permitted to accept demolition materials.

ES.5.1.2 Operation

As discussed above, the proposed tanks would store potable water to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. The proposed flow control station would control water flow coming from Los Angeles Aqueduct Filtration Plant UV Plant weir, which has an 1,191-foot high water elevation, to De Soto Tanks, which have an 1,130-foot high water elevation. The proposed De Soto Pump Station would pump water from De Soto Tanks to the 1,305-foot pressure zone in the west valley. No workers would be required to operate these facilities on a daily basis; however, these facilities would require periodic maintenance. As such, operational activities would be essentially the same as those that occur under existing conditions.

ES.5.2 Project Objectives

The primary objectives of the proposed project include the following:

- Replace the existing De Soto Reservoir with modern and reliable underground storage tanks.
- Provide additional local storage and pumping capability to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.
- Maintain appropriate operating pressure by installing the new tanks at an appropriate elevation to maximize gravity flows and minimize the need to pump water.
- Provide upgraded connections to the Rinaldi and De Soto Trunk Lines.

ES.6 Areas of Known Controversy

A scoping meeting was held at the Los Angeles Public Library – Chatsworth Branch on January 17, 2018. The purpose of this meeting was to seek input from public agencies and the general public regarding the potential environmental impacts of the proposed project. Approximately 10 people attended the scoping meeting. The public comments, questions, and concerns that were received at the scoping meeting generally included the following areas:

- **Aesthetics** – changes of existing visual character
- **Air Quality** – emission during construction and from truck haul trips
- **Cultural Resources** – age of the existing De Soto Reservoir; impacts to the Chatsworth Momonga/Mission Trail, which has been designated as a local historical resource
- **Geology and Soils** – the stability of the new storage tanks during earthquakes
- **Noise** – construction noise upon neighboring residences and Sierra Canyon School

- **Recreation** – continued access to the equestrian trail that goes through the project site
- **Transportation**– truck access; truck traffic and haul routes
- **Utilities and Service Systems** – where will the hauled earth be taken to

ES.7 Required Permits and Approvals

The following discretionary permits and approvals may be required for the proposed project:

- Permit from Los Angeles Department of Public Works Bureau of Engineering (BOE) for excavation in a public right of way
- Permit from Los Angeles Department of Building and Safety for haul route
- Permit from California Department of Transportation (Cal Trans), if temporary shoring tie-backs encroach onto Cal Trans property
- Permit from Los Angeles Department of Transportation for traffic control plans and lane closures

ES.8 Summary of Environmental Impacts and Mitigation

Table ES-1, Summary of Environmental Impacts and Mitigation Measures, provides a summary of the impact analysis related to the project. Table ES-1 identifies a summary of the significant environmental impacts resulting from the project pursuant to the CEQA Guidelines Section 15123(b)(1). For more detailed discussion, please see Chapter 3 of this Draft EIR. Table ES-1 lists the applicable mitigation measures related to potentially significant impacts, as well as the level of significance after mitigation. As stated in Chapter 1 of the EIR, the Initial Study prepared and circulated with the Notice of Preparation (NOP) for public review on the project (see Appendix A of the EIR) concluded that the project would not result in significant impacts to aesthetics, agriculture and forestry resources, geology and soils, hazards and hazardous materials (including wildfire), land use and planning, mineral resources, population and housing, public services, recreation, and tribal cultural resources; therefore, these topics are not addressed in the EIR and not summarized in Table ES-1.

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Air Quality			
AQ-1. Would the project conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant	N/A	N/A
AQ-2. Would the project result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Less than Significant	N/A	N/A
AQ-3. Would the project expose sensitive receptors to substantial pollutant concentrations?	Potentially Significant	MM-AQ-1: To reduce the potential for health risks as a result of construction of the project, the applicant shall: A. Prior to the start of construction activities, the project applicant, or its designee, shall ensure that all 75 horsepower or greater diesel-powered equipment are powered with California Air Resources Board (CARB) certified Tier 4 Interim engines, except where the project applicant establishes to the satisfaction of the City that Tier 4 Interim equipment is not available. B. All other diesel-powered construction equipment will be classified as Tier 3 or higher, at a minimum, except where the project applicant establishes to the satisfaction of the City that Tier 3 equipment is not available. In the case where the applicant is unable to secure a piece of equipment that meets the Tier 4 Interim requirement, the applicant may upgrade another piece of equipment to compensate (from Tier 4 Interim to Tier 4 Final). Engine Tier requirements in accordance with this measure shall be incorporated on all construction plans.	Less than Significant

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
AQ-4. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant	N/A	N/A
		Biological Resources	
BIO-1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Potentially Significant	MM-BIO-1. Breeding Season Avoidance Los Angeles Department of Water and Power and the construction contractor shall verify that ground-disturbing and vegetation trimming/ removal activities shall be conducted outside of the breeding season to the extent feasible (i.e., February 1 through August 31). MM-BIO-2. Nesting Bird Survey If the breeding season (i.e., February 1 through August 31) cannot be avoided, a pre-construction nesting bird survey shall be conducted prior to ground disturbing and vegetation trimming/removal activities. All suitable nesting habitat shall be thoroughly surveyed by a qualified biologist for the presence of nesting birds within 72 hours prior to commencement of the proposed project activities. If an active nest is detected within the study area, Los Angeles Department of Water and Power's (LADWP) project manager shall be notified and an appropriate avoidance buffer shall be maintained around the nest, as determined by a qualified biologist. The nest shall be flagged and avoided until the nesting birds have fledged and the nest is vacant (as determined by the qualified biologist). As a general guidance during the breeding season, LADWP or its construction contractor shall not conduct work within 300 feet from known protected passerine nests, and 500 feet from known raptor and special-status species nests, or as determined by a qualified biologist.	Less than Significant

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
BIO-2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Less than Significant	N/A	N/A
BIO-3. Would the project have a substantial adverse effect on federally protected (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact	N/A	N/A
BIO-4. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than Significant	N/A	N/A
BIO-5. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than Significant	N/A	N/A
BIO-6. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less than Significant	N/A	N/A

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Cultural Resources			
CUL-1. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	Less than Significant	N/A	N/A
CUL-2. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	Potentially Significant	MM-CUL-1. Unanticipated Discovery of Cultural Resources In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find, the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under the California Environmental Quality Act or Section 106 of the National Historic Preservation Act, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.	Less than Significant
CUL-3. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	Potentially Significant	MM-CUL-2. Unanticipated Discovery of Human Remains In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento	Less than Significant

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descent (MLD) from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.	
Greenhouse Gas Emissions			
GHG-1. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant	N/A	N/A
GHG-2. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than Significant	N/A	N/A
Hydrology and Water Quality			
HYD-1. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i. Result in substantial erosion or siltation on- or off-site; ii. Substantially increase the rate or amount of runoff in a manner which would result in flooding on- or off-site;	Potentially Significant	MM-HYD-1. Flood Control In conjunction with MM-HYD-2a and MM-HYD-2b, Low Impact Development Features, the project shall include drainage facilities designed such that post-storm runoff rates would be less than or equal to existing conditions. In accordance with the Los Angeles County Department of Public Works Hydrology Manual, the design shall meet the Urban Flood level of protection, which is defined as runoff from a 25-year frequency storm falling on a saturated watershed. The combined capacity of the storm drain and street flow system must be enough to accommodate flow from a 50-year storm event. Areas with sump conditions, such as the proposed recessed	Less than Significant

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. Impede or redirect flood flows?		water storage tanks, shall have a storm drain conveyance system capable of conveying flow from a 50-year storm event.	
HYD-2. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Potentially Significant	MM-HYD-2a. Low Impact Development Features LADWP shall incorporate Low Impact Development (LID) features into the project design. LID features shall include stormwater detention/infiltration features (e.g., grass swales, infiltration trenches, pervious detention basins, and vegetated detention basins), stormwater filtration systems (e.g., oil and grease absorbents at storm drain inlets), and/or reuse of stormwater (e.g., detention and reuse for landscape irrigation). In accordance with the LID Standards Manual, stormwater runoff associated with the design storm shall be detained on site. The Stormwater Quality Design Volume (SWQDv) is defined as the greater of: • The 0.75-inch, 24-hour rain event, or • The 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map. MM-HYD-2b. A Low Impact Development (LID) Plan shall be prepared to document the design of the LID Best Management Plan measures for the project.	Less than Significant

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Noise			
NOI-1. Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Potentially Significant	MM-NOI-1: Construction Noise Reduction The Los Angeles Department of Water and Power and/or its construction contractor shall comply with the following measures during construction: 1. Construction activities shall not occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, 6:00 p.m. and 8:00 a.m. on Saturday, or on Sundays or national holidays. In the event that construction is required to extend beyond these times, extended hours permits shall be required. 2. Pumps and associated equipment (e.g., portable generators etc.) shall be shielded from sensitive uses using local temporary noise barriers or enclosures or shall otherwise be designed or configured so as to minimize noise at nearby noise-sensitive receivers. 3. Construction, including open-trench activities, pipe jacking activities, and staging of construction equipment shall not occur within 20 feet of any noise- or vibration-sensitive land uses. 4. All noise-producing equipment and vehicles using internal combustion engines shall be equipped with mufflers; air-inlet silencers where appropriate; and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment. 5. All mobile or fixed noise-producing equipment used for the project that are regulated for noise output by a local, state, or federal agency shall be in compliance with regulations.	Less than Significant

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		6. Idling equipment shall be kept to a minimum and moved as far as practicable from noise-sensitive land uses. 7. Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where feasible. 8. Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors. 9. The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be used for safety warning purposes only. MM-NOI-2: Notification Effective communication with local residents and the adjacent school shall be maintained prior to and during construction. Specifically, the Los Angeles Department of Water and Power shall inform local residents and school administrators of the schedule, duration, and progress of the construction. Additionally, residents and the school administrators shall be provided contact information for noise- or vibration-related complaints.	
NOI-2. Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant	N/A	N/A
Transportation			
TRA-1. Would the project conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Less than Significant	N/A	N/A

Table ES-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
TRA-2. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less than Significant	N/A	N/A
TRA-3. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves, or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less than Significant	N/A	N/A
TRA-4. Would the project result in inadequate emergency access?	Less than Significant	N/A	N/A
Utilities and Service Systems			
UTL-1. Would the project require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less than Significant	N/A	N/A
UTL-2. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less than Significant	N/A	N/A
Energy			
ENG-1. Would the project result in the wasteful and inefficient use of nonrenewable resources during its construction or operations	Less than Significant	N/A	N/A
ENG-2. Would the project be inconsistent with adopted plans and policies?	Less than Significant	N/A	N/A

ES.9 Summary of Project Alternatives

Section 15126.6 of the CEQA Guidelines identifies the parameters within which consideration and discussion of alternatives to the project should occur. As stated in this section of the guidelines, alternatives must focus on those that are reasonably feasible and that attain most of the basic objectives of the project. Each alternative should be capable of avoiding or substantially lessening any significant impacts of the project. The rationale for selecting the alternatives to be evaluated and a discussion of the No Project Alternative are also required, per Section 15126.6.

ES.9.1 Alternatives Evaluated

The following alternatives are addressed in this section, followed by a more detailed discussion of each:

- Alternative 1 – No Project
- Alternative 2 – Reduced Project
- Alternative 3 – Aboveground Tanks

ES.9.1.1 Alternative 1 – No Project

Under the Alternative 1, the No Project Alternative, no new underground storage tanks would be constructed at the project site, and existing De Soto Reservoir would continue to provide water storage in the northwestern area of the San Fernando Valley.

ES.9.1.2 Alternative 2 – Reduced Project

Under Alternative 2, Reduced Project, instead of installing two underground tanks with a total capacity of 20 million gallons, one underground tank would be installed with a total capacity of 10 million gallons, thereby replacing the existing 3 million gallon De Soto Reservoir. Alternative 2 would also include the installation of:

- Approximately 1,450 linear-feet of new 66-inch-diameter inlet pipeline that would connect the tanks and flow control station to Rinaldi Trunk Line to the east.
- A new underground flow control station on the inlet line to control water flow into the tanks from Rinaldi Trunk Line.
- Approximately 30 linear-feet of new 48-inch-diameter pipeline to provide an emergency connection between the inlet line and Granada Trunk Line.
- A new below ground inlet/outlet vault between the tanks that would house the valves to direct flow into and out of the tank.
- Approximately 450 linear-feet of new 66-inch-diameter and 3,200 linear-feet of new 54-inch-diameter outlet pipeline that would connect to De Soto Trunk Line. This connection would require the installation of the outlet pipeline from the proposed project site boundary, south along De Soto Avenue to the intersection of De Soto Avenue and Chatsworth Street. This outlet pipeline would also connect to Granada Trunk Line via the proposed De Soto Pump Station. These new pipelines would be located beneath Rinaldi Street, LADWP property, and De Soto Avenue.

- A new pump station (the De Soto Pump Station) to be located at the existing De Soto Reservoir site. Upon placing the De Soto Tanks in-service, the existing De Soto Reservoir will be demolished.

ES.9.1.3 Alternative 3 – Aboveground Tanks

Under Alternative 3, Aboveground Tanks, instead of installing two underground tanks with a total capacity of 20 million gallons, both tanks would be constructed aboveground on the same project site, thereby replacing the existing 3 million gallon De Soto Reservoir. With the construction of the tanks aboveground, new pumps would be required to direct water uphill from the Rinaldi Trunk Line because of the increased elevation of the tanks. The pressure increase from the pumps required to fill the tanks would result in breaks to the distribution system and increase the pressure to thousands of homes that would now be required to have pressure reducing valves installed at their meters.

- Approximately 1,450 linear-feet of new 66-inch-diameter inlet pipeline that would connect the tanks and flow control station to Rinaldi Trunk Line to the east.
- A new underground flow control station on the inlet line to control water flow into the tanks from Rinaldi Trunk Line.
- Approximately 30 linear-feet of new 48-inch-diameter pipeline to provide an emergency connection between the inlet line and Granada Trunk Line.
- A new below ground inlet/outlet vault between the tanks that would house the valves to direct flow into and out of the tanks.
- Approximately 450 linear-feet of new 66-inch-diameter and 3,200 linear-feet of new 54-inch-diameter outlet pipeline that would connect to De Soto Trunk Line. This connection would require the installation of the outlet pipeline from the proposed project site boundary, south along De Soto Avenue to the intersection of De Soto Avenue and Chatsworth Street. This outlet pipeline would also connect to Granada Trunk Line via the proposed De Soto Pump Station. These new pipelines would be located beneath Rinaldi Street, LADWP property, and De Soto Avenue.
- A new pump station (the De Soto Pump Station) to be located at the existing De Soto Reservoir site. Upon placing the De Soto Tanks in-service, the existing De Soto Reservoir will be demolished.

ES.9.2 Environmentally Superior Alternative

As indicated in Table ES-2, Alternative 1, the No Project Alternative, would result in the least environmental impacts, and therefore would be considered the Environmentally Superior Alternative. However, Section 15126.6(e)(2) of the CEQA Guidelines states that if the Environmentally Superior Alternative is the No Project Alternative, the EIR shall also identify an Environmentally Superior Alternative among the other alternatives.

Of the alternatives previously evaluated, Alternative 2 was found to be environmentally superior over the proposed project (see Table ES-2) because it had the most reductions in impacts from the proposed project. Alternative 2 was found to have fewer air quality impacts, biological resources impacts, cultural resources impacts, greenhouse gas emission impacts, hydrology and water quality impacts, noise impacts, transportation impacts, utilities and service system impacts, and energy impacts when compared to the proposed project. While Alternative 2 would be the Environmentally Superior Alternative, this alternative would not achieve the primary objectives of the proposed project, including providing the maximum amount of additional local storage to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.

Table ES-2. Comparison of Project and Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 No Project	Alternative 2 Reduced Project	Alternative 3 Aboveground Tanks
Air Quality	Less than Significant with Mitigation	▼	▼	▼
Biological Resources	Less than Significant with Mitigation	▼	▼	=
Cultural Resources	Less than Significant with Mitigation	▼	▼	▼
Greenhouse Gas Emissions	Less than Significant	▼	▼	▼
Hydrology/Water Quality	Less than Significant with Mitigation	▼	▼	▼
Noise	Less than Significant with Mitigation	▼	▼	=
Transportation	Less than Significant	▼	▼	▼
Utilities and Service Systems	Less than Significant	▼	▼	▼
Energy	Less than Significant	▼	▼	▲

▼ : Reduced impacts; =: comparable impacts; ▲ : increased impacts

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1 INTRODUCTION

This Environmental Impact Report (EIR) has been prepared by the Los Angeles Department of Water and Power (LADWP) to evaluate potential environmental effects that could result from development of the proposed De Soto Tanks and Pump Station project (proposed project or project). This EIR has been prepared in conformance with the California Environmental Quality Act of 1970 (CEQA) statutes (Cal. Pub. Res. Code, Section 21000 et. seq., as amended) and implementing guidelines (Cal. Code Regs., Title 14, Section 15000 et. seq.). LADWP is the lead agency under CEQA.

1.1 Summary of the Proposed Project

The proposed project is a water storage project that is being proposed by the LADWP. The project would functionally replace the existing 3 million gallon (MG) De Soto Reservoir, located at 11200 De Soto Avenue, with two buried, circular, pre-stressed concrete tanks immediately north of the existing reservoir site. The combined operating capacity upon completion of the new tanks would be approximately 20 MG. These tanks would provide additional local storage to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.

1.2 The CEQA Process

CEQA requires preparation of an EIR when there is substantial evidence supporting a fair argument that a proposed project may have a significant effect on the environment. The purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective and informational document that fully discloses the environmental effects of the proposed project. The EIR process is intended to facilitate the objective evaluation of potentially significant direct, indirect, and cumulative impacts of the proposed project, and to identify feasible mitigation measures and alternatives that would reduce or avoid the proposed project's significant effects. In addition, CEQA requires that an EIR identify adverse impacts determined to be significant after mitigation.

In accordance with the CEQA Guidelines, an Initial Study was prepared and a Notice of Preparation distributed on December 1, 2017 to public agencies, organizations and residents/occupants within an approximately 3,500 foot radius of the project site. The purpose of the Notice of Preparation was to provide notification that LADWP plans to prepare an EIR and to solicit input on the scope and content of the EIR. Approximately 2,200 copies of the Notice of Preparation were distributed and 2 written comment letters were received from various agencies, organizations, and individuals. These letters and the Notice of Preparation are included in Appendix A.

A scoping meeting was held at the Los Angeles Public Library – Chatsworth Branch on January 17, 2018. The purpose of this meeting was to seek input from public agencies and the general public regarding the potential environmental impacts of the proposed project. Approximately 10 people attended the scoping meeting. The public comments, questions, and concerns that were received at the scoping meeting generally included the following areas:

- **Aesthetics** – changes of existing visual character
- **Air Quality** – emission during construction and from truck haul trips

- **Cultural Resources** – age of the existing De Soto Reservoir; impacts to the Chatsworth Momonga/Mission Trail, which is designated as a local historical resource
- **Geology and Soils** – the stability of the new storage tanks during earthquakes
- **Noise** – construction noise upon neighboring residences and Sierra Canyon School
- **Recreation** – continued access to the equestrian trail that goes through the project site
- **Transportation**– truck access; truck traffic and haul routes
- **Utilities and Service Systems** – where will the hauled earth be taken to

This EIR focuses on the environmental impacts identified as potentially significant during the Initial Study process, including the comments received in response to the Notice of Preparation. The issue areas analyzed in detail in this EIR include air quality, biological resources, cultural resources, energy, hydrology and water quality, greenhouse gas emissions, noise, transportation, and utilities and service systems. Effects not found to be significant, including aesthetics, agriculture and forestry resources, geology and soils, hazards and hazardous materials (including wildfire), land use and planning, mineral resources, population and housing, public services, recreation, and tribal cultural resources are addressed in the Initial Study (Appendix A) of this EIR.

This Draft EIR is being circulated for 45 days for public review and comment. The timeframe of the public review period is identified in the Notice of Availability attached to this Draft EIR. During this period, comments from the general public, organizations, and agencies regarding environmental issues analyzed in the Draft EIR and the Draft EIR's accuracy and completeness may be submitted to the lead agency at the following address:

James Howe
Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street
Los Angeles, California 90012
Email: James.Howe@ladwp.com

General questions about this EIR and the EIR process should also be directed to the address above. LADWP will prepare written responses to all comments pertaining to environmental issues raised in the Draft EIR submitted in writing and postmarked by the last day of the public review period identified in the Notice of Availability.

Prior to approval of the proposed project, LADWP, as the lead agency and decision-making entity, is required to certify that this EIR has been completed in accordance with CEQA, that the proposed project has been reviewed and the information in this EIR considered, and that this EIR reflects the independent judgment of LADWP. CEQA also requires LADWP to adopt findings with respect to each significant environmental effect identified in the EIR (Pub. Res. Code Section 21081; Cal. Code Regs., Title 14, Section 15091). For each significant effect, CEQA requires the approving agency to make one or more of the following findings:

- The proposed project has been altered to avoid or substantially lessen significant impacts identified in the Final EIR.

- The responsibility to carry out such changes or alterations is under the jurisdiction of another agency.
- Specific economic, legal, social, technological, or other considerations, which make infeasible the mitigation measures or alternatives identified in the Final EIR.

If LADWP concludes that the proposed project will result in significant effects that cannot be substantially lessened or avoided by feasible mitigation measures and alternatives, LADWP must adopt a statement of overriding considerations prior to approval of the proposed project (Pub. Res. Code Section 21081 (b)). Where the lead agency concludes that the specific economic, legal, social, technological, or other benefits outweigh the unavoidable environmental impacts, the lead agency may approve the proposed project after stating in writing the specific reasons to support its action.

In addition, public agencies, when approving a project, must adopt a Mitigation Monitoring and Reporting Program describing the changes that were incorporated into the proposed project or made a condition of project approval in order to mitigate or avoid significant effects on the environment (Pub. Res. Code Section 21081.6). Upon approval of the proposed project, LADWP will be responsible for implementation of the proposed project's Mitigation Monitoring and Reporting Program. This document will be attached to the Final EIR.

1.3 Organization of the EIR

This EIR is organized as follows:

Executive Summary, outlines the conclusions of the environmental analysis and provides a summary of the proposed project and the project alternatives analyzed in the EIR. This section also includes a table summarizing all environmental impacts identified in the EIR along with the associated mitigation measures proposed to reduce or avoid each impact.

Chapter 1, Introduction, serves as a forward to the EIR, introducing the project, the applicable environmental review procedures, and the organization of the EIR.

Chapter 2, Project Description, provides a thorough description of the setting, objectives, characteristics, operation, and construction of the proposed project and required discretionary approvals.

Chapter 3, Environmental Analysis, describes the potential environmental effects of the proposed project, as well as proposed mitigation measures to reduce or avoid any potentially significant impacts. The discussion in Chapter 3.0 is organized by nine environmental issue areas as follows:

- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Noise

- Transportation
- Utilities and Service Systems
- Energy

For each environmental issue area, the analysis and discussion are organized into eight subsections as described below:

- **Environmental Setting –** This subsection describes the physical environmental conditions in the vicinity of the proposed project at the time of publication of the Notice of Preparation. The environmental setting establishes the baseline conditions by which LADWP will determine whether specific Project-related impacts are significant.
- **Regulatory Framework –** This subsection describes the laws, regulations, ordinances, plans, and policies applicable to the environmental issue area and the proposed.
- **Thresholds of Significance –** This subsection identifies a set of thresholds by which the level of impact is determined. Thresholds that were eliminated from further review in the EIR as part of the Initial Study analysis will be identified here.
- **Methodology –** This subsection describes how the analysis was conducted.
- **Impact Analysis –** This subsection provides a detailed analysis regarding the environmental effects of the proposed project, and whether the impacts of the proposed project would meet or exceed the thresholds of significance.
- **Mitigation Measures –** This subsection identifies potentially feasible mitigation measures that would avoid or substantially reduce significant adverse project impacts.
- **Significance After Mitigation –** This subsection discusses whether project-related impacts would be reduced to below a level of significance with implementation of the mitigation measures identified in the EIR. If applicable, this subsection also identifies any residual significant and unavoidable adverse effects of the proposed project that would result even with implementation of any feasible mitigation measures.
- **References Cited**: This subsection provides a list of references and documents cited within the section.

In addition to the seven subsections listed above, full citations for all documents referred to in each environmental issue area discussion are included at the end of each section or chapter.

Chapter 4, Cumulative Effects, discusses the cumulative effects of the project in combination with the effects of other projects in the vicinity.

Chapter 5, Alternatives, discusses alternatives to the proposed project, including a No Project Alternative. This subsection describes the rationale for selecting the range of alternatives discussed in the EIR and identifies the alternatives considered by LADWP that were rejected from further discussion as infeasible during the scoping process. Lastly, Chapter 5.0 includes a discussion of the environmental effects of the alternatives that were carried forward for analysis and identifies the environmentally superior alternative.

Chapter 6, Other CEQA Requirements, addresses significant environmental effects that cannot be avoided, the significant irreversible environmental changes that would result from implementation of the proposed project, growth-inducing impacts associated with the proposed project, and potential secondary effects of mitigation measures included for the proposed project.

Chapter 7, List of Preparers, gives names and contact information of those responsible for writing this EIR.

Appendices include various technical studies prepared for the proposed project, as listed in the Table of Contents.

LADWP, as the designated lead agency for the proposed project, is responsible for enforcing and verifying that each mitigation measure is implemented as required. As part of the Final EIR process, a Mitigation Monitoring and Reporting program will be prepared.

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2 PROJECT DESCRIPTION

This chapter provides a description of the proposed De Soto Tanks and Pump Station Project, referred to in this document as the proposed project or project. The proposed project involves the installation of new underground storage tanks and a pump station in the West San Fernando Valley area in the City of Los Angeles. Pursuant to CEQA Guidelines Section 15123, this chapter describes the location, objectives, and characteristics of the proposed project, followed by a statement describing the intended uses of this EIR.

2.1 Background

The De Soto Tanks and Pump Station Project (proposed project) is a water project that is being proposed by the Los Angeles Department of Water and Power (LADWP). The proposed project would functionally replace the existing 3 million gallon (MG) De Soto Reservoir, located at 11200 De Soto Avenue, with two buried, circular, pre-stressed concrete storage tanks immediately north of the existing reservoir site and install a pump station to supply water to various pressure zones in the distribution system of the West San Fernando Valley. The combined operating storage capacity upon completion of the new storage tanks would be approximately 20 MG. These tanks and pump station would provide additional local storage and pumping capability to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.

The existing De Soto Reservoir, located in the northwestern area of the San Fernando Valley, was built in 1941. It has a base elevation of 1,106 feet above mean sea level and a high water level of 1,123 feet. In order to maintain appropriate operating pressure, the two proposed buried pre-stressed concrete tanks would have an inlet/outlet elevation of 1,100 feet, a high water level of 1,130 feet, and a top of tank elevation of 1,140 feet. Excavation at the proposed project site would be required to bury the tanks, which would be approximately 245 feet in diameter and 40 feet in height, below existing grade level in order to achieve these target elevations.

Construction of the De Soto Tanks and Pump Station Project would also require the installation of:

- Approximately 1,450 linear-feet of new 66-inch-diameter inlet pipeline that would connect the tanks and flow control station to Rinaldi Trunk Line to the east.
- A new underground flow control station on the inlet line to control water flow into the tanks from Rinaldi Trunk Line.
- Approximately 30 linear-feet of new 48-inch-diameter pipeline to provide an emergency connection between the inlet line and Granada Trunk Line.
- A new below ground inlet/outlet vault between the tanks that would house the valves to direct flow into and out of the tanks.
- Approximately 450 linear-feet of new 66-inch-diameter and 3,200 linear-feet of new 54-inch-diameter outlet pipeline that would connect to De Soto Trunk Line. This connection would require the installation of the outlet pipeline from the proposed project site boundary, south along De Soto Avenue to the intersection of De Soto Avenue and Chatsworth Street. This outlet pipeline would also connect to Granada Trunk Line via the proposed De Soto Pump Station. These new pipelines would be located beneath Rinaldi Street, LADWP property, and De Soto Avenue.
- A new pump station (the De Soto Pump Station) to be located at the existing De Soto Reservoir site. Upon placing the De Soto Tanks in-service, the existing De Soto Reservoir will be demolished.

2.2 Project Location and Setting

The proposed project site is located at 11200 De Soto Avenue, in the Chatsworth community of City of Los Angeles, as shown in Figure 2-1, Project Location. The project site is generally bounded by the 118 Freeway to the north, De Soto Avenue to the west, Rinaldi Street to the south and east. Adjacent to the De Soto Reservoir property on the east side, is an undeveloped, privately-owned parcel of land that would be acquired in order to facilitate construction of the proposed project. The project is located in Council District No. 12 and in the Chatsworth Neighborhood Council area. The project site is located in the southeastern portion of the Oat Mountain U.S. Geological Survey (USGS) 7.5-minute quadrangle within Section 8, Township 2 North, Range 16 West. The project site is characterized by relatively flat areas with some rolling hills in the northeast corner and along the northern extent of the property with elevations on site ranging approximately between 1,088 and 1,191 feet above mean sea level.

The proposed project would occur on several assessor's parcels owned by LADWP. The southernmost parcel (APN 2706007901) is developed with the existing De Soto Reservoir, which would be demolished after completion of the proposed tanks. The two northernmost parcels (APNs 2701003907 and 2707001904) are essentially undeveloped. Three additional undeveloped parcels (APN 2707-001-058, APN 2707-001-059 and APN 2707-001-060), not owned by LADWP, are proposed for acquisition to facilitate project construction. The project site is highly disturbed, consisting primarily of ruderal vegetation that is maintained through mowing and/or tilling. A 12-foot wide dedicated equestrian trail easement, which serves as a connection to the Chatsworth Momonga/Mission Trail, extends from Rinaldi Street on the south adjacent to the eastern edge of the southernmost LADWP parcel, where the reservoir is located. This formal easement does not continue across the northernmost LADWP parcels, but LADWP has allowed equestrian access across these parcels between Rinaldi Street on the east and the dedicated equestrian easement on the west. Throughout construction and operation of the proposed project, equestrian access would be maintained and limited to a path along the southern edge of LADWP property to avoid interference with construction and operation activities. A sound wall will separate the path and construction site.

Existing development that adjoins the LADWP property includes Sierra Canyon School to south/southeast of the project site and residential properties to the southwest. Undeveloped property adjoins the LADWP property to the northwest, and northeast. The 118 Freeway is located directly north of the project site. Surrounding uses include Sierra Canyon School to the west of De Soto Avenue, residential development south and southeast of Rinaldi Street, and open space and residential development north of the 118 Freeway.

2.3 Project Objectives

The primary objectives of the proposed project include the following:

- Replace the existing De Soto Reservoir with modern and reliable underground storage tanks.
- Provide additional local storage and pumping capability to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.

- Maintain appropriate operating pressure by installing the new tanks at an appropriate elevation to maximize gravity flows and minimize the need to pump water.
- Provide upgraded connections to the Rinaldi and De Soto Trunk Lines.

2.4 Proposed Project

The proposed project is a water project that is being proposed by the LADWP. The project would functionally replace the existing 3 MG De Soto Reservoir, located at 11200 De Soto Avenue, with two buried, circular, pre-stressed concrete storage tanks and a pump station at the existing reservoir site. The combined operating storage capacity upon completion of the new storage tanks would be approximately 20 MG. These tanks and pump station would provide additional local storage and pumping capability to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. A detailed overview of the project is shown in Figure 2-2, Site Plan, and discussion of project construction and operations is provided below.

2.4.1 Construction

The proposed project involves excavation of the site north of the existing De Soto Reservoir to a depth of approximately 50 feet, followed by the construction of two pre-stressed concrete tanks, each of which would be approximately 245 feet in diameter and approximately 40 feet in height. The majority of the excavated material would be hauled from the project site via the 118 Freeway to both the Mojave Yard, located in the City of Mojave, California, and a facility permitted to accept excavated soil materials. Upon completion of the tanks, the existing reservoir would be demolished in order to facilitate construction of the future pump station.

Excavation for the tanks would involve the use of heavy equipment, including excavators, front loaders, and dozers. Based on preliminary estimates, approximately 350,000 loose cubic yards of soil would need to be excavated at the project site to accommodate the tanks. Approximately 116,000 cubic yards of this material would be used to backfill around the tanks once they are constructed. However, the majority of the excavated material, approximately 340,000 cubic yards, would be hauled off site, requiring approximately 160 truck trips per day, assuming 50% of the haul trucks are 10 cubic-yard haul trucks and 50% of the haul trucks are 15 cubic-yard haul trucks, for 8 hours per day for hauling activities. Excavation and hauling would occur over a period of approximately 8.5 months. Approximately 10,000 cubic yards of the excavated soil would be stockpiled on site, approximately 100,000 cubic yards of excavated soil would be hauled to LADWP's Mojave Yard, and the remaining approximately 240,000 cubic yards of excavated material would be hauled to a facility permitted to accept excavated soil materials.

After excavation, the tank construction would entail the installation of a new inlet/outlet vault and pipelines, a reinforced concrete floor, the erection of scaffolding for the walls and roof, the installation of reinforced concrete wall and roof panels, the construction of reinforced concrete columns to support the roof, wrapping the tanks with pre-stressing cables, and the application of shotcrete over the cables. This process would involve the delivery of materials and concrete and the use of heavy equipment, including cranes and concrete pump trucks.

East of the tank site would be a new below ground flow control station. The purpose of the flow control station would be to control the water flow into the tanks from the Rinaldi Trunk Line to the east. The flow control station would be approximately 2,500 square feet in size and house mechanical equipment and controls to regulate water flow into the tanks.

After completion of the tanks, flow control station, and inlet/outlet vault, the area surrounding the tanks would be backfilled, and a perimeter road would be constructed around the tanks for maintenance access. All permanent cut slopes from excavation would be properly stabilized and revegetated. Although the tanks themselves would be buried, the roof of the tanks would not be covered. The top of the tanks would be approximately 2 feet above the perimeter access road.

New pipelines, inlet, and outlet pipelines of the tanks would be constructed on site as well as extend off site to connect with Rinaldi Trunk Line to the east and De Soto Trunk Line to the south. After completion of the tanks and pipelines, the existing De Soto Reservoir would be demolished and the new pump station would be constructed. To install the new 66-inch pipeline connection to the Rinaldi Trunk Line to the east, two excavation pits would be constructed to facilitate pipe jacking below grade. A total of 620 feet of pipeline would be required for this connection. One excavation pit would be located on the project site and the second excavation pit would be located within the existing 60-foot LADWP easement on the east side of Rinaldi Street. With pipe jacking occurring below grade, Rinaldi Street would remain open to through traffic throughout the estimated 9 month pipeline installation process.

To connect the project with the De Soto Trunk Line, new piping would be installed below ground on the project site and south along De Soto Avenue. Approximately 570 feet of pipe jacking from the storage tanks to the project site's western boundary would be done on site. Upon reaching the project site's western boundary at De Soto Avenue, open trench pipeline installation would occur along the eastern side (approximately 35 feet of work area required) of De Soto Avenue. Pipeline installation along De Soto Avenue would occur along approximately 2,650 feet extending from the project site at the north to Chatsworth Street at the south. With the exception of pipe jacking beneath the intersection of De Soto Avenue and Rinaldi Street, all other pipeline installation would be done via cut-and-cover construction, therefore requiring the closing of 2 traffic lanes and the median lane along De Soto Avenue throughout the approximately 24 month construction period. Upon completion of pipeline installation, the roadway would be repaired, repaved, and the lanes along De Soto Avenue would be reopened.

Access to and egress from the site during construction would be from Rinaldi Street on the east and/or De Soto Avenue on the west. Construction of the proposed project would take approximately 6 years to complete, beginning 2023.

Upon completion of the storage tanks, the existing De Soto Reservoir would no longer be necessary and as such would be demolished. Demolition of the reservoir would entail demolition of the following: aluminum roof decking, timber roof framing, concrete columns, perimeter concrete walls, and asphalt concrete paving. This would result in approximately 560 tons or 440 cubic yards of material that would be hauled from the project site. As with the excavated earth removed during the construction of the storage tanks, the demolition material would be hauled off site, requiring approximately 50 truck trips. Demolition material would be hauled from the project site via the 118 Freeway to a facility permitted to accept demolition materials.

2.4.2 Operation

As discussed above, the proposed tanks would store potable water to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. The proposed flow control station would control water flow coming from Los Angeles Aqueduct Filtration Plant UV Plant weir, which has an 1,191-foot high water elevation, to De Soto Tanks, which have an 1,130-foot high water elevation. The proposed De Soto Pump Station would pump water from De Soto Tanks to the 1,305-foot pressure zone in the west valley. No workers would be required to operate these facilities on a daily basis; however, these facilities would require periodic maintenance. As such, operational activities would be essentially the same as those that occur under existing conditions.

2.5 Intended Uses of the EIR

An EIR is a public document used by a public agency to analyze the environmental effects of a project and to disclose possible ways to reduce or avoid significant environmental impacts, including alternatives to the proposed project. As an informational document, an EIR does not make recommendations for or against approving a project. The main purpose of an EIR is to inform public agency decision makers and the public about potential environmental impacts of the project (CEQA Guidelines Section 15121). This EIR will be used by LADWP, as the lead agency under CEQA, in making decisions with regard to the adoption of the proposed project described above and the related approvals described below.

2.6 Project Approvals Required

The following discretionary permits and approvals may be required for the proposed project:

- Permit from Los Angeles Department of Public Works Bureau of Engineering (BOE) for excavation in a public right of way
- Permit from Los Angeles Department of Building and Safety for haul route
- Permit from California Department of Transportation (Cal Trans), if temporary shoring tie-backs encroach onto Cal Trans property
- Permit from Los Angeles Department of Transportation for traffic control plans and lane closures

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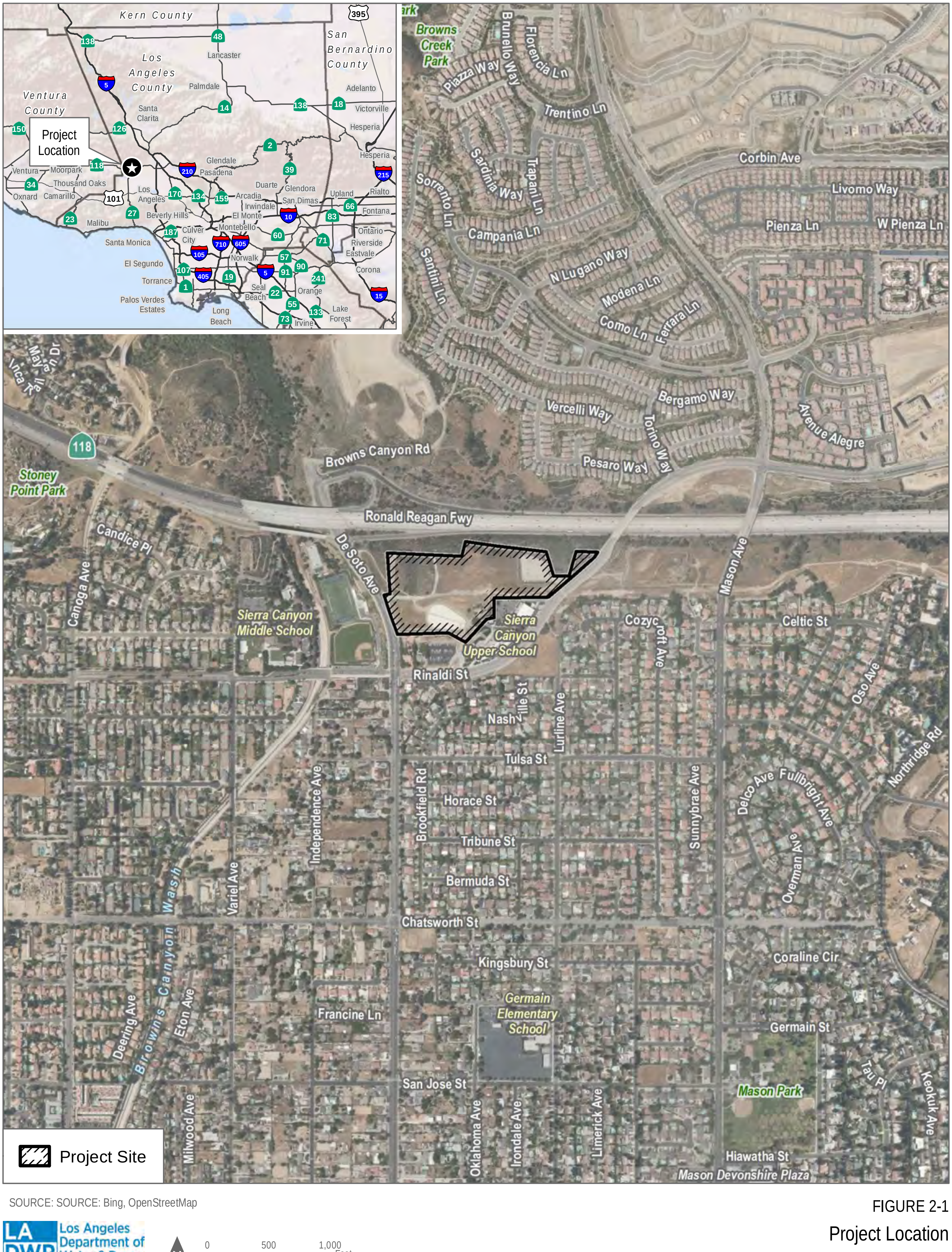

SOURCE: SOURCE: Bing, OpenStreetMap

LA DWP Los Angeles Department of Water & Power

FIGURE 2-1

Project Location

LADWP De Soto Tanks Project

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SOURCE: LADWP

LA DWP Los Angeles Department of Water & Power

FIGURE 2-2

Site Plan

LADWP De Soto Tanks Project

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3 ENVIRONMENTAL ANALYSIS

The purpose of this Draft Environmental Impact Report (EIR) is to evaluate the potential environmental effects of the proposed De Soto Tanks and Pump Station project ("project" or "proposed project"). Los Angeles Department of Water and Power (LADWP) circulated a Notice of Preparation (NOP) beginning on December 1, 2017, with the public review period ending on January 31, 2018. The NOP was transmitted to the State Clearinghouse, responsible agencies, other affected agencies, and property owners within approximately 3,500 feet of the project site to solicit issues and concerns related to the project. A total of 2 written comment letters were received. The NOP, Initial Study, and comment letters are contained in Appendix A of this Draft EIR.

Sections 3.1 through 3.9 of the Draft EIR contain the potential environmental impacts analysis associated with implementation of the project and focus on the following issues:

- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Noise
- Transportation
- Utilities and Service Systems
- Energy

Technical Studies

Technical studies were prepared in order to accurately analyze air quality/greenhouse gas emissions and health risk assessments, biological resources, cultural resources, hydrology and water quality, noise and vibration, and traffic impacts, and were used in the preparation of this Draft EIR. These documents are identified in the discussions for the individual environmental issues and included as technical appendices on a CD attached to the Draft EIR. Hard copies are available at LADWP and will also be available on LADWP's website at https://www.ladwp.com/envnotices.

Analysis Format

For each environmental issue area, the analysis and discussion are organized into eight subsections as described below:

- **Environmental Setting –** This subsection describes the physical environmental conditions in the vicinity of the proposed project at the time of publication of the Notice of Preparation. The environmental setting establishes the baseline conditions by which LADWP will determine whether specific Project-related impacts are significant.

- **Regulatory Framework –** This subsection describes the laws, regulations, ordinances, plans, and policies applicable to the environmental issue area and the proposed.
- **Thresholds of Significance –** This subsection identifies a set of thresholds by which the level of impact is determined. Thresholds that were eliminated from further review in the EIR as part of the Initial Study analysis will be identified here.
- **Methodology –** This subsection describes how the analysis was conducted.
- **Impact Analysis –** This subsection provides a detailed analysis regarding the environmental effects of the proposed project, and whether the impacts of the proposed project would meet or exceed the thresholds of significance.
- **Mitigation Measures –** This subsection identifies potentially feasible mitigation measures that would avoid or substantially reduce significant adverse project impacts.
- **Significance After Mitigation –** This subsection discusses whether project-related impacts would be reduced to below a level of significance with implementation of the mitigation measures identified in the EIR. If applicable, this subsection also identifies any residual significant and unavoidable adverse effects of the proposed project that would result even with implementation of any feasible mitigation measures.
- **References Cited**: Provides a list of references and documents cited within the section.

3.1 Air Quality

This section describes existing regional air quality conditions, identifies the relevant regulatory framework, and evaluates potential impacts on air quality related to implementation of the De Soto Tanks and Pump Station Project (proposed project or project).

Comments received in response to the Notice of Preparation (see Appendix A) included concerns by the South Coast Air Quality Management District (SCAQMD) regarding the air quality assessment approach to include the quantification of project generated construction and operational emissions (if applicable). In addition, the SCAQMD requested the Environmental Impact Report (EIR) include an assessment of potential toxic air contaminants (TACs) generated by construction. All of the air quality concerns raised during the NOP process are addressed in this section.

Information contained in this section is based on proposed project plans, the California Emissions Estimator Model (CalEEMod) (used to estimate project emissions), the transportation analysis as provided in Section 3.7, and the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993). Other sources consulted are listed in Section 3.1.8, References Cited.

3.1.1 Existing Conditions

This section describes the existing conditions in the project area and also identifies the resources that could be affected by the proposed project.

The City of Los Angeles is located within the South Coast Air Basin (SCAB). SCAB is a 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. SCAB includes Orange County, Los Angeles County (except the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties.

3.1.1.1 Meteorological and Topographical Conditions

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted. Meteorological and topographical conditions, however, are also important. Factors such as wind speed and direction, air temperature gradients and sunlight, and precipitation and humidity interact with physical landscape features to determine the movement and dispersal of air pollutants. SCAB's air pollution problems are a consequence of the combination of emissions from heavy vehicular traffic and industry from the nation's second largest urban area, meteorological conditions discouraging dispersion of those emissions, and mountainous terrain surrounding SCAB that traps pollutants as they are pushed inland by the sea breeze (SCAQMD 2017a). The meteorological and topographical factors affecting air quality in SCAB are described in the following subsections.[1]

[1] The discussion of meteorological and topographical conditions of SCAB is based on information provided in the Final 2016 Air Quality Management Plan (SCAQMD 2017a).

3.1.1.2 Climate

SCAB is characterized as having a Mediterranean climate (typified as semiarid with mild winters, warm summers, and moderate rainfall). The general region lies in the semi-permanent high-pressure zone of the eastern Pacific; as a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in SCAB is a function of the area's natural physical characteristics (e.g., weather and topography) and of manufactured influences (e.g., development patterns and lifestyle). Moderate temperatures, comfortable humidity, and limited precipitation characterize the climate in SCAB. The average annual temperature varies little, averaging 75°F; however, with a less-pronounced oceanic influence, the eastern inland portions of SCAB show greater variability in annual minimum and maximum temperatures, and all portions have recorded temperatures over 100°F in recent years. Although SCAB has a semiarid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into SCAB by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70% at the coast and 57% in the eastern part of SCAB. Precipitation is typically 9 to 14 inches annually and is rarely in the form of snow or hail because of typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of SCAB.

The greatest precipitation in the City occurs from December to March, during which time the rainfall averages 2 to 4 inches per month. The average annual precipitation is 16.86 inches. The City has a mild climate with an annual average temperature of 67°F. The coolest months of the year are typically December and January, with an annual average low of 38.8°F. The warmest months are typically July through September, with an annual average high of 95.4°F. Prevailing wind direction in the City (as measured at Pierce College, approximately 4.8 miles south of the site) is from the west (WRCC 2016).

3.1.1.3 Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen (NO_x)[2]) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind of the emission sources. Southern California also has abundant sunshine, which drives the photochemical reactions that form pollutants such as ozone (O_3) and a substantial portion of fine particulate matter (particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$)). In SCAB, high concentrations of O_3 are normally recorded during the late spring, summer, and early autumn months, when more intense sunlight drives enhanced photochemical reactions. Due to the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

2 NO_x is a general term pertaining to compounds of nitric oxide (NO), nitrogen dioxide (NO_2) and other oxides of nitrogen.

3.1.1.4 Temperature Inversions

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air mix and disperse into the upper atmosphere. However, the Southern California region frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in coastal Southern California. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air, which acts as a lid through which the cooler marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above mean sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet above mean sea level, the terrain prevents the pollutants from entering the upper atmosphere, resulting in the pollutants settling in the foothill communities. Below 1,200 feet above mean sea level, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours.

Mixing heights for inversions are lower in the summer, and inversions are more persistent, being partly responsible for the high levels of O_3 observed during summer months in SCAB. Smog in Southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods, allowing them to form secondary pollutants by reacting in the presence of sunlight. SCAB has a limited ability to disperse these pollutants due to typically low wind speeds and the surrounding mountain ranges.

As with other cities within SCAB, the City of Los Angeles is susceptible to air inversions, which trap a layer of stagnant air near the ground where pollutants are further concentrated. These inversions produce haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources. Elevated particulate matter less than or equal to 10 microns in diameter (PM_{10}) and $PM_{2.5}$ concentrations can occur in SCAB throughout the year, but occur most frequently in fall and winter. Although there are some changes in emissions by day-of-week and season, the observed variations in pollutant concentrations are primarily the result of seasonal differences in weather conditions.

3.1.1.5 Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set (pursuant to the federal and state Clean Air Acts, which are discussed in the following pages), with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead (Pb). These pollutants, as well as TACs, are discussed in the following paragraphs.[3] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_X and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at Earth's surface in the lower atmosphere (tropospheric ozone).[4] The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, respiratory symptoms, worsening of lung disease leading to premature death, increased susceptibility to infections, inflammation of and damage to the lung tissue, and some immunological changes (EPA 2013, CARB 2019a). These health problems are particularly acute in sensitive receptors such as the sick, older adults, and young children.

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in and cause shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. While there are relatively few studies of O_3's effects on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2019a).

A number of population groups are potentially at increased risk for O_3 exposure effects. In the ongoing review of O_3, the EPA has identified populations as having adequate evidence for increased risk from O_3 exposures include

[3] The descriptions of each of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants (2016a) and the CARB Glossary of Air Pollutant Terms (2016a).

[4] The troposphere is the layer of Earth's atmosphere nearest to the surface of Earth, extending outward approximately 5 miles at the poles and approximately 10 miles at the equator.

individuals with asthma, younger and older age groups, individuals with reduced intake of certain nutrients such as Vitamins C and E, and outdoor workers. There is suggestive evidence for other potential factors, such as variations in genes related to oxidative metabolism or inflammation, gender, socioeconomic status, and obesity. However further evidence is needed. (SCAQMD 2017).

The adverse effects reported with short-term O_3 exposure are greater with increased activity because activity increases the breathing rate and the volume of air reaching the lungs, resulting in an increased amount of O_3 reaching the lungs. Children may be a particularly vulnerable population to air pollution effects because they spend more time outdoors, are generally more active, and have a higher specific ventilation relative to their body weight, compared to adults. (SCAQMD 2017).

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the National Ambient Air Quality Standards (NAAQS) for NO_2, is results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher compared to lower levels of exposure. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2019b).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the City of Los Angeles, transportation accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, and light-headedness, dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2019c).

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure, compared with the non-asthmatic population. Effects at levels near the one-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 parts per million (ppm)) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. The elderly and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2019d).

SO_2 is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in PM (NRC 2005). People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO_2-induced increase in resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. PM_{10} tends to collect in the upper portion of the respiratory system, whereas $PM_{2.5}$ is small enough to penetrate deeper into the lungs and damage lung tissue. Suspended particulates also produce haze and reduce regional visibility and damage and discolor surfaces on which they settle.

A number of adverse health effects have been associated with exposure to both $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and world-wide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease (COPD), leading to hospitalization and emergency department visits. (CARB 2017).

Long-term (months to years) exposure to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that PM in outdoor air pollution causes lung cancer. (CARB 2017).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the Legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC, such as diesel particulate matter (DPM).

Diesel Particulate Matter. DPM, which is the predominant TAC, is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70 the diameter of a human hair) and, thus, is a subset of $PM_{2.5}$ (CARB 2016b). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016b). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same noncancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016b). Those most vulnerable to noncancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air-pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The SCAQMD identifies sensitive receptors as residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993).

The nearest off-site sensitive receptors to the proposed project include residential land uses, located approximately 20 feet from the alignment on De Soto Avenue and the Sierra Canyon School's upper and lower campuses, which are located approximately 55 feet to the south and 150 feet west of the project site, respectively. All other air quality sensitive receptors are located at greater distances from the project site and would be less impacted by emissions generated by the proposed project. Impacts are quantified in Section 3.1.5, for the above sensitive receptors.

3.1.1.6 Regional and Local Air Quality Conditions

South Coast Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, the EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS. Table 3.1-1 depicts the current attainment status of the project site with respect to the NAAQS and CAAQS as well as the attainment classifications for the criteria pollutants.

Table 3.1-1
South Coast Air Basin Attainment Classification

Pollutant	Designation/Classification	
	National Standards	*California Standards*
Ozone (O_3) – 1 hour	No federal standard	Nonattainment
Ozone (O_3) – 8 hour	Extreme nonattainment	Nonattainment
Nitrogen dioxide (NO_2)	Unclassifiable/attainment	Attainment
Carbon monoxide (CO)	Attainment/maintenance	Attainment
Sulfur dioxide (SO_2)	Unclassifiable/attainment	Attainment
Coarse particulate matter (PM_{10})	Attainment/maintenance	Nonattainment
Fine particulate matter ($PM_{2.5}$)	Serious nonattainment	Nonattainment
Lead (Pb)[1]	Partial Nonattainment	Attainment
Hydrogen sulfide	No national standard	Unclassified
Sulfates	No national standard	Attainment
Visibility-reducing particles	No national standard	Unclassified
Vinyl chloride	No national standard	No designation

Source: CARB 2018 (state); EPA 2018 (federal).
Notes: bold text = not in attainment; attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.
1 The CARB currently designates the Los Angeles County portion of the SCAB as a nonattainment designation for lead.

In summary, SCAB is designated as a nonattainment area for federal and state O_3 standards and federal and state $PM_{2.5}$ standards. SCAB is designated as a nonattainment area for state PM_{10} standards; however, it is designated as an attainment area for federal PM_{10} standards. SCAB is designated as an attainment area for federal and state CO standards, federal and state NO_2 standards, and federal and state SO_2 standards. While the Los Angeles County portion of the SCAB has been designated as nonattainment for the federal lead standard, it is designated attainment for the state lead standard (CARB 2018; EPA 2018).

Despite the current nonattainment status, air quality within SCAB has generally improved since the inception of air pollutant monitoring in 1976. This improvement is mainly due to lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by the SCAQMD. This trend toward cleaner air has occurred in spite of continued population growth. Despite this growth, air quality has improved significantly over the years, primarily due to the impacts of the region's air quality control program. PM_{10} levels have declined almost 50% since 1990, and $PM_{2.5}$ levels have also declined 50% since measurements began in 1999 (SCAQMD 2013). Similar improvements are observed with O_3, although the rate of O_3 decline has slowed in recent years.

Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. The SCAQMD monitors local ambient air quality in the proximity of the proposed project site. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2016 to 2018 are presented in Table 3.1-2. The Reseda monitoring station, located at 18330 Gault Street, California 91335, is the nearest air quality monitoring station to the project site, located approximately 11 miles southeast from the project site. Air quality data for O_3, NO_2, CO, and $PM_{2.5}$ from the Reseda monitoring station monitoring station are provided in Table 3.1-2. Because SO_2 and PM_{10} are not monitored at the Reseda monitoring station, these measurements were taken from the Los Angeles North Main Street monitoring station (1630 North Main Street, California 90012, approximately 50 miles southeast from the project site). The data collected at these stations are considered representative of the air quality experienced in the project vicinity. The number of days exceeding the ambient air quality standards is also shown in Table 3.1-2.

Table 3.1-2
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2016	*2017*	*2018*	*2016*	*2017*	*2018*
Ozone (O_3)										
Reseda	ppm	Maximum 1-hour concentration	State	0.09	0.122	0.140	0.120	9	26	14
	ppm	Maximum 8-hour concentration	State	0.070	0.099	0.115	0.101	23	67	50
			Federal	0.070	0.098	0.114	0.101	23	64	49
Nitrogen Dioxide (NO_2)										
Reseda	ppm	Maximum 1-hour concentration	State	0.18	0.055	0.062	0.057	0	0	0
			Federal	0.100	0.0555	0.0625	0.0572	0	0	0
	ppm	Annual concentration	State	0.030	0.012	0.012	0.012	—	—	—
			Federal	0.053	0.013	0.013	0.012	—	—	—
Carbon Monoxide (CO)										
Reseda	ppm	Maximum 1-hour concentration	State	20	—	—	—	—	—	—
			Federal	35	2.4	3.0	3.4	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	—	—	—	—	—	—
			Federal	9	1.9	2.5	2.1	0	0	0
Sulfur Dioxide (SO_2)										
Los Angeles–North Main Street	ppm	Maximum 1-hour concentration	Federal	0.075	0.0134	0.057	0.0179	0	0	0
	ppm	Maximum 24-hour concentration	Federal	0.14	0.013	0.015	0.013	0	0	0
	ppm	Annual concentration	Federal	0.030	0.003	0.0036	0.0034	0	0	0

Table 3.1-2
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2016	*2017*	*2018*	*2016*	*2017*	*2018*
Coarse Particulate Matter (PM_{10})[b]										
Los Angeles–North Main Street	μg/m³	Maximum 24-hour concentration	State	50	74.6	96.2	81.2	ND (21)	ND (40)	31.8 (31)
			Federal	150	64.0	64.6	68.2	0.0 (0)	0.0 (0)	0.0 (0)
	μg/m³	Annual concentration	State	20	ND	ND	31.8	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[b]										
Reseda	μg/m³	Maximum 24-hour concentration	Federal	35	30.0	35.2	38.9	0.0 (0)	0.0 (0)	ND (1)
	μg/m³	Annual concentration	State	12	16.9	16.8	15.8	—	—	—
			Federal	12.0	9.1	9.7	ND	—	—	—

Sources: CARB 2019e; EPA 2019.

Notes: ppm = parts per million; — = data not available; μg/m3 = micrograms per cubic meter; ND = insufficient data available to determine the value.

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

Reseda Monitoring Station is located at 18330 Gault Street, Reseda, California 91335.

Los Angeles North Main Street Monitoring Station is located at 1630 North Main Street, Los Angeles, California 90012.

[a] Mean does not satisfy minimum data completeness criteria.

[b] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

3.1.2 Relevant Plans, Policies, and Ordinances

3.1.2.1 Federal

The following federal regulations pertaining to air quality would apply to the proposed project.

Clean Air Act

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting NAAQS for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 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 that demonstrates how those areas will attain the standards within mandated timeframes.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. HAPs include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

3.1.2.2 State

The following state regulations pertaining to air quality would apply to the proposed project.

Criteria Air Pollutants

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 CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. 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 CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, 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. The NAAQS and CAAQS are presented in Table 3.1-3.

Table 3.1-3
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 μg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m³)	0.070 ppm (137 μg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m³)	0.100 ppm (188 μg/m³)	Same as Primary Standard
	annual arithmetic mean	0.030 ppm (57 μg/m³)	0.053 ppm (100 μg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m³)	0.075 ppm (196 μg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m³)
	24 hours	0.04 ppm (105 μg/m³)	0.14 ppm (for certain areas)[g]	—
	annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m³	150 μg/m³	Same as Primary Standard
	annual arithmetic mean	20 μg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 μg/m³	Same as Primary Standard
	annual arithmetic mean	12 μg/m³	12.0 μg/m³	15.0 μg/m³
Lead[j,k]	30-day average	1.5 μg/m³	—	—
	calendar quarter	—	1.5 μg/m³ (for certain areas)[k]	Same as Primary Standard
	rolling 3-month average	—	0.15 μg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 μg/m³)	—	—
Sulfates	24 hours	25 μg/m³	—	—
Visibility-reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016c.

Notes: $\mu g/m^3$ = micrograms per cubic meter; mg/m^3= milligrams per cubic meter; ppm = parts per million by volume; O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[ff] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs 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.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until 1 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.

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, a subset of which have carcinogenic and noncarcinogenic toxicity criteria established pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation (CARB 2014), On-Road Heavy Duty (New) Vehicle Program (CARB 2005b), In-Use Off-Road Diesel Vehicle Regulation (CARB 2011), and New Off-Road Compression-Ignition (Diesel) Engines and Equipment program (CARB 2008). These regulations and programs have timetables to which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several Airborne Toxic Control Measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

3.1.2.3 Local

The following local/regional regulations pertaining to air quality would apply to the proposed project.

South Coast Air Quality Management District

The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in SCAB, where the proposed project is located. The SCAQMD operates monitoring stations in SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain state and federal ambient air quality standards in SCAB. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The 2012 AQMP proposed policies and measures to achieve federal and state standards for improved air quality in SCAB and portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction. The 2012 AQMP is designed to meet applicable federal and state requirements for O_3 and particulate matter. The 2012 AQMP stated that attainment of the federal 24-hour $PM_{2.5}$ standard was impracticable by 2015 and that SCAB should be classified as a serious nonattainment area along with the appropriate federal requirements. The 2012 AQMP included the planning requirements to meet the 1-hour O_3 standard. The 2012 AQMP demonstrated a plan for attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 in SCAB through adoption of all feasible measures. Finally, the 2012 AQMP updated the EPA-approved 8-hour O_3 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.

The 2012 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use and development. The EPA, with a final ruling on April 14, 2016, approved the Clean Air Act planning requirements for the 24-hour $PM_{2.5}$ standard portion and on September 3, 2014, approved the 1-hour O_3 Clean Air Act planning requirements. The 2012 AQMP was updated in 2016 (approved March 2017); this AQMP accounts for updates to CARB's and SCAQMD's emission reductions resulting from adopted rules and regulations since the 2012 AQMP, growth factors, and demographic trends.

The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gas emissions and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017a). Because mobile sources are the principal contributor to SCAB's air quality challenges, SCAQMD has been and will continue to be closely engaged with CARB and the EPA, who have primary responsibility for these sources. The 2016 AQMP recognizes the critical importance of working with other agencies to develop funding and other incentives that encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits not only air quality but also local businesses and the regional economy. These "win-win" scenarios are key to implementation of this 2016 AQMP with broad support from a wide range of stakeholders.

While striving to achieve the NAAQS for O_3 and $PM_{2.5}$ and the CAAQS for O_3, PM_{10}, and $PM_{2.5}$ through a variety of air quality control measures, the 2016 AQMP also accommodates planned growth in SCAB. Projects are considered consistent with, and would not conflict with or obstruct, implementation of the AQMP if growth in socioeconomic factors (e.g., population, employment) is consistent with the underlying regional plans used to develop the AQMP. The demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) based on general plans for cities and counties in SCAB were used in the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) (SCAG 2016) to estimate future emissions in the 2016 AQMP (SCAQMD 2017a).

SCAQMD Rules

Emissions that would result from mobile, area, and stationary sources during maintenance activities of the proposed program are subject to the rules and regulations of SCAQMD (2017b), which include the following:

- **Rule 201 – Permit to Construct:**[5] This rule requires that prior to construction, written authorization for such construction from the Executive Officer must be obtained.
- **Rule 203 – Permit to Operate:**[6] This rule prohibits the operations of any equipment which may cause the issuance of air contaminants without first obtaining a written permit from the Executive Officer.

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5 Rule 201 Permit to Construction: http://www.aqmd.gov/docs/default-source/rule-book/reg-ii/rule-201.pdf?sfvrsn=4.

6 Rule 203 Permit to Operate: http://www.aqmd.gov/docs/default-source/rule-book/reg-ii/rule-201.pdf?sfvrsn=4.

- **Rule 401 – Visible Emissions:**[7] This rule establishes the limit for visible emissions from stationary sources.
- **Rule 402 – Nuisance:**[8] 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.
- **Rule 403 – Fugitive Dust:**[9] This rule requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust, and identifies measures to reduce fugitive dust. This includes soil treatment for exposed soil areas. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate.
- **Rule 431.2 – Sulfur Content of Liquid Fuels:**[10] The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of reducing the formation of sulfur oxides (SO_x) and particulates during combustion and of enabling 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 users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile sources.
- **Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines:**[11] This rule applies to stationary and portable engines rated at greater than 50 horsepower. The purpose of Rule 1110.2 is to reduce NO_x, VOC, and CO emissions from engines. Emergency engines, including those powering standby generators, are generally exempt from the emissions and monitoring requirements of this rule because they have permit conditions that limit operation to 200 hours or less per year as determined by an elapsed operating time meter.
- **Rule 1113 – Architectural Coatings:**[12] This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- **Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities:**[13] This rule specifies work practices to limit asbestos emissions from building demolition and renovation activities, including removal and associated disturbance of asbestos-containing material (ACM)

Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development,

7 Rule 401 Visible Emissions: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-401.pdf?sfvrsn=4.
8 Rule 402 Nuisance: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf?sfvrsn=4.
9 Rule 403 Fugitive Dust: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4.
10 Rule 431.2 Sulfur Content of Liquid Fuels: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-431-2.pdf?sfvrsn=4.
11 Rule 1110.2 Emissions from Gaseous and Liquid-Fueled Engines: http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1110-2.pdf.
12 Rule 1113 Architectural Coatings: http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf?sfvrsn=17.
13 Rule 1403 Asbestos Emissions from Demolition/Renovation Activities: http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1403.pdf.

and the environment. SCAG serves as the federally designated metropolitan planning organization for the Southern California region and is the largest metropolitan planning organization in the United States.

With respect to air quality planning and other regional issues, SCAG has prepared the *Final 2008 Regional Comprehensive Plan: Helping Communities Achieve a Sustainable Future* (2008 RCP) for the region (SCAG 2008). The 2008 RCP sets the policy context in which SCAG participates in and responds to the SCAQMD air quality plans and builds off the SCAMQD AQMP processes that are designed to meet health-based criteria pollutant standards in several ways (SCAG 2008). First, it complements AQMPs by providing guidance and incentives for public agencies to consider best practices that support the technology-based control measures in AQMPs. Second, the 2008 RCP emphasizes the need for local initiatives that can reduce the region's GHG emissions that contribute to climate change, an issue that is largely outside the focus of local attainment plans, which it assessed in Section 3. Third, the 2008 RCP emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, or other sources of air pollution.

On April 7, 2016, SCAG's Regional Council adopted the 2016 RTP/SCS. The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The 2016 RTP/SCS was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration and the Federal Transit Administration indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 Federal Transportation Improvement Program Consistency Amendment through Amendment 15-12 have been met (SCAG 2016).

As previously noted, SCAQMD's 2016 AQMP applies the updated SCAG growth forecasts assumed in the 2016 RTP/SCS.

City of Los Angeles

Policies pertaining to improving air quality are addressed in air quality element of the general plan. Polices with air quality associated are presented as follows (City of Los Angeles 1992).

Policy 1.1.1: Encourage demonstration projects that involve creative and innovative uses of market incentive mechanisms to achieve air quality objectives.

Policy 1.2.1: Implement the air quality element policies set forth in this chapter through adoption of the Clean Air Program, which shall be amended as Council sees necessary without general plan amendment.

Policy 1.2.2: Pursue the City's air quality objectives in cooperation with regional and other local jurisdictions.

Policy 1.2.3: Monitor and assess the progress of the City's air quality improvement programs.

Policy 1.3.1: Minimize particulate emissions from construction sites.

Policy 1.3.2: Minimize particulate emissions from unpaved roads and parking lots that are associated with vehicular traffic.

Policy 2.1.1: Utilize compressed work weeks and flextime, telecommuting, carpooling, vanpooling, public transit, and improve walking/bicycling related facilities to reduce vehicle trips and/or vehicle miles traveled (VMT) as an employer, and encourage the private sector to do the same to reduce work trips and traffic congestion.

Policy 2.1.2: Facilitate and encourage the use of telecommunications (i.e., telecommuting), in both the public and private sectors, to reduce work trips.

Policy 2.2.1: Discourage single-occupant vehicle use through a variety of measures such as market incentive strategies, mode-shift incentives, trip reduction plans, and ridesharing subsidies.

Policy 2.2.2: Encourage multi-occupant vehicle travel and discourage single-occupant vehicle travel by instituting parking management policies.

Policy 2.2.3: Minimize the use of single-occupant vehicles associated with special events or in areas and times of high levels of pedestrian activities.

Policy 3.1.1: Implement programs to finance and improve public transit facilities and service.

Policy 3.1.2: Address public safety concerns as part of transit improvement programs such as guarded and/or well lit transit facilities, emergency equipment and safe-driving training for operators, in order to increase transit ridership.

Policy 3.1.3: Cooperate with regional transportation agencies in expediting the development and implementation of regional transit systems.

Policy 3.2.1: Manage traffic congestion during peak hours.

Policy 3.3.1: Implement the best available system management techniques, and transportation management and mobility action plans to improve the efficiency of existing transportation facilities, subject to availability of funding.

Policy 4.1.1: Coordinate with all appropriate regional agencies the implementation of strategies for the integration of land use, transportation, and air quality policies.

Policy 4.1.2: Ensure that project level review and approval of land use development remain at the local level.

Policy 4.2.1: Revise the City's General Plan/Community Plans to achieve a more compact, efficient urban form and to promote more transit-oriented development and mixed-use development.

Policy 4.2.2: Improve accessibility for the City's residents to places of employment, shopping centers, and other establishments.

Policy 4.2.3: Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.

Policy 4.2.4: Require that air quality impacts be a consideration in the review and approval of all discretionary projects.

Policy 4.2.5: Emphasize trip reduction, alternative transit, and congestion management measures for discretionary projects.

Policy 4.3.1: Revise the City's general plan / community plans to ensure that new or relocated sensitive receptors are located to minimize significant health risks posed by air pollution sources.

Policy 4.3.2: Revise the City's general plan / community plans to ensure that new or relocation major air pollution sources are located to minimize significant health risks to sensitive receptors.

Policy 5.1.1: Make improvements in harbor and airport operations and facilities to reduce air emissions.

Policy 5.1.3: Have the Department of Water and Power make improvements at its in-basin power plants to reduce air emissions.

Policy 5.1.4: Reduce energy consumption and associated air emissions by encouraging waste reduction and recycling.

Policy 5.2.1: Reduce emissions from its own vehicles by continuing scheduled maintenance, inspection and vehicle replacement programs; by adhering to the State of California's emission testing and monitoring programs; by using alternative fuel powered vehicles wherever feasible, in accordance with regulatory agencies and City Council policies.

Policy 5.3.1: Support the development and use of equipment powered by electric or low-emitting vehicles.

Policy 6.1.1: Raise awareness through public information and education programs of the actions that individuals can take to reduce air emissions.

Many air quality strategies result in co-benefits with reducing GHG emissions. See Section 3.5, for a discussion of the City's GHG emission reduction policies.

3.1.3 Thresholds of Significance

Significance Criteria

According to Appendix G of the 2019 CEQA Guidelines, a significant impact related to air quality could occur if the proposed project would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Pursuant to the State CEQA Guidelines (Section 15064.7), a lead agency may consider using, when available, the significance criteria established by the applicable air quality management district or air pollution control district when making determinations of significance. The City of Los Angeles uses the SCAQMD's thresholds to evaluate proposed development projects and assess the significance of quantifiable impacts. The potential air quality impacts of a project are, therefore, evaluated according to the thresholds adopted by the SCAQMD in connection with its CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent SCAQMD guidance as discussed previously.

Threshold 1: Consistency with Air Quality Management Plan. The evaluation of whether the proposed project would conflict with or obstruct implementation of the applicable air quality plan is based on the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993), Chapter 12, Section 12.2 (Consistency Criterion No. 1), which asks whether the proposed project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP. This issue is addressed in detail under Threshold 1 in Section 3.1.5. Consistency Criterion No. 2 in the SCAQMD CEQA Air Quality Handbook, Chapter 12, Section 12.3, asks whether the proposed project would exceed the assumptions in the AQMP or increments based on the year of proposed project buildout and phase, as discussed further in Section 3.1.5.

Threshold 2: Cumulative Impacts on Air Quality. Regarding cumulative impacts (checklist question 2) for nonattainment pollutants, a project would result in a cumulatively considerable net increase to an existing air quality violation of the NAAQS or CAAQS, which is a nonattainment pollutant, if the proposed project's construction or operational emissions would exceed the SCAQMD VOC, NO_x, PM_{10}, or $PM_{2.5}$ thresholds shown in Table 3.1-4. The emissions-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur). This approach is used because O_3 is not emitted directly (see the discussion of O_3 and its sources in Section 3.1.1 and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 3.1-4
South Coast Air Quality Management District Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	*Construction (pounds per day)*	*Operation (pounds per day)*
VOCs	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3

Table 3.1-4
South Coast Air Quality Management District Air Quality Significance Thresholds

TACs and Odor Thresholds	
TACs[b]	Maximum incremental cancer risk ≥10 in 1 million Chronic and acute hazard index ≥1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
Ambient Air Quality Standards for Criteria Pollutants[c]	
  NO_2 1-hour average NO_2 annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)
  CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)
PM_{10} 24-hour average PM_{10} annual average	10.4 μg/m³ (construction)[d] 2.5 μg/m³ (operation) 1.0 μg/m³
$PM_{2.5}$ 24-hour average	10.4 μg/m³ (construction)[d] 2.5 μg/m³ (operation)

Source: SCAQMD 2015.
Notes: SCAQMD = South Coast Air Quality Management District; VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million; μg/m³ = micrograms per cubic meter.
GHG emissions thresholds for industrial projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not include included in Table 4.2-4 because they are addressed within the GHG emissions analysis and not the air quality study.

[a] The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the proposed project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.
[b] TACs include carcinogens and noncarcinogens.
[c] Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
[d] Ambient air quality threshold are based on SCAQMD Rule 403.

The SCAQMD established their thresholds of significance for CEQA purposes based on the regional goal to attain the NAAQS and CAAQS. Since an AAQS is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the AAQS, this means that the thresholds established by air districts are also protective of human health.

Threshold 3: Sensitive Receptors. The assessment of the proposed project's potential to expose sensitive receptors to substantial pollutant concentrations (threshold criterion 3) includes a localized significance threshold (LST) analysis, as recommended by the SCAQMD, to evaluate the potential of localized air quality impacts to sensitive receptors in the immediate vicinity of the proposed project. A LST analysis was performed to evaluate potential localized impacts associated with construction activities. For project sites of 5 acres or less, the proposed project is located on two parcels totaling 1.03 acres, the SCAQMD LST Methodology (2009) includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO_2, CO, PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling.

The LST significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

- Source receptor area (SRA) in which the project is located
- Size of the project site
- Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals)

The project site is located in SRA 6 (West San Fernando Valley). The SCAQMD provides guidance for applying CalEEMod to the LSTs. LST pollutant screening level concentration data is currently published for 1-, 2-, and 5-acre sites for varying distances. The maximum number of acres disturbed on the peak day was estimated using the "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (SCAQMD 2011), which provides estimated acres per 8-hour day for crawler tractors, graders, rubber tired dozers, and scrapers. The proposed project would disturb approximately 0.35 acres per day. Therefore, using the LST for a 1-acre site would be conservative.

As previously discussed in Section 3.1.1, the nearest sensitive-receptor land use (the existing residents) is located approximately 20 feet from the alignment on De Soto Avenue. As such, the LST receptor distance was assumed to be 82 feet (25 meters), which is the shortest distance provided by the SCAQMD lookup tables. The construction LST values from the SCAQMD lookup tables for SRA 6 for a 1-acre construction site and a receptor distance of 25 meters are shown in Table 3.1-5.

Table 3.1-5
Localized Significance Thresholds for Source Receptor Area 6
(West San Fernando Valley)

Pollutant	Threshold (pounds per day)
NO_2	103
CO	426
PM_{10}	4
$PM_{2.5}$	3

Source: SCAQMD 2008.
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
LST thresholds were determined based on the values for 1-acre site at a distance of 25 meters from the nearest sensitive receptor.

The assessment of the proposed project's potential to expose sensitive receptors to substantial pollutant concentrations (threshold criterion 3) also includes a construction HRA, an evaluation of CO hotspots, and an assessment of the potential health effects of criteria air pollutants. The methodology and assumptions applied in the construction HRA are described below in Section 3.1.4.

Threshold 4: Odors. The potential for the proposed project to result in an odor impact (threshold criterion 4) is based on the proposed project's anticipated construction activity and land use type, and the potential for the proposed project to create an odor nuisance pursuant to SCAQMD Rule 402 (Nuisance).

All of the Appendix G thresholds for air quality have been analyzed in this EIR (see Section 3.1.5); none were eliminated from discussion.

3.1.4 Methodology

Construction

Emissions from the construction phase of the proposed project were estimated using CalEEMod Version 2016.3.2. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the proposed project applicant and CalEEMod default values when proposed project specifics were not known.

For purposes of estimating proposed project emissions, and based on information provided by the project applicant, it is assumed that construction of the proposed project would commence in early-2023 and would last approximately 6.5 years, ending in mid-2029. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Excavation for Concrete Tanks: 8.5 months (May 2023 – January 2024)
- Excavation Pit Pipe Installation/Pipe Jacking: 24 months (October 2023 – October 2025)
- Construction of Tanks: 24 months (February 2024 – February 2026)
- Construction of Flow Control Station: 12 months (February 2025 – February 2026)
- Finish Grading: 3.5 months (February 2026 – May 2026)
- Site Improvements/Commissioning 7 months (June 2026-January 2027)
- Demolition of Existing De Soto Reservoir: 6 months (January 2027–June 2027)
- Construction of Pump Station: 24 months (July 2027–July 2029)

Excavation for Concrete Tanks

Excavation at the proposed project site would be required to bury the tanks, which would be approximately 245 feet in diameter and 40 feet in height, below existing grade level in order to achieve these target elevations. It is expected that approximately 350,000 cubic yards of soil would be excavated to accommodate the tanks. Of the excavated material, 100,000 cubic yards would be hauled offsite to the LADWP Mojave Yard facility, 240,000 cubic yards would be transported to the closest landfill facility, and approximately 10,000 cubic yards of material would be stored on the project site. In addition, approximately 116,000 cubic yards of material would be needed to backfill around the tanks once they are constructed. Excavation and hauling activities would occur over a period of about 8.5 months.

Pipe Installation

Open-trench excavation is a construction method typically used to install pipelines and their appurtenances. In general, the process consists of site preparation, excavation and shoring, placement of bedding material pipe installation and backfilling, and work site restoration. Construction would occur within the public right of way, with the exception of pipe jacking beneath the intersection of De Soto Avenue and Rinaldi Street, all other pipeline installation would be done via cut-and-cover construction along De Soto Avenue throughout the approximately 24-month construction period.

To install the new 66-inch pipeline connection to the Rinaldi Trunk Line with the flow control station to the east, two excavation pits would be constructed to facilitate pipe jacking below grade. A total of 620 feet of pipeline would be required for this connection. One excavation pit would be located on the project site and the second excavation pit would be located within the existing 60-foot LADWP easement on the east side of Rinaldi Street. In addition, to connect the project with the De Soto Trunk Line to the south, upon reaching the project site's western boundary at De Soto Avenue, open-trench pipeline installation would occur along the eastern side (approximately 35 feet of work area required) of De Soto Avenue. Pipeline installation along De Soto Avenue would occur along approximately 2,650 feet extending from the project site at the north to Chatsworth Street at the south.

- ***Pipe Installation and Backfilling***. Once the trench has been excavated and shored, pipe laying would commence. Bedding material (crushed rock, sand, or slurry) would be placed and compacted at the bottom of the trench. Pipe segments would then be lowered into the trench and placed on the bedding. The segments would be welded to one another at the joints. Prior to backfilling, appurtenant structures would be installed as necessitated by design. After laying the pipe, the trench would be backfilled with crushed aggregate base, crushed miscellaneous base, or slurry.
- ***Work Site Restoration.*** Any portion of the roadway damaged as a result of construction activities would be repaved and restored in accordance with all applicable City of Los Angeles Department of Public Works standards. Once the pavement has been restored, traffic delineation (restriping) would also be restored.

Pipe jacking, which is a form of tunneling, would be used to reduce traffic disruptions at busy intersections and to extend underneath features along the alignment that are not suitable for open-trench construction. Pipe jacking would be used at the De Soto Avenue and Rinaldi Street intersection in addition to an approximate 570 feet length to connect the new tanks via a 54-inch pipeline to the De Soto Trunk Line. Pipe jacking would be used to reduce traffic effects and to avoid areas where open-trenching would not be feasible.

The installation of pipelines using pipe jacking avoids the continuous surface disruption that is required for open-trench construction. However, some surface disruption would still occur, since "jacking" and "receiving" pits are used and would be excavated along the proposed project alignment. Pipe jacking involves a horizontal auger boring machine that is advanced in a tunnel bore to remove material ahead of or inside the jacking pipe. Powerful hydraulic jacks are used to push a steel jacking pipe from a launch (bore) pit to a receiving pit. As the tunneling machine is driven forward, a jacking pipe is added into the pipe string. The following is a description of the phases of construction for pipe jacking.

- ***Site Preparation.*** Traffic control plans would be prepared in coordination with the City of Los Angeles to delineate traffic lanes around work areas and to address any turn lane pockets affected by the proposed project at major intersections. In preparation of excavating the jacking and receiving pits, the pavement would first be cut using a concrete/asphalt saw cutter or pavement breaker. As with open-trench excavation, the pavement is removed from the proposed project site and recycled, reused as a backfill material, reused as pavement base materials, or transported to an appropriate facility for recycling or disposal.
- ***Excavation and Shoring.*** A jacking pit and a receiving pit are generally used for each jacking location, one at each end of the pipe segment. The excavated soil would be hauled to an off-site disposal facility. As excavation occurs, the pits would be shored using a beam and plate shoring system.
- ***Pipe Installation***. Once the pits are constructed and shored, a horizontal hydraulic jack would be placed at the bottom of the jacking pit. A steel casing would be lowered into the pit with a crane and placed on the jack. A simple cutting shield would be placed in front of the pipe segment to cut through the soil. As the jack pushes the steel casing and cutting shield into the soil, the soil is removed from within the leading casing with an auger or boring machine, either by hand or on a conveyor. Once a casing segment is pushed into the soil, a new segment is lowered, set in place, and welded to the casing that has been pushed. Once the casing has been installed, the carrier pipe would be lowered and placed on the jacks, which push the pipe into the steel casing using casing spacers.
- ***Work Site Restoration.*** After completion of the pipe installation along the jacking locations, the shoring system would be disassembled as the pits are backfilled, the soil would be compacted, and pavement would be restored. Once the pavement is complete, traffic delineation (restriping) would be restored.

Construction of Concrete Tanks

After excavation, the tank construction would involve the installation of inlet/outlet vault pipelines, a reinforced concrete floor, the erection of scaffolding for the walls and roof, the installation of reinforced concrete wall and roof panels, the construction of reinforced concrete columns to support the roof, wrapping the tanks with pre-stressing cables, the application of shotcrete over the cables, and the construction of a new inlet/outlet vault. This process would involve the delivery of materials and concrete and the use of heavy equipment, including cranes and concrete pump trucks. Construction of the tanks would occur over approximately 24 months.

Construction of Flow Control Station

East of the tank site would be a new below ground flow control station. The purpose of the flow control station would be to control the water flow into the tanks from the Rinaldi Trunk Line to the east. The flow control station would be approximately 2,500 square feet in size and house mechanical equipment and controls to regulate water flow into the tanks. Construction of the flow control station would occur over approximately 12 months.

Finish Grading/Site Improvements

After completion of the tanks, flow control station, and inlet/outlet vault, the area surrounding the tanks would be backfilled, and a perimeter road would be constructed around the tanks for maintenance access. All permanent cut slopes from excavation would be properly stabilized and revegetated. Although the tanks themselves would be buried, the roof of the tanks would not be covered. However, the top of the tanks would be approximately 2 feet above the perimeter access road. The finish work/site improvements would be constructed over 3.5 months.

Demolition of De Soto Reservoir and Pump Station Construction

Upon completion of the tanks, the existing De Soto Reservoir would no longer be necessary and as such would be demolished. Demolition of the reservoir would entail demolition of the following: aluminum roof decking, timber roof framing, concrete columns, perimeter concrete walls, and asphalt concrete paving. This would result in approximately 560 tons or 440 cubic yards of material that would be hauled from the project site. As with the excavated earth removed during construction of the tanks, the demolition material would be hauled off site, requiring approximately 50 truck trips. Demolition material would be hauled from the project site via the 118 Freeway to a facility permitted to accept demolition materials. It is assumed that demolition activities would occur over 6 months. Once the De Soto Reservoir has been removed, a new pump station would be construction in the same location, which is expected to occur over 24 months.

For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for 5 days per week (22 days per month), during proposed project construction. Construction-worker estimates, vendor truck and haul truck trips by construction phase were provided by the client. CalEEMod default trip length values were used for the distances for all construction-related trips.

The construction equipment mix and vehicle trips used for estimating the proposed project-generated construction emissions are shown in Table 3.1-6.

Table 3.1-6
Construction Workers, Vendor Trips, and Equipment Use per Day

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Excavation	50	10	46,720	Excavators	1	8
				Generator sets	1	8
				Tractors/loaders/backhoes	2	8
				Cranes	1	6
				Rubber tired dozers	1	8
				Welders	1	8
				Bore/drill rigs	1	8
				Cement and mortar mixers	1	8
				Pumps	2	8
Pipeline installation	30	30	3,600	Air compressors	1	8
				Concrete/industrial saws	1	6
				Cranes	1	6
				Excavators	1	8

Table 3.1-6
Construction Workers, Vendor Trips, and Equipment Use per Day

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
				Generator Sets	1	8
				Other construction equipment	1	6
				Pumps	1	8
				Rough terrain forklifts	1	8
				Tractors/loaders/backhoes	2	8
				Welders	1	8
				Bore/drill rigs	1	8
Tank construction	100	20	20	Cranes	1	6
				Generator sets	1	8
				Pumps	3	8
				Graders	1	8
				Plate compactors	1	4
				Rollers	1	4
				Rubber tired dozers	1	8
				Pressure washers	1	4
				Air compressors	1	8
				Other construction equipment	1	8
				Skid steer loaders	1	8
				Welders	1	8
				Rough terrain forklifts	1	8
				Cement and mortar mixers	1	6
				Pumps	2	8
				Other construction equipment	1	8
Flow control station construction	10	4	1,600	Cranes	1	8
				Pumps	2	8
				Pressure washers	1	4
				Welders	1	8
				Rough terrain forklifts	1	8
				Excavators	1	8
				Tractors/loaders/backhoes	1	8
				Rollers	1	4
				Generator sets	1	8
				Plate compactors	1	4
				Skid steer loaders	1	8

Table 3.1-6
Construction Workers, Vendor Trips, and Equipment Use per Day

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
				Tractors/loaders/backhoes	1	8
Finish work/site improvements	30	16	0	Cranes	1	6
				Graders	1	8
				Pavers	1	4
				Plate compactors	1	4
				Rollers	1	4
				Rubber tired dozers	1	8
				Skid steer loaders	1	8
				Tractors/loaders/backhoes	1	8
Demolition of De Soto Reservoir	30	0	80	Air compressors	1	8
				Concrete/industrial saws	1	6
				Cranes	1	6
				Crushing/processing equipment	1	6
				Generator sets	1	8
				Rough terrain forklifts	1	8
				Rubber tired dozers	1	8
				Tractors/loaders/backhoes	2	8
Pump station construction	30	10	40	Cranes	1	6
				Graders	1	8
				Pavers	1	4
				Plate compactors	1	4
				Rollers	1	4
				Rubber tired dozers	1	8
				Skid steer loaders	1	8
				Tractors/loaders/backhoes	1	8

Notes: See Appendix B for details.

Operation

The proposed project would store potable water to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. The proposed pressure flow control station would reduce the water pressure coming from Los Angeles Aqueduct Filtration Plant, which has an 1190-foot high water elevation, to the De Soto Tanks, which have a 1,130-foot high water elevation. The proposed De Soto Pump Station would pump water from the De Soto Tanks to the 1,305-ft pressure zone in the southwest valley. No workers would be required to operate these facilities on a daily basis; however, these facilities would require regular maintenance. As such, the proposed project would result in minimal mobile source emissions generated during operations. Notably, the proposed project would include a 2,500-kilowatt (kW) emergency generator. The generator was assumed to run for testing and maintenance approximately 0.5 hours per day and a maximum of 200 hours per year in accordance with SCAQMD's Rule 1110.2, Emissions from Gaseous and Liquid Fueled Engines. Emissions were estimated based on a 75% average engine load and were estimated using CalEEMod.

Health Risk Assessment

A HRA was performed to evaluate potential health risk associated with construction of the proposed project. The following discussion summarizes the dispersion modeling and HRA methodology.

The dispersion modeling of DPM was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model SCAQMD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2015). For the proposed project, AERMOD was run with all sources emitting unit emissions (1 gram per second) to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations were determined for construction emissions using AERMOD and the maximum concentrations determined for the 1-hour and period averaging periods. Principal parameters of this modeling are presented in Table 3.1-7.

Table 3.1-7

AERMOD Principle Parameters

Parameter	Details
Meteorological Data	AERMOD-specific meteorological data for the Van Nuys Airport (KVNY air monitoring station) was used for the dispersion modeling. A 5-year meteorological data set from 2012 through 2016 was obtained from the SCAQMD in a preprocessed format suitable for use in AERMOD.
Urban versus Rural Option	Urban dispersion option was selected due to the developed nature of the project area and per SCAQMD guidelines.
Terrain Characteristics	The terrain in the immediate vicinity of the project site is characterized by relatively flat to gently sloping terrain. The elevation of the site is 1,160 feet above sea level. The construction volume source was modeled at a release height of 5 meters.

Table 3.1-7
AERMOD Principle Parameters

Parameter	Details
Elevation Data	Digital elevation data were imported into AERMOD and elevations were assigned to receptors, buildings, and emission sources, as necessary. Digital elevation data were obtained through the AERMOD View in the United States Geological Survey's National Elevation Dataset format with a resolution of 1/3 degree.
Emission Sources and Release Parameters	A volume source was used to model the construction scenario. The release parameter was obtained from similar equipment.
Source Release Characterizations	For modeling construction emissions dispersion using AERMOD, it was assumed that the total site area would operate in accordance with the respective construction schedules. A unit emission rate of 1.0 gram per second was normalized over the number of volume sources for each AERMOD run.
Discrete Receptors	A uniform Cartesian grid was placed over the residential and school receptors with 25-meter spacing (1 kilometers by 1 kilometers) and converted into discrete Cartesian receptors to represent existing sensitive receptors adjacent to the site.

Source: See Appendix B.

Dispersion model plotfiles from AERMOD were then imported into CARB's Hotspots Analysis and Reporting Program Version 2 to determine health risk, which requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. For the residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy.

3.1.5 Impact Analysis

Threshold AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

As previously discussed, the proposed project site is located within the SCAB under the jurisdiction of the SCAQMD, which is the local agency responsible for administration and enforcement of air quality regulations for the area. The SCAQMD has established criteria for determining consistency with the AQMP, currently the 2016 AQMP, in Chapter 12, Sections 12.2 and 12.3, in the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993). The criteria are as follows (SCAQMD 1993):

- **Consistency Criterion No. 1:** The project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2:** The project will not exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Consistency Criterion No. 1

Threshold 2 evaluates the proposed project's potential impacts in regards to CEQA Guidelines Appendix G Threshold AQ-2 (the proposed project's potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation impact analysis). As discussed in Threshold AQ-2, the proposed project would not result in an exceedance of SCAQMD thresholds during construction for any criteria air pollutant. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations and would not conflict with Consistency Criterion No. 1 of the SCAQMD CEQA Air Quality Handbook.

Consistency Criterion No. 2

While striving to achieve the NAAQS for O_3 and $PM_{2.5}$ and the CAAQS for O_3, PM_{10}, and $PM_{2.5}$ through a variety of air quality control measures, the 2016 AQMP also accommodates planned growth in the SCAB. Projects are considered consistent with, and would not conflict with or obstruct implementation of, the AQMP if the growth in socioeconomic factors (e.g., population and employment) is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook).

The proposed project as a whole would be considered consistent with the existing land use and zoning under the current City General Plan, which was used to develop the assumptions in the 2016 AQMP. Additionally, the proposed project would not directly or indirectly promote population growth in the region. Therefore, the proposed project would not exceed the assumptions of the 2016 AQMP. Accordingly, the proposed project would meet Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook.

Summary

As described previously, the proposed project would not result in an increase in the frequency and severity of existing air quality violations and would not conflict with Consistency Criterion No. 1. Also, implementation of the proposed project would be not exceed the demographic growth forecasts in the SCAG 2016 RTP/SCS; therefore, the proposed project would also be consistent with the SCAQMD 2016 AQMP, which based future emission estimates on the SCAG 2016 RTP/SCS. Thus, the proposed project would not conflict with Consistency Criterion No. 2. Based on these considerations, impacts related to the proposed project's potential to conflict with or obstruct implementation of the applicable air quality plan would be **less than significant**.

Threshold AQ-2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used to help determine whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the SCAQMD significance thresholds which the SVAB is nonattainment for (VOC, NO_x, PM_{10}, or $PM_{2.5}$), it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (SCAQMD 2003).

Construction Emissions

Construction of the proposed project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment and soil disturbance) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

As discussed in Section 3.1.4 (Construction), criteria air pollutant emissions associated with temporary construction activity were quantified using CalEEMod. Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during each year of construction (2020 through 2027). Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the proposed project applicant and is intended to represent a reasonable scenario based on the best information available. Default values provided in CalEEMod were used where detailed project information was not available.

Implementation of the proposed project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, and asphalt pavement. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The proposed project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during the grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites two times per day depending on weather conditions. Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$.

Table 3.1-8 presents the estimated maximum daily construction emissions generated during construction of the proposed project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B.

Table 3.1-8
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2023	7.11	89.43	70.51	0.41	12.76	5.05
2024	7.01	66.06	81.71	0.19	5.21	3.10
2025	4.74	42.32	54.09	0.12	6.04	3.38
2026	1.70	17.35	13.05	0.06	3.66	2.04
2027	2.37	20.70	23.86	0.05	1.24	0.91
2028	1.68	16.94	12.85	0.03	1.06	0.72
2029	1.67	16.94	12.81	0.03	1.06	0.72

Table 3.1-8
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Maximum Daily Emissions	7.11	89.43	81.71	0.41	12.76	5.05
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with SCAQMD Rule 403 (Fugitive Dust).

As shown in Table 3.1-8, maximum daily construction emissions would not exceed the SCAQMD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. Construction-generated emissions would be temporary and would not represent a long-term source of criteria air pollutant emissions. As such, impacts related to construction would be **less than significant**.

Operational Emissions

Operation of the proposed project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions. As discussed in Section 3.1.4, Methodology (Operations), the proposed project would not require workers to operate the facilities on a daily basis; however, these facilities would require regular maintenance. As such, the proposed project would result in minimal mobile source emissions generated during operations. In addition, the pumps would be electric powered and would not generate any direct criteria air pollutant emissions. Therefore, the main source of criteria air pollutant emissions associated with long-term operations would be from the periodic testing of the emergency generator, which was quantified using CalEEMod. Table 3.1-9 presents the maximum daily emissions associated with the operation of the emergency generator. Details of the emission calculations are provided in Appendix B.

Table 3.1-9
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Emergency Generator	2.77	12.30	7.01	0.01	0.40	0.40
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
See Appendix B for complete results.

As shown in Table 3.1-9, maximum daily operational emissions would not exceed the SCAQMD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. As such, the proposed project's operational air quality impact would be **less than significant**.

Health Effects of Criteria Air Pollutants

Construction and operation of the proposed project would result in emissions that would not exceed the SCAQMD thresholds for any criteria air pollutants, including VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. VOCs would be associated with motor vehicles, construction equipment, and architectural coatings; however, project-generated VOC emissions would not result in the exceedances of the SCAQMD thresholds, as shown in Table 3.1-4.

VOCs and NO_x are precursors to O_3, for which SCAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in SCAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 AAQS tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, because ROG and NO_x emissions associated with proposed project construction and/or operation would not exceed the SCAQMD maximum daily thresholds, it is not anticipated the proposed project would contribute to regional O_3 concentrations and the associated health effects.

Construction and operation of the proposed project would not contribute to exceedances of the NAAQS and CAAQS for NO_2. Health effects that result from NO_2 and NO_x include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, off-road construction equipment would be operating at various locations within the project area and would not be concentrated in one portion of the site at any one time. In addition, existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Construction and operation of the proposed project would not create substantial, localized NO_x impacts. Therefore, the proposed project is not anticipated to result in potential health effects associated with NO_2 and NO_x.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots, discussed in the third impact criterion, was determined to be a less than significant impact. Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant.

Construction and operation of the proposed project would also not exceed thresholds for PM_{10} and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or would obstruct the SCAB from coming into attainment for these pollutants. The proposed project would also not result in substantial DPM emissions during construction and operation, and therefore, would not result in significant health effects related to DPM exposure. Additionally, the proposed project would implement dust control strategies and be required to comply with SCAQMD Rule 403, which limits the amount of fugitive dust generated during construction. Due to the minimal contribution of PM_{10} and $PM_{2.5}$ during construction and operation, it is not anticipated that the proposed project would result in potential health effects associated related to particulate matter. Impacts would be **less than significant**.

Threshold AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Localized Significance Thresholds Analysis

As discussed in Section 3.1.1, sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The proposed project alignment is near residential and school buildings, as close as 20 feet to construction activities. To provide a conservative analysis the minimum distance (25 meters or 82 feet) provided in the SCAQMD LST look up tables were utilized in this analysis.

An LST analysis has been prepared to determine potential impacts to nearby sensitive receptors during construction of the proposed project. As indicated in the discussion of the thresholds of significance (Section 3.1.4), the SCAQMD also recommends the evaluation of localized NO_2, CO, PM_{10}, and $PM_{2.5}$ impacts as a result of construction activities to sensitive receptors in the immediate vicinity of the proposed project site. The impacts were analyzed using methods consistent with those in the SCAQMD's *Final Localized Significance Threshold Methodology* (2009). According to the *Final Localized Significance Threshold Methodology*, "off-site mobile emissions from the project should not be included in the emissions compared to the LSTs" (SCAQMD 2009). Hauling of soils and construction materials associated with the proposed project construction are not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways. Emissions from the trucks would be relatively brief in nature and would cease once the trucks pass through the main streets.

Construction activities associated with the proposed project would result in temporary sources of on-site fugitive dust and construction equipment emissions. Off-site emissions from vendor trucks, haul trucks, and worker vehicle trips are not included in the LST analysis. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria for SRA 6 are presented in Table 3.1-10 and compared to the maximum daily on-site construction emissions generated during the proposed project.

Table 3.1-10

Localized Significance Thresholds Analysis for Proposed Project Construction

Maximum On-Site Emissions	NO_2	CO	PM_{10}	$PM_{2.5}$
	Pounds per Day			
Construction Emissions	37.10	36.17	3.21	1.92
SCAQMD LST	*103*	*426*	*4*	*3*
LST Exceeded?	No	No	No	No

Source: SCAQMD 2009.
Notes:
NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.

See Appendix B for detailed results.
Localized significance thresholds are shown for 1-acre project sites corresponding to a distance to a sensitive receptor of 25 meters.
These estimates reflect control of fugitive dust required by Rule 403 including watering of an active site two times per day.

As shown in Table 3.1-10, construction activities would not generate emissions in excess of site-specific LSTs; therefore, site-specific impacts during construction of the proposed project would be less than significant. In addition, diesel equipment would also be subject to the CARB air toxic control measures for in-use off-road diesel fleets, which would minimize DPM emissions.

Health Effects of Toxic Air Contaminants

"Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard Office of Environmental Health Hazard Assessment (OEHHA) risk assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB ATCMs to reduce DPM emissions. According to the OEHHA, HRAs should be based on a 30-year exposure duration based on typical residency period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, the duration of proposed construction activities (approximately 2 years for the proposed project) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs. After construction is completed there would be no long-term source of TAC emissions during operation. The results of the HRA for project construction are summarized in Table 3.1-11.

Table 3.1-11
Summary of Maximum Cancer and Chronic Health Risks - Unmitigated

Impact Analysis	Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Maximally Exposed Individual Resident					
Construction HRA	Cancer Risk	Per Million	40	10	Potentially Significant
	Chronic Hazard Index	Index Value	0.02	1.0	Less than Significant
Maximally Exposed School Receptor					
Construction HRA	Cancer Risk	Per Million	74	10	Potentially Significant
	Chronic Hazard Index	Index Value	0.06	1.0	Less than Significant

Source: See Appendix B for complete results.

As shown in Table 3.1-11, the results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk on site above the 10 in 1 million threshold for the proposed project. The Chronic Hazard Index for the proposed project would be less than 1. Therefore, TAC emissions from construction activities of the proposed project may expose sensitive receptors to substantial pollutant concentrations and would result in a **potentially significant impact**; therefore, mitigation is required.

In regards to long-term operations, the proposed project could result in TAC emissions from the emergency generator. The emergency generator would result in TAC emissions such as acetaldehyde, benzene, and formaldehyde. However, stationary sources would be required to comply with the SCAQMD permitting process, which would ensure that potential health risk would be less than significant before issuing a permit to operate. Therefore, the proposed project would not result in exposure of sensitive receptors to substantial TAC concentrations during long-term operations and impacts would be **less than significant**.

Health Effects of Carbon Monoxide

Mobile source impacts occur on two scales of motion. Regionally, proposed project-related travel would add to regional trip generation and increase the VMT within the local airshed and the SCAB. Locally, proposed project generated traffic would be added to the City's roadway system near the proposed project site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. The proposed project would be temporary and would not be a source of daily, long-term mobile-source emissions. Accordingly, proposed activities would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the MDAB or SCAB is steadily decreasing. Maximum background CO levels in Los Angeles County, as shown in Table 3.1-2, are less than 9 percent and 28 percent and of the 1-hour and 8-hour NAAQS and CAAQS and would be expected to improve further due to reductions in motor vehicle emissions. Based on these considerations, the proposed program would result in a **less than significant** impact to air quality with regard to potential CO hotspots.

Threshold AQ-4: Would the project result in other emissions (such those leading to odors) affecting a substantial number of people?

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the proposed project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and asphalt pavement application. Such odors would disperse rapidly from the proposed project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The proposed project would not create any new sources of odor during operation. Therefore, proposed project operations would result in an odor impact that is **less than significant**.

3.1.6 Mitigation Measures

The following mitigation measures would reduce potentially significant impacts to air quality to a level below significance.

MM-AQ-1: To reduce the potential for health risks as a result of construction of the project, the applicant shall:

A. Prior to the start of construction activities, the project applicant, or its designee, shall ensure that all 75 horsepower or greater diesel-powered equipment are powered with California Air Resources Board (CARB) certified Tier 4 Interim engines, except where the project applicant establishes to the satisfaction of the City that Tier 4 Interim equipment is not available.

B. All other diesel-powered construction equipment will be classified as Tier 3 or higher, at a minimum, except where the project applicant establishes to the satisfaction of the City that Tier 3 equipment is not available.

In the case where the applicant is unable to secure a piece of equipment that meets the Tier 4 Interim requirement, the applicant may upgrade another piece of equipment to compensate (from Tier 4 Interim to Tier 4 Final). Engine Tier requirements in accordance with this measure shall be incorporated on all construction plans.

3.1.7 Level of Significance After Mitigation

Construction of the proposed project would result in a potentially significant impact to sensitive receptors prior to mitigation. With implementation of MM-AQ-1, the emissions of DPM are significantly reduced compared to the unmitigated scenario. The detailed emissions assumptions and model outputs using CalEEMod are provided in Appendix B. Table 3.1-12 shows the results of the HRA after implementation of MM-AQ-1 for the proposed project.

Table 3.1-12
Summary of Maximum Cancer and Chronic Health Risks - Mitigated

Impact Analysis	Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Maximally Exposed Individual Resident					
Construction HRA	Cancer Risk	Per Million	1.54	10	Less than Significant
	Chronic Hazard Index	Index Value	0.002	1.0	Less than Significant
Maximally Exposed School Receptor					
Construction HRA	Cancer Risk	Per Million	8.60	10	Less than Significant
	Chronic Hazard Index	Index Value	0.007	1.0	Less than Significant

Source: See Appendix B for complete results.
Notes: CEQA = California Environmental Quality Act; HRA = Health Risk Assessment

The mitigated results shown in Table 3.1-12 demonstrate that with implementation of MM-AQ-1, potential cancer risk at the maximally exposed residential and school receptor would be reduced to a less than significant level.

3.1.8 References Cited

13 CCR 2449–2449.3 and Appendix A. General Requirements for In-Use Off-Road Diesel-Fueled Fleets.

13 CCR 2449–2449.3 and Appendix A. General Requirements for In-Use Off-Road Diesel-Fueled Fleets.

17 CCR 93000. Substances Identified as Toxic Air Contaminants. In Subchapter 7, Toxic Air Contaminants.

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3.2 Biological Resources

This section describes the biological resources present in the De Soto Tanks and Pump Station project (proposed project or project) area; discusses applicable federal, state, and regional regulations pertaining to biological resources; and evaluates the potential effects on sensitive biological resources associated with development of the proposed project.

Information contained in this section is based on field surveys conducted by Dudek's biologists between June 2017 and July 2018 of the project area, and generally a 500-foot buffer around the project area comprising the study area. Field surveys conducted for the project include a general biological survey, burrowing owl focused surveys, protocol coastal California gnatcatcher surveys, and special-status plant surveys. These field surveys are summarized and focused survey reports included in the Biological Resources Letter Report for the project (Dudek 2018), which is included within Appendix C of this EIR. Other documentation used in this analysis included a database review of the California Natural Diversity Database (CNDDB; CDFW 2018), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2018), and the U.S. Fish and Wildlife (USFWS) Information for Planning and Consultation (iPaC) system (USFWS 2018). Other sources consulted are listed in Section 3.2.8, References Cited.

3.2.1 Existing Conditions

This section describes the existing conditions in the project area and identifies the biological resources that could be impacted by the proposed project.

3.2.1.1 Regional Setting

Regionally, the study area occurs within the San Fernando Valley area of southwestern Los Angeles County. Regional geographic features surrounding the study area include the Santa Monica Mountains to the southwest, the Santa Susana Mountains to the northwest, and the San Gabriel Mountains to the east. The climate in the region is Mediterranean, with dry summers and moderately wet winters; however, the region has experienced drought conditions over the past few years. Generally, the region receives most of its precipitation between November and April and is most likely to receive snowfall at elevations above 4,000 feet between December and March. Annual precipitation can reach 25 inches at elevations over 3,000 feet and can reach over 40 inches of precipitation at elevations above 5,000 feet. Due to the Range's proximity to the Pacific Ocean, the south side of the Range receives the majority of the annual precipitation.

Plants typically found within the region include a mosaic of xeric communities, such as sage scrub and chaparral throughout lower elevations and a variety of mesic habitats including transmontane, montane and sub-alpine hardwood, and coniferous forests at higher elevations. Riparian or woodland habitat associated with riverine or other aquatic features traverse the landscape as well. Some waterways in the region are perennial and are responsible for the large-scale transport of snowmelt from the surrounding mountain ranges to the Pacific Ocean; however, many are intermittent or ephemeral and support only seasonal flows. The habitats and resources found within the region are known to support a wide variety of common plant and wildlife species, as well as many special-status species protected by federal, state, and local regulations.

3.2.1.1 Project Setting

The project area is located at 11200 De Soto Avenue, within the Chatsworth community of the City of Los Angeles (City), Los Angeles County, California (Figure 2-1), and is generally bounded by State Route (SR) 118 to the north, De Soto Avenue to the west, and Rinaldi Street to the south and east. The biological resources assessed for the project area include the undeveloped public easement (APN 2707-001-904) and privately owned parcels of land (APNs 2707-001-058, 2707-001-059, 2707-001-060) located east of the existing De Soto Reservoir properties that would be acquired in order to facilitate construction of the proposed project.

The biological evaluation includes the project area, approximately 17.9 acres, plus a surrounding 500-foot buffer, herein referred to as the "study area," totaling 87.8 acres. The study area is located in the southeastern portion of the Oat Mountain U.S. Geological Survey (USGS) 7.5-minute quadrangle within Section 8, Township 2 North, Range 16 West. The project area is characterized by relatively flat land with some rolling hills in the northeast corner and along the northern extent of the property. The site is accessible via De Soto Avenue from the west and Rinaldi Street from the east. Figure 2-1 shows the regional and local vicinity of the study area.

Topography

The topography on the study area is slightly sloping with an elevation range of approximately 1,100 feet above mean sea level (AMSL) in the south, to approximately 1,200 feet AMSL in the north. The northern portions of the study area contains gently rolling hills, and the majority of the project footprint would occur within a relatively flat area in the center of the study area. The USGS 7.5-minute Oat Mountain, California topographic map was used to identify natural and man-made features occurring within the project area. No significant topographic features are identified on the map within the study area's boundaries, nor were any observed during the biological reconnaissance.

Soils

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2018), the study area occurs within the soil survey conducted for Los Angeles County, California within the West San Fernando Valley Area (USDA et al. 1980). Nine different soil types and land covers are mapped within the study area (Figure 3.2-1) and described as follows:

- **Anacapa sandy loam, 2 to 9 percent slopes (100).** These soils support a well-drained, young alluvium that is derived mostly from sandstone and shale.
- **Badland (102).** This mapping unit is made up of un-vegetated, steep slopes that support weakly consolidated shale and sandstone.
- **Balcom silty clay loam, 9 to 15 percent slopes (103).** These well-drained, strongly sloping soils support material weathered in place from soft shale and sandstone.
- **Balcom silty clay loam, 15 to 30 percent slopes (104).** These well-drained, moderately steep soils support material weathered in place from soft shale and sandstone.

- **Chualar-Urban land complex, 2 to 9 percent slopes (109).** This mapping unit mainly supports a well-drained, old alluvium that is derived mainly from sandstone and granitic rock. This unit also supports urban land covered by roads, parking lots, and buildings, under which extensive cutting and filling has occurred during urban development.
- **Gaviota sandy loam, 9 to 30 percent slopes (116).** These shallow, well-drained soils support material weathered in place from hard sandstone.
- **San Emigdio-Urban land complex, 0 to 2 percent slopes (127).** This mapping unit mainly supports a well-drained soil formed in young alluvium from mixed rock sources. This unit also supports urban land covered by roads, parking lots, and buildings, under which some grading and filling has occurred during urban development.
- **Soper gravelly sandy loam, 15 to 30 percent slopes (132).** These well-drained, moderately steep soils were formed in material that was weathered in place from conglomerate and sandstone.
- **Water (144)**. This mapping unit consists of areas with 100% water generally found associated with reservoirs and ponds.

Vegetation Communities and Land Covers

Eight vegetation communities and land cover types were identified within the 87.8-acre study area during the biological resource evaluation: California buckwheat scrub, eucalyptus groves, non-native grassland, upland mustards, concrete-lined channel, disturbed habitat, ornamental vegetation, and urban/developed. These vegetation communities and land cover types are described below, their acreages are presented in Table 3.2-1, and their spatial distributions are presented on Figure 3.2-2. No special-status vegetation communities occur within the study area.

Table 3.2-1
Vegetation Communities and Land Cover Types

Vegetation Community or Land Cover Type	Acreage within Project Site	Acreage within the Surrounding 500-foot Buffer
Upland Native or Naturalized Vegetation Types		
California Buckwheat Scrub (ERIFAS)	4.37	6.57
Eucalyptus Groves [EG(SNS)][1]	---	2.31
Non-Native Grassland (NNG)	3.46	0.53
Upland Mustards [UM(SNS)][1]	4.87	3.74
Subtotal	*12.70*	*13.15*
Non-Natural Land Cover Types		
Concrete-Lined Channel (CC)	0.03	0.14
Disturbed Habitat (DH)	2.54	2.64
Ornamental Vegetation (ORN)	0.72	18.17
Urban/Developed (DEV)	1.92	35.83
Subtotal	*5.21*	*56.78*
Total[2]	17.92	69.93

Notes:
1 The term semi-natural stands (SNS) vs. alliance is used in the Manual of California Vegetation to distinguish between native vegetation communities and vegetation types dominated by non-native plants.
2 Total may not sum due to rounding.

California Buckwheat Scrub

California buckwheat scrub is an herbaceous coastal scrub dominated or co-dominated by California buckwheat (*Eriogonum fasciculatum*) that typically occurs on dry slopes, washes, and canyons and coastal bluffs (Gordon and White 1994). Characteristic plant species in this community include California sagebrush (*Artemisia californica*), chaparral mallow (*Malacothamnus fasciculatus*), goldenbush scrub (*Isocoma menziesii*), coyote brush (*Baccharis pilularis*), deer weed (*Acmispon glaber*), black sage (*Salvia mellifera*), and white sage (*Salvia apiana*) (Sawyer et al. 2009).

Plant species recorded within California buckwheat scrub habitat include Eastern Mojave buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), California sagebrush, clustered tarweed (*Deinandra fasciculata*), laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), shortpod mustard (*Hirschfeldia incana*), horehound (*Marrubium vulgare*), red brome (*Bromus madritensis ssp. rubens*), common deerweed (*Acmispon glaber* var. *glaber*), Maltese star-thistle (*Centaurea melitensis*), black sage, winecup clarkia (*Clarkia purpurea*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), slender oat (*Avena barbata*), California four o'clock (*Mirabilis laevis*), and chaparral yucca (*Hesperoyucca whipplei*). California buckwheat scrub occurs within the hillsides that dominate the northwestern portion and northern extent of the project site. California buckwheat scrub alliance has a rank of G5S5, which means it is secure (i.e., community demonstrably secure due to common and widespread abundance) globally and sub-nationally. This vegetation community is not considered sensitive by local, state, and/or federal agencies.

Eucalyptus Groves Semi-Natural Stands

Eucalyptus grove (semi-natural stands) is a distinct naturalized vegetation type that is fairly widespread in Southern California and is considered a woodland habitat. It typically consists of monotypic stands of introduced Australian eucalyptus tree (*Eucalyptus* spp.), where the understory is either depauperate or absent (Holland 1986). The following nine species of eucalyptus species are commonly found in California: river redgum (*Eucalyptus camaldulensis*), lemonscented gum (*Eucalyptus citriodora*), sugargum (*Eucalyptus cladocalyx*), bluegum (*Eucalyptus globulus*), redbox (*Eucalyptus polyanthemos*), silver-leaved mountain gum (*Eucalyptus pulverulenta*), red ironbark (*Eucalyptus sideroxylon*), forest redgum (*Eucalyptus tereticornis*), and manna gum (*Eucalyptus viminalis*) (Sawyer et al. 2009).

Plant species recorded within eucalyptus groves habitat include river redgum and lemonscented gum. These stands of eucalyptus occur north of the project site, adjacent to SR-118. This vegetation community is not considered sensitive by local, state, and/or federal agencies.

Non-native Grassland

Non-native grassland is a general habitat that is characterized by a dense to sparse cover of weedy introduced annuals. It typically occurs within fine-textured clay soils, adjacent to roads or other developed areas where there has been some historic disturbance. Characteristic plant species in this community include wild oats, bromes (*Bromus* spp.), fescue (*Festuca* spp.), Italian ryegrass (*Lolium multiflorum*), black mustard (*Brassica nigra*), filaree (*Erodium* spp.), and Russian thistle (*Salsola tragus*) (Holland 1986).

Plant species recorded within non-native grassland habitat include red brome, ripgut brome (*Bromus diandrus*), slender oat (*Avena barbata*), dove weed (*Croton setiger*), black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), common fiddleneck (*Amsinckia intermedia*), Maltese star-thistle (*Centaurea melitensis*), vinegarweed (*Trichostema lanceolatum*), redstem stork's bill (*Erodium cicutarium*), common sowthistle (*Sonchus oleraceus*), sacred thorn-apple (*Datura wrightii*), common deerweed, and common sand aster (*Corethrogyne filaginifolia*). On site, non-native grassland occurs immediately west, north, and northeast of the existing reservoir. The vegetation community appears to be routinely disturbed by mowing, which was indicative during the June 2017 and July 2018 site visit. This vegetation community is not considered sensitive by local, state, and/or federal agencies.

Upland Mustards Semi-natural Stands

Upland mustard (semi-natural stands) is a naturalized vegetation community dominated by a thick layer of herbaceous mustard plants and few other plant species interspersed within an open to continuous canopy. Emergent trees and shrubs may be present at low cover (Sawyer et al. 2009). This habitat often occurs in fallow fields, grasslands, roadsides, levee slopes, disturbed coastal scrub riparian areas, and dumping sites. Characteristic plant species in this community include black mustard, field mustard (*Brassica rapa*), Asian mustard (*Brassica tournefortii*), shortpod mustard, dyer's woad (*Isatis tinctoria*), and cultivated radish (*Raphanus sativus*) (Sawyer et al. 2009).

Plant species recorded within upland mustard habitat include shortpod mustard, black mustard, red brome, doveweed, Eastern Mojave buckwheat, common sunflower (*Helianthus annuus*), common sowthistle, redstem stork's bill, and clustered tarweed (*Deinandra fasciculata*). Upland mustard (semi-natural stands) occurs in the northern portion of the project site. The vegetation community appears to be routinely disturbed as evidenced by compacted soils and was dominated by overgrown mustard stands during the June 2017 and July 2018 site visit. This vegetation community is not considered sensitive by local, state, and/or federal agencies.

Concrete-Lined Channel

The concrete-lined channel mapping unit is not recognized by *A Manual of California Vegetation* (Sawyer et al. 2009). Concrete-lined channels are characterized by un-vegetated engineered channels lined with concrete that are designed to convey low-frequency, high-volume surface water flows. A concrete-lined v-ditch occurs along the base of a hillside immediately west and south of the graded parking lot in the eastern portion of the project site. Another concrete-lined v-ditch occurs along the northeastern border of the project site, and on a slope south of the existing reservoir. Concrete-lined channels are not wetlands due to the lack of hydrophytic vegetation and/or soils.

Disturbed Habitat

Disturbed habitat refers to areas that are not developed yet lack vegetation and generally are the result of severe or repeated mechanical perturbation. Areas mapped as disturbed land may include unpaved roads, trails, and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species.

Disturbed habitat within the study area is limited to dirt roads, trails, gravel areas, and bare ground adjacent to roads. Disturbed habitat occurs across the center of the project area and continues as large patches within the eastern portion of the project site and 500-foot buffer. Disturbed habitat is not considered sensitive by local, state, and/or federal agencies.

Ornamental Vegetation

Ornamental vegetation consists of introduced plantings of exotic species as landscaping, including greenbelts, parks, and horticultural plantings (Jones and Stokes 1993). Ornamental plantings within the study area are dominated by Italian cypress (*Cupressus sempervirens*), Washington fan palm (*Washingtonia robusta*), Peruvian peppertree (*Schinus molle*), Indian laurel fig (*Ficus microcarpa*), various ornamental pines (*Pinus* spp.), blue jacaranda (*Jacaranda mimosifolia*), river redgum (*Eucalyptus camaldulensis*), lemon-scented gum (*Eucalyptus citriodora*), European olive (*Olea europaea*), Chinese elm (*Ulmus parvifolia*), Canary Island date palm (*Phoenix canariensis*), oleander (*Nerium oleander*), and regularly maintained lawns and sports fields (i.e., baseball field, football field). Ornamental plantings occurs within the western and northern portion of the study area and is also scattered along the southern extent of the project area. Ornamental vegetation is not considered sensitive by local, state, and/or federal agencies.

Urban/Developed Land

Developed lands consist of buildings, structures, homes, parking lots, paved roads, and maintained areas. This land cover type does not support native vegetation. Developed land is dominant within the 500-foot buffer that surrounds the project area. This mapping unit is composed of residential development, paved well-traversed city roads, and SR-118. These areas support limited natural ecological processes, native vegetation, or habitat for wildlife species and, thus, are not considered sensitive by local, state, or federal agencies.

Plants and Wildlife

Plants

A total of 90 species of vascular plants were recorded within the study area, consisting of 47 native (52%) and 43 non-native (48%) species. Plant species observed within the study area are listed in Attachment C of Appendix C.

Wildlife

A total of 54 species of wildlife were recorded within the study area (Attachment E within Appendix C). Due to the diurnal nature of the field surveys conducted for this project, most species observed were birds. Common species observed include, but are not limited to Allen's hummingbird (*Selasphorus sasin*), American crow (*Corvus brachyrhynchos*), barn swallow (*Hirundo rustica*), Bewick's wren (*Thryomanes bewickii*), black phoebe (*Sayornis nigricans*), bushtit (*Psaltriparus minimus*), California scrub-jay (*Aphelocoma californica*), California towhee (*Melozone crissalis*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), Cassin's kingbird (*Tyrannus vociferans*), and white-throated swift (*Aeronautes saxatalis*). No active bird nests were observed within the study area during the reconnaissance survey; however, the ornamental and native vegetation within the study area could support nesting birds.

No amphibian species were observed within the study area. Reptile species observed include western fence lizard (*Sceloporus occidentalis*) and common side-blotched lizard (*Uta stansburiana*). Seven mammal species were detected during the survey: Botta's pocket gopher (*Thomomys bottae*), brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Otospermophilus beecheyi*), coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), raccoon (*Procyon lotor*), and woodrat (*Neotoma* sp.). All wildlife species recorded within the study area are listed in Attachment E to Appendix C.

Sensitive Biological Resources

Special-Status Species

Attachments F and G of Appendix C provides tables of all special-status species whose geographic ranges fall within the general study area vicinity. Species potentially occurring based on habitat relationships are identified as having moderate or high potential to occur based on habitat conditions, and species for which there is little or no suitable habitat are identified as not expected to occur or having low potential to occur. Special-status species, and designated critical habitat areas, previously documented in the vicinity of the study area are depicted on Figure 5 of Appendix C.

Special-Status Plants

Special-status plants include those listed, or candidates for listing, as threatened or endangered by the United States Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW), or species identified as rare by CNPS (particularly CRPR 1A – Presumed extinct in California; CRPR 1B – Rare, threatened, or endangered throughout its range; and CRPR 2 – Rare or Endangered in California, more common elsewhere). A total of 50 special-status plant species were reported in the CNDDB, USFWS, and CNPS databases as occurring in the vicinity of the study area. Attachment F of Appendix C summarizes the special-status plant species that were included in these databases and evaluated as part of this assessment. For each species evaluated, a determination was made regarding the potential for the species to occur on site based on information gathered during the field reconnaissance, including the location of the site, habitats present, current site conditions, and past and present land use.

No special-status plant species were detected within the study area. Additionally, there is no USFWS-designated critical habitat for listed plant species within the study area (USFWS 2018).

Of the 50 special-status plant species listed in the CNDDB, CNPS, and USFWS databases as occurring in the vicinity of the study area, 25 species were determined to have no potential to occur within the study area based on an evaluation of species ranges/elevation and known habitat preferences. The remaining 25 special-status species were determined to have a low potential to occur due to limited suitable habitat within the study area. No species were determined to have at least a moderate potential to occur within the study area based on the negative results of focused botanical surveys conducted in April and July 2018.

Special-Status Wildlife

Special-status wildlife include those listed, or candidates for listing, as threatened or endangered by USFWS or CDFW, or designated as a Species of Special Concern by CDFW. A total of 42 special-status wildlife species were reported in the CNDDB and USFWS databases as occurring in the vicinity of the study area. Attachment G within Appendix C summarizes the special-status wildlife species that were included in these databases and evaluated as part of this assessment. For each species evaluated, a determination was made regarding the potential use of the site based on information gathered during the field reconnaissance, known habitat preferences, and knowledge of their relative distributions in the area.

No wildlife species listed or proposed for listing as rare, threatened, or endangered by either CDFW or USFWS were detected within the study area during surveys conducted for the project.

Of the 42 special-status wildlife species listed in the CNDDB and USFWS databases as occurring in the vicinity of the study area, 22 species were determined to have no potential to occur within the study area based on an evaluation of species ranges/elevation and known habitat preferences. Additionally, species such as coastal California gnatcatcher and burrowing owl are not expected to occur due to negative findings during focused surveys. A total of 11 special-status species were determined to have a low potential to occur due to limited suitable habitat within the study area. Two special-status wildlife species have a moderate potential to occur within the study area based on the vegetation communities (habitat) present, elevation range, and previous known locations: Cooper's hawk (*Accipiter cooperii*), and San Diego desert woodrat (*Neotoma lepida intermedia*) (Table 3.2-2).

Table 3.2-2:
Special-Status Wildlife Species Detected or with a Moderate to High Potential to Occur within the Study Area

Scientific Name	Common Name	Federal/State Status	Potential to Occur within Study Area
Birds			
Accipiter cooperii	Cooper's hawk	None/WL	Moderate
Mammals			
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Moderate

Federal Status
None: No federal status.
State Status
WL: CDFW Watch List Species
SSC: California Species of Special Concern

Focused Burrowing Owl Surveys

No signs of burrowing owls were detected within the study area (project site plus 500-foot buffer). Therefore, burrowing owls are considered to be absent from the study area. A full list of bird species observed during the survey is included in Attachment E of Appendix C.

Focused California Gnatcatcher Surveys

No California gnatcatchers or CAGN nests were detected within the study area. Therefore, California gnatcatchers are considered to be absent from the study area. Additionally, no brown-headed cowbirds were detected during CAGN surveys. A full list of bird species observed during the survey is included in Attachment D of Appendix C.

Jurisdictional Waters

The formal jurisdictional delineation conducted for the project identified two non-jurisdictional concrete v-ditches. No jurisdictional waters or wetlands were identified within the study area.

The investigated non-jurisdictional features are located within the eastern portion of the project site, mapped as concrete channels (CC) on Figure 3.2-1. Based on review of USGS and National Hydrology Dataset (NHD) data, a drainage historically occurred just south of the project site and crossed the project site along its southeast corner. A flume and/or underground pipeline has now replaced this drainage. According to review of historical aerial imagery, there is no indication of surface flow on the project site, dating back to 1994 (Google Earth 2018). Grading within the eastern portion of the project site took place in 2006 and 2007, during which the investigated v-ditches were constructed to collect runoff from the pad slopes and to direct water towards the stormwater system. These v-ditches were constructed in uplands, confirmed by surrounding vegetation that is typical of the California buckwheat scrub vegetation community, and is limited to upland plant species. Therefore, due to a lack of a clearly defined Ordinary High Water Mark (OHWM), continuous bed and bank, and associated indicators (e.g., sediment flow, shelving, water marks, and wetland vegetation), these features do not qualify as Waters of the U.S. or State. Additionally, no regulatory agency permitting from the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW) would be required for project-related impacts.

Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping stones for dispersal.

The project site does not reside within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008), the Eastern Santa Monica Mountains Habitat Linkage Planning Map (SMMC 2017a), or the Griffith Park Area Habitat Linkage Planning Map (SMMC 2017b). The closest designated habitat linkage, i.e., Santa Monica–Sierra Madre Connection within the South Coast Missing Linkages analysis, is located approximately 3 miles west of the project site within the Santa Susana Mountains. This linkage covers the Santa Monica, Simi, Santa Susana, and Sierra Madre ranges and serves to connect the Los Padres and Angeles National Forests.

The public access equestrian trail located within the southern portion of the project area, just north of the current De Soto Reservoir, has potential to facilitate east-west wildlife movement through the area for urban-adapted species (e.g., coyote, striped skunk, raccoon, and opossum), as well as provide live-in habitat for smaller mammals, reptiles, and birds in the area. However, this corridor is fragmented by urban development and well-traversed roads. Specifically, the project area is abutted by SR-118 to the north, Rinaldi Street to the east and south, and De Soto Avenue to the west. As such, this corridor is unlikely to support wildlife movement for larger mammals. In addition, areas north of SR-118 provide higher quality habitat and are more likely to support wildlife movement through the area.

3.2.2 Relevant Plans, Policies, and Ordinances

3.2.2.1 Federal

The following federal regulations pertaining to the protection of biological resources would apply to the proposed project.

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the USFWS for most plant and animal species and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as “any species that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under FESA, it is unlawful to “take” any listed species, and “take” is defined as, “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of Habitat Conservation Plans (HCPs) on private property without any other federal agency involvement.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the “indiscriminate slaughter” of migratory birds by market hunters and others. The MBTA protects over 800 species of birds (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted.

Clean Water Act

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires a project operator for a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found at 33 CFR 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and can fall under the jurisdiction of several regulatory agencies. USACE exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the United States is generally defined as that portion that falls within the limits of the OHWM. Typically, the OHWM corresponds to the two-year flood event.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by USACE as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (USACE 1987).

3.2.2.2 State

The following state regulations pertaining to the protection of biological resources would apply to the proposed project.

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code, Section 2050 et seq.) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by the project applicant from the CDFW under the CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

California Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of the CDFW to maintain viable populations of all native species. Toward that end, the CDFW has designated certain vertebrate species as Species of Special Concern, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 directed the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. The CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the Fish and Game Code. To align with federal regulations, the CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in the CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project proponent.

California Environmental Quality Act

California Environmental Quality Act (CEQA) requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. The act also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under the FESA, CESA, and other Fish and Game Code provisions, and includes lists developed by other organizations, including for example the Audubon Watch List Species. Guidance documents prepared by other agencies, including the BLM Sensitive Species and USFWS Birds of Special Concern, are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species included on the California Native Plant Society's (CNPS's) California Rare Plant Rank (CRPR) List 1 and 2, and potentially some List 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G (Environmental Checklist Form), of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service."

California Fish and Game Code Section 1602

Under these sections of the California Fish and Game Code, the project operator is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the code, a "stream" is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events.

Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

California Wetland Definition

Unlike the federal government, California has adopted the Cowardin et al. (1979) definition of wetlands. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes (at least 50% of the aerial vegetative cover); (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and saturated with water or covered by shallow water at some time during the growing season of each year.

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the Cowardin definition requires the presence of at least one of these parameters. For this reason, identification of wetlands by State agencies consists of the union of all areas that are periodically inundated or saturated or in which at least seasonal dominance by hydrophytes may be documented or in which hydric soils are present.

Section 401 Clean Water Act

Under Section 401 of the CWA, the local RWQCB, Santa Ana RWQCB, must certify that actions receiving authorization under Section 404 of the CWA also meet State water quality standards. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. Compensatory mitigation for impacts to wetlands and/or waters of the state is required.

Porter-Cologne Water Quality Control Act

The RWQCB also has jurisdiction over waters deemed 'isolated' or not subject to Section 404 jurisdiction under the SWANCC decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the state and prospective dischargers are required obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.

3.2.2.3 Local

The following local/regional regulations pertaining to the protection of biological resources would apply to the proposed project.

City of Los Angeles General Plan

The Conservation and Open Space Elements of the City of Los Angeles General Plan addresses the protection of natural resources within the City's limits, including water and hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. These elements were provided to comply with California law. Goals listed in the plan include a City that preserves, protects and enhances its existing natural and related resources, as well as goals to insure preservation and conservation of sufficient open space.

City of Los Angeles Municipal Code Noise Ordinance

The City of Los Angeles regulates noise through several sections of its Municipal Code, as follows:

- Section 41.40 (Noise Due to Construction, Excavation Work – When Prohibited), which establishes time prohibitions on noise generated by construction activity.
- Section 112.04 (Powered Equipment Intended for Repetitive Use in Residential Areas and Other Machinery, Equipment and Devices), which prohibits the use of loud machinery and/or equipment within 500 feet of residences and prohibits noise from machinery, equipment, or other devices that would result in an increase of more than 5 decibels (dB) above the ambient noise level at residences.
- Section 112.05 (Maximum Noise Level of Powered Equipment or Powered Hand Tools), which establishes maximum noise levels for powered equipment and powered hand tools (i.e., 75 A-weighted decibels [dBA] at a distance of 50 feet for construction, industrial, and agricultural equipment between the hours of 7:00 a.m. and 10:00 p.m.).

According to Section 41.40, no construction activity that might create loud noises in or near residential areas or buildings shall be conducted between the hours of 9:00 p.m. and 7:00 a.m. on weekdays, before 8:00 a.m. or after 6:00 p.m. on Saturday and national holidays, or at any time on Sunday.

City of Los Angeles Protected Tree Ordinance

The City of Los Angeles Protected Tree Ordinance, as modified by Ordinance 177404, provides guidelines for the preservation of native Southern California tree species, including all native oak trees, as well as other trees protected within the City of Los Angeles, measuring 4 inches or more in cumulative diameter at 4.5 feet above the ground from the base of the tree (City of Los Angeles 2006a). Trees protected under this ordinance include all oak trees indigenous to California (excluding scrub oak (*Quercus dumosa*)), Southern California black walnut (*Juglans californica* var. *californica*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*).

3.2.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to biological resources are based on Appendix G of the 2019 CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to biological resources would occur if the project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.2.4 Methodology

The project setting was developed by reviewing available information on biological resources in the project vicinity. The information review included state and federal databases documenting the locations of special-status plant and wildlife species including the CNDDB, CNPS Inventory of Rare and Endangered Plants, and USFWS iPaC. This review was supplemented with several biological surveys conducted by Dudek between April 2018 and July 2018, as documented in the Biological Technical Letter Report for the project (Appendix C). These surveys included general plant and wildlife surveys, vegetation mapping, habitat assessment for special-status species, a formal jurisdictional delineation, focused special-status/rare plant surveys, and focused surveys for special-status/regulated wildlife species. Protocol-level presence/absence surveys were conducted for the following listed species: coastal California gnatcatcher (*Polioptila californica californica*; CAGN), burrowing owl (*Athene cunicularia*; BUOW).

3.2.5 Impact Analysis

This section addresses the anticipated impacts (direct, indirect, and cumulative) to biological resources that would result from construction of the proposed project. The significance determinations for proposed or potential impacts follow the thresholds provided in the California Environmental Quality Act Guidelines Section 15064(b) and Appendix G Environmental Checklist. The evaluation of the project's impacts using the thresholds of significance presented is organized by the resource potentially affected: special-status species, riparian and special-status (sensitive) vegetation communities, jurisdictional wetlands and waters, and wildlife movement. The analysis presented below focuses on the demolition of the existing De Soto Tanks Reservoir and construction of the proposed De Soto Tanks and Pump Station, and installation of associated pipelines. The earthen material excavated would be hauled off site. Work areas would be accessed by Rinaldi Street from the east and De Soto Avenue from the west. Operational requirements of the project would be identical to current existing uses on the site and therefore, operational impacts are not included as part of this analysis.

Threshold BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Direct Impacts

Special-Status Plants

No special-status plant species were detected within the study area. Based on the negative results of focused botanical surveys conducted in April and July 2018, as detailed in Appendix C, no species were determined to have a moderate or high potential to occur within the study area. Therefore, direct or indirect impacts to special-status plant species would be **less than significant**, and no avoidance or mitigation measures are required.

Special-Status Wildlife

No special-status wildlife species were detected within the study area. However, a woodrat (not identified to species) and woodrat middens were observed during the biological reconnaissance; thus, San Diego desert woodrat has a moderate potential to occur within the study area. Cooper's hawk also has a moderate potential to occur, particularly within trees located in the study area. The project footprint is limited to non-native grasslands, disturbed land, and upland mustards, and as such, direct permanent impacts are not anticipated to occur to habitat for these special-status wildlife species. The woodrat middens identified on site do not occur within the project footprint and are not anticipated to be impacted by proposed project activities. Therefore, the proposed project is not expected to result in a significant direct impact to these special-status wildlife species; impacts would be **less than significant**.

Nesting Birds

The trees and shrubs within the study area have the potential to support nesting birds. Additionally, the surrounding study area, outside of the project site, has the potential to support nesting and foraging raptors. As such, project implementation does have the potential to result in significant impacts to nesting birds and/or foraging raptors. Direct and indirect impacts to migratory nesting birds must be avoided for compliance with the Migratory Bird Treaty Act (16 USC 703–712) and California Fish and Game Code Sections 3503.5, 3503, and 3513. Nesting birds could be directly impacted by vegetation removal and indirectly impacted from short-term construction-related noise, resulting in decreased reproductive success or abandonment of an area as nesting habitat. Implementation of mitigation measures **MM BIO-1** and **MM BIO-2** would reduce potential impacts to nesting birds to a **less than significant level**.

Indirect Impacts

Potential short- and long-term indirect impacts to special-status wildlife within the study area could include generation of fugitive dust, noise, and increased human activity. The project would implement Best Management Practices during construction to control dust (i.e., watering active work sites with exposed soils), which would further reduce potential indirect impacts due to fugitive dust, as well as noise control activities, including the installation of temporary sound barrier walls as appropriate, which would further reduce indirect impacts to these species. Therefore, potential indirect impacts to special-status wildlife would be considered **less than significant**.

Threshold BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The project area does not support any sensitive vegetation communities. The only native CDFW-ranked vegetation community within the project area is California buckwheat scrub; however, California buckwheat scrub is not considered a sensitive vegetation community that would require mitigation for impacts. Furthermore, project impact areas are proposed to occur within portions of the project area that are dominated by upland mustard semi-natural alliance, California annual grassland, disturbed habitat, and urban/developed land, as shown in Figure 3.2-2. All work is proposed to occur within the project site with minimal potential indirect effects (i.e., fugitive dust) due to implementation of dust control practices during construction (i.e., watering active work sites with exposed soils). As such, direct and indirect impacts to sensitive vegetation communities would not occur, and no avoidance or mitigation measures are recommended. Impacts would be **less than significant**.

Threshold BIO-3: Would the project have a substantial adverse effect on state or federally or state protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No jurisdictional waters or wetlands occur within the project area and off-site portions of the study area surrounding the project area. Thus, no direct or indirect impacts would occur to jurisdictional waters or wetlands as a result of project activities. Therefore, **no impacts** would occur and no mitigation would be required.

Threshold BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No designated wildlife corridors or habitat linkages occur in the project area or were identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008), the Eastern Santa Monica Mountains Habitat Linkage Planning Map (SMMC 2017a), or the Griffith Park Area Habitat Linkage Planning Map (SMMC 2017b). The public access equestrian trail located within the southern portion of the project area has potential to facilitate east-west wildlife movement for urban-adapted species. No fencing or hardscape currently exists or is proposed to be constructed within this portion of the project area, allowing the continued facilitation of east-west wildlife movement. Thus, no significant direct permanent impacts would occur to wildlife movement as a result of project activities.

Additionally, the proposed project activities would occur primarily during daytime hours as specified in the City of Los Angeles Municipal Code Section 112.05, limiting the potential noise and lighting impacts during the nighttime hours when most wildlife species likely to traverse the area would be active. Additionally, no temporary structures (e.g., construction fencing) that would impede wildlife movement are proposed. As such, project activities would not likely result in direct temporary impacts to wildlife movement. Some indirect temporary impacts to localized wildlife movement could occur due to construction-related noise. However, these impacts would not be expected to significantly disrupt wildlife movement due to the cessation of project activities during nighttime hours. Thus, impacts to wildlife corridors and habitat linkages would be **less than significant**, and no additional avoidance or mitigation measures are required.

Threshold BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

One protected valley oak tree as defined in the City of Los Angeles Protected Tree Ordinance occurs in the project area. This tree is located outside of the project footprint and is not anticipated to be impacted by the proposed project activities. Thus, impacts to City-protected trees would **be less than significant**, and no avoidance or mitigation measures are required.

Threshold BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The proposed project is not within any designated open space within the City General Plan or Chatsworth–Porter Ranch Community Plan, significant ecological areas within the County General Plan, habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan; therefore, the project would not be in conflict with any such local, regional, or state plans, and **no impacts** would occur.

3.2.6 Mitigation Measure(s)

MM-BIO-1. Breeding Season Avoidance.

Los Angeles Department of Water and Power and the construction contractor shall verify that ground-disturbing and vegetation trimming/ removal activities shall be conducted outside of the breeding season to the extent feasible (i.e., February 1 through August 31).

MM-BIO-2. Nesting Bird Survey.

If the breeding season (i.e., February 1 through August 31) cannot be avoided, a pre-construction nesting bird survey shall be conducted prior to ground disturbing and vegetation trimming/removal activities. All suitable nesting habitat shall be thoroughly surveyed by a qualified biologist for the presence of nesting birds within 72 hours prior to commencement of the proposed project activities. If an active nest is detected within the study area, Los Angeles Department of Water and Power's (LADWP) project manager shall be notified and an appropriate avoidance buffer shall be maintained around the nest, as determined by a qualified biologist. The nest shall be flagged and avoided until the nesting birds have fledged and the nest is vacant (as determined by the qualified biologist). As a general guidance during the breeding season, LADWP or its construction contractor shall not conduct work within 300 feet from known protected passerine nests, and 500 feet from known raptor and special-status species nests, or as determined by a qualified biologist.

3.2.7 Level of Significance After Mitigation

Implementation of the above mitigation measures would reduce potentially significant impacts to nesting birds and or foraging raptors to below a level of significance. Potential project-related direct and indirect impacts to nesting birds would be reduced below a level of significance through implementation of MM BIO-1 to avoid the nesting season, and MM BIO-2 that would require a nesting bird survey to identify the presence/absence of nests and implement additional measures around active nests.

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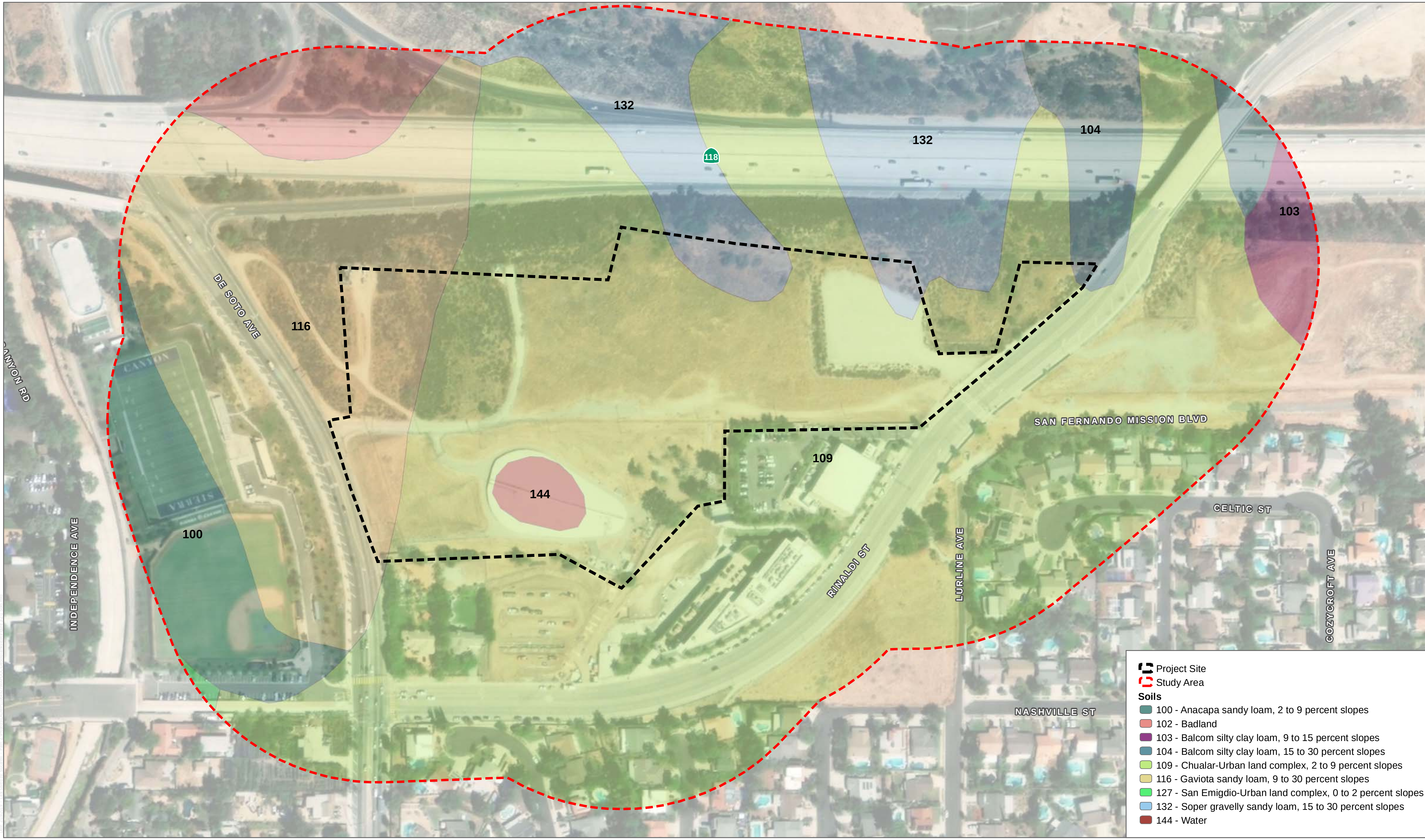

SOURCE: DigitalGlobe 2016, USDA NRCS 2018

Los Angeles Department of Water & Power

FIGURE 3.2-1

Soils

LADWP De Soto Tanks Project

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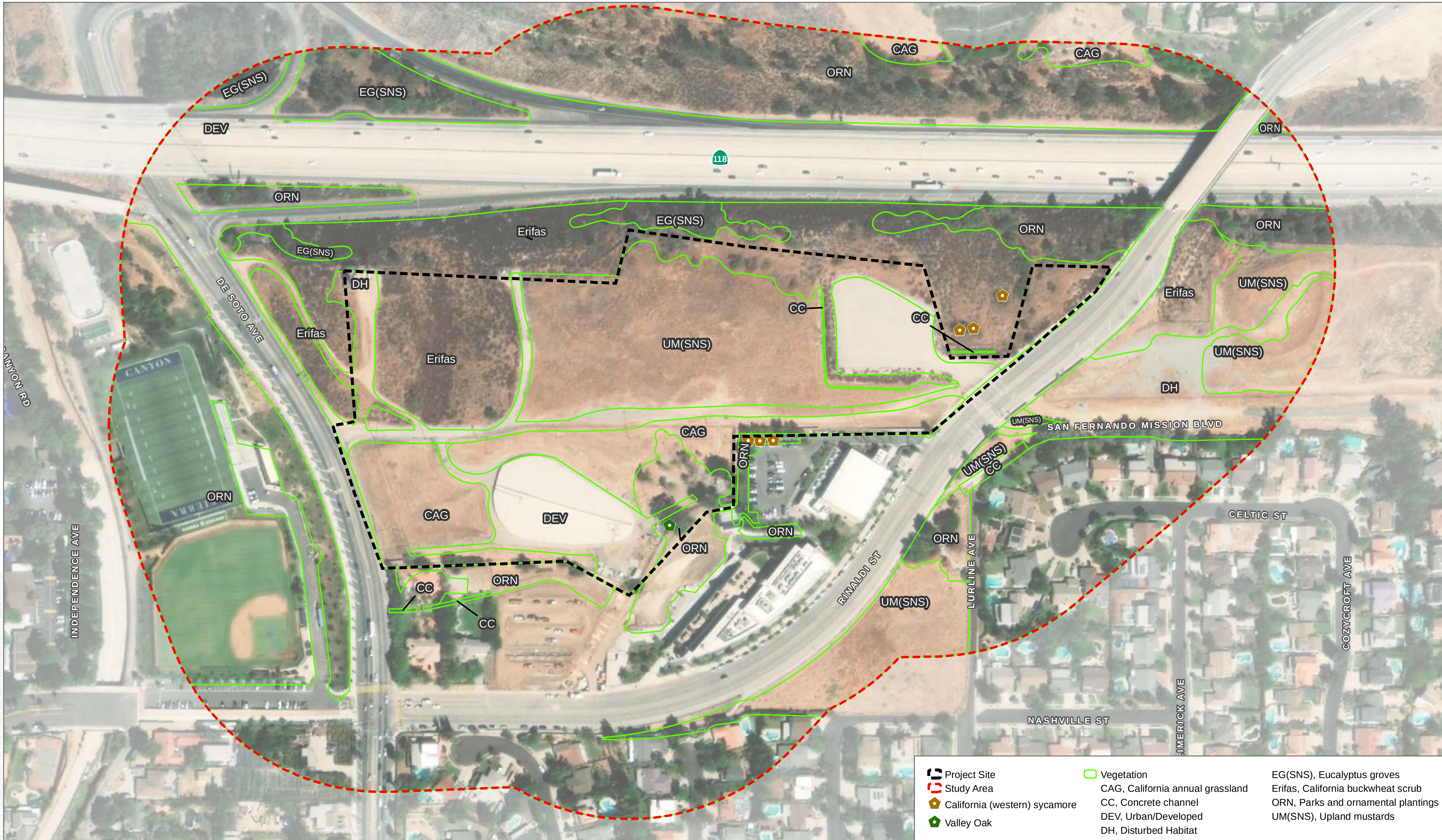

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 100 200 Feet

FIGURE 3.2-2

Biological Resources

LADWP De Soto Tanks Project

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3.3 Cultural Resources

This section describes the cultural resources present in the De Soto Tanks and Pump Station Project (proposed project or project) area; discusses applicable federal, state, and regional regulations pertaining to cultural resources; presents the results of the historic resource evaluations for historic-age resources within the project area; and discusses the potential effects on cultural resources associated with development of the proposed project.

No comments received in response to the Notice of Preparation (see Appendix A) with concerns regarding impacts to cultural resources.

Information contained in this section is based on the *Historic Properties Identification Report for the De Soto Tanks Project, 11200 De Soto Avenue, Los Angeles, Los Angeles County, California* prepared by Dudek staff for LADWP in October 2018 and revised in September 2019. All sources consulted are listed in the Bibliography section of the above mentioned tech report as well as in Section 3.3.8, References Cited.

3.3.1 Existing Conditions

This section describes the historical context of the project area and also identifies the resources that could be affected by the proposed project.

3.3.1.1 Prehistoric Overview

Numerous chronological sequences have been devised to aid in understanding cultural changes within southern California. Building on early studies and focusing on data synthesis, Wallace (1955, 1978) developed a prehistoric chronology for the southern California coastal region that is still widely used today and is applicable to near-coastal and many inland areas. Four periods are presented in Wallace's prehistoric sequence: Early Man, Milling Stone, Intermediate, and Late Prehistoric. Although Wallace's (1955) synthesis initially lacked chronological precision due to a paucity of absolute dates (Moratto 1984), this situation has been alleviated by the availability of thousands of radiocarbon dates that have been obtained by southern California researchers in the last three decades (Byrd and Raab 2007:217). Several revisions have been made to Wallace's (1955) synthesis using radiocarbon dates and projectile point assemblages (e.g., Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994).

Horizon I–Early Man (ca. 10,000–6,000 B.C.)

When Wallace defined the Horizon I (Early Man) period in the mid-1950s, there was little evidence of human presence on the southern California coast prior to 6000 B.C. Archaeological work in the intervening years has identified numerous pre-8000 B.C. sites, both on the mainland coast and the Channel Islands (e.g., Erlandson 1991; Johnson et al. 2002; Moratto 1984; Rick et al. 2001). The earliest accepted dates for occupation are from two of the northern Channel Islands, located off the coast of Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area about 10,000 years ago (Erlandson 1991). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002). Present-day Orange and San Diego counties contain several sites dating to 9,000 to 10,000 years ago (Byrd and Raab 2007; Macko 1998a; Mason and Peterson 1994; Sawyer and Koerper 2006). Known sites dating to the Early Man period are rare in western Riverside County. One exception is the Elsinore site (CA RIV-2798-B), which has deposits dating as early as 6630 calibrated B.C. (Grenda 1997).

Recent data from Horizon I sites indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas and on Pleistocene lakeshores in eastern San Diego County (see Moratto 1984). Although few Clovis-like or Folsom-like fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987), it is generally thought that the emphasis on hunting may have been greater during Horizon I than in later periods. Common elements in many sites from this period, for example, include leaf-shaped bifacial projectile points and knives, stemmed or shouldered projectile points, scrapers, engraving tools, and crescents (Wallace 1978). Subsistence patterns shifted around 6000 B.C. coincident with the gradual desiccation associated with the onset of the Altithermal climatic regime, a warm and dry period that lasted for about 3,000 years. After 6000 B.C., a greater emphasis was placed on plant foods and small animals.

Horizon II–Milling Stone (6000–3000 B.C.)

The Milling Stone Horizon of Wallace (1955, 1978) and Encinitas Tradition of Warren (1968) (6000–3000 B.C.) are characterized by subsistence strategies centered on collecting plant foods and small animals. Food procurement activities included hunting small and large terrestrial mammals, sea mammals, and birds; collecting shellfish and other shore species; near-shore fishing with barbs or gorges; the processing of yucca and agave; and the extensive use of seed and plant products (Kowta 1969). The importance of the seed processing is apparent in the dominance of stone grinding implements in contemporary archaeological assemblages, namely milling stones (metates and slabs) and handstones (manos and mullers). Milling stones occur in large numbers for the first time during this period, and are more numerous still near the end of this period. Recent research indicates that Milling Stone Horizon food procurement strategies varied in both time and space, reflecting divergent responses to variable coastal and inland environmental conditions (Byrd and Raab 2007).

Milling Stone Horizon sites are common in the southern California coastal region between Santa Barbara and San Diego, and at many inland locations, including the Prado Basin in western Riverside County and the Pauma Valley in northeastern San Diego County (e.g., Herring 1968; Langenwalter and Brock 1985; Sawyer and Brock 1999; Sutton 1993; True 1958). Wallace (1955, 1978) and Warren (1968) relied on several key coastal sites to characterize the Milling Stone period and Encinitas Tradition, respectively. These include the Oak Grove Complex in the Santa Barbara region, Little Sycamore in southwestern Ventura County, Topanga Canyon in the Santa Monica Mountains, and La Jolla in San Diego County. The well-known Irvine site (CA-ORA-64) has occupation levels dating between ca. 6000 and 4000 B.C. (Drover et al. 1983; Macko 1998b).

Stone chopping, scraping, and cutting tools made from locally available raw material are abundant in Milling Stone/Encinitas deposits. Less common are projectile points, which are typically large and leaf-shaped, and bone tools such as awls. Items made from shell, including beads, pendants, and abalone dishes, are generally rare. Evidence of weaving or basketry is present at a few sites. Kowta (1969) attributes the presence of numerous scraper-planes in Milling

Stone sites to the preparation of agave or yucca for food or fiber. The mortar and pestle, associated with pounding foods such as acorns, were first used during the Milling Stone Horizon (Wallace 1955, 1978; Warren 1968).

Cogged stones and discoidals are diagnostic Milling Stone period artifacts, and most specimens have been found within sites dating between 4000 and 1000 B.C. (Moratto 1984). The cogged stone is a ground stone object with gear-like teeth on its perimeter. Discoidals are similar to cogged stones, differing primarily in their lack of edge modification. Discoidals are found in the archaeological record subsequent to the introduction of the cogged stone. Cogged stones and discoidals are often purposefully buried, and are found mainly in sites along the coastal drainages from southern Ventura County southward, with a few specimens inland at Cajon Pass, and heavily in Orange County (Dixon 1968; Moratto 1984). These artifacts are often interpreted as ritual objects (Eberhart 1961; Dixon 1968), although alternative interpretations (such as gaming stones) have also been put forward (e.g., Moriarty and Broms 1971).

Characteristic mortuary practices of the Milling Stone period or Encinitas Tradition include extended and loosely flexed burials, some with red ochre, and few grave goods such as shell beads and milling stones interred beneath cobble or milling stone cairns. "Killed" milling stones, exhibiting holes, may occur in the cairns. Reburials are common in the Los Angeles County area, with north-oriented flexed burials common in Orange and San Diego counties (Wallace 1955, 1978; Warren 1968).

Koerper and Drover (1983) suggest that Milling Stone period sites represent evidence of migratory hunters and gatherers who used marine resources in the winter and inland resources for the remainder of the year. Subsequent research indicates greater sedentism than previously recognized. Evidence of wattle-and-daub structures and walls has been identified at several sites in the San Joaquin Hills and Newport Coast area (Mason et al. 1991, 1992, 1993; Koerper 1995; Strudwick 2005; Sawyer 2006), while numerous early house pits have been discovered on San Clemente Island (Byrd and Raab 2007). This architectural evidence and seasonality studies suggest semi-permanent residential base camps that were relocated seasonally (de Barros 1996; Koerper et al. 2002; Mason et al. 1997) or permanent villages from which a portion of the population left at certain times of the year to exploit available resources (Cottrell and Del Chario 1981).

Horizon III–Intermediate (3000 B.C.–A.D. 500)

Following the Milling Stone Horizon, Wallace's Intermediate Horizon and Warren's Campbell Tradition in Santa Barbara, Ventura, and parts of Los Angeles counties, date from approximately 3000 B.C. to A.D. 500 and are characterized by a shift toward a hunting and maritime subsistence strategy, along with a wider use of plant foods. The Campbell Tradition (Warren 1968) incorporates David B. Rogers' (1929) Hunting Culture and related expressions along the Santa Barbara coast. In the San Diego region, the Encinitas Tradition (Warren 1968) and the La Jolla Culture (Moriarty 1966; Rogers 1939, 1945) persist with little change during this time.

During the Intermediate Horizon and Campbell Tradition, there was a pronounced trend toward greater adaptation to regional or local resources. For example, an increasing variety and abundance of fish, land mammal, and sea mammal remains are found in sites along the California coast during this period. Related chipped stone tools suitable for hunting are more abundant and diversified, and shell fishhooks become part of the tool kit during this period. Larger knives, a variety of flake scrapers, and drill-like implements are common during this period. Projectile points include large sidenotched, stemmed, and lanceolate or leaf-shaped forms. Koerper and Drover (1983) consider Gypsum Cave and Elko series points, which have a wide distribution in the Great Basin and Mojave deserts between ca. 2000 B.C. and A.D. 500, to be diagnostic of this period. Bone tools, including awls, were more numerous than in the preceding period, and the use of asphaltum adhesive was common.

Mortars and pestles became more common during this period, gradually replacing manos and metates as the dominant milling equipment. Hopper mortars and stone bowls, including steatite vessels, appeared in the tool kit at this time as well. This shift appears to correlate with the diversification in subsistence resources. Many archaeologists believe this change in milling stones signals a shift away from the processing and consuming of hard seed resources to the increasing importance of the acorn (e.g., Glassow et al. 1988; True 1993). It has been argued that mortars and pestles may have been used initially to process roots (e.g., tubers, bulbs, and corms associated with marshland plants), with acorn processing beginning at a later point in prehistory (Glassow 1997) and continuing to European contact.

Characteristic mortuary practices during the Intermediate Horizon and Campbell Tradition included fully flexed burials, placed facedown or face-up, and oriented toward the north or west (Warren 1968). Red ochre was common, and abalone shell dishes were infrequent. Interments sometimes occurred beneath cairns or broken artifacts. Shell, bone, and stone ornaments, including charmstones, were more common than in the preceding Encinitas Tradition. Some later sites include Olivella shell and steatite beads, mortars with flat bases and flaring sides, and a few small points. The broad distribution of steatite from the Channel Islands and obsidian from distant inland regions, among other items, attest to the growth of trade, particularly during the latter part of this period. Recently, Raab and others (Byrd and Raab 2007) have argued that the distribution of Olivella grooved rectangle (OGR) beads marks "a discrete sphere of trade and interaction between the Mojave Desert and the southern Channel Islands."

3.3.1.2 Historic Period Overview

Spanish Period (1769-1822)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríquez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to Alta California based on the surveys conducted by Cabríllo and Vizcaíno (Cleland 2005; Gumprecht 2001).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring southern California, Franciscan Fr. Junípero Serra founded

Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823, including Mission San Fernando Rey de España (Cleland 2005; Gumprecht 2001; Jorgensen 1982; Kyle 2002; Roderick 2001).

The Portolá expedition first reached the present-day boundaries of Los Angeles in August 1769, thereby becoming the first Europeans to visit the area. Father Crespi named "the campsite by the river Nuestra Señora la Reina de los Angeles de la Porciúncula" or "Our Lady the Queen of the Angeles of the Porciúncula." Two years later, Friar Junípero Serra returned to the valley to establish a Catholic mission, the Mission San Gabriel Arcángel, on September 8, 1771 (Gumprecht 2001; Jorgensen 1982; Kyle 2002).

The expedition camped at a watering place at the base of the San Gabriel Mountains in 1769 and the location was noted in Crespi's diary. The mission was founded in September 1797 by Father Fermín Lasuén and Fray Francisco Dumetz. The mission consisted of a church, fountains, cloisters and extensive agricultural grounds outside the area. The Spanish missionaries impressed the native Tongva, Tatavium, and Chumash tribes into Christianity through baptism and service as neophytes. The land taken by the Spanish was not repatriated to these tribes (Cleland 2005; Roderick 2001).

Mexican Period (1822-1848)

A major emphasis during the Spanish Period in California was the construction of missions and associated ranchos and presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Cleland 2005; Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. In 1846, Mission San Fernando lands were issued as a land grant by then governor Pío Pico to Eulogio de Celis, and renamed simply Ex-Mission San Fernando. The new rancho lands were bound by Rancho San Francisco to the north, to the east by Rancho Tujunga, to the west by Rancho Simí, and on the south by the Santa Monica Mountains (Cleland 2005).

American Period (1848-Present)

War in 1846 between Mexico and the United States precipitated the Battle of Chino, a clash between resident Californios and Americans in the San Bernardino area. The Mexican- American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period. California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. Territories. Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The Gold Rush began in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other goods (Cleland 2005).

De Celis retained his rancho after the war until his death in 1874. After de Celis' death, his family sold the rancho to California State Senator Charles Maclay and business partners George K. and Benjamin F. Porter. The Porters claimed the land west of present-day Sepulveda Boulevard. Isaac Van Nuys and J.B. Lankershim acquired the southern half of the valley south of Roscoe Boulevard. Maclay's rancho extended from present day Sepulveda Boulevard east to the San Gabriel foothills. The Porter brothers' ranch would be one of the last sections of the San Fernando Valley to be developed. In 1888, Benjamin Porter sold a portion of the property near the Santa Susana Pass to the Porter Land and Water Company, which laid out the town of Chatsworth Park (Dumke 1944; Kyle 2002; Roderick 2001).

Historic Context of the Town of Chatsworth

The original 1888 town site laid out by the George R. Crow of the Porter Land & Water Company planned Chatsworth Park as a farming community with land divided into 10-acre plots along three major streets: Ben Porter Avenue, Devonshire Avenue, and Fernando Avenue. In 1893, another town plat was filed for Chatsworth Park that added a railroad station, Main Street, and commercial corridor. Chatsworth Park retained an agricultural identity, and was along a major stage route connecting Los Angeles and Santa Barbara through Santa Susana Pass. In 1893, Southern Pacific Railroad built a depot and rail line to the town, offering a way to transport crops, mainly wheat, to the greater Los Angeles area (Height 1953; Roderick 2001; Wanamaker 2011; Watson 1991).

Los Angeles voters approved $22 million for the Los Angeles Aqueduct project in 1905 and construction on the aqueduct began in 1908 and completed in 1913. The aqueduct, which would bring water from Owens Valley to the City of Los Angeles, brought intensive land speculation and settlement to the San Fernando Valley. However, to take advantage of the City of Los Angeles' new water source, surrounding communities had to agree to be annexed to the City of Los Angeles. Formerly independent towns such as of Pacoima, Roscoe, and Lankershim voted for annexation in the years immediately after the aqueduct was completed. With the new source of water, San Fernando Valley farmers exchanged dry farming for irrigated ion system farming for crops and orchards. Agriculture expanded throughout the San Fernando Valley and specific towns became associated with certain crop production. Citrus and nut tree orchards became common in the northern portion pf San Fernando Valley including at Chatsworth Park (Height 1953; Preston 1965; Roderick 2001; Wanamaker 2011; Watson 1991).

In 1918, the Chatsworth Reservoir was completed, intended as the nineteenth and last in a chain of reservoirs of the Los Angeles Aqueduct System. The Chatsworth High Line aqueduct was the conduit that ran along the northern edge of the valley, connecting the San Fernando Reservoir to Chatsworth Reservoir. It replaced a series of temporary, open-air "ditches" installed in preparation of the permanent aqueduct system, increasing arable land in San Fernando Valley from 3,000 acres in 1914 to 30,000 acres in 1917 (D.H. Anderson Publishing Company 1916; Geiger 1918).

In 1920, Chatsworth was annexed to the City of Los Angeles. The same year, the San Fernando Valley population was estimated at 20,000 people. By 1930, the valley's population had doubled to just over 51,000. The agricultural economy of Chatsworth remained stable through the Great Depression. By 1940, the San Fernando Valley population was 155,443. Despite the growing residential population, small-scale farms and orchards still dominated land use in the San Fernando Valley through World War II (Roderick 2001; Wanamaker 2011).

World War II brought increased urbanization as military operations near Los Angeles brought in hundreds of thousands of soldiers and their families. After the war, both employment opportunities and affordable real estate kept families in the area. Suburban sprawl from Los Angeles reached the San Fernando Valley, and brought another 250,000 people to the valley, raising its 1950 population to just over 400,000. Dense housing developments and residential areas constricted formerly agricultural areas, all but pushing them into the surrounding foothills and margins of the Valley for the rest of the century. In 1954, at the end of De Soto Avenue at Oat Mountain, the U.S. Defense Department developed a U.S. Army base and launch site the Nike Hercules missiles, called the Nike Missile Base LA-88 (Figure 6). The military operation there further fueled the influx of residents to the Chatsworth Area. By the end of the 1950s, nine of the ten largest manufacturers in the Valley served the Defense Department. Lockheed, Rocketdyne, Litton Systems, Ramo-Woolridge, RCA, Marquardt, and Radioplane each employed over a thousand employees (Preston 1965; Roderick 2001; Watson 1991).

As automobiles and freeways permeated the culture of the country and the state of California, so too did they have impact in Chatsworth. In 1960, the Ventura Freeway finally opened, and between 1972 and -1980, State Route 118 was completed in the northern portion of Chatsworth, immediately north of the project site. These highways brought an emphasis on automobile travel and allowed residents ease of access for commuting around the greater Los Angeles area and the Santa Barbara area (Roderick 2001).

History of the De Soto Reservoir

Originally planned as the Chatsworth High Line Reservoir, the De Soto Reservoir went into service in 1941 (LADWP 1942; Laval 1938, 1944; Soifer 2018). It is located along the Chatsworth High Line, which was a pipeline originally conceived to connect the San Fernando Reservoir to the Chatsworth Reservoir (not to be confused with the Chatsworth High-Line Reservoir). The San Fernando Reservoir went into service in 1918 and consisted of two reservoirs: San Fernando Reservoir No. 1 (upper) completed in 1913 and San Fernando Reservoir No. 2 (still under construction 1916). The Chatsworth Reservoir site was scouted in 1911 and 1913, and construction began after securing the title to the property from Benjamin. Porter in 1917. The Chatsworth Reservoir was completed in 1918, and filled in 1919. The Chatsworth High Line was built concurrently with the reservoir projects, and was built to replace a series of already existing irrigation ditches in the area to formally connect the two reservoirs. The High Line was constructed in 1916, and completed in 1918 before the Chatsworth Reservoir was filled (D.H. Anderson Publishing Company 1916; LAT 1916; Robertson et. al. 1918; SWBC 1918; WPA 2018).

In 1930-1931 the Chatsworth Reservoir was drained and built up to hold a greater water capacity, as the population of Chatsworth increased. As the decade continued, increased water demands on the Chatsworth Reservoir and High Line meant that the water served as emergency residential and domestic drinking water, rather than its originally intended agricultural role. Also in 1931, the lands for a new LADWP reservoir called the Chatsworth High Line Reservoir was purchased and plans were drawn up for the new reservoir. The Chatsworth High Line Reservoir, a different, smaller water feature than the Chatsworth Reservoir, was intended as an earthen reservoir at the mouth of Brown's Canyon. The State of California voided plans for this reservoir in 1933 due to a change in LADWP's dam construction program, and the LADWP's inability to start the reservoir construction in the permitted amount of time (LADWP 1931, 1933; WPA 2018).

De Soto Reservoir was redesigned, built, and placed into service in 1941. It was built by contractors Schroeder & Company, Inc. of Roscoe, California. The site was an open-air, concrete lined tank on a small parcel in the foothills of the Santa

Susana Mountains. Construction of the De Soto Reservoir pioneered a new method for compacting the reservoir embankment (LADWP 1942):

> The side slopes and the bottom were paved with 4 inches of asphaltic concrete placed in two 2 inch layers, each layer being rolled by a light hot roller followed by a heavy cold roller weighing 2,000 pounds per linear foot. The hot roller smoothed and conditioned the surface so that the heavy roller could be operated without picking up or gouging into the plastic material. The rollers were moved up and down the slope by means of hoists mounted on small tractors. The inside embankment slopes are 1-1/2 to 1 and the height is 22 feet. A cement coating was brushed on the asphaltic concrete surface in order to reduce soil stress and to provide a smoother surface for better cleaning of the reservoir when empty.

Water from the Chatsworth High Line filled De Soto Reservoir. The reservoir handled terminal water storage for the High Line. From the De Soto Reservoir, water switched from a pressure system to a gravity system and discharged into a separate domestic and irrigation supply water mains: the Chatsworth High Line Extension (which replaced the former High Line aqueduct to the Chatsworth Reservoir), and the planned projects for Granada and De Soto Trunk Lines (CDWR 1964; FAS 1944; Laval 1938; LADWP 1941, 1942; Soifer 2018; NETR 2018a).

As the population of the San Fernando Valley swelled in the post-World War II years, the demand for drinking water increased in the valley, turning previously agricultural water resources into drinking water for new residents. In 1954, LADWP proposed the first portion of the Granada Trunk Line, which would connect the Upper San Fernando Reservoir to the De Soto Reservoir. The new trunk line ran beside the existing Chatsworth High Line, and increased the total amount of water the Department of Water and Power was able to provide. In 1958, the second portion of the Granada Trunk Line, which extended from De Soto Reservoir to Roscoe Blvd near Cohasset, was approved and constructed between 1958 and 1959 (Valley News 1954, 1958).

In 1971, the Sylmar Earthquake caused widespread damage to the San Fernando Valley, including its water infrastructure. The Chatsworth High Line, Maclay High Line, and Chatsworth Reservoir were temporarily disabled due to the earthquake damage and the Chatsworth Reservoir was officially retired as a result of sustained damage and cost of repair. The reservoir was converted into a natural area park in the earthquake aftermath. Despite this, the De Soto Reservoir and trunk lines remained in service as emergency water supply, for the area, continuing to service the region (LAT 1971; WPA 2018).

3.3.1.3 California Historical Resources Information System Records Search

As part of the cultural resources study prepared for the project, Dudek conducted a California Historical Resources Information System (CHRIS) records search at the South Central Coastal Information Center (SCCIC) on June 29, 2017, or a 0.5-mile radius around the proposed project APE. This search included their collections of mapped prehistoric, historic, and built environment resources, Department of Parks and Recreation Site Records, technical reports, and ethnographic references. The results of this record search are included in Appendix B (Confidential Record Search Appendix). Additional consulted sources included historical maps of the project area, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility.

Previous Cultural Resources Studies

The SCCIC records indicate that 73 cultural resources investigations have been conducted within a half mile of the APE (Table 3.3-1). Of these, one previous studies overlap a portion of the indirect APE, four studies intersect the indirect APE, and one study is adjacent to the indirect APE. One study (LA-02366) overlaps the De Soto Tanks proposed project area.

Table 3.3-1.
Previously Cultural Resources Investigations within 0.5 Mile of the APE

SCCIC Report No.	Title	Author	Year	Proximity to APE
26	Assessment of the Archaeological Resources and the Impact of Development of Highway 118 Areas to be used as Fill Sites in the San Fernando Valley	Major, Gary W.	1974	Outside
35	Assessment of the Archaeological Impact by the Development of Browns Creek, Unit 4 and Browns Debris Basin, City of Los Angeles and Unincorporated Territory of the County of Los Angeles, California	Gates, Gerald R.	1974	Adjacent
53	Archaeological Assessment of Tentative Tract No. 32472 for Tierra Engineering Co.	Major, Gary W.	1974	Outside
71	An Archaeological Evaluation of Proposed Changes in the Use of LAN-357	Leonard, Nelson N. III	1974	Outside
76	Evaluation of the Archaeological Resources and Potential Impact of the Proposed Modification of an Area Adjacent to Browns Canyon, Los Angeles County Into a Sanitary Landfill	Rosen, Martin D.	1975	Outside
81	Evaluation of the Archaeological Resources for the Area wide Facilities Plan for the Las Virgenes Municipal District, (Malibu Coast, Western Santa Monica Mountains, Southern Simi Hills), Los Angeles and Ventura Counties.	Rosen, Martin D.	1975	Outside
160	Phase 1 Cultural Resources Survey Fiber Optic Cable Project Burbank to Santa Barbara, California for US Sprint Communications Company	Dames and Moore	1988	Outside
304	Archaeological Assessment of a Proposed Development in Chatsworth, City of Los Angeles, California	Pence, Robert L.	1978	Outside
468	Archaeological Survey Report: A 17+/- Acre Parcel of Property Located Between the Simi Valley Freeway and Topanga Canyon Boulevard in Chatsworth, California	Murray, John R.	1978	Outside
592	Cultural Resource Reconnaissance and Assessment of a Lot in Chatsworth, Los Angeles County, California	McIntyre, Michael J.	1979	Outside
628	Cultural Resource Survey and Impact Assessment for a 4.81 Acre Parcel Located in the Northwestern Part of the San Fernando Valley, in the City and County of Los Angeles, California	Singer, Clay A.	1979	Outside

Table 3.3-1.
Previously Cultural Resources Investigations within 0.5 Mile of the APE

SCCIC Report No.	Title	Author	Year	Proximity to APE
666	Cultural Resource Survey and Impact Assessment for Tentative Tract No. 38956, in the Community of Chatsworth, City and County of Los Angeles, California.	Singer, Clay A.	1979	Outside
838	An Archaeological Assessment of the Walker Cairn Site (CA-LAN-21), Chatsworth, California	Tartaglia, Louis J.	1980	Outside
1043	Assessment of the Archaeological Impact of Tentative Tract No. 31247	Toren, George A.	1977	Outside
1410	An Archaeological Resource Survey and Impact Assessment of a 4.83 Acre Parcel at 10815 Canoga Avenue in Chatsworth, City and County of Los Angeles (TT No. 43437)	Colby, Susan M.	1984	Outside
1448	Assessment of the Archaeological Resources Within Tentative Tract No. 4301, County of Los Angeles, California	Wawlsh, Michael R.	1984	Outside
1677	Cultural Resource Evaluation and Mitigation Alternatives for Archaeological Site CA-LAN-209	Parker, John	1987	Outside
1744	Archaeological Survey and Test Excavation in Unit 18 of the Porter Ranch, Los Angeles County, California	White, Robert and L. White	1988	Outside
1745	Archaeological Test Excavations at LAN-664, Located on the Porter Ranch, Los Angeles County, California	Van Horn, David M.	1987	Outside
1771	Draft Environmental Impact Report Porter Ranch Land Use/Transportation Specific Plan	ETI	1989	Outside
2010	Assessment of the Archaeological Impact of the Proposed Development of the 5 Acres of Tentative Tract #30350	Briuer, Frederick L.	1976	Outside
2034	Cultural Resources Reconnaissance of the Devil Canyon Project Area, 44 Acres in Chatsworth, Los Angeles County, California	Bissell, Ronald M. and Kenneth Becker	1990	Outside
2086	Summary and Assessment of Archaeological Resources on a 1300 Acre Portion of Porter Ranch Property in the Santa Susana Foothills, Los Angeles County	Brown, Robert S.	1989	Outside
2096	Report of Archaeological Reconnaissance Survey of a Nine Acre Parcel (a-1 Zone) 21521 Rinaldi Chatsworth, California	Salls, Roy A.	1990	Outside
2133	Two Rock Art Sites in the San Fernando Valley: VEN-149 and LAN-357	Sanburg, Delmer, Jr., Dana Bleitz Sanburg, Frank Bleitz, and Edith Bleitz	1978	Outside
2204	Cultural Resources Reconnaissance of the Continental Community Project Area, 55 Acres in Chatsworth, Los Angeles County, California	Evans, Stuart A. and Ronald M. Bissell	1990	Outside
2250	Draft Environmental Impact Report: Chatsworth Porter Ranch District Plan Re-study	EIP Associates, Inc.	1991	Outside
2366	Draft Master Environmental Impact Report	Wessel, Richard L.	1976	Overlaps

Table 3.3-1.
Previously Cultural Resources Investigations within 0.5 Mile of the APE

SCCIC Report No.	Title	Author	Year	Proximity to APE
2390	Astronomy, Myth, and Ritual in the West San Fernando Valley	Romani, John F., Dan Larson, Gwen Romani, and Arlene Benson	1988	Outside
2623	Pictographs of the Santa Monica Mountains Status Report as of May 15, 1977 (same As V-1134)	Lowe, P. J.	1977	Outside
2892	Phase I Archaeological Survey Report Pacific Pipeline Project Santa Barbara Coastal Re-routes Ethnohistoric Village Placement Locations	Stone, David and Robert Sheets	1993	Outside
2950	Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project	Peak & Associates, Inc.	1992	Outside
3131	Archaeological Assessment of Evans Ranch	Toren, George A. and Frederick L. Bruier	1976	Outside
3189	Assessment of the Archaeological Impact by the Development of Property Tracts Number 32630 and 32599	Romani, John F.	1976	Outside
3301	Archaeological Assessment Santa Susana Pass Road Realignment California West Development Chatsworth, California	Scientific Resource Surveys, Inc.	1989	Outside
3405	Field Archaeology 1971 CA-LAN-357	Otte, Jim	1971	Outside
3406	LAN-357; Chatsworth-Walker Site	Gilmore, Jack	1972	Outside
3487	Assessment of the Impact Upon Archaeological Resources by the Development of Units 5,6,10,11,12,13,15,16, and 17 of Porter Ranch	Wessel, Richard L.	1976	Outside
3499	Metropolitan Water District West Valley Project Cultural Resources Technical Report	Eisentraut, Phyllisa	1994	Intersects
3639	Santa Monica Mountains State Park (undeveloped)	King, Thomas F.	1970	Outside
3847	Shamanism and Rock Art in Far Western North America	Whitley, David S.	1992	Outside
3974	Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility LA 172-01, 11200 De Soto Avenue, Chatsworth, City and County of Los Angeles, California	McLean, Deborah K.	1998	Intersects
4124	Semester Report for Anthropology 7	Barajas, Luisa	1972	Outside
4137	Five Prehistoric Archeological Sites in Los Angeles County, California	Walker, Edwin Francis	1998	Outside
5530	Cultural Resource Assessment for AT&T Wireless Services Facility Number C946.1, County of Los Angeles, CA	Duke, Curt	2000	Outside
5856	Phase I Archaeological Survey of the Chatsworth Ridge Estates Study Area, Los Angeles County, California	W&S Consultants	2000	Outside
6148	Cultural Resources Monitoring and Contractor Cultural Resources Education for Sub Area G-1 (Tract Numbers	Sikes, Nancy E.	2002	Outside

Table 3.3-1.
Previously Cultural Resources Investigations within 0.5 Mile of the APE

SCCIC Report No.	Title	Author	Year	Proximity to APE
	50511-01, 50511-02 and 50512-03) Within Unit 15 of the Porter Ranch Development Project, Los Angeles, California			
6599	Historic Resource Evaluation Report Mason Avenue At-grade Crossing and Safety Improvements Project Los Angeles City, California	Foster, John M.	2002	Outside
6914	Cultural Resources Reconnaissance and Monitoring for Tentative Tract 53783 and Road Cuts 21, 25, and 26 within the Porter Ranch Development Project, Los Angeles, California	Sikes, Nancy E.	2003	Outside
7837	Rock Art of the Santa Monica and the Santa Susana Mountains	Knight, Albert	2001	Outside
8255	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	Arrington, Cindy and Nancy Sikes	2006	Outside
8283	Cultural Resources Record Search and Site Visit Results for Royal Street Communications, LLC Candidate LA0021A (Holy Shepard Lutheran Church), 10347 Mason Avenue, Chatsworth, Los Angeles County, California	Bonner, Wayne H.	2007	Outside
8423	Cultural Resources Monitoring for Tentative Tract 50507 and 50510, Parcels within the Porter Ranch Development Project, Chatsworth, Los Angeles County, California	Underbrink, Susan	2007	Outside
8803	Cultural Resources Records Search and Site Visit Results for Cingular Wireless Candidate NI-0177-03 (McDonald's), 20932 Devonshire Street, Chatsworth, Los Angeles County, California	Bonner, Wayne H.	2006	Outside
9061	Cultural Resources Monitoring for Tentative Tract 54153, a Parcel within the Porter Ranch Development Project, Chatsworth, Los Angeles, California	Maxon, Patrick and Jessica DeBusk	2005	Outside
9064	Browns Canyon Rule 20B Overhead Removal Project, Chatsworth-Macneil-Newhall-San Fernando 66kV Line, Los Angeles County	Schmidt, June A.	2005	Outside
9065	DWO 6135-7981, A.I. No. 5-7941: Iverson 2.4 kV Idle Facility Removal, Chatsworth Area, Los Angeles County	Schmidt, James J.	2005	Outside
9071	Field Inventory Report: Assessment for Browns Canyon (CA-8102A) Wireless Facility, 11056 N De Soto Avenue, Chatsworth, Los Angeles County, California	Billat, Scott	2005	Intersects
9297	Re: DWO 6035-4800; A.I. No. A-4809; 4kV, Deteriorated Pole Replacement Project, Los Angeles County	Williams, Audry	2008	Outside
9390	Re: DWO 6335-6783; A.I. No. 6-6746: Big Rock 16 kV: Deer Lake Pole Relocation Project, Chatsworth Area, Los Angeles County	Schmidt, James J.	2006	Outside

Table 3.3-1.
Previously Cultural Resources Investigations within 0.5 Mile of the APE

SCCIC Report No.	Title	Author	Year	Proximity to APE
9869	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV11272D (Golden Oaks), Northridge, Los Angeles County, California	Wayne Bonner	2008	Outside
10637	Rock Art of the Santa Monica Mountains and the Simi Hills	Knight, Albert	1999	Outside
10707	Cultural Resource Records Search and Site Visit Results for T-Mobile USA Candidate SV11941-D (Porter Park and Ride), 11245 North Winnetka Avenue, Los Angeles, California	Bonner, Wayne	2010	Outside
10708	Cultural Resource Records Search and Site Visit Results for T-Mobile USA Candidate SV12271-A (Mason Colo), 10347 Mason Avenue, Chatsworth, Los Angeles County, California	Bonner, Wayne	2010	Outside
10798	A Phase I Archaeological Survey for the Proposed Improvements to 10860 Topanga Canyon Road, City of Chatsworth, Los Angeles County, California	Wlodarski, Rob	2011	Outside
11149	California State University, Northridge, Astronomy and Social Integration: An Examination of Astronomy in a Hunter and Gatherer Society. A thesis submitted in partial satisfaction of the requirements for the degree of Masters of Arts in Anthropology.	Romani, John	1981	Outside
11532	VZW Parker 4239, 11056 N De Soto Avenue Chatsworth, CA	Martorana, Dean	2011	Intersects
11729	Cultural Resources Records Search and Site Visit, LA0612-118FWY/Rinaldi, 11245 Winnetka Avenue, Chatsworth, CA 91311	Johnson, Brent	2011	Outside
12064	Chatsworth Early Residents, Julius Fried	Vincent, Ann	2012	Outside
12065	Chatsworth Past and Present	Vincent, Ray and Ann Vincent	2012	Outside
12386	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate CLV0017 (SBA Faux Water Tower), 20946 Devonshire Street, Chatsworth, Los Angeles County, California	Bonner, Wayne	2013	Outside
12661	Cultural Resource Assessment Class III Inventory, Verizon Wireless Services Andora Facility Community of Chatsworth, City of Los Angeles, Los Angeles County, California	Fulton, Phil	2014	Outside

Source: SCCIC Visit June 29, 2019

LA-02366

One report overlaps the project area. In 1976, Richard L. Wessel prepared a Master Environmental Impact Report for 1,200 acres of undeveloped land within Porter Ranch, located west of Tampa Avenue and north of Rinaldi St. Wessel conducted an archival research, record search, and an archaeological field survey. Wessel concluded that the development would have a direct impact on three archaeological resources within the area and an indirect impact on nearby archaeological resources.

Previously Recorded Cultural Resources

The records search found that 30 previously recorded cultural resources were located within 0.5-mile (1,600 meters) of the project area. None of these resources overlap the project area. Eight of these sites are historic archaeological sites, 21 sites are prehistoric archaeological sites, and one site is a historic built environment resource. None of the sites have been evaluated for the NRHP, and their eligibility status is unknown. Details pertaining to these resources are listed below in Table 3.3-2.

Table 3.3-2.
Previously Recorded Cultural Resources within 1 Mile of the APE

Primary Number (P-19-)	Trinomial (CA-LA-)	Period	NRHP/CRHR Status	Recorded By/Year	Description
21	21	Prehistoric	Unknown	Walker, E.F. 1951	Rock cairns and subsurface deposit
89	89	Prehistoric	Unknown	Chartkoff, K. 1966	Rock shelters and dense scatters of groundstone tools, lithic tools, and lithic debitage
93	93	Prehistoric	Unknown	Singer, C. 1966	Rock shelters (n=2); one with possible midden deposit
209	209	Prehistoric	Unknown	Becker, K. 1990; Hector, S. 1977	Rock shelters and rock art of varying kind; bedrock milling; surface artifacts; and possible midden deposit
357	357	Prehistoric	Unknown	Salls, R. and D. Bleitz, 1990; Singer, C. and J. West 1969	Rock shelters and rock art of varying kind; bedrock milling; surface artifacts; dense midden deposit; cremation remains
649	649	Prehistoric	Unknown	Whitely, D. 2000; Becker, K. 1990; Gates, G. and G. Toren 1974	Scatter of tools and lithic debitage
661	661	Prehistoric	Unknown	Sikes, N. 2003; Toren, A. 1976	Originally recorded as an earth; site not relocated during 2003 survey
664	664	Prehistoric	Unknown	Sikes, N. 2002; Wessel, R. 1976	Scatter of groundstone tools, lithic tools, and lithic debitage over two loci; site destroyed by development as of 2002
668	668	Prehistoric	Unknown	Toren, A. and J. Kleeb 1976	Burial; removed during of sewer line
901	901	Prehistoric	Unknown	Edberg, B. 1978	Rock art
995	995	Prehistoric	Unknown	Van Horn 1979	Rock shelter with lithic scatter
996	996	Prehistoric	Unknown	Van Horn 1979	Rock shelter with lithic scatter
997	997	Prehistoric	Unknown	Van Horn 1979	Rock shelter with lithic scatter
998	998	Prehistoric	Unknown	Van Horn 1979	Lithic scatters (n=2)
1620	1620	Prehistoric	Unknown	Knight, A. 1989	Scatter of groundstone tools, a stone bowl fragment, and lithic tools

Table 3.3-2.
Previously Recorded Cultural Resources within 1 Mile of the APE

Primary Number (P-19-)	Trinomial (CA-LA-)	Period	NRHP/CRHR Status	Recorded By/Year	Description
1740	1740	Historic Built Environment	Unknown	Becker, K. 1990	Bridge crossing Devil Canyon
1741	1741	Historic	Unknown	Dice, M. 2014; Whitley, D. 2000; Becker, K 1990	Remnants of a 1920s residential property
1742	1741	Historic	Unknown	Whitley, D. 2000; Becker, K 1990	Remnants of a 1920s residential property
1743	1743	Prehistoric	Unknown	Whitley, D. 2000; Becker, K 1990	Sparse scatter of lithic debitage
1744	1744	Prehistoric	Unknown	Whitley, D. 2000; Becker, K 1990	Sparse scatter of lithic tools
1745	1745	Prehistoric	Unknown	Whitley, D. 2000; Becker, K 1990	Sparse scatter of groundstone and lithic tools and lithic debitage
2826	2826	Prehistoric	Unknown	Simon, J. 2000	Quarry and lithic scatter
2827	2827	Prehistoric	Unknown	Simon, J. 2000	Quarry and lithic scatter
3792	3792	Prehistoric	Unknown	Schmidt, J. and J. Schmidt 2006	Quarry and lithic scatter
4425	—	Historic	Unknown	Dice, M. 2014	Remnants of a 1940s residential property
4426	—	Historic	Unknown	Dice, M. 2014	Remnants of a 1920s residential property
150430	—	Historic	Unknown	Edberg, B. 1978	Remnants of an early 1900s residential property
150431	—	Historic	Unknown	Edberg, B. 1978	Remnants of an early 1900s residential property
150432	—	Historic	Unknown	Edberg, B. 1978	Remnants of an early 1900s residential property
150433	—	Historic	Unknown	Edberg, B. 1978	Remnants of an early 1900s residential property

Source: SCCIC Visit June 29, 2019

The Chatsworth Momonga/Mission Trail

Although not identified as part of the original CHRIS records search, the Chatsworth Momonga/Mission Trail is a locally designated historical resource that traverses the northern portion of the project area. The Trail begins at the intersection of De Soto Avenue and Rinaldi Street and ends at Limekiln Canyon Trail, 250 feet west of Tampa Avenue. It passes through 23 parcels of mostly vacant land. The trail is on a flat, even grade with a slight incline at the beginning of the trail and a slight decline at the end. On November 15, 2018, the trail was officially designated as a City of Los Angeles Historic-Cultural Monument (HCM) under City Criteria 1, based on the following summarized statement of significance:

> The Chatsworth Momonga/Mission Trail "reflects the broad cultural, economic, or social history of the nation, state, or community" for its pre-Spanish settlement use as a route between the Native American villages of Achoicominga and Momonga, and for its association with the historic network of trails that connected the San Fernando and Ventura Missions during California's Mission Period (1769-1833).

Relative to the project APE, the Trail begins just south of the APE at the northeast corner of Rinaldi Street and De Soto Avenue, defined by a simple metal pipe handrail on either side of the trail. The trail runs along the north side of Rinaldi Street for approximately 300 feet before turning north behind Sierra Canyon High School. The trail then straddles the border between LADWP's property to the east and Sierra Canyon High School to the west. The trail intersects the project APE in an area north of the school parking lot and south of an unpaved parking lot located on APN 2701-003-907 before crossing east over Rinaldi Street out of the project APE.

3.3.1.4 Historical Aerial and Map Overview

A review of historic maps and aerial photographs was conducted as part of the archival research effort for the project. All Sanborn maps for the City of Los Angeles were reviewed, and the project area was not included on any of the maps. No Sanborn maps were available for the town of Chatsworth or Chatsworth Park, California.

Historic aerial photographs were reviewed for the project site from the following years: 1930, 1938, 1944, 1945, 1947, 1952, 1956, 1959, 1960, 1965, 1967, 1969, 1971, 1974, 1976, 1977, 1980, 1981, 1994, 2003, 2005, 2009, 2010, 2012, and 2014. Historical topographical maps were reviewed for the project site for the following years: 1903, 1908, 1916, 1924, 1928, 1929, 1930, 1932, 1939, 1941, 1943, 1948, 1953, 1958, 1964, 1965, 1967, 1970, 1980, 1984, 1992, and 2012 (AMI 1974, 1981; Aeroflex Corp 1959; FAS 1930, 1939, 1944, 1956, 1960, 1965; Laval 1938; NETR 2018a, 2018b; Pacific Air 1952; Teledyne 1971, 1976; USGS 1994).

Prior to its in-service date of 1941, the project area appears on three aerial photographs from 1930, 1938, and 1939. In all three of these photographs, the project area appears as undeveloped land, surrounded by agricultural fields to the south and east, a wide watercourse/streambed to the west, and the foothills of the Santa Susana Mountains to the north (FAS 1930, 1939; Laval 1938).

The De Soto Reservoir first appears in the 1944 aerial photograph. The reservoir is visibly filled, and a short ramp leading from the paved around the reservoir enters on the northwest side. Immediately east of the reservoir are three residential properties and their respective outbuildings. The western-most of these is the De Soto Reservoir caretaker's building, according to plan drawings for the area. Orchards and windbreaks on the west, south and east sides surround the De Soto Reservoir property. North of the De Soto Reservoir property are the as-yet undeveloped Santa Susana Foothills (FAS 1944).

The subject property and surrounding buildings and orchards appear relatively unchanged in the 1952, 1956, 1959, 1960, 1965, 1967, and 1969 aerial photographs. Small residential subdivisions begin to appear southwest of the subject property in 1965 along the Brown's Creek flood control channel. In the 1971 aerial photograph, the orchards south of the subject property (south of Tulsa Street) appear to have been demolished and in the next available photograph from 1974, we can see that they are replaced by single-family residential properties. The orchards south of the subject property and Tulsa Street/the northern boundary of the residential subdivision also disappear in the 1974 aerial. In the 1976 aerial, the western portion of State Route 118 (Ronald Reagan Freeway) appears west of the subject property and the boundaries of Chatsworth seem to have reached north uniformly to the foothills of the Santa Susana Mountains. At this time, there are only a few city blocks left that appear as agricultural fields, and the majority of the lands surrounding the De Soto Reservoir appears to be residential (AMI 1974; Aeroflex Corp. 1959; FAS 1956, 1960, 1965; NETR 2018a, 2018b; Pacific Air 1952; Teledyne 1971, 1976).

In the 1981 aerial photograph, one of the three residential properties east of De Soto Reservoir was removed. In the 1982 aerial photograph, the area immediately southeast of the subject property appears to have had its vegetation cleared. Sometime between 1982 and the 1994 aerial photograph, the caretaker's house east of the reservoir is demolished, leaving only one large residential property east of the site, apparently unrelated to the function of the reservoir. Between the 2005 and 2009 aerial photographs, the last residential building east of the reservoir is removed, and Rinaldi Street, a six-lane, winding, diagonal street that cuts northeast from De Soto Avenue to State Route 118 appears, as does the Sierra Canyon School Upper Campus building. Two single-family residence lots also appear on the north side of Rinaldi Street.

3.3.1.5 Building Development Research

Resources consulted, other than historic maps and aerial photographs are listed below.

Los Angeles Public Library

Dudek visited Los Angeles Central Library on May 7, 2018. Dudek referenced the San Fernando Valley and Chatsworth history sections, and the USACE history sections for site information. In addition, Dudek staff reviewed a number of online resources available through the Los Angeles Public Library. These tools include accessing online Sanborn Maps, online LADWP photo collections, online historical photograph collections, and online historical newspaper collections, which were all used in the preparation of the historic context (Section 3).

LADWP Photograph Collection

Dudek contacted Angela Tatum, archivist for the Department of Water and Power Photograph Collection, hosted online by the Los Angeles Public Library on May 3, 2018. On May 17, 2018, Ms. Tatum responded that the LADWP Collection had no photographs or ephemera related to the De Soto Reservoir. Ms. Tatum forwarded the research request to Dr. Paul Soifer and to the LADWP Water Engineering Section.

LADWP Records Center

Dudek contacted Paul Soifer, PhD, the Consulting Historian for the Department of Water and Power, on May 3, 2018. On May 17, 2018, Dr. Soifer responded that mention of the De Soto Reservoir among annual reports or copies of employee magazine Intake. Dr. Soifer noted that mention of the De Soto Reservoir was surprisingly absent from annual reports, which cover yearly projects of all scales, as well as U.S. Army Corps of Engineers and Works Progress Administration (WPA) projects. On May 30, 2018, Ms. Kaiser met with Dr. Soifer at the Record Center and went through the LADWP Closed File collection, which had information including correspondence, photographs, and descriptions of alterations and change orders for the De Soto Reservoir.

Los Angeles Department of Buildings and Safety

Dudek used the Los Angeles Department of Building and Safety online building records search on May 3, 2018, to obtain building permits and establish a building chronology and alteration chronology that were used in the preparation of the historical context (Section 3) and significance evaluations (Section 6).

3.3.2 Relevant Plans, Policies, and Ordinances

3.3.2.1 Federal

National Historic Preservation Act (NHPA)

The NHPA established the National Register of Historic Places (NRHP) and the President's Advisory Council on Historic Preservation (ACHP), and provided that states may establish State Historic Preservation Officers (SHPOs) to carry out some of the functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs that

> [t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP.

Section 106 also affords the ACHP a reasonable opportunity to comment on the undertaking (16 USC 470f).

36 Code of Federal Regulations, Part 800 (36 CFR 800) implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Native American tribes to identify resources with important cultural values; to determine whether or not they may be adversely affected by a proposed undertaking; and the process for eliminating, reducing, or mitigating the adverse effects.

The content of 36 CFR 60.4 defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for historic significance in consultation with the ACHP and the California SHPO to determine if the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association.

Regarding criteria A through D of Section 106, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, cultural resources, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

A. Are associated with events that have made a significant contribution to the broad patterns of our history; or
B. Are associated with the lives of persons significant in our past; or
C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. Have yielded or may be likely to yield, information important in prehistory or history [36 CFR 60.4].

3.3.2.2 State

California Register of Historical Resources

In California, the term "historical resource" includes "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1(j)). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

(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 values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource younger than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see California Code of Regulations, Title 14, Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource"; it also defines the circumstances when a project would materially impair the significance of an historical resource.
- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for the purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project does any of the following (CEQA Guidelines Section 15064.5(b)(2)):

1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any historical resources, then evaluates whether that project would cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2(a), (b), and (c)).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC Sections 21074(c) and 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.Body text.

California Health and Safety Code

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains can occur until the County Coroner has examined the remains (Health and Safety Code Section 7050.5b). PRC Section 5097.98 outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the Native American Heritage Commission (NAHC) within 24 hours (Health and Safety Code Section 7050.5c). The NAHC would notify the most likely descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

3.3.2.3 Local

Los Angeles Historic-Cultural Monuments

Local landmarks in the City of Los Angeles are known as Historic-Cultural Monuments (HCMs) and are under the aegis of the Planning Department, Office of Historic Resources. They are defined in the Cultural Heritage Ordinance as follows (Los Angeles Municipal Code Section 22.171.7, added by Ordinance No. 178,402, effective April 2, 2007):

> Historic-Cultural Monument (Monument) is any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified; or which is identified with historic personages or with important events in the main currents of national, State or local history; or which embodies the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style or method of construction; or a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

For the purposes of SurveyLA, this definition has been broken down into the following four HCM designation criteria that closely parallel the existing NRHP and CRHR criteria:

1. Is identified with important events in the main currents of national, State or local history, or exemplifies significant contributions to the broad cultural, political, economic or social history of the nation, state, city, or community; or
2. Is associated with the lives of Historic Personages important to national, state, city, or local history; or

3. Embodies the distinctive characteristics of a style, type, period, or method of construction; or represents a notable work of a master designer, builder or architect whose genius influenced his or her age; or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the pre-history or history of the nation, state, city or community.

Historic Preservation Overlay Zones

As described by the City of Los Angeles Office of Historic Resources, the Historic Preservation Overlay Zone (HPOZ) Ordinance was adopted in 1979 and amended in 2004 to identify and protect neighborhoods with distinct architectural and cultural resources. HPOZs, commonly known as historic districts, provide for review of proposed exterior alterations and additions to historic properties within designated districts.

Regarding HPOZ eligibility, City of Los Angeles Ordinance Number 175891 states (Los Angeles Municipal Code, Section 12.20.3):

> Features designated as contributing shall meet one or more of the following criteria:
>
> 1. adds to the Historic architectural qualities or Historic associations for which a property is significant because it was present during the period of significance, and possesses Historic integrity reflecting its character at that time; or
> 2. owing to its unique location or singular physical characteristics, represents an established feature of the neighborhood, community or city; or
> 3. retaining the building, structure, Landscaping, or Natural Feature, would contribute to the preservation and protection of an Historic place or area of Historic interest in the City.

Regarding effects on federal and locally significant properties, Los Angeles Municipal Code states the following (Section 91.106.4.5, Permits for Historical and Cultural Buildings):

The department shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated, or has been determined by state or federal action to be eligible for designation, on the National Register of Historic Places, or has been included on the City of Los Angeles list of historic cultural monuments, without the department having first determined whether the demolition, alteration or removal may result in the loss of or serious damage to a significant historical or cultural asset. If the department determines that such loss or damage may occur, the applicant shall file an application and pay all fees for the California Environmental Quality Act Initial Study and Check List, as specified in Section 19.05 of the Los Angeles Municipal Code. If the Initial Study and Check List identifies the historical or cultural asset as significant, the permit shall not be issued without the department first finding that specific economic, social or other considerations make infeasible the preservation of the building or structure.

3.3.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to cultural resources are based on Appendix G of the 2019 CEQA Guidelines. According to Appendix G of the 2019 CEQA Guidelines, a significant impact related to cultural resources would occur if the project would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
3. Disturb any human remains, including those interred outside of dedicated cemeteries.

3.3.4 Methodology

The analysis of impacts on cultural resources is based on the *Historic Properties Identification Report for the De Soto Tanks Project* technical report (Appendix D), prepared by Dudek in October 2018 and revised in September 2019. The Cultural Resources Report describes results of the CHRIS records search of the project site and a 1-mile radius, coordination with the NAHC and local tribes/groups, building development and archival research, recordation and evaluation of several buildings on the project site over 45 years of age, and an assessment of project-related impacts to historical resources in conformance with CEQA and all applicable local municipal code and planning documents.

Research of the project site and surrounding area was conducted to determine the possibility of cultural and historic resources on-site. The following sources were consulted: historic aerial photographs, historic topographical maps, resources held by the Los Angeles Public Library, the LADWP photograph collection help by the LAPL, the LADWP Records Center, and the Los Angeles Department of Building and Safety records. Building dates along De Soto Avenue were checked using assessor data from the Zoning Information and Map Access System (ZIMAS); however, since all parcels were outside of the APE, they were not surveyed or evaluated for this project.

Dudek Archaeologist Elizabeth Denniston, MA, conducted the intensive-level pedestrian survey of the project area on March 14, 2018. The intensive-level survey methods consisted of a pedestrian survey the parcel (APN 2706007901), in 15 meter transects. All fieldwork was documented using field notes, a digital camera, and iPad technology with close-scale field maps, and aerial photographs. All field notes, photographs, and records related to the current study are on file at Dudek's Pasadena, California, office.

3.3.5 Impact Analysis

Threshold CUL-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

As discussed in the Section 3.3.1 above, context, map and aerial photograph review, and the results of the SCCIC records search identified 30 previously recorded cultural resources were located within 0.5-mile of the project area, but did not identify any additional known historical resources on the Project Site. One historical resource was identified within the project APE, as a result of an updated SCCIC records search which was conducted after October 2018. On November 15, 2018, the Chatsworth Momonga/Mission Trail was officially designated as a City of Los Angeles Historic-Cultural Monument (HCM) under City Criteria 1. The Chatsworth Momonga/Mission Trail, a locally designated historical resource, traverses the northern portion of the project area. The trail travels in between LADWP's property to the east and Sierra Canyon High School to the west, and intersects the project APE in an area north of the school parking lot and south of an unpaved lot located on APN 2701-003-907.

The De Soto Reservoir property and associated structures proposed for demolition as part of the proposed Project were recorded and evaluated for historical significance in consideration of NRHP, CRHR, and City of Los Angeles HCM designation criteria. As a result of the evaluations, all buildings proposed for demolition were found not eligible for designation under all applicable national, state, and local designation criteria and integrity requirements. Below are statements of significance for each building or structure and a discussion of indirect impacts to adjacent historical resources.

Description of Surveyed Resources

De Soto Reservoir (1941)

The De Soto Reservoir was constructed and went into service in 1941 and is approximately 45,000-square feet. The reservoir sits in a graded hillside at the northwest corner of De Soto Avenue and Rinaldi Street. Access to the reservoir is through a paved road that can be entered from De Soto Avenue and runs east through the graded area. The access road has a spur that turns south then east again and runs along the periphery of the pear-shaped De Soto Reservoir. At its maximum width the reservoir is approximately 194 feet (north/south) and approximately 317 feet long (east/west). The construction of the reservoir consists of an oval-shaped concrete base and a metal roof cap, which covers the top and the sides of the reservoir. The metal roof is white and characterized by a series of trapezoidal shaped ridges resembling a folded plate that run roughly north–south along the top and arranged vertically along the sides. There is a hexagonal metal fixture, likely a gutter system, attached to the top of the roof that runs the maximum length of the reservoir. There is a metal ladder and a metal walkway on top of the roof at the southeastern edge of the reservoir, which lead to a utility box and maintenance hole. Along this walkway, there are built-in pipes and equipment related to the maintenance of the reservoir. The periphery of the reservoir is bound by an asphalt road that is lined by a concrete curb with drainages.

Concrete Foundation (1941)

This concrete foundation is located roughly 125 feet northeast of the De Soto Reservoir. According to plans held by LADWP (refer to Figure 9), the foundation was for the toolshed building associated with the original caretaker's house (demolished 2016). The foundation consists of a board-form concrete stem wall, roughly 2 feet high, 6 inches thick an covering a 12 foot by 20 foot space. Rubble and tree slash is piled inside the foundation.

Well (1941)

The well is located approximately 150 feet east of the De Soto Reservoir. According to plans held by LADWP, the well was located midway between the caretaker's house and garage, and was likely for aesthetic purposes. The well rises three feet high, with a 3 foot exterior diameter and 2 foot-6 inch interior diameter. It is constructed of loosely coursed rock rubble masonry and mortared thickly with concrete.

Chlorination Building (1971)

The Chlorination Station building was added to the site in 1971. It is a shed roofed utilitarian structure, with a footprint measuring 26 feet by 16 feet. The building is constructed of concrete masonry unit blocks and features a shed roof clad in rolled composite roofing, with a wide 1-1/2 foot wide overhang. The front elevation faces south to the access road and features only a metal door with no other fenestration. The east and west elevations have nothing, the rear (north) elevation features a small metal vent built into the wall, and utility boxes with a metal awning over the gas meter.

Meteorological Station (circa 1965-1971)

The meteorological station was built over the area marked on the 1941 plans as "diversion structure." The station is inside a chain link fenced and is still located atop a diversion structure that appeared inoperable at the time if visit. Inside the chain link fence there is a board covered channel; a metal, gable-roofed housing for a pump or diesel engine; a board formed concrete structure with mesh screens on one side; a raised, concrete maintenance hole, with a metal disc-style cover; and a metal pole structure of unknown use; all of which is set inside a board formed concrete retaining wall, with two steps on the northeast side, roughly 2 feet high and topped with chain link fence.

NRHP/CRHR Statement of Significance

In consideration of the proposed project site's history and requisite integrity, De Soto Reservoir property at 11200 De Soto Avenue (AIN 2706007901) is recommended not eligible for listing in the NRHP, CRHR, or as a City of Los Angeles HCM based on the following significance evaluation.

NRHP Criterion A/CRHR Criterion 1: associated with events that have made a significant contribution to the broad patterns of our history.

The De Soto Reservoir property (reservoir and associated structures) are part of a larger water system that originally serviced a primarily agricultural community at Chatsworth from 1941 onward. The reservoir itself changed functions from active municipal supply to water reserves, and has been altered several times to accommodate the residential and industrial growth of Chatsworth. The changes, however, are symptomatic of other regional and local change, rather than the cause or leading force for them. The De Soto Reservoir property is one of many water resources that LADWP and Chatsworth have utilized to meet their water needs over the years. It is neither the first such designed resource, nor is it directly associated with any of the major constructive periods by LADWP in the area (1917-1918 or 1930), nor is it directly associated with the historical trends responsible for the mid-century growth of Chatsworth: such as the manufacturing industry in the area such as Lockheed, Rocketdyne, Litton Systems, Ramo-Woolridge, RCA, Marquardt, and Radioplane, or the military-industrial site at Brown's Canyon (Nike Missile Base LA-88). The De Soto Reservoir property, then, is not associated with specific, distinguishable periods of growth or historical events that have resulted in a significant contribution to the history of Los Angeles, California, or the nation. Therefore, the subject property does not appear eligible under NRHP/CRHR Criteria A/1.

NRHP Criterion B/CRHR Criterion 2: associated with the lives of significant persons in our past.

Archival research on the De Soto Reservoir property failed to reveal associations with any persons significant in the history of Los Angeles, the state, or the nation. Therefore, the De Soto Reservoir property does not appear eligible under NRHP/CRHR Criteria B/2.

NRHP Criterion C/CRHR Criterion 3: embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The De Soto Reservoir property is composed of several structures which exhibit utilitarian engineering, focused around a small-scale reservoir meant to supply water via trunk lines to both agricultural-based and residential recipients. The LADWP engineers who designed De Soto Reservoir pioneered a new construction and surface-finishing system that involved rolling the four-inch asphaltic concrete lining on the reservoir's steep slopes via a tractor with a roller and hoisting drum attachment, according to an engineering periodical. Despite the enthusiastic response the *Engineering News-Record*, the construction method resulted in a lining failure exposed during its first official cleaning in 1945. Since then, repairs and additional equipment have been used to supplement to operation of the reservoir, indicating that the construction method, while novel, was not repeated due to its impracticality. The original construction method was obliterated in 1948, just a few years after it had been placed into service, when LADWP made repairs to the structure to prevent further leaking and settling. The De Soto Reservoir was covered, further altering the original design, between 1982 and 1988. Around the remainder of the property built components were demolished in 2016 and 1971 (caretaker's house, garage, tool shed), as well as added in the late 1960s and 1971 (meteorological station, chlorination building). Minor components of the original caretakers house remain (well and tool shed foundation), but not enough to convey function or historical association. The reservoir itself does not embody any distinctive characteristics of a type, period, or method of construction that persists through the present unaltered. There are little inherent artistic or designed values associated with the concrete reservoir. Archival research could not directly connect the De Soto Reservoir to a master architect, engineer, or craftsperson. As-built plans provided did not specify the designer of the reservoir or associated buildings and structure beyond "DWP." For all of the reasons described herein, the subject property does not appear eligible under NRHP/CRHR Criteria C/3.

NRHP Criterion D/CRHR Criterion 4: have yielded, or may be likely to yield, information important in history or prehistory.

There is no evidence to indicate that the De Soto Reservoir property is likely to yield any information important in prehistory or history. The subject property is also not associated with an archaeological site or a known subsurface cultural component. Therefore, the subject property does not appear eligible under NRHP/CRHR Criteria D/4.

Integrity Discussion

The De Soto Reservoir property appears to retain integrity of location and association only. Integrity of setting, design, materials, workmanship, and feeling are diminished through the numerous changes to the reservoir itself, the demolition and addition of modern buildings, its immediate setting on LADWP land, and its overall setting in Chatsworth. The integrity of setting, on a large LADWP tract with a caretaker's house and associated buildings, in a general setting in an non-urbanized agricultural area, is no longer extant, destroyed by residential subdivision development, the introduction of the Sierra School, and the SR 118 highway. Design, materials, and workmanship have been greatly diminished by the multiple repairs and the covering of the reservoir between 1982 and 1988. Further, the design intent of the De Soto Reservoir changed from a terminal reservoir to a tie-in for multiple trunk lines as early as the 1950s. The reservoir no longer retains integrity of feeling. It can no longer convey the feeling of an open-air reservoir with a LADWP on-site caretaker due to the deconstruction or alterations to the reservoir site over time. The site retains integrity of association with its original owner LADWP and their engineering and drafting team, as well as integrity of location as the reservoir itself has never been moved or enlarged.

City of Los Angeles HCM Criteria

For the same reasons already discussed in application of NRHP and CRHR criteria, the De Soto Reservoir property does not appear eligible under any of the City of Los Angeles HCM criteria, as described below:

- *The broad cultural, political, economic, or social history of the nation, state, or community is reflected or exemplified:*

  As state in Criterion A/1 above, the De Soto Reservoir property is not associated with any broader cultural, political, economic, or social history of the United States, the state of California, the city of Los Angeles or the neighborhood of Chatsworth. The reservoir is part of a larger context of water supply to the entirety of the City of Los Angeles and supported towns and communities in the surrounding region including San Fernando Valley. Individually, the reservoir and associated structures hold little a minor role in the broader history of water supply.

- *Identified with historic personages or with important events in the main currents of national, state, or local history:*

  As stated in Criterion B/2, archival research on the De Soto Reservoir property failed to reveal associations with any persons significant in the history of Los Angeles, the state, or the nation. Additionally, no specific important events were identified that can be connected with the main currents of local, state, or national history.

- *Embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period, style, or method of construction:*

  As stated in Criterion C/3, the De Soto Reservoir property is a concrete reservoir and associated structures and outbuildings. It had been constructed simply, lacking distinctive characteristics of a period, or style. The method of construction for the reservoir, using the tractor with roller attached to a hoisting arm to compact the reservoir surface before pouring the concrete liner was recorded as innovative for the time, however, subsequent alterations to the reservoir after the reservoir settled and leaked have damaged the integrity of this construction method. The other structures and buildings are unremarkable and lack architectural value.

- *A notable work of a master builder, designer, or architect whose individual genius influenced his or her age:*

  Also stated in Criterion C/3, archival research did not reveal master builders, designers, or architects with any degree of influence over their peers or time period associated with the De Soto Reservoir property.

After thorough consideration of NRHP, CRHR, and City of Los Angeles HCM evaluation criteria, the De Soto Reservoir does not appear eligible for either national, state, or local listing. Therefore, the De Soto Reservoir does not appear to be an historical resource for the purposes of CEQA or an historic property for the purposes of Section 106 of the NHPA. Impacts would be less than significant.

Indirect Impacts

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (PRC section 21084.1; CEQA Guidelines section 15064.5(b)). One historical resource was identified within the project APE: the Chatsworth Momonga/Mission Trail, a locally designated historical resource that traverses the northern portion of the project area. The trail travels in between LADWP's property to the east and Sierra Canyon High School to the west, and intersects the project APE in an area north of the school parking lot and south of an unpaved lot located on APN 2701-003-907.

LADWP has committed to avoiding this resource, such that it would not be impacted by any proposed project-related activities. Construction of the new concrete tanks, access road, pipelines, and associated infrastructure would occur approximately 60 feet away from the intersecting portion of the trail. Likewise, demolition of the existing reservoir would occur approximately 75 feet away from the adjacent portion of the trail that straddles the APE. Further, the trail would remain open to the public during all construction and demolition activities. In consideration of potential impacts to the trail's historic setting, the trail traverses through an area that has seen extensive development in recent years, such that most of its original historic setting within the overlapping portions of the APE has already been lost. Construction of the SR 118 Freeway, adjacent housing, high school, and existing water infrastructure have already impacted the historic setting of the trail in this segment. The demolition of the existing tanks and construction of new tanks would not significantly alter the already compromised setting of the trail. Therefore, no historical resources would be significantly impacted by the project impacts would be less than significant.

Threshold CUL-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

As previously mentioned, a CHRIS records search was conducted at the SCCIC of the project APE and a 0.5-mile radius. No newly or previously recorded archaeological resources were identified within the APE. Additionally, the results of the NAHC Sacred Lands File review received July 28, 2017, did not result in the identification of any cultural resources in the APE. Although the project proposes to conduct ground-disturbance within a highly disturbed APE, the construction of the De Soto Tanks and pump station would include excavations of up to 50 feet below existing grade. Additionally, the project would include approximately 450 linear-feet of new 66-inch-diameter and 3,200 linear-feet of new 54-inch-diameter outlet pipeline that would connect to De Soto Trunk Line. Given that the APE is within 0.5-miles of previously recorded archaeological resources, it is possible that previously undiscovered intact archaeological deposits may be present at subsurface levels and could be uncovered during ground-disturbing activities thereby resulting in a potentially significant impact. As such, mitigation measure MM-CUL-1 is provided to address potentially significant impacts to unanticipated archaeological discoveries during construction. Impacts related to archaeological resources would therefore be less than significant with mitigation incorporated.

Threshold CUL-3: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

No prehistoric or historic burials were identified within the project APE as a result of the records search. However, the possibility of encountering human remains within the APE exists. The discovery of human remains would require handling in accordance with California Public Resources Code 5097.98, which states that in the event that human remains are discovered during construction, construction activity shall be halted and the area shall be protected until consultation and treatment can occur as prescribed by law. In the unexpected event that human remains are unearthed during construction activities, impacts would be potentially significant. However, upon implementation of MM-CUL-2, impacts would be reduced to below a level of significance. Impacts to human remains are therefore less than significant with mitigation incorporated.

3.3.6 Mitigation Measure(s)

Given the above analysis, impacts the historical resources would be **less than significant** and no mitigation measures are required.

The following mitigation measures for unanticipated discoveries would reduce impacts to historical and archaeological resources, including human remains, to a less than significant level.

MM-CUL-1. Unanticipated Discovery of Cultural Resources
In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find, the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under the California Environmental Quality Act or Section 106 of the National Historic Preservation Act, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.

MM-CUL-2. Unanticipated Discovery of Human Remains
In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descent (MLD) from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

3.3.7 Level of Significance After Mitigation

Impacts to the Chatsworth Momonga/Mission Trail would be prevented, provided LADWP commits to avoidance of the resource. Implementation of the above mitigation measures would provide for the protection of unanticipated archaeological discoveries or human remains, if such resources are discovered during the course of the extensive excavation. Mitigation measures, applied as needed, will reduce potential impacts to below a level of significance.

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3.4 Greenhouse Gas Emissions

This section describes the existing setting of the project site related to greenhouse gas (GHG) emissions and climate change, identifies relevant framework requirements, and evaluates potential impacts of the De Soto Tanks and Pump Station Project (proposed project or project).

No GHG emissions related comments were received in response to the Notice of Preparation (see Appendix A) prepared in November 2017.

Information contained in this section is based on proposed project plans, the California Emissions Estimator Model (CalEEMod) (used to estimate project emissions), the traffic analysis as provided in Section 3.7, and the SCAQMD *Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold* (SCAQMD 2008). Other sources consulted are listed in Section 3.4.8, References Cited.

3.4.1 Existing Conditions

3.4.1.1 Climate Change Overview

Climate change refers to any significant change in measures of Earth's climate, such as temperature, precipitation, and wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human-caused, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process, as follows: Short-wave radiation emitted by the sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and greenhouse gases (GHGs) in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales, and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century, and is the most significant driver of observed climate change (EPA 2017a; IPCC 2013). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 3.4.1.5, Potential Effects of Climate Change.

3.4.1.2 Greenhouse Gases

A greenhouse gas is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g) for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also California Environmental Quality Act (CEQA) Guidelines Section 15364.5).[1] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[2]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities, and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are the combustion of fuels such as coal, oil, natural gas, and wood, and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

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1 Climate-forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in California Health and Safety Code Section 38505, so impacts associated with other climate-forcing substances are not evaluated herein.

2 The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change's (IPCC) Second Assessment Report (1995), IPCC's Fourth Assessment Report (2007), California Air Resources Board's "Glossary of Terms Used in GHG Inventories" (CARB 2018), and U.S. Environmental Protection Agency's "Glossary of Climate Change Terms" (EPA 2016).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are powerful synthetic GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbons (CFCs), hydrochlorofluorocarbon (HCFCs), and halons). The most prevalent fluorinated gases are the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances for many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat-panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric ozone.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is short-lived and varies spatially, which makes it difficult to quantify its global warming potential. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. Because of the California Air Resources Board's (CARB) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California were reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere, and maintains a climate that is necessary for life.

Ozone. Tropospheric ozone, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric ozone, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric ozone due to chemical reactions that may be enhanced by climate change results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat, and can cool the atmosphere by reflecting light.

3.4.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo (i.e., the reflection of radiation)) (EPA 2016a). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of carbon dioxide equivalent (CO_2e).

The current version of the CalEEMod (Version 2016.3.2) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the proposed project.

3.4.1.4 Sources of GHG Emissions

Global Inventory

Anthropogenic GHG emissions worldwide in 2016 (the most recent year for which data is available) totaled approximately 49,300 million metric tons (MMT) of CO_2e, excluding land use change and forestry (PBL 2017). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65% of the total global emissions, or approximately 32,255 MMT CO_2e (PBL 2017). Table 3.4-1 presents the top GHG-emissions-producing countries.

Table 3.4-1
Six Top Greenhouse Gas Producer Countries and the European Union

Emitting Countries (listed in order of emissions)	Greenhouse Gas Emissions (MMT CO_2e)
China	13,010
United States	6,430
European Union	4,430
India	3,650
Russian Federation	2,220
Japan	1,400
Brazil	1,115
Total	32,255

Source: PBL 2017.
Note: MMT CO_2e = million metric tons of carbon dioxide equivalent.

National and State Inventories

Per the U.S. Environmental Protection Agency's (EPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2017 (EPA 2019), total U.S. GHG emissions were approximately 6,457 MMT CO_2e in 2017. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 81.6% of total GHG emissions (6,457 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.2% of CO_2 emissions in 2017 (4,912 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2017 are higher by 1.3%, down from a high of 15.7% above 1990 levels in 2007. GHG emissions decreased from 2016 to 2017 by 0.5% (36 MMT CO_2e), and, overall, net emissions in 2016 were 13% below 2005 levels (EPA 2019).

According to California's 2000–2017 GHG emissions inventory (2019 edition), California emitted 424.09 MMT CO_2e in 2017, including emissions resulting from out-of-state electrical generation (CARB 2019). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high GWP substances, and recycling and waste. The California GHG emissions source categories (as defined in CARB's 2008 Climate Change Scoping Plan: A Framework for Change (Scoping Plan) (CARB 2008)) and their relative contributions in 2017 are presented in Table 3.4-2.

Table 3.4-2
Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total[a]
Transportation	169.86	40%
Industrial uses[b]	89.40	21%
Electricity generation[c]	62.39	15%
Residential and commercial uses	41.14	10%
Agriculture	32.42	8%
High GWP substances	19.99	5%

Table 3.4-2
Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions ($MMT\ CO_2e$)	Percent of Total[a]
Recycling and waste	8.89	2%
Totals	424.09	100%

Source: CARB 2018.
Notes: GHG = greenhouse gas; $MMT\ CO_2e$ = million metric tons of carbon dioxide equivalent; GWP = global warming potential.
Emissions reflect 2017 California GHG inventory.
a Percentage of total has been rounded and total may not sum due to rounding.
b Includes emissions associated with imported electricity, which account for 23.94 $MMT\ CO_2e$.

Between 2000 and 2017, per capita GHG emissions in California have dropped from a peak of 14.1 MT per person in 2001 to 10.7 MT per person in 2017, representing a 24% decrease. In addition, total GHG emissions in 2017 were approximately 5 $MMT\ CO_2e$ less than 2016 emissions. The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that California will continue to reduce emissions below the 2020 target of 431 $MT\ CO_2e$ (CARB 2019).

3.4.1.5 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 Intergovernmental Panel on Climate Change Synthesis Report (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a 0.2°C (0.36°F) rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of approximately 0.2°C per decade is projected, and there are identifiable signs that global warming could take place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights. Shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year. Sea levels have risen, and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by approximately 1.7°F from 1895 to 2011, with warming the greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline in the Sierra Nevada snowpack, which accounts for approximately half of the surface water storage in California, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers, with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid- to late 21st century in central, and most notably, Southern California. By the late century, all projections show drying, and half of them suggest that 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in the Safeguarding California: Reducing Climate Risk (CNRA 2014), is provided below.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated (CNRA 2014).

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shifts, and novel combinations of species; pathogens, parasites, and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss can be recouped). Habitat restoration, conservation, and resource management across California and through collaborative efforts among public, private, and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate due to of climate change (CNRA 2014).

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex, integrated system. Specific climate change challenges for the energy sector include temperature rise, fluctuating precipitation patterns, increasing extreme weather events, and sea-level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to feed hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants, since power plant cooling is less efficient at higher ambient temperatures. Increased temperatures will also increase electricity demand associated with air conditioning. Natural gas infrastructure in coastal California is threatened by sea-level rise and extreme storm events (CNRA 2014).

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits such as wildlife habitat, absorption of CO_2, renewable energy, and building materials. The most significant climate-change-related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale vegetation mortality, and, combined with increasing temperatures, have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat, and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes, or quickly occupy areas denuded by fire, insect mortality, or other climate change effects on vegetation (CNRA 2014).

Ocean and Coastal Ecosystems and Resources. Sea-level rise, changing ocean conditions, and other climate-change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems, in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea-level rise, in addition to more frequent and severe coastal storms and erosion, are threatening vital infrastructure such as roads, bridges, power plants, ports, airports, gasoline pipes, and emergency facilities, as well as negatively impacting coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally (CNRA 2014).

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the 21st century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves are likely to increase the risk of mortality due to heat-related illness, and exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health effects that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality (CNRA 2014).

Transportation. Residents of California rely on airports, seaports, public transportation, and an extensive roadway network to gain access to destinations, goods, and services. Although the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Particularly, sea-level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of people and goods, and potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety (CNRA 2014).

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes, and ecosystems, and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, and amount of precipitation; runoff patterns; and the frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during winter. Increased risk of flooding has a variety of public health concerns, including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat (CNRA 2014).

In March 2016, the California Natural Resources Agency released Safeguarding California: Implementation Action Plans, a document that shows how California is acting to convert the recommendations contained in the 2014 Safeguarding California plan into action (CNRA 2016). Additionally, in May 2017, the California Natural Resources Agency released the draft Safeguarding California Plan: 2017 Update, which is a survey of current programmatic responses for climate change, and contains recommendations for further actions (CNRA 2017). The California Natural Resources Agency released its Safeguarding California Plan: 2018 Update in January 2018, which provides a roadmap for state agencies to protect communities, infrastructure, services, and the natural environment from climate change impacts. The 2018 Safeguarding California Plan includes 69 recommendations across 11 sectors and more than 1,000 ongoing actions and next steps developed by scientific and policy experts across 38 state agencies (CNRA 2018). As with previous state adaptation plans, the 2018 Update addresses acceleration of warming across the state; more intense and frequent heat waves; greater riverine flows; accelerating sea-level rise; more intense and frequent drought; more severe and frequent wildfires; more severe storms and extreme weather events; shrinking snowpack and less overall precipitation; and ocean acidification, hypoxia, and warming.

3.4.2 Relevant Plans, Policies, and Ordinances

3.4.2.1 Federal

The following federal regulations pertaining to GHG emissions would apply to the proposed project.

Massachusetts vs. EPA. On April 2, 2007, in *Massachusetts v. EPA*, the Supreme Court directed the EPA Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the federal Clean Air Act. On December 7, 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act. On December 19, 2007, President George W. Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the act would do the following, which would aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
2. Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the previously discussed U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (EPA 2010).

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry-fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks previously described, in 2011, EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018–2027 for certain trailers, and model years 2021–2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

Clean Power Plan and New Source Performance Standards for Electric Generating Units. On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits. Additionally, in March 2017, President Trump directed the EPA Administrator to review the Clean Power Plan in order to determine whether it is consistent with current executive policies concerning GHG emissions, climate change and energy.

Council on Environmental Quality Guidance. On August 5, 2016, the Council on Environmental Quality (CEQ) released final guidance for federal agencies on considering the impacts of GHG emissions in NEPA reviews (CEQ 2016). This guidance supersedes the draft GHG and climate change guidance released by CEQ in 2010 and 2014. The final guidance applies to all proposed federal agency actions, including land and resource management actions. This guidance explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change for the environmental effects of a proposed action. The guidance recommends that agencies quantify a proposed agency action's projected direct and indirect GHG emissions, taking into account available data and GHG quantification tools that are suitable for the proposed agency action. This guidance was withdrawn by the CEQ on April 5, 2017 as published in the Federal Register Volume 82, Number 64, Section 16576 (CEQ 2017).

3.4.2.2 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

EO S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

AB 32 and CARB's Climate Change Scoping Plan. In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emissions limitation, emissions reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for 2020, consistent with the determined 1990 baseline (427 MMT CO_2e). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the Climate Change Scoping Plan: A Framework for Change (Scoping Plan) in accordance with Health and Safety Code Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan are the following (CARB 2008):

- Expanding and strengthening existing energy efficiency programs and building and appliance standards.
- Achieving a statewide renewable energy mix of 33%.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.

- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard.
- Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

In the Scoping Plan, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020 absent GHG-reducing laws and regulations, referred to as "business-as-usual"). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, that no further regulatory action would impact vehicle fuel efficiency, and that building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the Scoping Plan's Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the business-as-usual conditions (CARB 2011). When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS) (12% to 20%) (CPUC 2015), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the business-as-usual conditions.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050" (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014). Those six areas are energy, transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), agriculture, water, waste management, natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal.

CARB's research efforts presented in the First Update indicate that it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement (CARB 2011), CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the business-as-usual conditions (CARB 2014).

On January 20, 2017, CARB released its 2017 Climate Change Scoping Plan Update (Second Update) for public review and comment (CARB 2017). This update presents CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), acknowledges the need for reducing emissions in agriculture, and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the natural and working lands, agriculture, energy, and transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016). When discussing project-level GHG emissions reduction actions and thresholds, the Second Update states, "achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project's GHG emissions to zero does not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA" (CARB 2017b). The Second Update was approved by CARB's Governing Board on December 14, 2017.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050, as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2e. The executive order also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets, make changes to CARB's membership, increase legislative oversight of CARB's climate-change-based activities, and expand dissemination of GHG and other air-quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH_4 and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

EO B-55-18. EO B-55-18 (September 2018) establishes a statewide policy for the state to achieve carbon neutrality no later than 2045 and achieve and maintain net negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the state's GHG emissions. CARB will work with relevant state agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) and revised if necessary (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 standards were approved and adopted by the California Building Standards Commission in December 2018. The 2019 standards will become effective January 1, 2020. The standards would require that all low-rise residential buildings shall have a photovoltaic system meeting the minimum qualification requirements such that annual electrical output is equal to or greater than the dwelling's annual electrical usage. Notably, net energy metering rules limit residential rooftop solar generation to produce no more electricity than the home is expected to consume on an annual basis. Single-family homes built with the 2019 standards will use about 7% less energy due to energy efficiency measures versus those built under the 2016 standards, while new nonresidential buildings will use about 30% less energy.

The California Public Utilities Commission (CPUC), CEC, and CARB previously established a goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013). As most recently defined by the CEC in its 2015 Integrated Energy Policy Report, a ZNE code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric (CEC 2015).

The 2019 Title 24 standards take a significant step towards the state's ZNE goal. However, as explained by the CEC, California's energy landscape has changed since the ZNE target was set. Electricity produced for the grid now comes substantially from renewables, and 60% renewable electricity generation is required by 2030. Further, new net energy metering rules also limit the amount of residential rooftop solar generation to no more electricity production than the home is annually expected to consume.

The 2019 Title 24 standards therefore focus on building energy efficiency and ensuring solar electricity generated on site is used on site. "Looking beyond the 2019 standards, the most important energy characteristic for a building will be that it produces and consumes energy at times that are appropriate and responds to the needs of the grid, which reduces the building's emissions" (CEC 2018). In furtherance of that characteristic, the 2019 standards require that new homes include solar photovoltaic to meet the home's expected annual electric needs, and also encourage demand-responsive technologies including battery storage, heat-pump water heaters, and improving buildings' thermal envelopes through high performance attics, walls, and windows. These smarter homes perform better and affect the grid less, which reduces the buildings' GHG emissions.

Title 24, Part 11. In addition to CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code is commonly referred to as CALGreen, and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality (CALGreen 2016). The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings.
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance.
- 65% of construction and demolition waste must be diverted from landfills.
- Mandatory inspections of energy systems to ensure optimal working efficiency.
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations.
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

The California Public Utilities Commission (CPUC), CEC, and CARB also have a shared, established goal of achieving zero net energy for new construction in California. The key policy timelines are that all new residential construction in California will be zero net energy by 2020, and all new commercial construction in California will be zero net energy by 2030 (CPUC 2013).[3] As most recently defined by CEC in its 2015 Integrated Energy Policy Report, a zero net energy code building is "one where the value of the energy produced by onsite renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's time-dependent valuation metric (CEC 2015).

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1. SB 1 (2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8, California Solar Initiative, that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for homes and businesses within 10 years of adoption, and to place solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "GoSolarCalifornia," was previously titled "Million Solar Roofs."

AB 1470. This bill established the Solar Water Heating and Efficiency Act of 2007. The bill made findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies to reduce natural gas demand. The bill defined several terms for purposes of the act. The bill required the CEC to evaluate the data available from a specified pilot program, and, if it made a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

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[3] It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

AB 1109*.* Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting to reduce electricity consumption by 50% for indoor residential lighting and by 25% for indoor commercial lighting.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (2002) established the RPS program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010.

SB 1368. SB 1368 (2006) requires the CEC to develop and adopt regulations for GHG emissions performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the CPUC. This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

SB X1 2. SB X1 2 (2011) expanded the RPS by establishing that 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

SB 350. SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030, be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030 be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Mobile Sources

AB 1493. In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. In 2009–2012, standards resulted in a reduction of approximately 22% in GHG emissions compared to emissions from the 2002 fleet, and in 2013–2016, standards resulted in a reduction of approximately 30%.

EO S-1-07. Issued on January 18, 2007, EO S-1-07 sets a declining low-carbon fuel standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the low-carbon fuel standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. Carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

SB 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations (MPO) are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), an SCS does not regulate the use of land; supersede the land use authority of cities and counties; or require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In September 2010, CARB adopted the SB 375 targets for the regional MPOs. The targets for the Southern California Association of Governments (SCAG) are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035 below 2005 levels. Achieving these goals through adoption of an SCS is the responsibility of the MPOs. SCAG's RTP/SCS was adopted by the SCAG Regional Council in April 2012. The plan quantified a 9% reduction in emissions per capita by 2020 and a 16% reduction by 2035 (SCAG 2012). On June 4, 2012, the CARB executive officer issued an executive order accepting SCAG's quantification of GHG reductions and the determination that implementation of the SCS would achieve the GHG emissions reduction targets established by CARB. On April 4, 2016, the SCAG Regional Council adopted the 2016

RTP/SCS, which builds on the progress made in the 2012 RTP/SCS. The updated RTP/SCS quantified an 8% reduction in emissions per capita by 2020, an 18% reduction by 2035, and a 21% reduction by 2040 below 2005 levels (SCAG 2016).

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars program, an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single, coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB implemented new emission standards to reduce smog-forming emissions beginning with 2015 model-year vehicles. It is estimated that by 2025, cars will emit 75% less smog-forming pollution than the average new car sold before 2012. To reduce GHG emissions, CARB, in conjunction with the EPA and NHTSA, adopted new GHG standards for model years 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% by 2025. The Zero Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

EO B-16-12. EO B-16-12 (2012) directs state entities under the governor's direction and control to support and facilitate development and distribution of ZEVs. This executive order also sets a long-term target of reaching 1.5 million ZEVs on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this executive order, the governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

AB 1236*.* AB 1236 (2015), as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact on public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provides for appeal of that decision to the planning commission. The bill required local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, to create an expedited and streamlined permitting process for electric vehicle charging stations. Prior to this statutory deadline, in August 2016, the County of Los Angeles Board of Supervisors adopted Ordinance No. 10437 (N.S.) adding a section to the Los Angeles County Code related to the expedited processing of electric-vehicle charging-station permits consistent with AB 1236.

SB 350*.* In 2015, SB 350, the Clean Energy and Pollution Reduction Act, was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see Public Utilities Code Section 740.12).

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (PRC Sections 40000 et seq.), was passed because of the increase in waste stream and decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed of, and jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes will assist the state in reaching the 75% goal by 2020.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the executive order extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The executive order includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increased the requirements for landscape water use efficiency and broadened its applicability to include new development projects with smaller landscape areas.

Other State Regulations and Goals

SB 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resources Agency adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines in the California Code of Regulations (CCR), a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis, or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The CEQA Guidelines require a lead agency to consider the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through implementation of project features or offsite measures. The adopted amendments do not establish a GHG emissions threshold, but allow a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The California Natural Resources Agency also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in CCR Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions, or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: the extent a project may increase or reduce GHG emissions compared to the existing environmental setting; whether project emissions exceed a threshold of significance that the lead agency determines applies to the project; and the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the executive order directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009a), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability to climate change, the report summarizes key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). A draft of the Safeguarding California Plan: 2017 Update was prepared to communicate current and needed actions that state government should take to build climate change resiliency (CNRA 2017).

2015 State of the State Address. In January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals that would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and measures to decrease emissions associated with heating fuels.

2016 State of the State Address. In his January 2016 address, Governor Brown established a statewide goal to bring per-capita GHG emissions down to 2 MT per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding (Under 2 Memorandum of Understanding) to limit global warming to less than 2°C by 2050. The Under 2 Memorandum of Understanding agreement pursues emission reductions of 80% to 95% below

1990 levels by 2050 and/or reach a per-capita annual emissions goal of less than 2 MT by 2050. A total of 187 jurisdictions representing 38 countries and six continents, including California, have signed or endorsed the Under 2 Memorandum of Understanding (Under 2 Coalition 2017).

3.4.2.3 Local

The following local/regional regulations pertaining to GHG emissions would apply to the proposed project.

Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated MPO for the Southern California region, and is the largest MPO in the United States. With respect to air quality planning, GHG emissions, and other regional issues, SCAG prepared the 2016 RTP. Specifically, the 2016 RTP/SCS links the goals of sustaining mobility with the goals of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging all residents affected by socioeconomic, geographic, and commercial limitations to be provided with fair access. Consistent with SB 375 direction, the 2012 and 2016 RTP/SCSs do not require that local general plans, specific plans, or zoning be consistent with SB 375, but provide incentives for consistency for governments and developers. See Section 3.1, Air Quality, of this EIR for additional discussion on SCAG.

City of Los Angeles

As discussed in the general plan, policies pertaining to improving air quality are addressed in air quality element of the general plan. Polices with GHG associated are presented as follows (City of Los Angeles 1992).

Policy 2.1.1: Utilize compressed work weeks and flextime, telecommuting, carpooling, vanpooling, public transit, and improve walking/bicycling related facilities to reduce vehicle trips and/or vehicle miles traveled (VMT) as an employer and encourage the private sector to do the same to reduce work trips and traffic congestion.

Policy 2.1.2: Facilitate and encourage the use of telecommunications (i.e., telecommuting), in both the public and private sectors, to reduce work trips.

Policy 2.2.1: Discourage single-occupant vehicle use through a variety of measures such as market incentive strategies, mode-shift incentives, trip reduction plans and ridesharing subsidies.

Policy 2.2.2: Encourage multi-occupant vehicle travel and discourage single-occupant vehicle travel by instituting parking management policies.

Policy 2.2.3: Minimize the use of single-occupant vehicles associated with special events or in areas and times of high levels of pedestrian activities.

Policy 3.1.1: Implement programs to finance and improve public transit facilities and service.

Policy 3.2.1: Manage traffic congestion during peak hours.

Policy 3.3.1: Implement the best available system management techniques, and transportation management and mobility action plans to improve the efficiency of existing transportation facilities, subject to availability of funding.

Policy 4.2.1: Revise the City's general plan / community plans to achieve a more compact, efficient urban form and to promote more transit-oriented development and mixed-use development.

Policy 4.2.3: Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.

Policy 4.2.5: Emphasize trip reduction, alternative transit, and congestion management measures for discretionary projects.

Policy 5.1.2: Effect a reduction in energy consumption and shift to non-polluting sources of energy in its buildings and operations.

Policy 5.1.4: Reduce energy consumption and associated air emissions by encouraging waste reduction and recycling.

Policy 5.2.1: Reduce emissions from its own vehicles by continuing scheduled maintenance, inspection and vehicle replacement programs; by adhering to the State of California's emission testing and monitoring programs; by using alternative fuel powered vehicles wherever feasible, in accordance with regulatory agencies and City Council policies.

Policy 5.3.1: Support the development and use of equipment powered by electric or low-emitting vehicles.

Sustainable City Plan

In April 2015, the City of Los Angeles's first-ever Sustainable City Plan was released. The plan sets the course for a cleaner environment and a stronger economy, with a commitment to equity as its foundation. The plan is made up of short-term (by 2017) and longer-term (by 2025 and 2035) targets in 14 categories that will advance the City of Los Angeles's environment, economy, and equity (City of Los Angeles 2015). The plan sets GHG emissions reduction targets of 45% by 2025, 60% by 2035, and 80% by 2050, all against a 1990 baseline, and GHG efficiency targets for Los Angeles's economy of improvement by 55% in 2025 and 75% in 2035 from 2009 baseline levels[4] (City of Los Angeles 2015). The first annual Sustainable City Plan report (2015–2016) determined that the City of Los Angeles's emissions are 20% below the 1990 baseline as of 2013, putting the City of Los Angeles nearly halfway to the 2025 plan reduction target of 45% below (City of Los Angeles 2017). The City's Sustainable City Plan is not a qualified GHG reduction plan under CEQA Guidelines Section 15183.5, and thus it cannot be used in a cumulative impacts analysis to determine significance.

4 GHG efficiency is the amount of GHG emissions emitted per dollar of economic productivity, which is assumed to be 44.5 MT CO_2e per million dollars of metro area gross domestic product in 2009 (City of Los Angeles 2015).

3.4.3 Thresholds of Significance

The significance criteria used to evaluate the proposed project's GHG emissions impacts is based on the recommendations provided in Appendix G of the 2019 CEQA Guidelines. For the purposes of this GHG emissions analysis, the proposed project would have a significant environmental impact if it would (14 CCR 15000 et seq.):

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

SCAQMD

Neither the State of California nor the SCAQMD has adopted emission-based thresholds of significance for GHG emissions under CEQA. However, in October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008). This guidance document, which builds on the previous guidance prepared by the CAPCOA, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 MT CO_2e per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (see SCAQMD Resolution No. 08-35, December 5, 2008).

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per service population for project level analyses and 6.6 MT CO_2e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Because the proposed project is construction only and does not fit into one of the land-use types previously outlined, this analysis applies the recommended SCAQMD threshold of 3,000 MT CO_2e per year. Per the SCAQMD guidance, construction emissions should be amortized over the operational life of the proposed project (SCAQMD 2008). While the life of the replacement pipeline is anticipated to be 100 years, and replacement valves are anticipated to have an operational life of 50 years, a project lifetime of 30 years was conservatively assumed consistent with the SCAQMD typical lifetime assumption for projects (SCAQMD 2008). This impact analysis, therefore, compares the amortized construction and operational emissions to the proposed SCAQMD threshold of 3,000 MT CO_2e per year.

3.4.4 Methodology

CalEEMod Version 2016.3.2 was used to estimate potential proposed project-generated GHG emissions during construction. Construction of the proposed project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 3.1 are also applicable for the estimation of construction-related GHG emissions. As such, see Section 3.1 for a discussion of construction emissions calculation methodology and assumptions.

As discussed in Section 3.1, the proposed project would result in periodic vehicle trips associated with maintenance of the facilities. Furthermore, the main source of criteria air pollutants generated by long-term operations would be from the periodic testing of an on-site emergency generator. The 2,500-kilowatt (kW) emergency generator was assumed to run for testing and maintenance approximately 0.5 hours per day and a maximum of 200 hours per year in accordance with SCAQMD's Rule 1110.2, Emissions from Gaseous and Liquid Fueled Engines. Emissions were estimated based on a 75% average engine load and were estimated using CalEEMod Version 2016.3.2.

3.4.5 Impact Analysis

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

Construction Emissions

Construction of the proposed project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 2.4.2.1. Construction of the proposed project is anticipated to commence in early-2023 and would last approximately 6.5 years, ending in mid-2029. On-site sources of GHG emissions include off-road equipment and off-site sources, including vendor trucks and worker vehicles. Table 3.4-3 presents construction emissions for the proposed project in 2023 through 2029 from on-site and off-site emission sources.

Table 3.4-3
Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2023	3,788.35	0.33	0.00	3,796.65
2024	1,433.45	0.20	0.00	1,438.40
2025	1,003.36	0.14	0.00	1,006.97
2026	17.12	0.01	0.00	17.24
2027	455.09	0.10	0.00	457.62
2028	385.15	0.11	0.00	387.82
2029	214.29	0.06	0.00	215.78
Total	7,296.81	0.95	0.00	7,320.48
30-Year Amortization of Construction Emissions				*244.02*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix B for complete results.

As shown in Table 3.4-3, the estimated total GHG emissions during construction of would be approximately 7,320 MT CO_2e over the construction period. Estimated proposed project-generated construction emissions amortized over 30 years would be approximately 244 MT CO_2e per year. As with proposed project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the proposed project would be short-term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. As previously discussed, project-generated construction emissions were amortized over 30 years which would be approximately 244 MT CO_2e per year. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Operational Emissions

Operation of the proposed project would generate GHG emissions through motor vehicle trips to and from the project site for routine inspection and maintenance and from the emergency generator. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 3.1; however, as previously discussed, because the proposed project would generate a minimal amount of vehicle trips, operational emissions associated with mobile source emissions were not estimated. GHG emissions associated with the emergency generator was calculated using CalEEMod and are summarized in Table 3.4-4. Detailed results are included in Appendix B.

Table 3.4-4
Estimated Annual Operational Greenhouse Gas Emissions

Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Stationary	255.29	0.04	0.00	256.18
Amortized Construction Emissions				*244.02*
Total Operational + Amortized Construction GHGs				500.20

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide
See Appendix B for complete results.

As shown in Table 3.4-4, estimated annual project-generated GHG emissions would be approximately 500 MT CO_2e per year as a result of project operation. Estimated proposed project-generated construction emissions amortized over 30 years and annual project-generated operational GHG emissions would be approximately 744 MT CO_2e per year, which would not exceed the SCAQMD significance threshold of 3,000 MT CO_2e per year. Therefore, the proposed project's GHG contribution would be not cumulatively considerable and is **less than significant**.

Threshold GHG-2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Consistency with the City of Los Angeles' Sustainable City Plan

As discussed in Section 3.4.2.3, the Sustainable City Plan is not a qualified GHG reduction plan according to the CEQA Guidelines Section 15183.5 and thus cannot be used in a cumulative impacts analysis to determine significance. Therefore, this discussion of consistency is for informational purposes only. Table 3.4-5 provides an overview of the measures and goals within the Sustainable City Plan and the proposed project's consistency with them. As shown in Table 3.4-5 the proposed project does not conflict with any of the GHG reducing measures or goals within the Sustainable City Plan and thus is consistent with the plan.

Table 3.4-5
Proposed Project Consistency with the Sustainable City Plan Greenhouse Gas Emission Reduction Strategies

Sustainable City Plan Measure	Proposed Project Consistency
Water	
Reduce LADWP purchases of imported water by 50% by 2025, and source 50% of water locally by 2035.	Does not apply. The proposed project would not inhibit the LADWP from reducing imported water purchases or sourcing water locally.
Reduce average per capita water use by 22.5% by 2025 and 25% by 2035.	Does not apply. The proposed project would not inhibit the City from reducing the per capita water use within the City.
Solar Power	
Increase cumulative total megawatts (MW) of local solar photovoltaic power to 900–1,500 MW by 2025 and 1,500-1,800 MW by 2035.	Does not apply. The proposed project would not inhibit the City from increasing the use of solar power within the City.
Increase cumulative total MW of energy storage capacity to at least 1,654–1,750 MW by 2025.	Does not apply. The proposed project would not inhibit the City from increasing energy storage within the City.
Energy Efficient Buildings	
Reduce energy use per square foot below 2013 baseline for all building types by at least 14% by 2025 and 30% by 2035.	Does not apply. The proposed project would not inhibit the City from reducing the energy use per square foot in buildings within the City.
Use energy efficiency to deliver 15% of all Los Angeles's projected electricity needs by 2020.	Does not apply. The proposed project would not inhibit the City from increasing energy efficiency within the City.
GHGs	
Reduce GHG emissions below 1990 baseline by at least 45% by 2025, 60% by 2035, and 80% by 2050.	Does not apply. The proposed project would not inhibit the City from reducing GHG emissions as it would not contribute to long-term GHG emission generation.
Improve GHG efficiency of Los Angeles's economy from 2009 levels by 55% by 2025 and 75% by 2035.	Does not apply. The proposed project would not inhibit the City from improving the GHG efficiency within the City.
Influence national and global action through the leadership of Los Angeles and other cities on climate change.	Does not apply. The proposed project would not inhibit the City from influencing action on climate change.
Have no ownership stake in coal-fired power plants by 2025.	Does not apply. The proposed project would not inhibit the City from eliminating ownership in coal-fired power plants.
Waste	
Increase landfill diversion rate to at least 90% by 2025 and 95% by 2035.	Consistent. The proposed project would divert as much waste during construction as possible in accordance with State law. The proposed project would not generate additional waste during operation.
Increase proportion of waste production and recyclable commodities productively reused and/or repurposed within Los Angeles County to at least 25% by 2025 and 50% by 2035.	Does not apply. The proposed project would not inhibit the City from increasing the use of recyclable commodities.

Source: City of Los Angeles 2015.

Consistency with the SCAG's 2016–2040 Regional Transportation Plan

SCAG's 2016 RTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The 2016 RTP/SCS incorporates local land use projections and circulation networks in city and county general plans. The 2016 RTP/SCS is not directly applicable to the proposed project because the underlying purpose of the 2016 RTP/SCS is to provide direction and guidance by making the best transportation and land use choices for future development. However, development of the proposed project would not conflict with the critical goals of the 2016 RTP/SCS.

Consistency with CARB's Scoping Plan

As discussed in Section 3.4.2.2, the Scoping Plan (approved by CARB in 2008 and updated in 2014 and 2017) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[5] Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., LCFS), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 3.4-6 highlights measures that have been, or will be, developed under the Scoping Plan and the proposed project's consistency with Scoping Plan measures. To the extent that these regulations are applicable to the proposed project, its inhabitants, or uses, the proposed project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent required by law.

Table 3.4-6
Proposed Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Transportation Sector		
Advanced Clean Cars	T-1	Consistent. The proposed project's employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low-Carbon Fuel Standard	T-2	Consistent. Motor vehicles driven by the proposed project's employees would use compliant fuels.

5 The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009b).

Table 3.4-6
Proposed Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Regional Transportation-Related GHG Targets	T-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Advanced Clean Transit	Proposed	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Last-Mile Delivery	Proposed	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Reduction in VMT	Proposed	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Heavy-Duty Vehicle GHG Emission Reduction • Tractor-Trailer GHG Regulation • Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Proposed Project	T-8	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Medium and Heavy-Duty GHG Phase 2	Proposed	Not applicable. The proposed project would not prevent CARB from implementing this measure.

Table 3.4-6
Proposed Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
High-Speed Rail	T-9	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Energy Efficiency (Natural Gas)	CR-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Combined Heat and Power	E-2	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Renewable Portfolios Standard (33% by 2020)	E-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Renewable Portfolios Standard (50% by 2050)	Proposed	Not applicable. The proposed project would not prevent CARB from implementing this measure.
SB 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Water Sector		
Water Use Efficiency	W-1	Consistent. The proposed project would use water for flushing the lines once they are installed. No water use is associated with operation of the project.
Water Recycling	W-2	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Water System Energy Efficiency	W-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Reuse Urban Runoff	W-4	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Renewable Energy Production	W-5	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Green Buildings		
1. State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
2. Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.

Table 3.4-6
Proposed Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
3. Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
4. Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	Proposed	Not applicable. The proposed project would not prevent CARB from implementing this measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Refinery Flare Recovery Process Improvements	I-4	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Mandatory Commercial Recycling	RW-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Increase Production and Markets for Compost and Other Organics	RW-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Anaerobic/Aerobic Digestion	RW-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Extended Producer Responsibility	RW-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Environmentally Preferable Purchasing	RW-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.

Table 3.4-6
Proposed Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Forests Sector		
Sustainable Forest Target	F-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
High GWP Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Reduction of Perfluorocarbons (PFCs in Semiconductor Manufacturing	H-3	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Limit High GWP Use in Consumer Products	H-4	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	Not applicable. The proposed project would not prevent CARB from implementing this measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	Not applicable. The proposed project would not prevent CARB from implementing this measure.
40% reduction in methane and hydrofluorocarbon (HFC) emissions	Proposed	Not applicable. The proposed project would not prevent CARB from implementing this measure.
50% reduction in black carbon emissions	Proposed	Not applicable. The proposed project would not prevent CARB from implementing this measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	Not applicable. The proposed project would not prevent CARB from implementing this measure.

Source: CARB 2008 and CARB 2017.
Notes: CARB = California Air Resources Board; CCR = California Code of Regulations; GHG = greenhouse gas; GWP = global warming potential; SB = Senate Bill; SF_6 = sulfur hexafluoride

Based on the analysis in Table 3.4-6, the proposed project would be consistent with the applicable strategies and measures in the Scoping Plan.

The proposed project would not impede the attainment of the GHG reduction goals for 2030 or 2050 identified in EO S-3-05 and SB 32. As discussed in Section 3.4.2.2, EO S-3-05 establishes the following goals: GHG emissions should be reduced to

2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SB 32 establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis; CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014).

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states the following (CARB 2014):

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-3-05. This is confirmed in the Second Update, which states (CARB 2017):

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197.

The proposed project would not interfere with implementation of any of the previously described GHG reduction goals for 2030 or 2050 because the proposed project would not exceed the SCAQMD's recommended screening threshold of 3,000 MT CO_2e per year (SCAQMD 2008). Because the proposed project would not exceed the threshold, this analysis provides support for the conclusion that the proposed project would not impede the state's trajectory toward the previously described statewide GHG reduction goals for 2030 or 2050.

As discussed previously, the proposed project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. In addition, since the specific path to compliance for the state in regards to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the proposed project would be speculative and cannot be identified at this time. The proposed project's consistency would assist in meeting the City's contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and EO S-3-05, CARB has also made clear its legal interpretation is that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32's 40% reduction target by 2030 and EO S-3-05's 80% reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets. Based on the considerations previously outlined, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. This impact would be **less than significant**.

3.4.6 Mitigation Measures

Project impacts would be less than significant, and no mitigation is required.

3.4.7 Level of Significance After Mitigation

Impacts to GHGs as a result of the proposed project would be less than significant. Therefore, no mitigation is required.

3.4.8 References Cited

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3.5 Hydrology and Water Quality

This section describes the existing hydrology and water quality resources present in the De Soto Tanks and Pump Station project (proposed project or project) area; discusses applicable federal, state, and regional regulations pertaining to hydrology and water quality; and evaluates the potential effects on hydrology and water quality associated with development of the proposed project. More specifically, this section addresses drainage, water quality, groundwater supply, and flooding.

No comments were received in response to the Notice of Preparation (see Appendix A) with respect to hydrology and water quality. Information contained in this section is based on published maps and reports by the U.S. Geological Survey, Los Angeles Regional Water Quality Control Board (LARWQCB), and Los Angeles County Department of Public Works, as well as a project-specific geotechnical investigation, as listed in Section 3.5.8, References Cited.

3.5.1 Existing Conditions

This section describes the existing conditions in the project area and identifies the resources that could be affected by the proposed project.

Regional Hydrology

Based on the LARWQCB Basin Plan (2014), the project site is located within the northwest portion of the Los Angeles Hydrologic Unit, which comprises the Los Angeles River Watershed. This watershed is one of the largest in the LARWQCB Region, at 824 square miles, and is also one of the most diverse in terms of land use patterns. Approximately 324 square miles of the watershed are covered by forest or open space land, including the area near the headwaters, which originate in the Santa Monica, Santa Susana, and San Gabriel Mountains. The remainder of the watershed is intensely urbanized and the river itself is highly modified, having been lined with concrete along most of its length by the U.S. Army Corps of Engineers, from the 1930s to the 1960s. There are approximately 205 miles of engineered channels within the Los Angeles River Watershed system (LARWQCB 2014).

Runoff from the project area flows toward Browns Canyon Wash, located approximately 500 feet west of the project site, at the closest point (Figure 3.5-1, Regional Topography and Drainage). Browns Canyon Wash flows south, merging with the upper portion of the Los Angeles River in the City of Canoga Park, approximately 5 miles south of the project site. Browns Canyon Wash originates in the Santa Susana Mountains to the north, along the southern flanks of Oat Mountain, at an elevation of approximately 3,500 feet (USGS 2018). The Los Angeles River flows into the Pacific Ocean in the Long Beach Harbor area.

Existing Topography

The project site is primarily gently sloping, with local moderate slopes along the northern project boundary (Figure 3.5-2, Topography and Geology). The proposed tank site area slopes gently to moderately to the southeast, with a 35 foot elevation gain from southeast to northwest. The topography along the proposed pipeline route southwest of the tank area (Figure 2-2, Site Plan) is moderately sloping down to De Soto Avenue, at which point the topography is gently sloping to the south along De Soto Avenue, toward Chatsworth Street. The topography along the proposed eastern pipeline segment and in the vicinity of the proposed pump station (vicinity of existing reservoir) is gently to locally moderately sloping, with an overall slope gradient to the south and southwest, towards Brown Canyon Wash.

Geology/Soil Permeability

The northwestern portion of the proposed tank area is underlain by the Cretaceous-age Chatsworth Formation, and associated Pleistocene-age slope wash (Figure 3.5-2, Topography and Geology). The Chatsworth Formation consists of fine- to medium-grained sandstone, with interbeds of siltstone. The upper portion of this sandstone is highly to completely weathered and weakened to a residual soil. The upper layers can be easily excavated by hand with a shovel and has strength and hardness characteristics similar to the overlying alluvial soils. The contact between the upper Chatsworth sandstone and overlying alluvial soils can be subtle and is sometimes difficult to differentiate from alluvium. The sandstone bedrock in this area is mantled by thin Pleistocene-age slope wash deposits, consisting of unconsolidated silt, sand, and gravel, along the south side of the ridge that occupies the northwest corner of the site (URS 2018). Based on this characterization, the Chatsworth Formation and associated slope wash has relatively high permeability.

The central and eastern portion of the proposed water tank area is underlain by Holocene-age alluvium (Figure 3.5-2, Topography and Geology), consisting of unconsolidated silt, sand, and gravel. The alluvium is a widespread and relatively thick deposit located across much of the project area (URS 2018). Based on this characterization, the Holocene alluvium similarly has relatively high permeability.

Storm Drainage and Flood Control

Browns Canyon Wash, also known as Browns Creek, has been modified into a storm drain channel, which is maintained by the Los Angeles County Flood Control District. As previously discussed, this storm drain is located approximately 500 feet from the project site and receives runoff from the project area. In addition, a 96-inch storm drain, maintained by the City of Los Angeles Public Works Department, underlies Rinaldi Street in the project area (LADPW 2018).

Water Quality

Water quality objectives, plans, and policies for surface waters are established in the Los Angeles Region Basin Plan. The Basin Plan establishes water quality objectives based on the beneficial uses identified for surface waters. Existing and potential beneficial uses of the Los Angeles River, located downstream of the project site, include municipal/domestic supply, industrial process supply, industrial service supply, groundwater recharge, warm freshwater habitat, marine habitat, wildlife habitat, rare/threatened/endangered species, migration of aquatic organisms, spawning/reproduction/early development, and shellfish harvesting (RWQCB 2014).

The Basin Plan aims to address threats to water quality through various programs and policies, such as establishment of total maximum daily loads (TMDLs) of pollutants. The proposed project is located in a highly urbanized setting served by a network of storm drains that eventually discharge to the Browns Canyon Wash Channel and the Los Angeles River. Reaches 4, 5, and 6 of the Los Angeles River, located within the San Fernando Valley upstream of the Sepulveda

Dam, are impaired under the Clean Water Act, Section 303(d), with the following pollutants: ammonia, cadmium, coliform bacteria, copper (dissolved), cyanide, Diazinon, lead, nutrients (algae), selenium, trash, zinc (dissolved), oil, and pH (SWRCB 2017).

Under Clean Water Act Section 303(d), the State of California is also required to develop TMDLs for Water Quality Limited Segments. TMDLs define how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. Reach 3 (Figueroa Street to Riverside Drive) and Reach 6 (above Sepulveda Flood Control Basin) of the Los Angeles River are considered Water Quality Limited Segments with TMDLs for indicator bacteria and copper, respectively. The Los Angeles River previously had TMDLs for polychlorinated biphenyls (PCBs), metals, toxicity, pesticides, pyrene, ChemA, phenanthrene, benzo(a)pyrene, and other organics. However, these TMDLs were delisted from the 303(d) list in 2012 (California Water Board 2016), indicating that water quality has improved downstream of the project site.

3.5.2 Relevant Plans, Policies, and Ordinances

Federal

Clean Water Act

The Clean Water Act (CWA; 33 U.S.C. 1251 et seq.) was designed to restore and maintain the chemical, physical, and biological integrity of waters of the United States. The CWA also directs states to establish water quality standards for all waters of the United States and to review and update such standards on a triennial basis. Other provisions of the CWA related to basin planning include Section 208, which authorizes the preparation of waste treatment management plans, and Section 319, which mandates specific actions for the control of pollution from nonpoint sources. In California, the U.S. Environmental Protection Agency (EPA) has delegated responsibility for implementation of portions of the CWA to the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs), including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program is a set of permits designed to implement the CWA that apply to various activities that generate pollutants with potential to impact water quality.

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. Section 304(a) requires the EPA to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. Section 303(c)(2)(b) of the CWA requires states to adopt numerical water quality standards for toxic pollutants for which EPA has published water quality criteria and which reasonably could be expected to interfere with designated uses of a water body.

NPDES Permit Program–Phase I

In November 1990, under Phase I of the urban runoff management strategy, the EPA published NPDES permit application requirements for municipal, industrial, and construction stormwater discharges. The application requirements for municipalities were directed at municipalities that own and operate municipal separate storm sewer systems (MS4s) serving populations of 100,000 or more, or that contribute significant pollutants to waters of the United States, and require such agencies to obtain coverage under municipal stormwater NPDES permits.

Municipalities were required to develop and implement an urban runoff management program to address activities to reduce pollutants in urban runoff and stormwater discharges that were contributing a substantial pollutant load to their systems. Rather than establishing numeric effluent limits, the EPA established narrative effluent limits for urban runoff, including the requirement to implement appropriate best management practices (BMPs).

NPDES Permit Program–Phase II

The Phase II Final Rule, published in the Federal Register on December 8, 1999, requires NPDES permit coverage for stormwater discharges from:

- Certain regulated small MS4s
- Construction activity disturbing between 1 and 5 acres of land (i.e., small construction activities).

In addition to expanding the NPDES program, the Phase II Final Rule included minor revisions for certain industrial facilities. As with Phase I, the Phase II program requires the development and implementation of stormwater management plans to reduce pollutant discharges.

State

Porter-–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act authorizes the SWRCB to adopt, review, and revise policies for all "waters of the state" (including both surface water and groundwater) and directs the RWQCB to develop regional basin plans (California Water Code, Section 13000 et seq.). Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative.

There are nine regional water quality control boards statewide. Regional boundaries are based on watersheds and water quality requirements are based on the unique differences in climate, topography, geology and hydrology for each watershed. Each Regional Board makes critical water quality decisions for its region, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions.

The project site is located within the Los Angeles Region of the SWRCB. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (California Water Code Sections 13240–13247) (LARWQCB 2014). The Los

Angeles RWQCB Basin Plan must conform to the policies set forth in the Porter-Cologne Act as established by the SWRCB in its state water policy. The Porter-Cologne Act also provides the RWQCBs with authority to include within their basin plan water discharge prohibitions applicable to particular conditions, areas, or types of waste. The Basin Plan is continually being updated to include amendments related to implementation of TMDLs of potential pollutants or water quality stressors, revisions of programs and policies within the Los Angeles RWQCB region, and changes to beneficial use designations and associated water quality objectives.

All projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code and are required to obtain approval of Waste Discharge Requirements (WDRs) from the RWQCBs. Land and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of process and wash-down wastewater and privately or publicly treated domestic wastewater. WDRs for discharges to surface waters also serve as NPDES permits. These regulations are applicable to the project.

NPDES Permits

In California, the SWRCB and its RWQCBs administer the NPDES permit program. The NPDES permits cover all construction and subsequent drainage improvements that disturb 1 acre or more, industrial activities, and MS4s. Construction and industrial activities are typically regulated under statewide general permits that are issued by the SWRCB. The SWRCB also issued a statewide general small MS4 stormwater NPDES permit for public agencies that fall under that Phase II NPDES regulations. RWQCBs typically issue regional NPDES permits to Phase I MS4s within their jurisdiction.

The NPDES permit system was established in the CWA to regulate both point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffused runoff of water from adjacent land uses) to surface waters of the United States. For point source discharges, each NPDES permit contains limits on allowable concentrations and mass emission of pollutants contained in the discharge. For nonpoint source discharges, the NPDES program establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of characterizing receiving water quality, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive stormwater management program.

One of the primary objectives of the water quality regulations for MS4s is reducing pollutants in urban stormwater discharge, to the maximum extent practicable, through the use of structural and nonstructural BMPs. BMPs typically used to manage runoff water quality include: 1) controlling roadway and parking lot contaminants, by installing filters with oil and grease absorbents at storm drain inlets, 2) cleaning parking lots on a regular basis, 3) incorporating peak-flow reduction and infiltration features (such as grass swales, infiltration trenches, and grass filter strips) into landscaping, and 4) implementing educational programs.

Local

Municipal Stormwater Permit (Los Angeles RWQCB Order No. R4-2012-0175-A01, as amended)

The *Waste Discharge Requirements for the Municipal Separate Storm Sewer System (MS4) Discharges from the Coastal Watersheds of Los Angeles County, except those discharges originating from the City of Long Beach MS4* (MS4 Permit) covers 88 cities and most of the unincorporated areas of Los Angeles County. Under the MS4 Permit, the Los Angeles County Flood Control District is designated as the Principal Permittee. The Permittees are the 88 Los Angeles County cities and Los Angeles County. Collectively, these entities are the "Co-Permittees." The Principal Permittee helps to facilitate activities necessary to comply with the requirements outlined in the MS4 Permit, but is not responsible for ensuring compliance of any of the other Permittees.

The MS4 Permit requires Co-Permittees to implement a development planning program to address stormwater pollution. These programs require project applicants for certain types of projects to implement Standard Urban Stormwater Mitigation Plans (SUSMP) throughout the operational life of their projects. The purpose of SUSMP is to reduce the discharge of pollutants in stormwater and to eliminate increases in pre-existing runoff rates and volumes by outlining BMPs, which must be incorporated into the design plans of new development and redevelopment. The proposed project is a regulated project for this purpose because it is a redevelopment project that would create and/or replace more than 10,000 square feet of impervious surface. The City of Los Angeles enforces the provisions of the Los Angeles County MS4 Permit through its Stormwater and Urban Runoff Pollution Control (Municipal Code Section 64.70-72).

Low Impact Development (LID) Ordinance

In October 2011, the City of Los Angeles passed an ordinance (Ordinance No. 181899) amending Los Angeles Municipal Code Chapter VI, Article 4.4, Sections 64.70.01 and 64.72 to expand the applicability of the existing SUSMP requirements by imposing rainwater Low Impact Development (LID) strategies on projects that require building permits. The LID ordinance became effective on May 12, 2012. LID is a stormwater management strategy with goals to mitigate the impacts of increased runoff and stormwater pollution as close to its source as possible. LID promotes the use of natural infiltration systems, evapotranspiration, and reuse of stormwater. The goal of these LID practices is to remove nutrients, bacteria, residual petroleum products, and metals from stormwater while also reducing the quantity and intensity of stormwater flows. Through the use of various infiltration strategies, LID is aimed at minimizing impervious surface area. Where infiltration is not feasible, the use of bioretention, rain gardens, green roofs, and rain barrels that will store, evaporate detain, and/or treat runoff may be used. The intent of the City of Los Angeles LID standards is to:

- Require the use of LID practices in future developments and redevelopments to encourage the beneficial use of rainwater and urban runoff;
- Reduce stormwater/urban runoff while improving water quality;
- Promote rainwater harvesting;
- Reduce offsite runoff and provide increased groundwater recharge;
- Reduce erosion and hydrologic impacts downstream; and
- Enhance the recreational and aesthetic values in our communities.

The City of Los Angeles Bureau of Sanitation, Watershed Protection Division has adopted the LID standards as issued by the LARWQCB and the City of Los Angeles Department of Public Works. The LID Ordinance conforms to the regulations outlined in the NPDES Permit and SUSMP.

Los Angeles Municipal Code

Any proposed drainage improvements within the street right of way or any other property owned by or under the control of the City requires the approval of a B-permit (Section 62.105, Los Angeles Municipal Code). Under the B-permit process, storm drain installation plans are subject to review and approval by the City of Los Angeles Department of Public Works, Bureau of Engineering. Additionally, any connections to the City's storm drain system from a private property to a City catch basin or an underground storm drain requires a storm drain connection permit from Bureau of Engineering.

Section 64.70 of the Los Angeles Municipal Code sets forth the City's Stormwater and Urban Runoff Pollution Control Ordinance. The ordinance prohibits the discharge of the following into any storm drain system:

- Any liquids, solids, or gases which by reason of their nature or quantity are flammable, reactive, explosive, corrosive, or radioactive, or by interaction with other materials could result in fire, explosion or injury.
- Any solid or viscous materials, which could cause obstruction to the flow or operation of the storm drain system.
- Any pollutant that injures or constitutes a hazard to human, animal, plant, or fish life, or creates a public nuisance.
- Any noxious or malodorous liquid, gas, or solid in sufficient quantity, either singly or by interaction with other materials, which creates a public nuisance, hazard to life, or inhibits authorized entry of any person into the storm drain system.
- Any medical, infectious, toxic, or hazardous material or waste.

Additionally, unless otherwise permitted by a NPDES permit, the ordinance prohibits industrial and commercial developments from discharging untreated wastewater or untreated runoff into the storm drain system. Furthermore, the ordinance prohibits trash or any other abandoned objects/materials from being deposited such that those materials could be carried into the storm drains. Lastly, the ordinance not only makes it a crime to discharge pollutants into the storm drain system and imposes fines on violators, but also gives City public officers the authority to issue citations or arrest business owners or residents who deliberately and knowingly dump or discharge hazardous chemicals or debris into the storm drain system.

Earthwork activities, including grading, are governed by the Los Angeles Building Code, which is contained in Los Angeles Municipal Code, Chapter IX, Article 1. Specifically, Section 91.7013 includes regulations pertaining to erosion control and drainage devices, and Section 91.7014 includes general construction requirements, as well as requirements regarding flood and mudflow protection. Both incorporate the requirements of the statewide Construction General Permit by reference.

City of Los Angeles Water Quality Compliance Master Plan for Urban Runoff

In 2009, the City of Los Angeles adopted the Water Quality Compliance Master Plan (WQCMP), a 20-year strategy for clean stormwater and urban runoff to reduce the pollution flowing into local rivers, creeks, lakes and beaches. By promoting green infrastructure, the WQCMP seeks a broad watershed-based perspective using green and natural solutions to improve water quality and maintain Los Angeles' compliance with current and emerging water quality regulations. The WQCMP includes the following:

- Describes the existing status of urban runoff management in Los Angeles and watershed management efforts by Los Angeles and other organizations;
- Identifies key issues for the future of urban runoff management;
- Provides strategic guidelines for improving the quality of Los Angeles' rivers, creeks, lakes and ocean;
- Identifies opportunities for collaboration among City departments and with non-governmental organizations; and
- Describes how rainwater can be used beneficially to augment water supply.

Los Angeles County Hydrology Manual

The project site is located within the City of Los Angeles. Drainage collection, treatment, and conveyance of surface water are regulated by the City. Per the City's Special Order No. 007-1299, December 3, 1999, the City has adopted the Los Angeles County Department of Public Works Hydrology Manual as its basis of design for storm drainage facilities. The Los Angeles County Department of Public Works' Hydrology Manual requires projects to have drainage facilities to meet the Urban Flood level of protection, which is defined as runoff from a 25-year frequency storm falling on a saturated watershed. A 25-year frequency design storm has a probability of 1/25 of being equaled or exceeded in any given year. The combined capacity of the storm drain and street flow system must be enough to accommodate flow from a 50-year storm event. Areas with sump[1] conditions are required to have a storm drain conveyance system capable of conveying flow from a 50-year storm event.

3.5.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to hydrology and water quality are based on Appendix G of the 2019 CEQA Guidelines. According to Appendix G of the 2019 CEQA Guidelines, a significant impact related to hydrology and water quality would occur if the project would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

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[1] A sump is a pit, hollow, or other small area in which free-flowing liquid collects.

3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
   i. Result in substantial erosion or siltation on- or off-site;
   ii. Substantially increase the rate or amount of runoff in a manner which would result in flooding on- or off-site;
   iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
   iv. Impede or redirect flood flows.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Issues Not Further Analyzed

Questions 1, 2, 3(iv), and 4 were analyzed in the Initial Study (Appendix A) and impacts were determined to be less than significant. A summary of the analyses presented in the Initial Study for Questions 1, 2, 3(iv), and 4 is provided below.

Question 1- construction water quality impacts: Construction of the proposed project could create the potential for erosion during excavation. However, construction activities would be subject to applicable requirements of the SWRCB and RWQCB with respect to control of surface erosion, sedimentation, and runoff quality. LADWP would comply with these requirements, including preparation of a construction Stormwater Pollution Prevention Plan (SWPPP). Because implementation of the proposed project would collectively require construction activities resulting in land disturbance of more than 1 acre, through tank installation, pipe construction, and removal of the existing reservoir, LADWP would be required to obtain coverage under the Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended), which pertains to pollution from grading and project construction. Coverage under the Construction General Permit requires a qualified individual (as defined by the SWRCB) to prepare a SWPPP to address the potential for construction-related activities to contribute to pollutants within the proposed project's receiving waterways. The SWPPP must describe the type, location and function of structural measures to alleviate stormwater impacts and must demonstrate that the combination of measures selected are adequate to meet the discharge prohibitions, effluent standards, and receiving water limitations contained in the Construction General Permit. This would ensure that construction impacts would be less than significant. As such, through compliance with construction regulations, impacts to water quality would be less than significant. Therefore, Question 1, regarding short-term, construction-related water quality impacts, does not require consideration of this topic in the analysis below. However, long-term, operational-related water quality impacts could potentially occur as a result of the project and are addressed in the analysis below.

Question 2 - groundwater supply impacts: The proposed project would not use local groundwater supplies. Construction of the proposed tanks would require significant soil excavation. According to preliminary geotechnical investigations, groundwater is not expected to the depth of excavation; therefore, dewatering would not be required. Increased impervious surfaces resulting from project construction would result in minimal denial of groundwater recharge, in comparison to existing conditions. Impacts are considered less than significant. Therefore, Question 2, regarding groundwater supplies and recharge, does not require consideration of this topic in the analysis below.

Questions 3(iv) and 4 – flooding impacts: The project site is not located within a 100-year flood hazard area as indicated on the Federal Emergency Management Agency (FEMA) Flood Insurance zone maps for Los Angeles County. In addition, the project site would not be subject to inundation by dam failure, seiche, or tsunami. Therefore, the project would not impede or redirect flood flows or risk release of pollutants due to inundation. Impacts are considered less than significant. Therefore, Questions 3(iv) and 4 regarding flooding do not require consideration of this topic in the analysis below.

3.5.4 Methodology

Information contained in this section is based on published maps and reports by the U.S. Geological Survey, LARWQCB, and Los Angeles County Department of Public Works, as well as a project-specific geotechnical investigation, as listed in Section 3.5.8, References Cited. The following analysis considers whether the proposed project, which is described in Chapter 2 of this EIR, would directly or indirectly cause or exacerbate adverse drainage issues and long-term water quality impacts. Operational-related impacts of the proposed project are considered in the context of long-term increase in stormwater runoff rates and water quality impairment.

3.5.5 Impact Analysis

Threshold HYD-1: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

- ***i. Result in substantial erosion or siltation on- or off-site;***
- ***ii. Substantially increase the rate or amount of runoff in a manner which would result in flooding on- or off-site;***
- ***iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or***
- ***iv. Impede or redirect flood flows?***

Buried Tanks and Pump Station

The proposed project involves excavation of the site north of the existing De Soto Reservoir to a depth of approximately 50 feet, followed by the construction of two pre-stressed concrete tanks, each of which would be approximately 245 feet in diameter and approximately 40 feet in height, yet below grade. East of the tank site would be a new underground flow control station, approximately 100 square feet in size. After completion of the tanks and flow control station, the area surrounding the tanks would be backfilled, and a perimeter road would be constructed around the tanks for maintenance access. All permanent cut slopes resulting from the excavation would be revegetated. Although the tanks would be buried, the roof of the tanks would not be covered. The top of the tanks would be approximately 2 feet above the perimeter access road.

As previously discussed, the northwestern portion of the proposed water tank area is underlain by fine- to medium-grained sandstone, with interbeds of siltstone. The upper portion of this sandstone is highly to completely weathered and weakened to a residual soil. The central and eastern portion of the proposed water tank area is underlain by unconsolidated silt, sand, and gravel. Based on this characterization, the underlying sediments have relatively high permeability, which reduces stormwater runoff from the site.

The proposed large tank excavations would temporarily alter the existing drainage pattern of the site. In addition, construction of paved perimeter roads and long-term exposure of the roofs of the tanks would alter the existing drainage pattern of the site and result in an increase in impervious surfaces. Upon completion of the tanks, the existing reservoir would be demolished in order to facilitate construction of the future pump station. The project would include paving of the reservoir area for construction of the pump station. However, because the reservoir is currently covered, paving would not increase runoff from the vicinity of the pump station.

Two stormwater drains are located to the southwest of the project site, at the intersection of De Soto Avenue and Rinaldi Street, four stormwater catch basins are located to the southeast of the project site, and six catch basins are located further to the east along Rinaldi Street. These nearby catch basins would direct excess drainage from the proposed project to the municipal storm drain system. However, an increase in project-related impervious surfaces on gentle to moderately sloping topography would result in increased runoff rates, which in turn could result in: 1) downstream erosive scour, 2) downstream flooding, and 3) exceedance of the capacity of existing or planned stormwater drainage systems.

In addition, vehicle use and maintenance activities in the vicinity of the tanks, flow control station, and pump station could result in incidental spills of residual oil, grease, and other petroleum products, which in turn could result in adverse impacts to downstream Browns Canyon Wash and the Los Angeles River. Impacts are considered potentially significant. Implementation of **MM-HYD-1**, Flood Control, would require that post-construction stormwater runoff rates would be equal or less than existing rates, such that downstream flooding and erosive scour would not occur. Construction of drainage features to Los Angeles County Department of Public Works Hydrology Manual specifications would also ensure that onsite or downstream flooding would not occur as a result of increased impervious surfaces onsite. As a result, long-term operational drainage impacts would be reduced to **less than significant** levels.

Pipelines

New pipelines, inlet, and outlet pipelines of the tanks would be constructed on site as well and extend off site to connect with the Rinaldi Trunk Line to the east and the De Soto Trunk Line to the south. To install the new 66-inch pipeline connection to the Rinaldi Trunk Line with the flow control station to the east, two excavation pits would be constructed to facilitate pipe jacking below grade. A total of 620 feet of pipeline would be required for this connection. One excavation pit would be located on the project site and the second excavation pit would be located within the existing 60-foot LADWP easement on the east side of Rinaldi Street.

To connect the project with the De Soto Trunk Line, new piping would be installed below ground on the project site and south along De Soto Avenue. Approximately 570 feet of pipe jacking would be done on site to connect the new tanks via a 54-inch pipeline to the De Soto Trunk Line. Upon reaching the project site's western boundary at De Soto Avenue, open-trench pipeline installation would occur along the eastern side (approximately 35 feet of work area required) of De Soto Avenue. Pipeline installation along De Soto Avenue would occur along approximately 2,650 feet, extending from the project site at the north to Chatsworth Street at the south. With the exception of pipe jacking beneath the intersection of De Soto Avenue and Rinaldi Street, all other pipeline installation would be done via cut-and-cover construction. Upon completion of pipeline installation, the roadway would be repaired, repaved, and the lanes along De Soto Avenue would be reopened.

Open excavation pit construction and pipe jacking operations would temporarily disrupt drainage patterns in the immediate project area. However, following construction, the areas overlying the pipelines would be restored to its original condition; either paved or unpaved. As a result, long-term drainage impacts would not be altered through the addition of impervious surfaces. Impacts would be **less than significant**, and no mitigation is required.

Threshold HYD-2: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Water quality objectives, plans, and policies for surface waters are established in the LARWQCB Basin Plan, which aims to address threats to water quality through various programs and policies, such as establishment of TMDLs of pollutants. The proposed project is located in a highly urbanized setting served by a network of storm drains that eventually discharge to the Browns Canyon Wash Channel and the Los Angeles River. Reach 3 (Figueroa Street to Riverside Drive) and Reach 6 (above Sepulveda Flood Control Basin) of the Los Angeles River are considered water quality limited segments with TMDLs for indicator bacteria and copper, respectively. In addition, segments of the river are impaired with the following pollutants: ammonia, cadmium, coliform bacteria, copper (dissolved), cyanide, Diazinon, lead, nutrients (algae), selenium, trash, zinc (dissolved), oil, and pH.

As discussed for Threshold HYD-1, long-term operational water quality impacts could occur as a result of increased impervious surfaces and potential downstream erosive scour and associated siltation of Browns Canyon Wash and the Los Angeles River. In addition, vehicle use and maintenance activities in the vicinity of the tanks, flow control station, and pump station could result in incidental spills of residual oil, grease, and other petroleum products, which in turn could result in adverse impacts to downstream Browns Canyon Wash and the Los Angeles River. Potential long-term operational stormwater quality impairment could contribute to degradation of water quality limited segments of the Los Angeles River, thus conflicting with water quality objectives of the Los Angeles Region Basin Plan. Impacts are considered potentially significant. Implementation of **MM-HYD-2a** and **MM-HYD-2b**, Low Impact Development Features, would require that the project remove nutrients, bacteria, petroleum products, and metals from stormwater while also reducing the quantity and intensity of stormwater flows, such that long-term, operational water quality impacts would be reduced to **less than significant** levels.

3.5.6 Mitigation Measures

MM-HYD-1 Flood Control.

In conjunction with MM-HYD-2a and MM-HYD-2b, Low Impact Development Features, the project shall include drainage facilities designed such that post-storm runoff rates would be less than or equal to existing conditions. In accordance with the Los Angeles County Department of Public Works Hydrology Manual, the design shall meet the Urban Flood level of protection, which is defined as runoff from a 25-year frequency storm falling on a saturated watershed. The combined capacity of the storm drain and street flow system must be enough to accommodate flow from a 50-year storm event. Areas with sump conditions, such as the proposed recessed water tanks, shall have a storm drain conveyance system capable of conveying flow from a 50-year storm event.

MM-HYD-2a Low Impact Development Features.
LADWP shall incorporate Low Impact Development (LID) features into the project design. LID features shall include stormwater detention/infiltration features (e.g., grass swales, infiltration trenches, pervious detention basins, and vegetated detention basins), stormwater filtration systems (e.g., oil and grease absorbents at storm drain inlets), and/or reuse of stormwater (e.g., detention and reuse for landscape irrigation). In accordance with the LID Standards Manual, stormwater runoff associated with the design storm shall be detained on site. The Stormwater Quality Design Volume (SWQDv) is defined as the greater of:

- The 0.75-inch, 24-hour rain event, or
- The 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map.

MM-HYD-2b

A Low Impact Development (LID) Plan shall be prepared to document the design of the LID Best Management Plan measures for the project.

3.5.7 Level of Significance After Mitigation

Implementation of MM-HYD-1, Flood Control, would ensure that post-construction stormwater runoff rates would be equal or less than existing rates, such that downstream flooding and erosive scour would not occur. Construction of drainage features to Los Angeles County Department of Public Works Hydrology Manual specifications would also ensure that onsite or downstream flooding would not occur as a result of increased impervious surfaces onsite. As a result, long-term operational drainage impacts would be reduced to **less than significant** levels.

Implementation of MM-HYD-2a and MM-HYD-2b, Low Impact Development Features, would remove nutrients, bacteria, petroleum products, and metals from stormwater while also reducing the quantity and intensity of stormwater flows, such that long-term, operational water quality impacts would be reduced to **less than significant** levels.

3.5.8 References Cited

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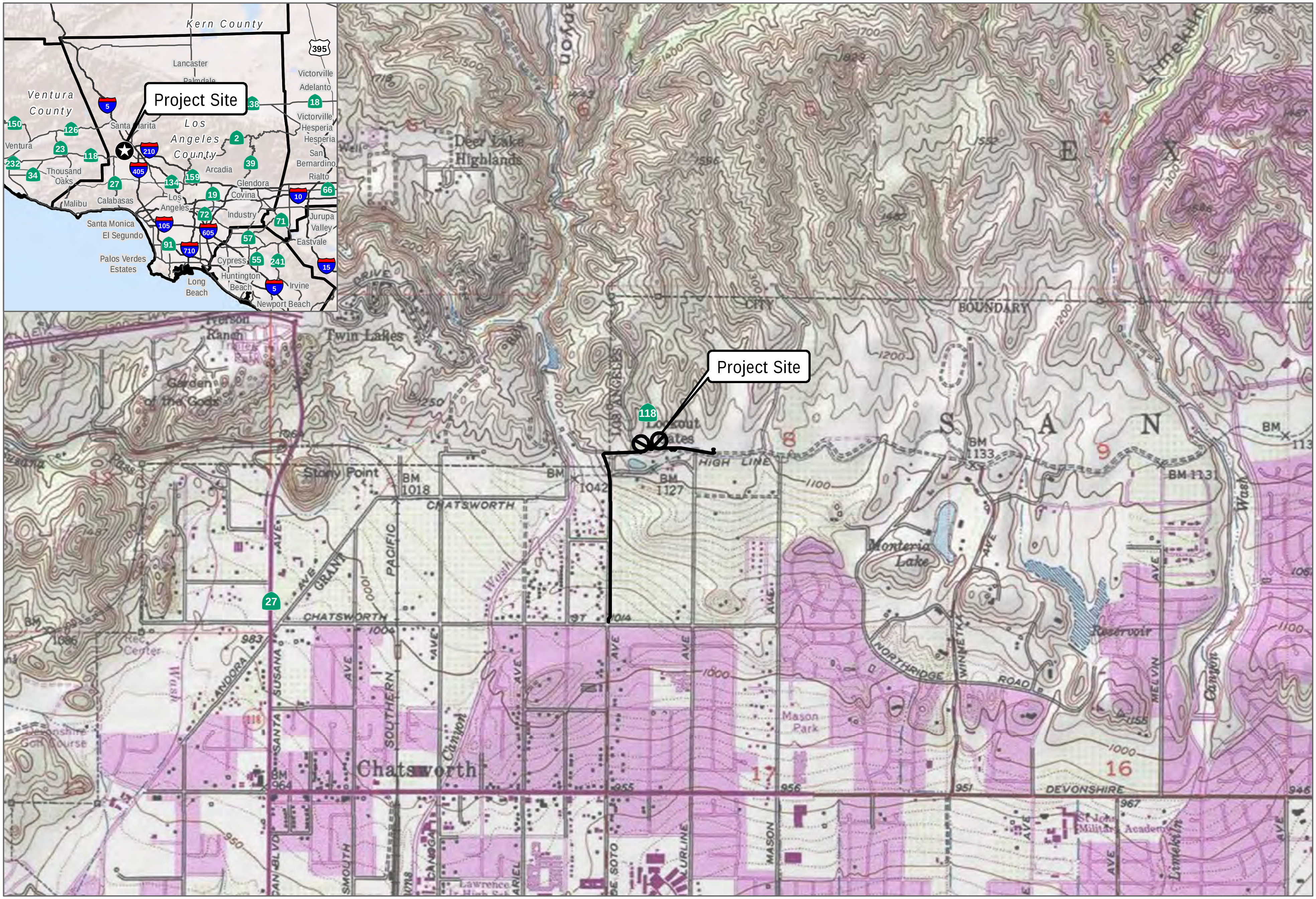

SOURCE: USGS 7.5-Minute Series Oat Mountain Quadrangle

LA DWP Los Angeles Department of Water & Power

0 1,000 2,000 Feet

FIGURE 3.5-1

Regional Topography and Drainage

LADWP De Soto Tanks Project

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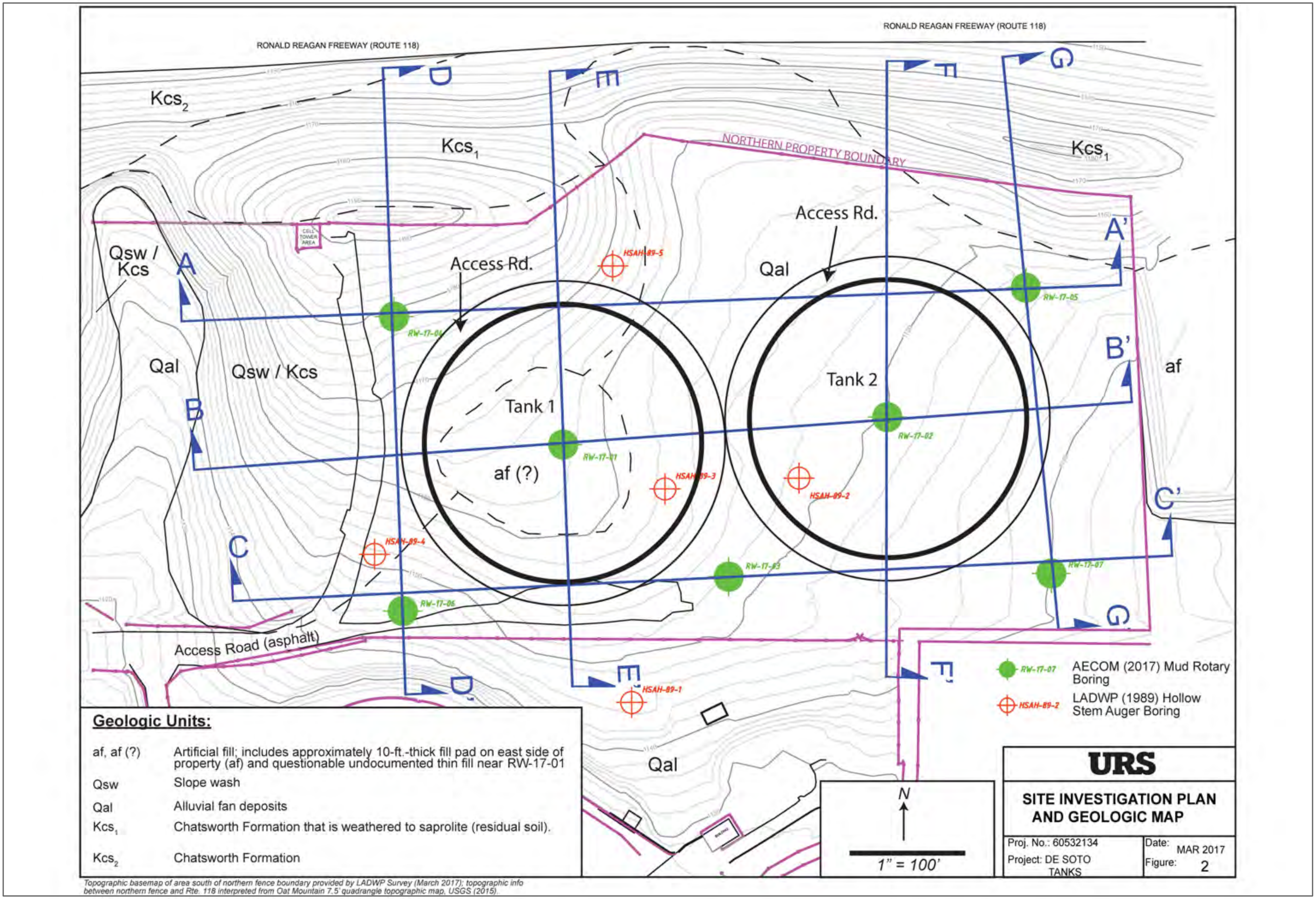

SOURCE: URS 2018

LA DWP Los Angeles Department of Water & Power

0 100 200 Feet

FIGURE 3.5-2

Topography and Geology

Los Angeles Department of Water and Power

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3.6 Noise

This section describes the noise-sensitive resources present in the project area; discusses applicable federal, state, and regional regulations pertaining to noise; and evaluates the potential effects on noise associated with development of the De Soto Tanks and Pump Station Project (proposed project or project).

Information contained in this section is based on a noise measurement survey and noise analysis of the project area. Other sources consulted are listed in Section 3.6.8.

During the project's Initial Study (Appendix A), the following issue area was addressed and determined to be less than significant impact: exposure of people residing or working in the project area to excessive noise from airports or private airstrips. As such, this issue will not be analyzed in this noise section.

3.6.1 Existing Conditions

This section describes the existing conditions in the project area as they pertain to noise and also identifies resources that could be affected by the proposed project.

Noise Concepts

Noise is generally defined as loud, unexpected, or undesired sound, typically associated with human activity. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The definition of noise as unwanted sound implies that it has an adverse effect on people and their environment.

Sound is measured in terms of intensity, which describes the sound's loudness and is measured in decibels (dB); frequency or pitch, measured in cycles per second or hertz; and duration of sound. Sound is composed of various frequencies; however, the human ear does not respond to all frequencies, being less sensitive to very low and high frequencies than to medium frequencies that correspond with human speech. Sound level meters adjust for the weight the human ear gives to certain frequencies, applying a correction to each frequency range to approximate the human ear's sensitivity within each range. This is called "A-weighting" and is commonly used in measurements of community environmental noise. The A-weighted decibel (dBA) is determined to be the most appropriate unit of measure for community noise.

The unit of measure for the cumulative effect of community noise is the community noise equivalent level (CNEL), which is the average noise level for a 24-hour period. The CNEL is often used to describe the relationship of a continuous noise source, such as traffic, to the desirable ambient noise level (normal and existing noise level). The CNEL is adjusted to reflect the greater sensitivity to noise during evening and nighttime hours, with a 5 dBA penalty assigned to noise between 7 p.m. and 10 p.m., and a 10 dBA penalty assigned to noise between 10 p.m. and 7 a.m. Due to fluctuations in community noise over time, a single measurement called the equivalent sound level (L_{eq}) is often used to describe the time-varying character of community noise. L_{eq} is the energy-averaged A-weighted sound level during a measured time interval, and it is equal to the level of a continuous, steady sound containing the same total acoustical energy over the averaging time period as the actual time-varying sound.

To respond to the human ear's sensitivity to sound, the range of audible sounds exist on a logarithmic scale that takes into account the large differences in audible sound intensities. On this scale, for example, a sound level of 0 dBA is approximately the threshold of human hearing. Normal speech has a sound level of approximately 60 dBA. Sound levels above approximately 120 dBA begin to be felt inside the human ear as discomfort and eventually as pain at slightly higher levels. In the context of community noise (i.e., outside of a listening laboratory or other controlled conditions), the minimum change in the sound level of individual events that an average human ear can detect is approximately 3 dBA. A 10 dBA increase is normally perceived as a doubling of sound.

There are three conceptual components to noise: the source, the transmission path, and the receiver. Noise can be reduced by reducing noise at its source; by lengthening or interrupting the transmission path through diversion, absorption, or dissipation; or by protecting the receiver through noise insulation. The most efficient and effective means of abating noise is to reduce noise at its source. The source noise can be controlled through regulation, such as following restrictions outlined in noise ordinances, muffling techniques, or soundproofing. The transmission path can be interrupted by creating a buffer between the source and the receiver, such as a noise wall, earth embankment, or building. The receiver can be protected from noise impacts through insulation, building orientation, or shielded areas.

Noise sources can be classified in two forms: (1) point sources, such as stationary equipment (pumps), and (2) line sources, such as a roadway with a large number of pass-by sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6 dBA for each doubling of distance from the source to the receptor. For example, a 60 dBA noise level measured at 50 feet from a point source would be 54 dBA at 100 feet from the source and 48 dBA at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3 dBA and 4.5 dBA per doubling of distance from the source to the receptor for hard and soft sites, respectively. Typical sound levels generated by various activities are indicated in Table 3.6-1.

Table 3.6-1
Typical Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet fly-over at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 miles per hour		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
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher next room

Table 3.6-1
Typical Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013.

Sound levels can also be attenuated by built or natural barriers. Intervening noise barriers, such as solid walls or berms, typically reduce noise levels by 5 to 10 dBA. Structures can also provide noise reduction by insulating interior spaces from outdoor noise. The exterior-to-interior noise attenuation provided by typical California building structures ranges from 15 to 25 dBA with windows open and closed, respectively. Acoustically designed enclosures and buildings can provide up to approximately 50 dBA of noise reduction, depending on the noise abatement treatments.

Vibration Concepts

Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground. The strength of groundborne vibration diminishes (or “attenuates”) fairly rapidly over distance. Some soil types transmit vibration quite efficiently; other types (primarily “sandy” soils) do not. Ground-borne vibration information related to construction activities has been collected by the California Department of Transportation (Caltrans 2013). Structural response to vibration is typically evaluated in terms of peak particle velocity (ppv), which is often used since it is related to the stresses that are experienced by the buildings. Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inches per second begin to annoy people. Various general standards are contained in the International Standards Organization’s Standards 3945, 4866, and 7626-1. Limits set by these standards indicate a low probability of structural damage occurring to common structures at a peak particle velocity of 2.0 inches per second. Older (and non-reinforced) masonry structures would have a limit of 0.75 to 1.0 inch per second (Caltrans 2013). The Federal Transit Administration identifies a vibration damage threshold criterion of 0.20 inch per second for non-engineered timber and masonry buildings (i.e., fragile buildings), or 0.12 inch per second for buildings extremely susceptible to vibration (i.e., fragile historic buildings) (DOT 2018). For the purposes of this analysis, in which no historic or fragile buildings exist in the immediate vicinity, a damage threshold of 0.50 inches per second PPV is utilized.

Project Location

The project would be located at 11200 De Soto Avenue, in the Chatsworth community of City of Los Angeles. The project site is generally bounded by the 118 Freeway to the north, De Soto Avenue to the west, Rinaldi Street to the south and east. Existing development that adjoins the LADWP property includes Sierra Canyon School to south/southeast of the project site and residential properties to the southwest. Undeveloped property adjoins the LADWP property to the south, west, and northeast. The 118 Freeway is located directly north of the project site. Surrounding uses include Sierra Canyon School to the west of De Soto Avenue, residential development south and southeast of Rinaldi Street, and open space and residential development north of the 118 Freeway. Currently, the project site and surrounding area are subject to traffic noise associated with adjacent roadways, including De Soto Avenue and Rinaldi Street; in addition, noise is generated by the adjacent Sierra Canyon School, and nearby residences.

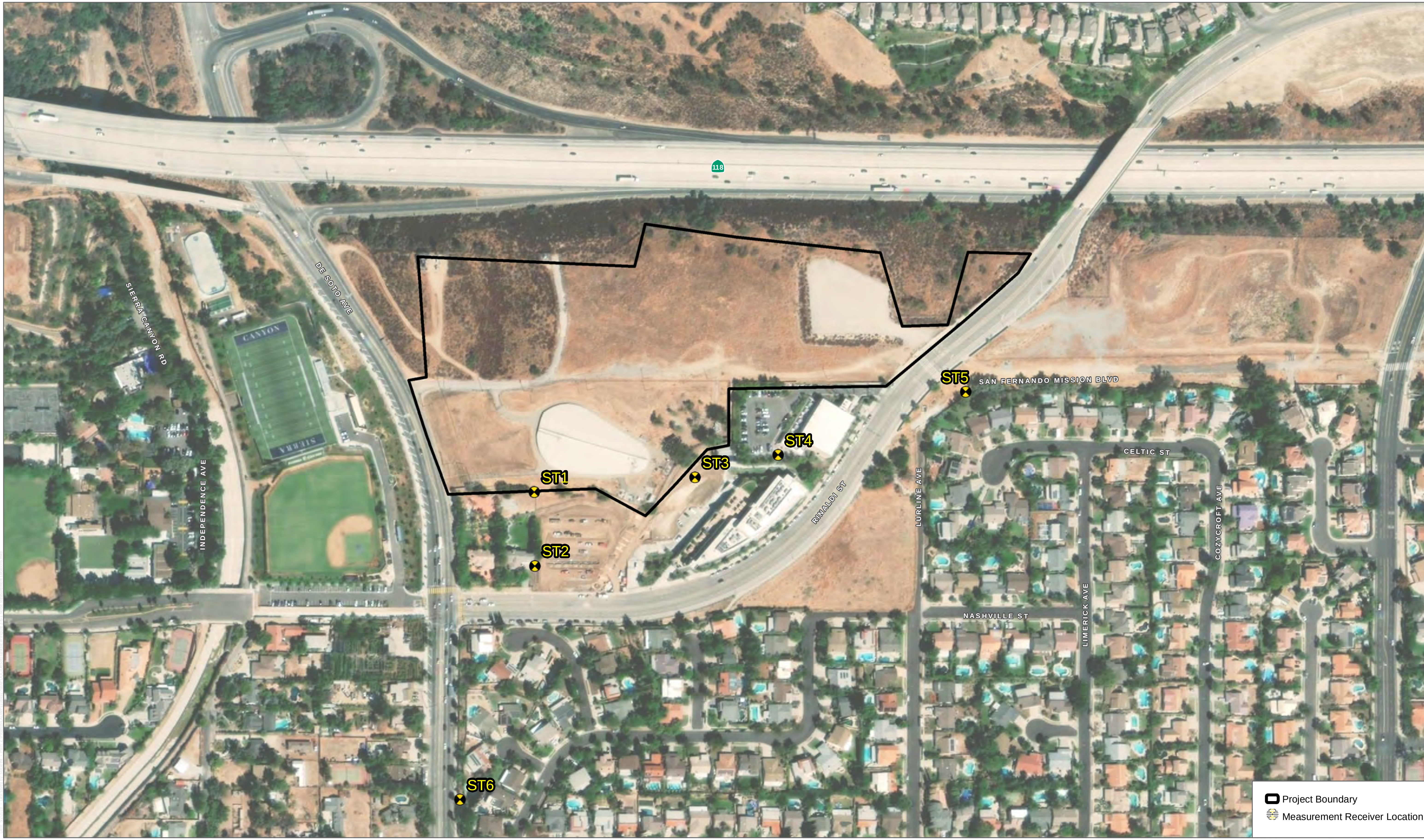
Noise measurements were conducted on and near the proposed project site on May 9, 2018 and February 12, 2019, to characterize the existing noise environment. The noise measurements were made using a Piccolo Integrating Sound Level Meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 2 (General Use) sound level meter. The calibration of the sound level meter was verified before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Six short-term noise measurements (ST1 through ST6) were conducted, each 15 minutes in duration. These noise measurement locations represent key potential sensitive receptors or sensitive land uses adjacent to the project site / pipeline alignment. The noise measurement locations are shown on Figure 3.6-1; the average noise levels at the short-term noise measurement locations are provided in Table 3.6-2. As shown in Table 3.6-2, existing energy-averaged noise levels (L_{eq}) range from 57 to 72 dBA at locations adjacent to the project site. The primary noise sources consisted of traffic along the adjacent roads.

Table 3.6-2.
Short-Term Noise Measurement Summary

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	South of project site, west of school campus, northeast of residences	May 9, 2018	10:49 a.m.–11:04 a.m.	57.6	68.5
ST2	Approximately 200 feet south of project site, west of school campus, east of residences	May 9, 2018	11:08 a.m.–11:23 a.m.	58.2	78.9
ST3	Sierra Canyon School, northwest side of campus	May 9, 2018	11:36 a.m.– 11:51 a.m.	58.7	68.5
ST4	Sierra Canyon School, central area	May 9, 2018	11:56 a.m. – 12:11 p.m.	59.3	74.3
ST5	Adjacent to proposed pipeline alignment and residences along Rinaldi Street	February 12, 2019	9:31 a.m. – 9:46 a.m.	57.3	65.9
ST6	Adjacent to proposed pipeline alignment and residences along De Soto Avenue	February 12, 2019	10:00 a.m. – 10:15 a.m.	71.6	85.7

Source: Appendix E.
L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval;
ST = short term



SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 125 250 Feet

FIGURE 3.6-1

Noise Measurement Locations

LADWP De Soto Tanks Project

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3.6.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal noise standards that would directly regulate environmental noise during construction and operation of the proposed project. However, with regard to construction worker safety, the Office of Safety and Health Administration (OSHA) regulations would safeguard the hearing of workers exposed to occupational noise.

Federal Transit Administration

Though not regulatory in nature, the U.S. Department of Transportation Federal Transit Administration (DOT) has established vibration guidance for various land uses based on their potential for human annoyance and activity disruption. In general, and according to DOT guidelines, groundborne vibration of 75 velocity decibels (VdB) or greater would be considered potentially annoying. Vibration of 85 VdB or greater would likely be highly annoying and disruptive for most land uses (DOT 2018). (VdB is a unit used to measure and describe vibration.) These guidelines are generally used to evaluate the significance of operational effects from transit projects. However, these guidelines are referenced in this EIR for the purposes of quantitatively describing the levels of vibration that are typically considered disruptive.

Typically, potential building and structural damages are the foremost concern when evaluating the impacts of construction-related vibration. Table 3.6-3 summarizes the DOT's vibration guidelines for building and structural damage.

Table 3.6-3
Groundborne Vibration Damage Potential

Building Category	Vibration Damage (in/sec PPV)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: DOT 2018.
Notes: PPV = peak particle velocity

State

Government Code Section 65302(g)

California Government Code Section 65302(g) requires the preparation of a noise element in a general plan, which must identify and appraise the noise problems in the community. The noise element must recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for the following sources in the general plan's planning area:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems

- Aviation and airport-related operations
- Local industrial plants
- Other ground stationary noise sources contributing to the community noise environment

California General Plan Guidelines

The California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR), provides guidance for the acceptability of specific land use types within areas of specific noise exposure. Table 3.6-4 presents guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. OPR guidelines are advisory in nature. Local jurisdictions, including the City of Los Angeles, have the responsibility to set specific noise standards based on local conditions.

Table 3.6-4
Land Use Compatibility for Community Noise Environments

	Community Noise Exposure (CNEL)			
	Normally Acceptable[1]	*Conditionally Acceptable*[2]	*Normally Unacceptable*[3]	*Clearly Unacceptable*[4]
Residential-low density, single-family, duplex, mobile homes	50–60	55–70	70–75	75–85
Residential – multiple-family	50–65	60–70	70–75	70–85
Transit lodging – motel, hotels	50–65	60–70	70–80	80–85
Schools, libraries, churches, hospitals, nursing homes	50–70	60–70	70–80	80–85
Auditoriums, concert halls, amphitheaters	NA	50–70	NA	65–85
Sports arenas, outdoor spectators sports	NA	50–75	NA	70–85
Playgrounds, neighborhood parks	50–70	NA	67.5–77.5	72.5–85
Golf courses, riding stables, water recreation, cemeteries	50–70	NA	70–80	80–85
Office buildings, business commercial and professional	50–70	67.5–77.5	75–85	NA
Industrial, manufacturing, utilities, agriculture	50–75	70–80	75–85	NA

Source: OPR 2003
Notes: CNEL = community noise equivalent level; NA = not applicable

1 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

2 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

3 Normally Unacceptable: New construction or development should be discouraged. If new construction of development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.

4 Clearly Unacceptable: New construction or development should generally not be undertaken.

Local

City of Los Angeles

City of Los Angeles Municipal Code

The City of Los Angeles regulates noise through several sections of its municipal code. These include Section 41.40 (Noise Due to Construction, Excavation Work – When Prohibited), which establishes time prohibitions on noise generated by construction activity; Section 112.04 (Powered Equipment Intended for Repetitive Use in Residential Areas and Other Machinery, Equipment and Devices), which prohibits the use of loud machinery and/or equipment within 500 feet of residences and prohibits noise from machinery, equipment, or other devices that would result in an increase of more than 5 dB above the ambient noise level at residences[1]; and Section 112.05 (Maximum Noise Level of Powered Equipment or Powered Hand Tools), which establishes maximum noise levels for powered equipment and powered hand tools (i.e., 75 dBA at a distance of 50 feet for construction, industrial, and agricultural equipment between the hours of 7:00 a.m. and 10:00 p.m.). According to Section 41.40, no construction activity that might create loud noises in or near residential areas or buildings shall be conducted between the hours of 9:00 p.m. and 7:00 a.m. on weekdays, before 8:00 a.m. or after 6:00 p.m. on Saturdays, or at any time on Sundays or national holidays.

3.6.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to noise are based on Appendix G of the 2019 CEQA Guidelines. Through the analysis in the Initial Study (see Appendix A), it was determined that the proposed project would not expose people residing or working in the project area to excessive noise from airports or private airstrips. (i.e., Threshold C). As such, these issues are not further analyzed in the EIR. Based on the remaining thresholds, implementation of the proposed project would have a significant impact related to noise if it would:

1. Result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Result in the generation of excessive groundborne vibration or groundborne noise levels.

3.6.4 Methodology

The noise assessment quantifies construction and operational noise generation and the resulting noise levels at noise-sensitive receptors in the project vicinity. Assumptions regarding construction activities, construction equipment, and duration of construction activities are based on information from on information provided by the proposed project applicant and California Emissions Estimator Model (CalEEMod) default values when proposed project specifics were not known. The Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at a typical distance to the nearest noise-sensitive land uses. Input variables for RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two excavators, a loader,

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[1] Applies to operational activities, as opposed to construction (i.e., temporary) activities.

a dump truck), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. The RCNM has default duty cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty cycle values were utilized for this analysis. Short-term noise impacts were assessed by comparing construction noise levels to ambient noise levels in the project area and by evaluating the proposed project's compliance with applicable municipal codes. Groundborne vibration was assessed using guidance and methodologies from DOT (DOT 2006).

For operational noise effects, ambient noise measurements were conducted to quantify the existing daytime noise environment in the project area. The levels of operational noise from on-site mechanical equipment were estimated using source data and specifications provided by the proposed project applicant and standard equations and calculations for noise attenuation with distance.

3.6.5 Impact Analysis

Threshold NOI-1: Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Short-Term Construction Noise

Construction is anticipated to take approximately 6.5 years to complete, beginning in early 2023. During construction of the proposed project, activities would include site preparation, installation of piping and conduit, concrete pouring, equipment installation, and erection of structures. Construction activities would require the use of standard construction equipment such as loaders, dozers, dump trucks, soil compaction equipment, concrete pumps, and cranes. Construction equipment with substantially higher noise-generation characteristics (such as pile drivers, rock drills, blasting equipment) would not be necessary for the proposed project.

The range of maximum noise levels for various types of construction equipment at a distance of 50 feet is depicted in Table 3.6-5. The noise values represent maximum noise generation, or full-power operation of the equipment. Simultaneous operation of more than one piece of equipment would increase the sound level of the equipment operating individually. As an example, a loader and two dozers, all operating at full power and relatively close together, would generate a maximum sound level of approximately 90 dBA at 50 feet from their operating locations. As one increases the distance between equipment, and/or the separation of areas with simultaneous construction activity, dispersion and distance attenuation reduce the effects of separate noise sources added together. In addition, typical operating cycles may involve 2 minutes of full-power operation, followed by 3 or 4 minutes at lower levels. The average noise level during construction activity is generally lower, since maximum noise generation may only occur up to 50% of the time.

Table 3.6-5
Construction Equipment Maximum Noise Emission Levels

Equipment	Maximum Sound Level (dBA) 50 Feet from Source
Roller	74
Concrete vibrator	76
Pump	76
Saw	76
Backhoe	80
Air compressor	81
Generator	81
Compactor	82
Concrete pump	82
Crane, mobile	83
Concrete mixer	85
Dozer	85
Grader	85
Impact wrench	85
Loader	85
Pneumatic tool	85
Jackhammer	88
Truck	88
Paver	89

Source: DOT 2018.

The nearest off-site sensitive receptors to the on-site project boundaries are the school located just to the southeast within approximately 100 feet and residences to the southwest and southeast of the project site located approximately 300 feet from the nearest planned construction. More typically, construction activities would take place approximately 300 feet from the adjacent school and approximately 500 feet from adjacent residences[2]. For the off-site pipeline installation phase, the nearest sensitive receptors to the project site are residences located as close as 30 feet from the pipeline alignment. Because of the linear nature of the work, the amount of time that pipeline construction work would occur immediately adjacent to any one noise-sensitive receiver would generally be relatively short (typically, one to two days for excavation pit pipeline installation). Furthermore, the length of time that excavation pit pipeline construction work is anticipated to be in general proximity (i.e., within several hundred feet) of any one noise-sensitive receiver would be one week or less.

The Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest noise-sensitive land uses. Although the model was funded and

2 Because proposed construction activities would take place both near and far relative to any one noise-sensitive receiver, the concept of the "acoustic center" is used for providing typical noise levels. The acoustic center is the idealized point from which the energy sum of all activity noise, near and far, would be centered. The acoustic center is derived by taking the square root of the product of the nearest and the farthest equipment noise–receiver distances.

promulgated by the Federal Highway Administration, the RCNM is often used for non-roadway projects because the same types of equipment used for roadway projects are also used for other project types. Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical demolition activity patterns (FHWA 2008). Those default duty-cycle values were used for this noise analysis.

Using the Federal Highway Administration's RCNM construction noise model and construction information (types and number of construction equipment by phase), the estimated noise levels from construction (summarized in Table 3.6-6) were calculated for both the relatively brief periods of time during which construction would take place at the nearest source-receiver distances, and during the longer periods of time when construction would take place both near and far from adjacent receivers. The RCNM inputs and outputs are provided in Appendix E.

Table 3.6-6
Construction Noise Model Results Summary

Construction Phase	Construction Noise at Representative Receiver Distances (L_{eq} (dBA))			
	Nearest Source - School Distance	*Typical Source - School Distance*	*Nearest Source - Residence Distance*	*Typical Source - Residence Distance*
Demolition	80	74	74	73
Excavation	78	74	71	67
Tank Construction	71	70	72	68
Pump Station Construction	77	71	68	65
Pipeline Installation	78	73	84	76
Flow Control Station Construction	79	74	71	67
Finish Grading / Site Improvements	79	74	68	67

Source: Appendix E

As presented in Table 3.6-6, the highest noise levels are predicted to occur at residences adjacent to the pipeline installation work, when noise levels would be as high as 84 dBA L_{eq} when construction would take place within approximately 30 feet of residential land uses. More typically, construction activity noise in the vicinity of the pipeline alignments would be approximately 76 dBA L_{eq}. On-site construction noise would range from approximately 68 to 74 dBA L_{eq} when construction takes place adjacent to the nearest residences; typical construction noise levels would range from approximately 65 to 73 dBA L_{eq}. At the school located to the southeast of the project site, construction noise levels are estimated to be as high as 80 dBA L_{eq} when demolition activities would take place within approximately 100 feet of the school. More typically, construction activity noise in the vicinity of the school would range from approximately 70 to 74 dBA L_{eq}.

Although the nearby residences and the school would be exposed to elevated construction noise levels, the exposure would be short term and would cease upon completion of project construction. It is anticipated that active construction associated with the proposed project would generally take place within the allowable hours per Section 41.40 of the City of Los Angeles Municipal Code (7:00 a.m. through 9:00 p.m. Monday through Friday, 8:00 a.m. through 6:00 p.m. on Saturdays, if weekend work is necessary, and would not occur on Sundays or national holidays. In the event that construction is required to extend beyond these times, extended hours permits would be required. As such, construction would not violate City of Los Angeles standards for construction.

However, construction noise levels would be substantially higher than existing ambient daytime noise levels. For this reason, noise impacts from construction would be considered **potentially significant**. Mitigation measures **MM-NOI-1** and **MM-NOI-2** (Section 3.6.6) have been set forth to reduce construction noise associated with the proposed project and to ensure that nearby receptors are informed of construction activities.

Long-Term Operational Noise

The proposed tanks would store potable water to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. The proposed pressure flow control station would reduce the water pressure coming from Los Angeles Aqueduct Filtration Plant, which has an 1190-foot high water elevation, to the De Soto Tanks, which have an 1130-foot high water elevation. The proposed De Soto Pump Station would pump water from the De Soto Tanks to the 1305-foot pressure zone in the southwest valley. No workers would be required to operate these facilities on a daily basis; however, these facilities would require periodic maintenance. As such, operational activities would be essentially the same as those that occur under existing conditions. Therefore, noise impacts related to maintenance during operations would be **less than significant**.

Noise from the proposed mechanical equipment was estimated using information provided by the project applicant. The 900-horsepower, split-case pumps and the attached motors would be completely enclosed within a masonry building designed and constructed for the purpose. In order to ensure that the pumps and motors do not overheat, the building would be fitted with a heating, ventilation and air conditioning (HVAC) system. At any one time, between 1 and 3 of the pumps would be operational to meet demand. For the purposes of the noise estimate, it was assumed that 3 pumps would be operational (in addition to the HVAC system), and that the pump station building would provide a minimum noise reduction level of 30 dB, which is highly conservative for a structure of this type[3]. The nearest noise-sensitive land use is the school, located approximately 100 feet to the south. The nearest residence is located approximately 400 feet to the southeast. The resulting noise levels are summarized in Table 3.6-7. The noise calculations worksheet is provided in Appendix E.

[3] Residential dwellings of masonry construction with double-glazed windows and provide approximately 35 dB noise reduction (FHWA 2011). The windows provide substantially less noise reduction than the other building components. The proposed structure would have no windows, and therefore would achieve more noise reduction.

Table 3.6-7
On-Site Mechanical Noise Results Summary (Pumps and HVAC Equipment)

Equipment	Mechanical Equipment[1] Noise Level (L_{eq} (dBA))	
	School	*Nearest Residence*
Pumps	44.1	32.0
HVAC	53.3	41.3
Total Mechanical Equipment Noise	53.8	41.8
Ambient Noise Level (Daytime)[2]	59.3	57.3
Ambient Noise Level plus Mechanical Equipment Noise - Daytime	60.4	57.4
Resulting Noise Increase	1.1	0.1
Significant Noise Increase (5 dB or greater)?	No	No
Ambient Noise Level (Nighttime)[3]	n/a[4]	46.7
Ambient Noise Level plus Mechanical Equipment Noise - Nighttime	n/a[4]	47.9
Resulting Noise Increase	n/a[4]	1.2
Significant Noise Increase (5 dB or greater)?	n/a[4]	No

Source: Appendix E

1 Analysis is based upon the following reference source levels (provided by LADWP staff):
Pump Noise Level (each): 99 dBA at 3.28 feet
HVAC Noise Level: 83 dBA at 3.28 feet

2 See Table 3.6-2

3 Estimated using the daytime noise level measurements and the diurnal changes in noise levels from roadway noise

4 n/a - School is operational during daytime and evening hours only. Nighttime hours (10 p.m. to 7 a.m.) noise levels not relevant.

As shown in Table 3.6-7, the proposed project would generate noise levels well below the measured daytime ambient noise levels, and would result in a maximum noise increase of approximately 1 decibel, which would not be an audible change in the noise levels, and would be less than significant. Similarly, during nighttime hours, when ambient noise levels are lower, the proposed project would result in a maximum noise level increase of approximately 1 decibel at the nearest residence. Therefore, noise from the operational equipment would be **less than significant**.

Periodic Generator Noise

In addition to the noise from pumps and HVAC equipment detailed above, the proposed project would include an emergency generator which would be utilized in the event of a power failure or disruption, to ensure ongoing safe operation of the facility. The noise from the emergency generator during such an emergency is exempt under Section 112.04 of the City's Municipal Code; however, the generator would be required to be tested periodically. Based upon information provided by LADWP staff, the generator would be tested once per month, for a period of approximately 30 minutes. The testing would occur during daytime hours. Using the generator's equipment specifications[4] provided by LADWP staff, the resulting noise levels at the nearest noise-sensitive land uses during generator testing were estimated.

The resulting noise levels are summarized in Table 3.6-8. The noise calculations worksheet is provided in Appendix E.

Table 3.6-8
On-Site Mechanical Noise Results Summary (Pumps and HVAC Equipment)

Equipment	Mechanical Equipment[1] Noise Level (L_{eq} (dBA))	
	School	*Nearest Residence*
Emergency Backup Generator	53.0	41.0
Pumps and HVAC	53.8	41.8
Total Mechanical Equipment Noise	56.4	44.4
Ambient Noise Level (Daytime)[2]	59.3	57.3
Ambient Noise Level plus Mechanical Equipment Noise - Daytime	61.1	57.5
Resulting Noise Increase	1.8	0.2
Significant Noise Increase (5 dB or greater)?	No	No

Source: Appendix E
1 Analysis is based upon the following reference source levels (provided by LADWP staff):
Generator Noise Level: 65.8 dBA at 23 feet
Pump Noise Level (each): 99 dBA at 3.28 feet
HVAC Noise Level: 83 dBA at 3.28 feet
2 See Table 3.6-2
3 Estimated using the daytime noise level measurements; testing would occur during daytime hours only.

As shown in Table 3.6-8, the proposed emergency generator, in combination with the proposed HVAC equipment and pumps, would generate noise levels below the measured daytime ambient noise levels, and would result in a maximum noise increase of approximately 2 decibels, which would not be an audible change in the noise levels, and would be **less than significant**.

Threshold NOI-2: Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

Construction activities that might expose persons to excessive ground-borne vibration or ground-borne noise could cause a potentially significant impact. Ground-borne vibration information related to construction activities (including demolition) has been collected by the California Department of Transportation (Caltrans 2013). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inches per second begin to annoy people. The heavier pieces of construction equipment, such as bulldozers, would have peak particle velocities of approximately 0.089 inches per second or less at a distance of 25 feet (DOT 2018). Ground-borne vibration is typically attenuated over short distances. At

4 The emergency backup generator would be either within the pump station building or within a custom acoustical enclosure, and would be fitted with an engine silencer. Equipment silencer specifications are provided in Appendix E.

the distance from the nearest vibration-sensitive receivers (the school buildings) to where demolition / construction activity would be occurring on the project site (approximately 100 feet), and with the anticipated construction equipment, the peak particle velocity vibration level would be approximately 0.011 inches per second. These vibration levels would be well below the vibration threshold of potential annoyance of 0.1 inches per second.

At the distance from the nearest residences to the pipeline installation areas (approximately 30 feet) and with the anticipated construction equipment, the peak particle velocity would be approximately 0.068 inch/second. At the closest sensitive receptors, vibration levels would not exceed the vibration threshold of potential annoyance of 0.1 inch/second. Therefore, vibration impacts related to pipeline installation would be less than significant.

The major concern with regards to construction vibration is related to building damage, which typically occurs at vibration levels of 0.5 inches per second or greater for buildings of reinforced-concrete, steel or timber construction. As discussed above, the anticipated vibration levels associated with on-site project construction and pipeline installation would be approximately 0.004 and 0.068 inches per second respectively, which are well below the threshold of 0.5 inches per second for building damage. Therefore, potential vibration impacts would be **less than significant**.

3.6.6 Mitigation Measures

MM-NOI-1: Construction Noise Reduction

The Los Angeles Department of Water and Power and/or its construction contractor shall comply with the following measures during construction:

1. Construction activities shall not occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, 6:00 p.m. and 8:00 a.m. on Saturday, or on Sundays or national holidays. In the event that construction is required to extend beyond these times, extended hours permits shall be required.
2. Pumps and associated equipment (e.g., portable generators etc.) shall be shielded from sensitive uses using local temporary noise barriers or enclosures or shall otherwise be designed or configured so as to minimize noise at nearby noise-sensitive receivers.
3. Construction, including open-trench activities, pipe jacking activities, and staging of construction equipment shall not occur within 20 feet of any noise- or vibration-sensitive land uses.
4. All noise-producing equipment and vehicles using internal combustion engines shall be equipped with mufflers; air-inlet silencers where appropriate; and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.
5. All mobile or fixed noise-producing equipment used for the project that are regulated for noise output by a local, state, or federal agency shall be in compliance with regulations.
6. Idling equipment shall be kept to a minimum and moved as far as practicable from noise-sensitive land uses.
7. Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where feasible.

8. Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.
9. The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be used for safety warning purposes only.

MM-NOI-2: Notification

Effective communication with local residents and the adjacent school shall be maintained prior to and during construction. Specifically, the Los Angeles Department of Water and Power shall inform local residents and school administrators of the schedule, duration, and progress of the construction. Additionally, residents and the school administrators shall be provided contact information for noise- or vibration-related complaints.

3.6.7 Level of Significance after Mitigation

The effectiveness of the measures listed in MM-NOI-1 would vary from several decibels (which in general is a relatively small change) to ten or more decibels (which would be perceived as a substantial change). The range of effectiveness would vary based on the equipment in use, the original condition of the equipment, the specific location of the noise source and receiver, etc. Installation of a temporary noise barrier, for example, would vary in effectiveness depending upon the degree to which the line-of-sight between the source and receiver is broken. The noise reduction achieved by a barrier typically ranges from 5 to 10 dB. The noise reduction achieved by equipment silencers would range from several decibels to well over 10 decibels. Limiting equipment idling could reduce overall noise levels up to several decibels. However, the measures listed in MM-NOI-1, in conjunction, would result in a substantial decrease in construction noise. While MM-NOI-2 would not reduce construction noise levels, it would ensure that receptors in the project area are prepared for any nuisances that may occur and would allow them to plan accordingly. Upon implementation of MM-NOI-1 and MM-NOI-2 listed in Section 3.6.6., impacts would be **less than significant with mitigation incorporated**.

3.7.8 References Cited

Caltrans (California Department of Transportation). September, 2013. *Transportation and Construction Vibration Guidance Manual*. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. Sacramento, CA.

DOT (U.S. Department of Transportation). 2018. Transit Noise and Vibration Impact Assessment Manual. DOT, Federal Transit Administration. September 2018.

FHWA (Federal Highway Administration). 2008. *Roadway Construction Noise Model (RCNM), Software Version 1.1*. U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division. Washington, D.C.

FHWA. 2011. *Highway Traffic Noise: Analysis and Abatement Guidance*. FHWA-HEP-10-025. December 2011. Accessed 4/8/2019. https://www.fhwa.dot.gov/ENVIRonment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf

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3.7 Transportation

This section describes the existing transportation setting of the De Soto Tanks and Pump Station Project (proposed project or project) area; discusses applicable federal, state, and regional regulations pertaining to transportation; and evaluates the potential construction transportation-related impacts associated with development of the proposed project. At completion of the proposed project, permanent operations of the project would generate nominal traffic associated with occasional, routine maintenance by LADWP (same as those generated under existing conditions). Therefore, project transportation impacts, though temporary in nature, will be focused on the Peak Construction Year phase of the proposed project (i.e., excavation activities).

Information contained in this section is based on traffic analysis of the roadway network identified in the project area conducted by Dudek (Appendix F). Other documentation used in this analysis included review of transportation analysis policies and guidelines from Caltrans, the Los Angeles County Congestion Management Program (CMP), Senate Bill 743, and City of Los Angeles Department of Transportation (LADOT).

3.7.1 Study Area

The proposed project would involve excavation of the site north of the existing De Soto Reservoir, followed by construction of two-new concrete tanks, and upon completion of the proposed project, demolition of the existing reservoir. The project also includes construction of new pipelines that would extend off site and connect to the existing lines along Rinaldi Street and De Soto Avenue. Figure 3.7.1 shows the project site location and study area. The study area includes eight major intersections and are the locations that are most likely to be impacted by the proposed project.

1. De Soto Avenue/State Route 118 (SR-118) westbound ramps
2. De Soto Avenue/SR-118 eastbound ramps
3. De Soto Avenue/Rinaldi Street
4. De Soto Avenue/Chatsworth Street
5. Mason Avenue/Rinaldi Street
6. Porter Ranch Drive/Rinaldi Street
7. Porter Ranch Drive/SR-118 westbound ramps
8. Porter Ranch Drive/SR-118 eastbound ramps

3.7.2 Methodology

3.7.2.1 Intersection Analysis Methodology

The project setting was developed by reviewing the existing transportation network in the project vicinity. This review was supplemented with traffic counts collected in April and October 2018. Trip generation during the Peak Construction Year period was analyzed to determine project-level impacts to the transportation network. Worker, vendor truck, and haul truck trips were calculated for each phase of the proposed construction schedule to identify the Peak Construction Year period. The Peak Construction Year period analyzes the scenario during which the maximum total daily trips are generated.

The information review also included review of intersection analysis methodologies for analyzing impacts to the intersections identified in the study area.

Per City of Los Angeles Department of Transportation (LADOT) *Traffic Impact Study Guidelines* (December 2016) the intersection evaluation methodology for development projects is based on the Transportation Research Board, Circular 212 Critical Movement Analysis (CMA) Planning Method for analyzing traffic operating conditions at study intersections. CMA is a method that determines the volume to capacity (V/C) ratio on a critical lane basis and the level of service (LOS) associated with each V/C ratio at an intersection. The intersections within LADOT jurisdiction were analyzed using the CMA methodology.

The intersection evaluation methodology for transportation infrastructure projects is based on the Highway Capacity Manual (HCM) methodology for analyzing traffic operating conditions at study intersections. HCM is a method that determines the average control delay per vehicle (in seconds) and the level of service (LOS) associated with vehicle delays at an intersection. Per Caltrans requirements, the ramp intersections with SR-118 at De Soto Avenue and Porter Ranch Drive were analyzed using the HCM methodology.

The operational characteristics of an intersection are also determined by calculating the intersection's LOS. The intersection as a whole and its individual turning movements can be described alphabetically with a range of levels of service (A through F), with LOS A indicating free-flow traffic and LOS F indicating extreme congestion and long vehicle delays. Caltrans and LADOT (for transportation infrastructure projects) utilize the Highway Capacity Manual's (HCM) delay-based methodology to assess transportation impacts on intersections. Table 3.7-1 provides a description of the different LOS performance measures and associated terms of delay per vehicle.

Table 3.7.1

Level of Service Definitions for Signalized Intersections

Level of Service	Volume/Capacity Ratio	Delay per Vehicle (sec/vehicle)	General Description
A	≤0.600	≤ 10	Free flow
B	0.601 to ≤0.700	> 10 - 20	Stable flow (slight delays)
C	0.701 to ≤0.800	> 20 - 35	Stable flow (acceptable delays)
D	0.801 to ≤0.900	> 35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	0.901 to ≤1.00	> 55 - 80	Unstable flow (intolerable delay)
F	>1.00	>80	Forced flow (jammed)

Source: LADOT *Traffic Impact Study Guidelines*, 2016.

3.7.2.2 Freeway Impact Analysis

Pursuant to the Freeway Impact Analysis Procedures agreement executed in October 2013 between LADOT and Caltrans District 7, as amended in December 2015, traffic studies may be required to conduct a focused freeway impact analysis in addition to the CMP analysis. Freeway mainline segments and off-ramps in the project vicinity that are forecast to receive net new project trips are subject to freeway impact analysis screening. This screening analysis is based solely on the comparisons between the expected net new project-related traffic volumes and the capacity of the subject mainline freeway segments and freeway off-ramps. Thus, cumulative conditions (i.e., related project's traffic volumes and regional growth) are not considered for purposes of the screening analysis. It should be noted that the Freeway Impact Analysis Procedures agreement between LADOT and Caltrans District 7 expired at the end of 2016 and is no longer required to be used for projects.

However, it should be noted that based on the screening criteria, the amount of peak hour project-related traffic expected to occur on the freeway system is not expected to meet the criteria for mainline freeway impact analysis. Thus, no analysis of potential impacts to the SR-118 mainline freeway system is required.

3.7.2.3 Significance Criteria

Los Angeles Department of Transportation (LADOT)

The proposed project is located within the City of Los Angeles and uses the significance criteria provided in the LADOT *Traffic Impact Study Guidelines* (December 2016). LADOT has adopted the following significance criteria to assess whether the addition of project trips would cause a significant impact on study area intersections:

A significant impact would occur if a land development project increases the volume to capacity (V/C) ratio equals or exceeds the thresholds shown in Table 3.17.2.

Table 3.7.2
Significance Criteria for Local Signalized Intersections for Development Projects

Level of Service	Final V/C Ratio	Project-Related Increase in V/C
C	0.701 to 0.800	equal to or greater than 0.040
D	0.801 to 0.900	equal to or greater than 0.020
E	0.901 or more	equal to or greater than 0.010
F	Greater than 1.00	equal to or greater than 0.010

Source: LADOT, *Traffic Impact Study Guidelines*, 2016.

A significant impact would occur if a transportation infrastructure project increases the delay per vehicle (in seconds) equals or exceeds the thresholds shown in Table 3.7.3.

Table 3.7.3
Significance Criteria for Local Signalized Intersections for Transportation Infrastructure Projects

Level of Service	Final Delay	Project-Related Increase in Delay
C	> 20 - 35	equal to or greater than 6.0 seconds
D	> 35 - 55	equal to or greater than 4.0 seconds
E	> 55 - 80	equal to or greater than 2.5 seconds
F	> 80	equal to or greater than 2.5 seconds

Source: LADOT, *Traffic Impact Study Guidelines*, 2016.

Caltrans

In the study area, the SR-118 facility and its ramp intersections with De Soto Avenue and Porter Ranch Drive are under Caltrans jurisdiction. Per Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002), the level of service for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and if an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained. Caltrans guidelines recommend utilizing HCM methodology for freeway segments and ramps. Therefore, Caltrans facilities were analyzed using the Caltrans significance criteria and HCM methodology.

3.7.3 Existing Conditions

This section describes existing conditions in the site vicinity, including existing street system, existing weekday AM and PM peak hour traffic volumes, existing roadway segment daily traffic volumes and traffic operations. The Existing Conditions are representative of the year 2018.

3.7.2.1 Street Network

Figure 3.7-2 shows the study area intersections and indicates their existing traffic controls and geometrics. Characteristics of the existing street system in the study area are shown in Table 3.7-4.

Table 3.7-4
Study Area Existing Street System Summary

Roadway	Street Classification	Posted Speed Limit (mph)	No. of Travel Lanes	Parking	Sidewalks	Existing Bicycle Lanes
De Soto Avenue	Boulevard II	40	4-6	Some sections/Time restrictions	Yes	No
Rinaldi Street	Avenue I	-	4	Some sections/Time restrictions	Yes	Yes

Source: LADCP 2017
mph = miles per hour

SR-118 is an east-west, freeway and expressway that provides scenic, commuter and commercial travel through Los Angeles and Ventura Counties and extends from State Route 126 (SR-126) to State Route 210 (SR-210). In the study area, it has eight-lanes (four lanes in each direction) and two-HOV lanes (one lane in each direction). SR-118 connects the communities of Simi Valley, Chatsworth, Porter Ranch, Granada Hills, and San Fernando, to Interstate 405 (I-405) and Interstate 5 (I-5) freeways.

De Soto Avenue is a north-south roadway that extends from SR-118 in the north to US-101 to the south and is classified as a Boulevard II by LADOT. In the vicinity of the project site and north of Chatsworth Avenue, De Soto Avenue is a four-lane roadway with a center, two-way-left-turn lane. De Soto Avenue has a paved sidewalk along west side of the roadway and parking is restricted along the roadway. The posted speed limit along De Soto Avenue near the project site is 25 miles per hour (MPH) due to the proximity to school zone of Sierra Canyon and its facilities. The average daily traffic (ADT) along De Soto Avenue, just north of Rinaldi Street site, is 47,900 ADT.

Rinaldi Street is an east-west roadway that extends from just west of De Soto Avenue and continues eastwards to I-5. It is classified as Avenue II by LADOT. In the vicinity of the project site, Rinaldi Street is a four-lane roadway with a center, two-way-left-turn lane. Rinaldi Street has a paved sidewalk on both sides of the roadway and parking is restricted along the roadway. The ADT along Rinaldi Street, just east of De Soto Avenue, near the project site, is 6,760 ADT.

3.7.2.2 Transit Network

The Los Angeles County Metropolitan Transportation Authority (LA Metro) and LADOT Transit provide transit service in the area. LA Metro Routes 158, 167, 242/243 and 244/245 as well as Commuter Express Route 410 provides bus service in the area, however, currently none of the bus routes operate in the study area along De Soto Route or Rinaldi Street.

3.7.2.3 Traffic Volumes

Existing peak hour turn movement counts at the study intersections were conducted in April and October 2018. Worksheets for the raw peak hour turn movement counts in the LADOT format are provided in Appendix F. The traffic volumes for trucks were converted to their passenger car equivalence by applying the appropriate passenger-car-equivalent factor, generally 1.5 for light trucks, 2.0 for medium-sized trucks and 3.0 for semi-trailer trucks. Figure 3.7-3 shows the Existing AM and PM peak hour traffic volumes (passenger car equivalent adjusted volumes).

3.7.2.4 Levels of Service

An intersection LOS analysis was prepared for the Existing conditions using the CMA and HCM methodologies, and Table 3.7-5 shows the results of the existing weekday peak hour LOS analysis. Worksheets for the LOS analysis are provided in Appendix F.

Table 3.7-5
Existing (2018) Weekday Peak Hour Intersection LOS

No.	Intersection	Control Type	LOS Method	AM Peak		PM Peak	
				V/C [1] */Delay*[2]	*LOS* [3]	*V/C* [1] */Delay*[2]	*LOS* [3]
1.	De Soto Avenue/SR-118 WB ramps	unsignalized	HCM	252.3	F	56.8	F
2.	De Soto Avenue/SR-118 EB ramps	unsignalized	HCM	261.9	F	40.7	E
3.	De Soto Avenue/Rinaldi Street	signalized	CMA	0.859	D	0.733	C
4.	De Soto Avenue/Chatsworth Street	signalized	CMA	0.669	B	0.613	B
5.	Mason Avenue /Rinaldi Street	signalized	CMA	0.614	B	0.892	D
6.	Porter Ranch Drive /Rinaldi Street	signalized	CMA	0.642	B	0.658	B
7.	Porter Ranch Dr/SR-118 WB ramps	signalized	HCM	22.5	C	16.7	B
8.	Porter Ranch Dr/SR-118 EB ramps	signalized	HCM	26.3	C	38.4	D

Source: Dudek 2018
CMA = LADOT CMA Methodology; HCM = HCM Methodology (for Caltrans facilities)
1 Volume-to-Capacity (V/C) ratio
2 Delay is calculated in seconds per vehicle
3 Level of Service (LOS)

As shown in the table, most of the study area intersections are currently operating at LOS D or better under existing conditions, except for the De Soto Avenue/SR-118 westbound ramps, which currently operates at LOS F during the AM and PM peak hours; and, the De Soto Avenue/SR-118 eastbound ramps, which currently operates at LOS F and E during the AM and PM peak hours, respectively.

It should be noted that the De Soto Avenue/SR-118 eastbound ramp intersection is unsignalized and has an eastbound right turn lane (on the off-ramp) that operate as a free right turn lane, therefore the vehicles experience no delay and the movement operates at LOS A. However, during the peak hours, a nominal volume of eastbound left turning vehicles (3 in the AM hour and 4 in the PM peak hour) experience high delays and cause the movement to operate at LOS F and E during the AM and PM peak hours, respectively. All other movements at this intersection currently operate at LOS B or better.

3.7.4 Peak Construction Year (Baseline) Conditions

Per the project's construction schedule (exact dates are tentative), shown in Appendix F, it is anticipated that the months of June to September in the year 2023 would contain the highest volumes of construction traffic (i.e., a total of workers and trucks) related to the excavation activities on the proposed project site. As previously noted, at completion of the proposed project, permanent operations would generate nominal traffic associated with routine maintenance by LADWP.

3.7.3.1 Traffic Volumes

Peak Construction Year Baseline traffic volumes include traffic from ambient growth, and traffic from the addition of cumulative projects in the vicinity of the project. A growth rate of 0.54% per year, provided in the "General

Traffic Volume Growth Factors" (from the respective Regional Statistical Area #12 – RSA) found in Exhibit D-1 of the Los Angeles County *Congestion Management Program* (CMP) (Metro 2010) was applied to the existing traffic volumes to account for the year 2023 Peak Construction Year timeframe. In addition, traffic from cumulative (approved/pending but not yet constructed) projects in the vicinity of the project was also added. A list of cumulative projects from the Department of City Planning, Case Reports, identified approximately thirteen cumulative development projects that would add traffic to the project study area. Figure 3.7-4 shows the location of cumulative projects. Table 3.7-6 provides the trip generation of cumulative development projects.

As shown in Table 3.7-6, the cumulative projects are forecast to generate approximately 25,103 daily trips, 1,683 AM peak hour trips, and 2,206 PM peak hour trips. These trips were distributed through the existing network, and added to the existing traffic volumes (with the ambient growth rate applied). Figure 3.7-5 shows the Peak Construction Year Baseline AM and PM peak hour traffic volumes.

Table 3.7-6
Cumulative Project Trip Generation

Land Use	Size/ Units	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	*Out*	*Total*	*In*	*Out*	*Total*
Trip Generation[1]								
1. 20700 W Sesnon Blvd (Residential)	774 DU	7,307	143	430	573	483	284	766
2. 12450 Mason Ave (Residential)	220 DU	2,077	41	122	163	137	81	218
3. 11401 N Porter Ranch Dr (Specialty Grocery Store)	44.632 TSF	1,685	26	16	42	82	88	170
4. 20059 W Rinaldi St (Movie Theatre)	38.400 TSF	3,072	4	4	8	223	14	237
5. 11010 Sweetwater Court (Residential)	77 DU	727	14	43	57	48	28	76
6. 11047 N De Soto Ave (School)[2]	Bleachers	-	-	-	-	-	-	-
7. 10247 N Variel Ave (Residential)	32 DU	302	6	18	24	20	12	32
8. 9805 Mason Ave (Commercial)	18.016 TSF	74	7	7	14	7	8	14
9.9825 N Mason Ave (Mixed use)		6,685	269	239	508	220	194	414
10. 9631 N De Soto Ave (Industrial)	75.118	TSF	295	36	11	47	16	35
11.9505 N De Soto Ave (Car wash)	3.337	TSF	474	19	19	38	24	24
12. 9119 N De Soto Ave (Commercial)	79.85 TSF	121	5	3	8	6	7	14
	2.5 TSF	1,561	51	51	101	62	62	123
13.11280 N Wilbur Ave (Office)	39.0 TSF	380	39	6	45	7	38	45
Total Trip Generation		**25,103**	**687**	**995**	**1,683**	**1,335**	**871**	**2,206**

TSF = thousand square feet; DU = dwelling units

1 Trip Generation based on trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition*, September 2017.

2 Addition of bleachers to existing athletic field would generate occasional event traffic, therefore no weekday daily or peak hour trips were added to the cumulative trip generation.

3.7.3.2 Levels of Service

An intersection LOS analysis was prepared for the Peak Construction Year Baseline conditions using the CMA and HCM methodologies, and Table 3.7-7 shows the results of the Peak Construction Year Baseline peak hour LOS analysis. Worksheets for the LOS analysis are provided in Appendix F.

Table 3.7-7
Peak Construction Year (Baseline) Peak Hour Weekday Intersection LOS

No.	Intersection	Control Type	LOS Method	AM Peak		PM Peak	
				V/C [1] /Delay[2]	*LOS [3]*	*V/C [1] /Delay[2]*	*LOS [3]*
1.	De Soto Avenue/SR-118 WB ramps	unsignalized	HCM	286.3	F	75.5	F
2.	De Soto Avenue/ SR-118 EB ramps	unsignalized	HCM	361.1	F	47.4	E
3.	De Soto Avenue/Rinaldi Street	signalized	CMA	0.940	E	0.807	D
4.	De Soto Avenue/Chatsworth Street	signalized	CMA	0.730	C	0.675	B
5.	Mason Avenue/Rinaldi Street	signalized	CMA	0.651	B	0.973	E
6.	Porter Ranch Drive/Rinaldi Street	signalized	CMA	0.784	C	0.772	C
7.	Porter Ranch Dr/SR-118 WB ramps	signalized	HCM	44.9	D	40.3	D
8.	Porter Ranch Dr/SR-118 EB ramps	signalized	HCM	27.1	C	44.0	D

Source: Dudek 2018
CMA = LADOT CMA Methodology; HCM = HCM Methodology (for Caltrans facilities)
1 Volume-to-Capacity (V/C) ratio
2 Delay is calculated in seconds per vehicle
3 Level of Service (LOS)

As shown in the table, the De Soto Avenue/SR-118 westbound ramp intersection is forecast to continue to operate at LOS F during the AM and PM peak hours. Similar to the existing conditions, the eastbound left movement at De Soto Avenue/SR-118 eastbound ramps is forecast to continue to operate at LOS F during the AM peak hour and at LOS E during the PM peak hour. Additionally, De Soto Avenue/Rinaldi Street is forecast to operate at LOS E in the AM peak hour; and, Mason Avenue/Rinaldi Street is forecast to operate at LOS E in the PM peak hour.

3.7.5 Relevant Plans, Policies, and Ordinances

3.7.4.1 Federal

There are no federal regulations pertaining to transportation that apply to the proposed project.

3.7.4.2 State

The following state regulations pertaining to transportation could apply to the proposed project.

California Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law, which creates a process to change the way that transportation impacts are analyzed under CEQA. SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Under the new transportation guidelines, LOS, or automobile delay, will no longer be considered an environmental impact under CEQA.

The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018 and vehicle miles traveled has been adopted as the most appropriate measure of transportation impacts under CEQA. OPR's regulatory text indicates that a public agency may immediately commence implementation of the new transportation impact guidelines, and that the guidelines must be implemented statewide by January 1, 2020. The traffic analysis in this section relies on LOS to characterize impacts since the IS/NOP for the proposed project was released on November 2017, which was prior to approval of the revised CEQA Guidelines. However, the revised CEQA checklist has been utilized to analyze the project's impact related to transportation and traffic.

California Department of Transportation

Caltrans is the public agency responsible for designing, building, operating, and maintaining California's state highway system, which consists of freeways, highways, expressways, toll roads, and the area between the roadways and property lines. Caltrans is also responsible for permitting and regulating the use of state roadways. Caltrans' construction practices require temporary traffic control planning during any activities that interfere with the normal function of a state roadway. Where applicable, the parameters set forth in Caltrans' *Guide for the Preparation of Traffic Impact Studies* (December 2002) were used in the traffic analysis.

Caltrans impact criteria state that a target LOS at the transition between LOS C and LOS D is recommended for state facilities. However, Caltrans also acknowledges that this target may not always be feasible, and if an existing State Highway facility is operating worse than the appropriate target LOS, the existing LOS should be maintained. Caltrans is currently phasing in VMT thresholds and analysis, per SB 743. Caltrans' guidance and thresholds for traffic impact studies have not yet be updated to reflect VMT thresholds and analysis methodology. The proposed project would not have the potential to increase VMT, since increases in vehicle trips would occur during construction only and, therefore, would be temporary. For these reasons, Caltrans LOS thresholds will be relied upon in this document as the Caltrans significance thresholds. Furthermore, as noted above, the IS/NOP for the proposed project was released prior to approval of the revised CEQA Guidelines.

3.7.4.3 Local

The project is in the City of Los Angeles. The following local/regional regulations pertaining to transportation would apply to the proposed project.

Los Angeles County Metropolitan Transportation Authority (Metro)

The applicable congestion management program (CMP) for the project area and the surrounding metropolitan area is the Los Angeles County Metropolitan Transportation Authority's (Metro) 2010 CMP. This program monitors and sets performance indicators for a transportation network of numerous highway segments, freeways, and key roadway intersections throughout Los Angeles County (called the CMP Highway and Roadway System). In the vicinity of the project, SR-118 is part of the CMP Highway and Roadway System.

The CMP requires analysis of arterial monitoring intersections where a project will add 50 or more trips during either the morning peak traffic hour (AM peak hour) or evening peak traffic hour (PM peak hour) and CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips (by direction) during either the AM or PM peak hour. The CMP indicates that a project would have a significant impact if project traffic increases the volume to capacity (v/c) ratio of a facility by 0.02 or more at a facility operating at LOS F.

The nearest CMP arterial monitoring intersection to the proposed project is:

- #66 Topanga Canyon Boulevard/SR-118 westbound ramps intersection

The nearest CMP mainline freeway monitoring locations to the proposed project are:

- #1051 Route 118 R1.19 at LA/Ventura County Line
- #1052 Route 118 R9.10 e/o Woodley Avenue
- #1053 Route 118 R13.44 w/o Jct Rte 210

As shown in the traffic analysis, the project's construction, would not add 50 or more new peak hour trips to the CMP arterial monitoring station, or 150 new peak hour trips to a CMP mainline freeway monitoring location. The temporary construction traffic would not likely increase the v/c ratio of any CMP facilities by 0.02 v/c or higher.

City of Los Angeles

The project is located within the City of Los Angeles, which uses the significance criteria provided in the LADOT *Traffic Impact Study Guidelines* (December 2016). LADOT has adopted the following significance criteria to assess whether the addition of project trips would cause a significant impact on study area intersections: A significant impact would occur if the project-related increases in the v/c ratio would equal or exceed the thresholds shown in Table 3.7-2.

3.7.6 Thresholds of Significance

The significance criteria used to evaluate the project impacts to transportation are based on Appendix G of the 2019 CEQA Guidelines. According to Appendix G of the 2019 CEQA Guidelines, a significant impact related to transportation would occur if the project would:

1. Conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
2. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves, or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.

3.7.6 Impact Analysis

Threshold TRA-1: Would the project conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? Impacts related to Roadway Facilities

Trip Generation

The Institute of Transportation Engineers' *Trip Generation* manual does not contain trip rates for the construction-related activities; therefore, project's general construction phasing and schedule as shown in Appendix F, was utilized to estimate the proposed project's construction traffic generation. Based on the estimated average number of workers, vendor and haul truck trips across the various phases and months of the proposed project, the Peak Construction Year period was identified. During this Peak Construction Year period (excavation activities), the maximum number of daily on-site workers would be 40 workers and the maximum number of trucks would be 20 vendor trucks and 118 haul trucks.

All workers would likely arrive at the construction site before 7:00 a.m. and leave by 4:00 p.m., however to be conservative, all workers were assumed to arrive and depart during the peak hours. The daily off-site truck trips would generally be distributed throughout the work day. Based on these assumptions, Table 3.7-8 provides projects' trip generation for the Peak Construction Year phase.

Table 3.7-8
Project Trip Generation

Vehicle Type	Daily Quantity	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	*Out*	*Total*	*In*	*Out*	*Total*
Trip Generation								
Workers (Cars)	40 workers	80	40	0	40	0	40	40
Vendor Trucks	20 trucks	40	3	2	5	3	2	5
Haul Trucks	118 trucks	236	13	13	26	13	13	26
Total		356	56	15	71	16	55	71
Trip Generation w/ PCE								
Workers (1.0 PCE)	40 workers	80	40	0	40	0	40	40
Vendor Trucks (2.0 PCE)	20 trucks	80	6	4	10	6	4	10
Haul Trucks (3.0 PCE)	118 trucks	708	39	39	78	39	39	78
Total (w/ PCE)		868	85	43	128	45	83	128

PCE – Passenger Car Equivalent
Notes:
1 PCE factor of 1 was utilized for worker passenger cars
2 PCE factor of 2.0 was utilized for vendor trucks
3 PCE factor of 3.0 was utilized for haul trucks

As shown in Table 3.7-8, the project would generate approximately 356 daily trips, 71 AM peak hour trips (56 inbound and 15 outbound), and 71 PM peak hour trips (16 inbound and 55 outbound). With the application of a passenger-car-equivalent (PCE) factor to truck trips, the proposed project would generate approximately 868 passenger-car-equivalent daily trips, 128 passenger-car-equivalent AM peak hour trips (85 inbound and 43 outbound), and 128 passenger-car-equivalent PM peak hour trips (45 inbound and 83 outbound).

Trip Distribution and Assignment

Temporary staging and laydown areas for construction materials and equipment, as well as parking for construction workers would be accommodated within the project site. Worker and employee vehicle parking would also be accommodated within the project site for most of the construction duration. Construction traffic was distributed to the study area intersections and roadway segments based on logical commute routes for workers, and the nearest freeway access with truck routes for construction-related trucks. Construction related trips were assigned to the study area intersections by applying the project trip generation estimates to the trip distribution percentages at each study area intersection and roadway segments.

Worker traffic is anticipated to access the project site via De Soto Avenue (right-in-right-out only project access) and Rinaldi Street (full access). Per LADWP, all trucks will use SR-118 to access the project site. All inbound truck traffic will be required to enter the site from Rinaldi Street using SR-118/Porter Ranch Drive interchange. All outbound truck traffic will be required to depart the project site on De Soto Avenue and utilize the SR-118/De Soto Avenue interchange. The project trip distribution and assignment for workers is shown in Figure 3.7-6, while the project trip distribution and assignment for trucks is shown in Figure 3.7-7. Figure 3.7-8 shows the total project trip assignments, in passenger car equivalence, at the study area intersections.

Construction Traffic Impacts

Traffic impacts due to construction of the proposed project under the Existing plus Project and Peak Construction Year plus Project conditions were forecast by adding project traffic volumes to the existing traffic volumes and the Peak Construction Year (baseline) traffic volumes, respectively.

Existing plus Project Conditions

The project trip assignments (in PCE) shown in Figure 3.7-8 for construction-related project traffic (workers and trucks), were added to the existing traffic volumes shown in Figure 3.7-3 to derive the Existing plus Project traffic volumes. Figure 3.7-9 illustrates the Existing plus Project traffic volumes that were used to evaluate the Existing plus Project traffic conditions. An intersection LOS analysis was conducted using the CMA and HCM methodologies, and Table 3.7-9 shows the results. Worksheets for the LOS analysis are provided in Appendix F.

As shown in the table, the addition of (temporary) peak construction traffic would not exceed the LADOT significance thresholds shown in Tables 3.7.2 (for LADOT intersections) and 3.7.3 (for Caltrans intersections) above. For the LADOT intersections (intersections #3 through #6), the addition of project traffic would increase the intersections' V/C by 0.002 V/C or less, which is well below the LADOT V/C increase significance criteria. For the De Soto

Avenue/SR-118 westbound ramps, the addition of project traffic would not increase delay in the AM peak hour, but would increase delay by 0.4 seconds, which is well below the LADOT significance criteria of ≥2.5 second delay increase at LOS E and F. At De Soto Avenue/SR-118 eastbound ramps, the addition of project traffic would not increase delays in the AM and PM peak hours. For the Porter Ranch Drive/SR-118 westbound ramps, the addition of project traffic would increase delay in the AM peak hour by 2.4seconds (at LOS C), and 0.4 seconds (at LOS B) in the PM peak hour, which is well below the LADOT significance criteria of ≥6.0 second delay increase at LOS C. At Porter Ranch Drive/SR-118 eastbound ramps, the addition of project traffic would not increase delays in the AM and PM peak hours.

Furthermore, per Caltrans criteria, existing MOEs (LOS) are maintained at the ramp intersections. While De Soto Avenue/SR-118 westbound ramps would operate at LOS F in the Existing and Existing plus Project condition, the addition of project traffic would not increase delay in the AM peak hour, and would increase delay by only 0.4 seconds in the PM peak hour. At De Soto Avenue/SR-118 eastbound ramps, LOS would not change with the addition of project traffic, and would not increase delays in the AM and PM peak hours. At the Porter Ranch Drive/SR-118 interchange, LOS would not change with the addition of project traffic in both peak hours, at both ramp intersections.

It should be noted that the traffic generated by the construction phase of the proposed project would be temporary, and would be removed from the street network once the project is constructed. Therefore, based on the LADOT and Caltrans significance criteria, the project traffic impacts at the study area intersections would be **less than significant**.

Peak Construction Year plus Project Conditions

The project trip assignments (in passenger car equivalence) shown in Figure 3.7-8 for construction-related project traffic (workers and trucks), were added to the Peak Construction Year Baseline volumes shown in Figure 3.7-5 to derive the Peak Construction Year plus Project traffic volumes. Figure 3.7-10 illustrates the Peak Construction Year plus Project traffic volumes that were used to evaluate the Peak Construction Year plus Project traffic conditions. An intersection LOS analysis was conducted using the CMA and HCM methodologies, and Table 3.7-10 shows the results. Worksheets for the LOS analysis are provided in Appendix F.

As shown in the table, the addition of (temporary) peak construction traffic would not exceed the LADOT significance thresholds shown in Tables 3.7.2 (for LADOT intersections) and 3.7.3 (for Caltrans intersections) above. For the LADOT intersections (intersections #3 through #6), the addition of project traffic would increase the intersections' V/C s, which is well below the LADOT V/C increase significance criteria at the specified LOS. For the De Soto Avenue/SR-118 westbound ramps, the addition of project traffic would not increase delay in the AM peak hour, but would increase delay by 0.6 seconds, which is well below the LADOT significance criteria of ≥2.5 second delay increase at LOS E and F. At De Soto Avenue/SR-118 eastbound ramps, the addition of project traffic would not increase delays in the AM and PM peak hours. For the Porter Ranch Drive/SR-118 westbound ramps, the addition of project traffic would increase delay in the AM peak hour by 3.6 seconds (at LOS D), and 2.3 seconds (at LOS D) in the PM peak hour, which is below the LADOT significance criteria of ≥2.5 second delay increase at LOS E and LOS F. At Porter Ranch Drive/SR-118 eastbound ramps, the addition of project traffic would not increase delays in the AM and PM peak hours.

Furthermore, per Caltrans criteria, existing MOEs (LOS) are maintained at the ramp intersections. While De Soto Avenue/SR-118 westbound ramps would operate at LOS F in the Peak Construction Year (baseline) and Peak Construction Year plus Project condition, the addition of project traffic would not increase delay in the AM peak hour, and would increase delay by only 0.6 seconds in the PM peak hour. At De Soto Avenue/SR-118 eastbound ramps, LOS would not change with the addition of project traffic, and would not increase delays in the AM and PM peak hours. At the Porter Ranch Drive/SR-118 interchange, LOS would not change with the addition of project traffic in both peak hours, at both ramp intersections.

It should be noted that the traffic generated by the construction phase of the proposed project would be temporary, and would be removed from the street network once the project is constructed. Therefore, based on the LADOT and Caltrans significance criteria, the project traffic impacts at the study area intersections would be **less than significant**.

Table 3.7-9
Existing (2018) Weekday Peak Hour Intersection LOS

No.	Intersection	Control Type	LOS Method	Existing				Existing plus Project				Change in V/C or Delay		Significant Impact	
				AM Peak		*PM Peak*		*AM Peak*		*PM Peak*					
				V/C [1] /Delay[2]	*LOS [3]*	*V/C [1] /Delay[2]*	*LOS [3]*	*V/C [1] /Delay[2]*	*LOS [3]*	*V/C [1] /Delay[2]*	*LOS [3]*	*AM*	*PM*	*AM*	*PM*
1.	De Soto Avenue/ SR-118 westbound ramps	unsignalize d	HCM	252.3	F	56.8	F	252.3	F	57.2	F	0.0	0.4	No	No
2.	De Soto Avenue/ SR-118 eastbound ramps	unsignalize d	HCM	261.9	F	40.7	E	261.9	F	40.7	E	0.0	0.0	No	No
3.	De Soto Avenue/ Rinaldi Street	signalized	CMA	0.859	D	0.733	C	0.859	D	0.733	C	0.000	0.000	No	No
4.	De Soto Avenue/Chatsworth Street	signalized	CMA	0.669	B	0.613	B	0.671	B	0.616	B	0.002	0.003	No	No
5.	Mason Avenue /Rinaldi Street	signalized	CMA	0.614	B	0.892	D	0.614	B	0.892	D	0.000	0.000	No	No
6.	Porter Ranch Drive /Rinaldi Street	signalized	CMA	0.642	B	0.658	B	0.667	B	0.658	B	0.025	0.000	No	No
7.	Porter Ranch Drive/ SR-118 westbound ramps	signalized	HCM	22.5	C	16.7	B	24.9	C	17.1	B	2.4	0.40	No	No
8.	Porter Ranch Drive/ SR-118 eastbound ramps	signalized	HCM	26.3	C	38.4	D	26.3	C	38.4	D	0.00	0.00	No	No

Source: Dudek 2018
CMA = LADOT CMA Methodology; HCM = HCM Methodology
1 Volume-to-Capacity (V/C) ratio
2 Delay is calculated in seconds per vehicle
3 Level of Service (LOS)

Table 3.7-10
Peak Construction Year Weekday Peak Hour Intersection LOS

No.	Intersection	Control Type	LOS Method	Peak Construction Year Baseline				Peak Construction Year plus Project				Change in V/C or Delay		Significant Impact	
				AM Peak		*PM Peak*		*AM Peak*		*PM Peak*					
				V/C [1] /Delay [2]	*LOS [3]*	*V/C [1] /Delay [2]*	*LOS [3]*	*V/C [1] /Delay [2]*	*LOS [3]*	*V/C [1] /Delay [2]*	*LOS [3]*	*AM*	*PM*	*AM*	*PM*
1.	De Soto Avenue/ SR-118 westbound ramps	unsignalized	HCM	286.3	F	75.5	F	286.3	F	76.1	F	0.0	0.6	No	No
2.	De Soto Avenue/ SR-118 eastbound ramps	unsignalized	HCM	361.1	F	47.4	E	361.1	F	47.4	E	0.0	0.0	No	No
3.	De Soto Avenue/Rinaldi Street	signalized	CMA	0.940	E	0.807	D	0.940	E	0.813	D	0.000	0.006	No	No
4.	De Soto Avenue/Chatsworth Street	signalized	CMA	0.730	C	0.675	B	0.732	C	0.677	B	0.002	0.002	No	No
5.	Mason Avenue /Rinaldi Street	signalized	CMA	0.651	B	0.973	E	0.651	B	0.974	E	0.000	0.001	No	No
6.	Porter Ranch Drive /Rinaldi Street	signalized	CMA	0.784	C	0.772	C	0.808	C	0.772	C	0.024	0.000	No	No
7.	Porter Ranch Drive/ SR-118 westbound ramps	signalized	HCM	44.9	D	40.3	D	48.5	D	42.6	D	3.6	2.3	No	No
8.	Porter Ranch Drive/ SR-118 eastbound ramps	signalized	HCM	27.1	C	44.0	D	27.0	C	43.8	D	-0.10	-0.20	No	No

Source: Dudek 2018
CMA = LADOT CMA Methodology; HCM = HCM Methodology
1 Volume-to-Capacity (V/C) ratio
2 Delay is calculated in seconds per vehicle
3 Level of Service (LOS)

Pipeline Connection to Rinaldi Trunk Line and De Soto Trunk Line

New pipelines, inlet, and outlet pipelines of the tanks would be constructed on site as well as extend off site to connect with the Rinaldi Trunk Line to the east and the De Soto Trunk Line to the south. After completion of the tanks and pipelines, the existing De Soto Reservoir would be demolished and the new pump station would be constructed. To install the new pipeline connection to the Rinaldi Trunk Line with the flow control station to the east, two open excavation pits would be constructed to facilitate pipe jacking below grade. One excavation pits would be located on the project site and the second excavation pits would be located within the existing 60-foot LADWP easement on the east side of Rinaldi Street. With pipe jacking occurring below grade, Rinaldi Street would remain open to through traffic throughout the estimated 9 month pipeline installation process.

To connect the project with the De Soto Trunk Line, new piping would be installed below ground on the project site and south along De Soto Avenue. Approximately 570 feet of pipe jacking would be done on site to connect the new tanks via a 54-inch pipeline to the De Soto Trunk Line. Upon reaching the project site's western boundary at De Soto Avenue, open-trench pipeline installation would occur along the eastern side (approximately 35 feet of work area required) of De Soto Avenue. Pipeline installation along De Soto Avenue would occur along approximately 2,650 feet extending from the project site at the north to Chatsworth Street at the south. With the exception of pipe jacking beneath the intersection of De Soto Avenue and Rinaldi Street, all other pipeline installation would be done via cut-and-cover construction, therefore requiring the closure of lanes along De Soto Avenue throughout the approximately 24 month construction period. However, two-way through traffic would be maintained along De Soto Avenue throughout construction. It is estimated that construction along De Soto Avenue would occur throughout the approximately 24 month construction period. In addition, the pipeline installation work within the roadway would occur only between the hours of 10:00 a.m. and 3:00 p.m. (i.e., between the AM and PM peak periods of traffic).

As required by the City, any construction activities occurring within existing roadways are required to prepare and submit to the Bureau of Engineering a Construction Traffic Management Plan, prior to receiving a construction permit. The Construction Traffic Management Plan would include the following:

1. All construction activities would be conducted in accordance with the Standard Specifications for Public Works Construction (Greenbook), and traffic control plans designed by LADOT/ BOE/LADWP, to allow the least impacts to levels of service, traffic safety, and emergency access to the site during construction.
2. LADWP will install temporary equipment necessary for safe and efficient traffic control including: changeable message signs, delineators, arrow boards, K-Rails, flaggers, etc.
3. LADWP will provide advance notification of the proposed construction work area limits and lane closure times to transit (LA Metro) and all local emergency service providers (e.g., police, fire, ambulance).
4. Qualified flagmen will be posted at each work site to direct construction traffic entering and exiting the site, and/or direct large construction-related vehicles to/from the work areas.
5. Two-way travel will always be provided along De Soto Avenue during the installation of pipeline. During construction periods with reduced lane capacity outside of the AM and PM peak hours,

LADOT/BOE/LADWP will implement a Traffic Control Plan that would include the provision of detour routes around the impacted intersections.

6. The Traffic Control Plans will also include detours and safe passage areas for bicyclists and pedestrians in the impacted work areas including access to Sierra Canyon School located to south/southeast of the project site and residential properties to the southwest of the project site.

Therefore, because access would be maintained throughout construction within the roadway, that all travel lanes would be available for vehicular traffic during the AM and PM peak periods, and the City would require the preparation of a Construction Traffic Management Plan, all impacts associated with construction along De Soto Avenue would be **less than significant**.

Summary

As discussed in detail above, the proposed project would result in **less than significant** impacts on the roadway facilities analyzed i.e. study area intersections per LADOT and Caltrans criteria.

Impacts related to Transit, Bicycle and Pedestrian Facilities

As previously discussed, all construction related traffic would access the project site via De Soto Avenue and Rinaldi Street, and most of construction activities would occur on the project site itself. There are no transit routes along De Soto Avenue or Rinaldi Street near the project site. The nearest bus stop location is at the Mason Avenue/Rinaldi Street intersection and Mason Avenue/Tulsa Street intersection. Currently, there is no bicycle facility along De Soto Avenue, however, a bike lane exists along Rinaldi Street.

Bicycle facilities along Rinaldi Street and pedestrian access along sidewalks adjacent to the project site would be maintained at all times during construction. Further, the Traffic Control Plans will include detours and safe passage areas for bicyclists and pedestrians in the impacted work areas including access to Sierra Canyon School located to south/southeast of the project site and residential properties to the southwest of the project site.

With the implementation of Construction Traffic Management Plan, impacts to public transit, bicycles, or pedestrian facilities during construction would be less than significant. The proposed project would not conflict with adopted policies, plans, or programs regarding transit, bicycle and pedestrian facilities and impacts would be **less than significant**.

Threshold TRA-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3, subdivision (b), focuses on newly adopted criteria (vehicle miles traveled) for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The proposed project, involves construction of a reservoir and demolition of an existing reservoir, that would generate temporary construction-related traffic and nominal operations and maintenance traffic (same as existing facility) , would be categorized under subdivision (b)(3), qualitative analysis. Subdivision (b)(3) recognizes that lead agencies may not be able to quantitatively estimate vehicle miles traveled for every project type. In those circumstances, this subdivision encourages lead agencies to evaluate factors such as the availability of transit, proximity to other destinations, and other factors that may affect the amount of driving required by the project.

Construction of the proposed project would result in a temporary increase in local traffic as a result of construction-related workforce traffic and material deliveries and construction activities occurring on project site and within the public ROW. The primary off-site impacts from the movement of construction trucks would include short-term and intermittent effects on traffic operations because of slower movements and larger turning radii of the trucks compared to passenger vehicles. However, the project site is located close to SR-118, and truck travel on local streets is minimal.

Impacts related to increase in vehicle-trip generation (for workers and trucks) as a result of project construction have been analyzed under Threshold TRA-1. These trips will generate vehicle miles, however, once construction is completed, construction-related traffic would cease and vehicle miles traveled would return to pre-project conditions. Therefore, vehicle miles generated from construction traffic are temporary and short-term. Further, implementation of Construction Traffic Management Plan would include recommendations for appropriately managing traffic during the construction period and would be created in coordination with and approved by the local jurisdiction. The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) and impacts would be **less than significant**.

Threshold TRA-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves, or dangerous intersections) or incompatible uses (e.g., farm equipment)?

All construction related traffic would access the project site via the existing driveways along De Soto Avenue and Rinaldi Street and most of the construction activities would occur on the project site itself. De Soto Avenue access to the site would operate as a right-turn in/out driveway due to high volumes of northbound and southbound traffic along this roadway segment. The Rinaldi Street access would provide full access to the project site. During construction, temporary staging and laydown areas for construction materials and equipment would be accommodated within the project site. Worker vehicle parking would also be accommodated within the project site. Due to the high volume of truck traffic during the Peak Construction Year phase, there could be a potential safety hazard to construction workers and/or the public; therefore, a Construction Traffic Management Plan would be required. As mentioned previously, construction would occur within Rinaldi Street; however, as required by the City, a Construction Traffic Management Plan would be prepared. Throughout construction, vehicular access to at least one lane in each direction would maintained. As such, construction impacts to hazards due to geometric design feature or incompatible uses would be **less than significant**.

Threshold TRA-4: Would the project result in inadequate emergency access.

As previously discussed, all construction related traffic would access the project site via existing driveways De Soto Avenue and Rinaldi Street and most of the construction activities would occur on project site. However, the project would have the potential to result in temporary lane closures on a portion of De Soto Avenue (from project site to the north to Chatsworth Street) during installation of the pipeline. These lane closures could occur for intermittently over the two year construction period; however, at a minimum, two-way traffic would be maintained along De Soto

Avenue throughout construction. As mentioned previously, construction would occur within De Soto Avenue; however, as required by the City, a Construction Traffic Management Plan would be prepared. Throughout construction, vehicular access to at least one lane in each direction would be maintained. As such, construction impacts to emergency access would be **less than significant**.

3.7.7 Mitigation Measures

Impacts were determined to be **less than significant** and, therefore, no mitigation measures are required.

3.7.8 Level of Significance After Mitigation

Impacts were determined to be **less than significant** and, therefore, no mitigation measures are required.

3.7.9 References Cited

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Los Angeles County Department of Public Works (LA County). 2013. "Traffic Impact Analysis Report Guidelines." January 1, 1997. Revised December 2013. Accessed January 8, 2019. http://dpw.lacounty.gov/traffic/traffic%20impact%20analysis%20guidelines.pdf.

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3.8 Utilities and Service Systems

This section discusses potential impacts to utilities and service systems resulting from implementation of the proposed De Soto Tanks and Pump Station Project (project or proposed project). This section covers resources electric power, natural gas, telecommunication facilities, and landfill capacity. Potential impacts related to water, wastewater, stormwater are analyzed in the Initial Study prepared for the proposed project (Appendix A), and were determined to be less than significant. As such, they are not evaluated within the EIR. This analysis is based on review of existing resources; technical data; and applicable laws, regulations, and guidelines.

3.8.1 Existing Conditions

Baseline utilities information was obtained through a review of recent technical documents prepared for the proposed project, which are outlined above and attached as appendixes to this EIR, and the websites and documents cited throughout this section.

Electric Power, Telecommunication Facilities & Natural Gas

The project site is located within the Chatsworth area of the City of Los Angeles (City). Electric power to the project site is provided by LADWP, while natural gas service are provided by Southern California Gas Company. The proposed water tank portion of the project site is currently vacant and not using any power, relying upon telecommunication facilities or utilizing any natural gas. The southern portion of the project site, where the existing De Soto Reservoir is located, is currently utilizing minimal amounts of electricity and natural gas associated with ongoing reservoir operations and maintenance. The location where the proposed underground tanks would be located is currently undeveloped land, is not connected to any electric power, telecommunications facilities or natural gas lines. The existing De Soto Reservoir is provided services from the three service providers; however, due to the nature of passive water storage at the site, minimal use of electricity, telecommunications, and natural gas is experienced at the site.

Solid Waste

The minimal amounts of solid waste generated by the operational activities at the De Soto Reservoir, are conveyed to landfills throughout the County of Los Angeles. The County has the largest solid waste management system in the country. There are seven major solid waste landfills, four minor solid waste landfills and two waste-to-energy facilities. In 2012, the County's service area generated, on average, 58,987 tons per day (tbd) of solid waste. As available space for landfills becomes scarce and more distant, and as local landfills reach their holding capacity, cities and counties have been mandated to more effectively manage waste and reduce their solid waste volume.

The County unincorporated areas have already achieved and surpassed California's 50 percent waste diversion mandate. However, with available landfill space in Los Angeles County decreasing, the County must be proactive and develop innovative policies and procedures for waste management that further reduce the County's reliance on landfills.

On October 21, 2014, the Board approved the Roadmap to a Sustainable Waste Management Future Interdepartmental Sustainable Waste Management Future, which involves rethinking the approach to waste management, and rethinking the characterization of waste and which materials might be suitable for reuse and recycling. A traditional waste hierarchy seeks to implement waste reduction measures, reuse practices, recycling and composting techniques, and waste-to-energy processing to handle a large portion of the typical waste stream. Even when this is done effectively, a large volume of waste is still disposed at landfills. The Roadmap creates a new vision to significantly reduce, and someday eliminate, waste. As a result, an increasing amount of materials previously characterized as waste will be reduced, reused, or recycled, and a decreasing volume of material will remain for disposal.

The Roadmap focuses on the unincorporated areas, as well as regional/countywide and County operations (ie., County-owned and/or operated facilities and offices, and County-sponsored events), and the following four strategies: 1) Programs and Services; 2) Measuring Results; 3) Facilities and Infrastructure; and 4) Outreach and Education. These four strategies establish a framework for the implementation of specific initiatives.

Through the implementation of the Roadmap, the County's goal is to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed of at landfills, and achieve the following:

- 80% diversion from landfills by 2025
- 90% diversion from landfills by 2035
- 95+% diversion from landfills by 2045

The two landfills serving the project site are Sunshine Canyon Landfill, located at 14747 San Fernando Road in the community of Sylmar, and Calabasas Landfill, located at 5300 Lost Hills Road in the City of Agoura. According to Sunshine Canyon Landfill, this landfill has a maximum permitted throughput of 8,300 tons of waste per day (Sunshine Canyon Landfill 2019), while the Calabasas Landfill has a maximum permitted throughput of 5,000 tons of waste per day (LACSD 2019).

3.8.2 Relevant Plans, Policies, and Ordinances

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (Code Fed. Regs., Title 40, Section 268, Subpart D), contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs that include federal landfill criteria. The federal regulations address the location, operation, design, and closure of landfills, as well as groundwater monitoring requirements.

State

California Code of Regulations Title 24, Part 11

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code, Part 11 of Title 24, is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all new construction of residential and non-residential buildings. CALGreen standards are updated periodically. The latest version (CALGreen 2016) became effective on January 1, 2017.

Mandatory CALGreen standards pertaining to water, wastewater, and solid waste include the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings.
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance.
- Diversion of 65% of construction and demolition waste from landfills.

California Integrated Waste Management Board Solid Waste Policies

The California Integrated Waste Management (CIWM) Act of 1989 (Assembly Bill [AB] 939 mandated local jurisdictions to meet waste diversion goals of 25% by 1995 and 50% by 2000 and established an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance. AB 939 requires cities and counties to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element to demonstrate how the jurisdiction will meet the diversion goals. Other elements included encouraging resource conservation and considering the effects of waste management operations. The diversion goals and program requirements of the Act are implemented through a disposal-based reporting system by local jurisdictions under California Integrated Waste Management Board (CIWMB) regulatory oversight. AB 939 has achieved substantial progress in waste diversion, program implementation, solid waste planning, and protection of public health, safety, and the environment from landfills operations and solid waste facilities.

In 2011, AB 341 was passed, requiring CalRecycle to require that local agencies adopt strategies that will enable 75% diversion of all solid waste by 2020.

Assembly Bill 1327: California Solid Waste Reuse and Recycling Access Act of 1991

AB 1327, which was established in 1991, required CalRecycle to develop a model ordinance for the use of recyclable materials in development projects. Local agencies were then required to adopt the model ordinance, or an ordinance of their own, governing adequate areas for collection and loading of recyclable materials in development projects.

Senate Bill 1374: Construction and Demolition Waste Reduction

SB 1374 requires that annual reports submitted by local jurisdictions to CIWMB include a summary of the progress made in diversion of construction and demolition waste materials. In addition, SB 1374 requires the CIWMB to adopt a model ordinance suitable for adoption by any local agency that required 50–75% diversion of construction and demolition waste materials from landfills by March 1, 2004. Local jurisdictions are not required to adopt their own construction and demolition ordinances, nor are they required to adopt CIWMB's model by default.

Assembly Bill 1826: Mandatory Commercial Organics Recycling

In October 2014, Governor Brown signed AB 1826 Chesbro (Chapter 727, Statutes of 2014), requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste generated per week. (Organic waste is defined as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.) This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consists of five or more units. This law phases in the mandatory recycling of commercial organics over time. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to recycle organic waste.

California Code of Regulations, Titles 14 and 27

Title 14 (Natural Resources, Division 7) and Title 27 (Environmental Protection, Division 2 (Solid Waste)) of the California Code of Regulations govern the handling and disposal of solid waste and operation of landfills, transfer stations, and recycling facilities.

Local

County Integrated Waste Management Plan

In compliance with AB 939, the County has implemented an Integrated Waste Management Plan that contains the County's and the Cities' solid waste reduction planning documents plus the Integrated Waste Management Summary Plan (Summary Plan) and County-Wide Siting Element (CSE). PW is responsible for preparing and administering the Summary Plan and the CSE. The existing CSE, approved by CalRecycle on June 24, 1998, identifies how the County and cities would meet their long-term disposal capacity needs to safely handle solid waste that cannot be reduced, recycled, or composted.

LACDPW also prepares an annual report to summarize the changes that have taken place since the approval of the existing Summary Plan and the existing CSE. The annual reports include assessments of the County's disposal capacity needs, provide detailed updates on the remaining permitted in-County disposal capacity, and include the County's strategy for maintaining adequate disposal capacity through 2027.

3.8.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to utilities are service systems are based on Appendix G of the 2019 CEQA Guidelines. According to Appendix G of the 2019 CEQA Guidelines, a significant impact related to utilities and service systems would occur if the project would:

1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

2. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
4. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
5. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

The Initial Study prepared for the proposed project (Appendix A) determined that impacts associated with water, wastewater treatment, and stormwater drainage would be less than significant. As such, only the following thresholds are analyzed within this section of the EIR:

UTL-1. Would the project require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

UTL-2. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

3.8.4 Methodology

The project setting was developed by reviewing available information on utilities and service systems in the project vicinity. This review was supplemented with GIS mapping of utility lines.

3.8.5 Impact Analysis

Threshold UTL-1. Would the project require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Electricity

Electricity services are currently provided to the existing De Soto Reservoir, located south of the proposed tanks site. Electricity service is provided by LADWP, and upon implementation of the proposed project, electricity services to the tanks and new pumping station would continue to be provided by LADWP. The resulting increase in use of electricity associated with pump operations at the project site is expected to be minimal when compared to all electricity services provided throughout the LADWP service area. As such, increased demands for electricity are expended to be minimal and not require the need to construction new or expanded electric power facilities.

Natural Gas

Natural gas services are currently provided to the existing De Soto Reservoir, located south of the proposed tanks site. Natural gas service is provided by Southern California Gas, and upon implementation of the proposed project, electricity services to the tanks and new pumping station would continue to be provided by Southern California Gas. The resulting increase in use of natural gas associated with water storage and pump operations at the project site is expected to be minimal when compared to all natural gas services provided throughout the Southern California Gas service area. As such, increased demands for natural gas are expended to be minimal and not require the need to construction new or expanded natural gas facilities.

Telecommunications

Minimal if any telecommunications services are utilized by the project site. A telecommunications tower does exist in the northwestern portion of the project site but would remain unaffected by the project. Upon implementation of the proposed project, the need for and demand upon telecommunications services associated with the water tanks and new pumping station would be minimal. As such, increased demands for and impacts to telecommunications facilities are expended to be minimal and not require the need to construction new or expanded telecommunications facilities.

Summary

As discussed above, the demand for electricity, natural gas and telecommunications facilities would be minimal and not require the expansion or relocation of existing facilities. As such, impacts are **less than significant**, and no mitigation measures are required.

Threshold UTL-2. ***Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

Waste generated at the project site would consist of excavated soil during construction, construction equipment packaging, construction scrap, and debris from the demolition of De Soto Reservoir. No waste generation is expected to occur at the site as a result of the proposed project during operations. Potential landfills that would accommodate construction waste generated by the proposed project include the Sunshine Canyon, located approximately 6 miles northeast of the project site, and Calabasas Landfill, located approximately 11 miles southwest of the project site. Sunshine Canyon is owned and operated by Republic Services and currently handles approximately one-third of the daily waste of all of Los Angeles County. Sunshine Canyon has a maximum permitted throughput of 8,300 tons of waste per day. This amounts to more than 3 million tons annually. Calabasas Landfill currently has a maximum permitted throughput of 5,000 tons of waste per day. This amounts to more than 1.8 million tons annually. General construction waste, including the demolition debris from De Soto Reservoir (which would generate about 560 tons of waste requiring disposal), is anticipated to be small in relation to the capacity of local landfills.

The proposed project would require excavation of approximately 350,000 cubic yards of soil during an approximately 8.5-month period of time. Approximately 116,000 cubic yards of material would be needed to backfill on site. The majority of the excavated material, approximately 340,000 cubic yards, would be hauled off site, requiring approximately 160 truck trips per day, assuming 50% of the trucks would be 10 cubic-yard haul trucks and 50% of the trucks would be 15 cubic-yard haul trucks, for 8 hours per day for hauling activities. Of the excavated material, approximately 100,000 cubic yards would be hauled for use at LADWP's Mojave Yard site; the remaining 240,000 cubic yards, which is equivalent to 64,800 tons (1 ton = 3.7 cubic yards), of soil would be disposed of at the two area landfills. Assuming 160 truck trips per day, half of which would be with 10 cubic-yard haul trucks (2.7 tons) and half of which would be with 15 cubic yard trucks (4.05 tons), approximately 540 tons of soil would be hauled from the project site to either Sunshine Canyon or Calabasas Landfill each day. As discussed above, Sunshine Canyon has a maximum permitted throughput of 8,300 tons of waste per day and Calabasas Landfill has a maximum permitted throughput of 5,000 tons of waste per day. Collectively, this amounts to 13,300 tons of waste per day that can be accommodated at the two landfills. If all of the 560 daily tons of exported soil were to be disposed of at landfills, during the excavation period, this would represent an approximately 4% contribution to the total maximum permitted throughput of 13,300 tons of waste per day. As such, impacts to landfill facilities would be less than significant and no mitigation is required.

3.8.6 Mitigation Measures

Impacts to utilities and service systems, including electrical power, natural gas, telecommunication systems, and solid waste as a result of the proposed project would be less than significant, therefore no mitigation measures are required.

3.8.7 Level of Significance After Mitigation

Impacts associated with utilities and service systems would be than significant. No mitigation is required.

3.8.8 References Cited

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Sunshine Canyon Landfill. 2019. "About Sunshine Canyon Landfill." Access May 29, 2019. https://sunshinecanyonlandfill.com/about/.

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3.9 Energy

This section describes the energy consumption associated with the De Soto Tanks and Pump Station Project (proposed project or project); identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation with development of the proposed project.

No energy related comments were received in response to the Notice of Preparation (see Appendix A) prepared in November 2017.

Information contained in this section is based on proposed project plans, the California Emissions Estimator Model (CalEEMod) (used to estimate fuel consumption), and the traffic analysis as provided in Section 3.7. Other sources consulted are listed in Section 3.9.8, References Cited.

3.9.1 Existing Conditions

The environmental setting for the proposed project related to electricity, natural gas, and petroleum, including associated service providers, supply sources, and estimated consumption, is discussed below. In summary, in 2016 (the latest calendar year for which data is uniformly available for all three types of energy sources), California's estimated annual energy use included the following:

- Approximately 256,846 gigawatt hours of electricity (EIA 2018a)
- Approximately 22 billion therms of natural gas (approximately 6 billion cubic feet of natural gas per day) (EIA 2018b)
- Approximately 16 billion gallons of gasoline (CEC 2017a)

3.9.1.1 Electricity

Electricity usage in California varies substantially by the types of uses in a building, types of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita has remained stable for more than 30 years, while the national average has steadily increased (CEC 2015b).

Los Angeles Department of Water and Power (LADWP) is the utility provider for the City of Los Angeles (City). LADWP provides electric services to 1.5 million customers in a 473-square-mile service area to the City as well as Owens Valley. According to LADWP, customers consumed approximately 83.3 billion kilowatt-hours (kWh) of electricity in 2018 (CEC 2019a), as shown in Table 3.9-1.

Table 3.9-1
LADWP Electricity Consumption

Type of Use	Electricity Consumption (Millions of kWh)
Agricultural and water pump	3,150.93
Residential	28,617.08
Commercial buildings	31,165.50

Table 3.9-1
LADWP Electricity Consumption

Type of Use	Electricity Consumption (Millions of kWh)
Commercial other	4,310.91
Industry	13,218.46
Mining and construction	2,359.10
Streetlight	578.01
Total Consumption	83,399.99

Source: CEC 2019a.

LADWP receives electric power from a variety of sources. According to the LADWP Briefing Book 2018-2019, 30% of LADWP's power came from eligible renewable energy sources in 2017, including biomass/waste, geothermal, small hydroelectric, solar, and wind sources (LADWP 2019).

Based on recent energy supply-and-demand projections in California, statewide annual peak electricity demand is projected to grow an average of 890 megawatts per year for the next decade, or 1.4% annually, and consumption per capita is expected to remain relatively constant at 7,200–7,800 kWh per person (CEC 2015b).

3.9.1.2 Natural Gas

Statewide

Natural gas is used for cooking and space heating, for generating electricity, and as an alternative transportation fuel. The majority of California's natural gas customers are residential and small commercial customers (core customers). These customers accounted for approximately 30% of the natural gas delivered by California utilities in 2016. Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 70% of the natural gas delivered by California utilities in 2016 (EIA 2018b).

CPUC regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. California gas utilities may soon also begin receiving biogas into their pipeline systems (CPUC 2017b).

In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California (CPUC 2017b). Natural gas from out-of-state production basins is delivered into California through the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Southern Trails Pipeline, and Mojave Pipeline. The North Baja–Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border and delivers it through California into Mexico. The Federal Energy Regulatory Commission regulates the transportation of natural gas on interstate pipelines, and CPUC often participates in Federal Energy Regulatory Commission regulatory proceedings to represent the interests of California natural gas consumers (CPUC 2017b).

Most of the natural gas transported through interstate pipelines, as well as some California-produced natural gas, is delivered through the Pacific Gas & Electric and Southern California Gas (SoCalGas) intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the backbone pipeline system is then delivered into local transmission and distribution pipeline systems or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline system, and some core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. CPUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82% of the natural gas delivered to California's gas consumers in 2012 (CPUC 2017b).

Pacific Gas & Electric and SoCalGas own and operate several natural gas storage fields that are located in Northern and Southern California. These storage fields and four independently owned storage utilities—Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage—help meet peak-season natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently (CPUC 2017b).

California's regulated utilities do not own any natural gas production facilities. All natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the Federal Energy Regulatory Commission in the mid-1980s and is determined by market forces. However, CPUC decides whether California's utilities have taken reasonable steps to minimize the cost of natural gas purchased on behalf of its core customers (CPUC 2017b).

City of Los Angeles

The City of Los Angles, including the project site, is served by SoCalGas. SoCalGas serves 21.6 million customers in a 20,000-square-mile service area that includes over 500 communities (SoCalGas 2018). Table 3.9-2 presents the total natural gas consumption by SoCalGas in 2018 (the most recent year for which data is available). In 2017, SoCalGas had delivered 5,156 million therms, with the majority going to residential uses.

Table 3.9-2
SoCalGas Natural Gas Consumption

Type of Use	Natural Gas Consumption (Millions of Therms)
Agricultural and water pump	77.61
Residential	2,147.39
Commercial buildings	912.98
Commercial other	74.52
Industry	1,714.36
Mining and construction	229.22
Total Consumption	5,156.08

Source: CEC 2019b.

Demand for natural gas can vary depending on factors such as weather, price of electricity, the health of the economy, environmental regulations, energy-efficiency programs, and the availability of alternative renewable energy sources. As previously indicated, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available through existing delivery systems, thereby increasing the availability and reliability of resources.

3.9.1.3 Petroleum

According to the California Energy Commission (CEC), transportation accounts for the majority of California's total energy consumption (CEC 2018). There are more than 35 million registered vehicles in California, and those vehicles consume an estimated 18 billion gallons of fuel each year (CEC 2017b; DMV 2018). Gasoline and other vehicle fuels are commercially provided commodities and would be available to the proposed project through commercial outlets.

Petroleum currently accounts for approximately 92% of California's transportation energy consumption (CEC 2017b). However, technological advances, market trends, consumer behavior, and government policies could result in significant changes in fuel consumption by type and in total. At the federal and state levels, various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, reduce transportation-source air pollutants and greenhouse gas (GHG) emissions, and reduce vehicle miles traveled. Market forces have driven the price of petroleum products steadily upward over time, and technological advances have made use of other energy resources or alternative transportation modes increasingly feasible.

Largely as a result of and in response to these multiple factors, gasoline consumption within the state has declined in recent years, and availability of other alternative fuels/energy sources has increased. The quantity, availability, and reliability of transportation energy resources have increased in recent years, and this trend may likely continue and accelerate (CEC 2017b). Increasingly available and diversified transportation energy resources act to promote continuing reliable and affordable means to support vehicular transportation within the state.

3.9.2 Relevant Plans, Policies, and Ordinances

Federal, state, and local agencies regulate energy use and consumption through various means and programs. On the federal level, the U.S. Department of Transportation, the U.S. Department of Energy, and the U.S. Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, CPUC and CEC are two agencies with authority over different aspects of energy. Relevant federal, state, and local energy-related regulations are summarized below.

3.9.2.1 Federal

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Intermodal Surface Transportation Efficiency Act of 1991

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of intermodal transportation systems to maximize mobility and address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, metropolitan planning organizations adopted policies defining the social, economic, energy, and environmental values guiding transportation decisions.

Transportation Equity Act for the 21st Century

The Transportation Equity Act for the 21st Century was signed into law in 1998 and builds on the initiatives established in the ISTEA legislation, previously discussed. The act authorizes highway, highway safety, transit, and other efficient surface transportation programs. The act continues the program structure established for highways and transit under ISTEA such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of transportation decisions. The act also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of intelligent transportation systems to help improve operations and management of transportation systems and vehicle safety.

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act (EISA) of 2007 was signed into law. In addition to setting increased Corporate Average Fuel Economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

This federal legislation requires ever-increasing levels of renewable fuels (the RFS) to replace petroleum (EPA 2013, 2015). The EPA is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains at least a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that lay the foundation for achieving significant reductions in GHG emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the United States. The updated program is referred to as "RFS2" and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.

- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel, and set separate volume requirements for each one.
- EISA required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green" jobs.

3.9.2.2 State

The discussion below focuses primarily on those policies, regulations, and laws that directly pertain to energy-related resources. Also refer to Chapter Section 3.5, Greenhouse Gas Emissions, which addresses various policies, regulations, and laws targeted to the reduction of GHG emissions that are expected to achieve co-benefits in the form of reduced demand for energy-related resources and enhanced efficiencies in the consumption of energy-related resources.

Warren-Alquist Act

The California Legislature passed the Warren-Alquist Act in 1974. The Warren-Alquist Act was created and gives statutory authority to the CEC. The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation's first energy conservation standards for both buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high demand projections, and transferred it to the more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Action Plan

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are provided, and identified policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. In 2005, a second Energy Action Plan was adopted by the CEC and CPUC to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based, in part, on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

Senate Bill 1078 (2002)

This bill established the California RPS Program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. The bill relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the RPS by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

Senate Bills 107 (2006), X1-2 (2011), 350 (2015), and 100 (2018)

Senate Bill (SB) 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) requires all California utilities to generate 33% of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 sets a three-stage compliance period: by December 31, 2013, 20% shall come from renewables; by December 31, 2016, 25% shall come from renewables; and by December 31, 2020, 33% shall come from renewables.

SB 350 (2015) requires retail seller and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the 33% RPS in 2020 and the 50% RPS in 2030. Therefore, the proposed project's reliance on non-renewable energy sources would also be reduced.

SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030 be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Assembly Bill 1007 (2005)

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with the California Air Resources Board (CARB) and in consultation with the other state, federal, and local agencies. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Assembly Bill 32 (2006) and Senate Bill 32 (2016)

In 2006, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the Legislature enacted SB 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40% below 1990 levels by 2030. In accordance with AB 32 and SB 32, CARB prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focus on increasing energy efficiencies and the use of renewable resources and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources. Additional information on AB 32 and SB 32 is provided in Section 3.5, Greenhouse Gas Emissions, of this environmental impact report (EIR).

California Building Standards

Part 6 of Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically (every 3 years) to incorporate and consider new energy efficiency technologies and methodologies. The 2016 Title 24 building energy efficiency standards, which became effective on January 1, 2017, further reduce energy used in the state. In general, single-family homes built to the 2016 standards are anticipated to use approximately 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and non-residential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

The 2019 Title 24 standards were approved and adopted by the California Building Standards Commission in December 2018. The 2019 standards will become effective January 1, 2020. The standards would require that all low-rise residential buildings shall have a photovoltaic system meeting the minimum qualification requirements such that annual electrical output equal to or greater than the dwelling's annual electrical usage. Notably, net energy metering rules limit residential rooftop solar generation to produce no more electricity than the home is expected to consume on an annual basis. Single-family homes built with the 2019 standards will use about 7% less energy due to energy efficiency measures versus those built under the 2016 standards, while new nonresidential buildings will use about 30% less energy.

The CPUC, CEC, and CARB previously established a goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013). As most recently defined by the CEC in its 2015 Integrated Energy Policy Report, a ZNE code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric (CEC 2015b).

The 2019 Title 24 standards take a significant step towards the state's ZNE goal. However, as explained by the CEC, California's energy landscape has changed since the ZNE target was set. Electricity produced for the grid now comes substantially from renewables, and 60% renewable electricity generation is required by 2030. Further, new net energy metering rules also limit the amount of residential rooftop solar generation to no more electricity production than the home is annually expected to consume.

The 2019 Title 24 standards therefore focus on building energy efficiency and ensuring solar electricity generated on site is used on site.

> Looking beyond the 2019 standards, the most important energy characteristic for a building will be that it produces and consumes energy at times that are appropriate and responds to the needs of the grid, which reduces the building's emissions (CEC 2018b).

In furtherance of that characteristic, the 2019 standards require that new homes include solar photovoltaic to meet the home's expected annual electric needs, and also encourage demand responsive technologies including battery storage, heat pump water heaters, and improving the building's thermal envelope through high performance attics, walls and windows. These smarter homes perform better and affect the grid less, which reduces the building's GHG emissions.

Title 24 also includes Part 11, the California Green Building Standards Code (CALGreen). CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and hospitals. The 2016 CALGreen standards became effective on January 1, 2017. The mandatory standards require the following:

- 20% mandatory reduction in indoor water use
- 50% diversion of construction and demolition waste from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency

Integrated Energy Policy Report

CEC is responsible for preparing integrated energy policy reports, which identify emerging trends related to energy supply, demand, conservation, public health and safety, and maintenance of a healthy economy. The CEC's 2015 Integrated Energy Policy Report discusses the state's policy goal to require that new residential construction be designed to achieve ZNE standards by 2020 and that new non-residential construction be designed to achieve ZNE standards by 2030, which is relevant to this EIR. Refer to Section 3.4 of this EIR for additional information on the state's ZNE objectives and how the state's achievement of its objectives would serve to beneficially reduce the proposed project's GHG emissions profile and energy consumption.

State Vehicle Standards

In a response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, AB 1493 was enacted in 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. The 2009–2012 standards resulted in a reduction in approximately 22% GHG emissions compared to emissions from the 2002 fleet, and the 2013–2016 standards resulted in a reduction of approximately 30%.

In 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars. By 2025, when the rules would be fully implemented, new automobiles would emit 34% fewer global warming gases and 75% fewer smog-forming emissions (CARB 2011).

Although the focus of the state's vehicle standards is on the reduction of air pollutants and GHG emissions, one co-benefit of implementation of these standards is a reduced demand for petroleum-based fuels.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG emissions reduction mandates. As codified in California Government Code, Section 65080, SB 375 requires metropolitan planning organizations (Southern California Association of Governments (SCAG)) to include a sustainable communities strategy (SCS) in its regional transportation plan (RTP). The main focus of the SCS is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also a part of a bigger effort to address other development issues within the general vicinity, including transit and vehicle miles traveled, which influence the consumption of petroleum-based fuels.

3.9.2.3 Local

Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated Metropolitan Planning Organization for the Southern California region and is the largest Metropolitan Planning Organization in the United States. With respect to air quality planning, GHG emissions, and other regional issues, SCAG has prepared the 2016 RTP/SCS (SCAG 2016). Specifically, the 2016 RTP/SCS links the goals of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging all residents affected by socioeconomic, geographic, and commercial limitations to be provided with fair access. See Section 3.1, Air Quality, for additional discussion on SCAG.

Green LA Plan

The City of Los Angeles adopted Green LA – An Action Plan to Lead the Nation in Fighting Global Warming (Green LA Climate Action Plan) in May 2007 that set forth the goal of reducing City GHGs by to 35% below 1990 levels by 2030. The City of Los Angeles's Green LA Climate Action Plan GHG reductions are based on actions in key sectors, including energy, water, transportation, waste, Port of Los Angeles, airports, open space and greening, green economy, and adaptation strategies.

Sustainable City Plan

In April 2015, the City of Los Angeles's first-ever Sustainable City Plan was released. The plan sets the course for a cleaner environment and a stronger economy, with a commitment to equity as its foundation. The plan is made up of short-term (by 2017) and longer-term (by 2025 and 2035) targets in 14 categories that will advance the City of Los Angeles's environment, economy, and equity (City of Los Angeles 2015). The plan sets GHG emissions reduction targets of 45% by 2025, 60% by 2035, and 80% by 2050, all against a 1990 baseline, and GHG efficiency targets for Los Angeles's economy of improvement by 55% in 2025 and 75% in 2035 from 2009 baseline levels[1] (City of Los Angeles 2015). The first annual Sustainable City Plan report (2015–2016) determined that the City of Los Angeles's emissions are 20% below the 1990 baseline as of 2013, putting the City of Los Angeles nearly halfway to the 2025 plan reduction target of 45% below (City of Los Angeles 2017).

Mobility Plan 2035

On January 20, 2016, the City of Los Angeles adopted its Mobility Plan 2035, the circulation element of its General Plan. The Plan calls for strategies that advance five goals: 1) Safety First, 2) World Class Infrastructure, 3) Access for All Angelenos, 4) Collaboration, Communication, and Informed Choices, and 5) Clean Environments and Healthy Communities.

While the Plan focuses on developing a multi-modal transportation system, its key policy initiatives include considering the strong link between land use and transportation and targeting GHG through a more sustainable transportation system. As such, the Plan's call for integrated land use planning, clean fuel vehicles are consistent with State and regional plans calling for more compact growth in areas with transportation infrastructure.

3.9.3 Thresholds of Significance

CEQA Guidelines (Appendix G, Environmental Checklist Form) (14 CCR 15000 et seq.) provides guidance for evaluating whether a development project may result in significant impacts with regard to energy. Based on Appendix G of the 2019 CEQA Guidelines, a project could have a significant impact on energy conservation if the project would:

1. Result in the wasteful and inefficient use of nonrenewable resources during its construction or during operations?
2. Inconsistent with adopted plans and policies.

[1] GHG efficiency is the amount of GHG emissions emitted per dollar of economic productivity, which is assumed to be 44.5 MT CO_2e per million dollars of metro area gross domestic product in 2009 (City of Los Angeles 2015).

3.9.4 Impact Analysis

Threshold ENG-1: Would the project result in the wasteful and inefficient use of nonrenewable resources during its construction or operations?

Electricity

Construction Use. Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers and heating, ventilation, and air conditioning) would be provided by LADWP. The amount of electricity used during construction would be minimal because typical demand stems from the use of several construction trailers that are used by managerial staff during the hours of construction activities in addition to electrically powered hand tools. The majority of the energy used during construction would be from petroleum. The electricity used for construction activities would be temporary and minimal; therefore, impacts would be **less than significant**.

Operational Use. Following completion of construction, the proposed project's operational phase would require minimal electricity for to pump water from the De Soto Tanks to the 1,305-foot pressure zone in the southwest valley. No workers would be required to operate these facilities on a daily basis; however, these facilities would require periodic maintenance. As such, operational activities would be essentially the same as those that occur under existing conditions. Therefore, due to the limited amount of electricity use, the proposed project would not result in a wasteful use of energy. Impacts related to operational electricity use would be **less than significant**.

Natural Gas

Construction Use. Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum." Any minor amounts of natural gas that may be consumed as a result of proposed project construction would be temporary and negligible and would not have an adverse effect; therefore, impacts would be **less than significant**.

Operational Use. As with construction activities, natural gas is not anticipated to be required once operational. The proposed project would develop two tanks to replace the De Soto Reservoir and would also install inlet and outlet pipeline connections to the Rinaldi and De Soto Trunk Lines. No workers would be required to operate these facilities on a daily basis; however, these facilities would require regular maintenance. As such, operational activities would be essentially the same as those that occur under existing conditions and would be **less than significant**.

Petroleum

Construction Use. Petroleum would be consumed throughout construction of the proposed project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and VMT associated with the transportation of construction materials and construction worker commutes would result in petroleum consumption. Heavy-duty construction equipment associated with construction activities, as well as haul trucks involved in moving dirt around the project area, would rely on diesel fuel. Construction workers would travel to and from the project area throughout the duration of construction. It is assumed that construction workers would travel to and from the project area in gasoline-powered vehicles.

Heavy-duty construction equipment of various types would be used during each phase of construction. CalEEMod was used to estimate construction equipment usage, and results are included in Appendix B. Based on that analysis, over all phases of construction, diesel-fueled construction equipment would operate for an estimated 126,738 hours, as summarized in Table 3.9-3, Hours of Operation for Construction Equipment.

Table 3.9-3
Hours of Operation for Construction Equipment

Phase	Hours of Equipment Use
Excavation	8,970
Pipeline installation	44,958
Tank construction	27,056
Flow control station construction	5,508
Finish work/site improvements	3,850
Demolition	9,546
Pump station construction	26,850
Total	126,738

Source: Appendix B.

Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. Construction is estimated to occur over a 6.5-year period, spanning early-2023 to mid-2029, based on the construction phasing schedule. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2016). The estimated diesel fuel use from construction equipment is shown in Table 3.9-4, Construction Equipment Diesel Demand.

Table 3.9-4
Construction Equipment Diesel Demand

Phase	Pieces of Equipment	Equipment CO_2 (MT)	kg CO_2/Gallon	Gallons
Excavation	14	225.00	10.21	22,036.73
Pipeline installation	12	1,157.46	10.21	113,365.74
Tank construction	20	864.92	10.21	84,713.17
Flow control station construction	13	136.04	10.21	13,324.29
Finish work/site improvements	8	97.20	10.21	9,519.61
Demolition	10	242.54	10.21	23,755.03
Pump station construction	8	677.84	10.21	66,389.99
			Total	333,104.56

Sources: Appendix B (pieces of equipment and equipment CO_2); The Climate Registry 2016 (kg/CO_2/gallon).
CO_2 = carbon dioxide; kg = kilogram; MT = metric ton

Fuel consumption from worker and vendor trips is estimated by converting the total CO_2 emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, and vendor/hauling vehicles are assumed to be diesel fueled. Calculations for total worker, vendor, and hauler fuel consumption are provided in Table 3.9-5, Construction Worker Vehicle Gasoline Demand; Table 3.9-6, Construction Vendor Truck Diesel Demand; and Table 3.9-7, Construction Haul Truck Diesel Demand.

Table 3.9-5
Construction Worker Vehicle Gasoline Demand

Phase	Trips	Vehicle CO_2 (MT)	kg CO_2/ Gallon	Gallons
Excavation	9,250	41.05	8.78	4,675.34
Pipeline installation	16,290	69.92	8.78	7,963.79
Tank construction	54,500	231.15	8.78	26,327.40
Flow control station construction	2,840	11.82	8.78	1,346.17
Finish work/site improvements	2,310	9.47	8.78	1,079.10
Demolition	3,870	5.44	8.78	619.77
Pump station construction	16,110	75.05	8.78	8,547.76
			Total	50,559.34

Sources: Appendix B (construction worker CO_2); The Climate Registry 2016 (kg/CO_2/gallon).
CO_2 = carbon dioxide; kg = kilogram; MT = metric ton

Table 3.9-6
Construction Vendor Truck Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)	kg/CO_2/ Gallon	Gallons
Excavation	1,850	21.74	10.21	2,129.28
Pipeline installation	16,290	190.68	10.21	18,676.18
Tank construction	10,900	127.40	10.21	12,478.07
Flow control station construction	1,136	13.24	10.21	1,297.22
Finish work/site improvements	1,232	14.33	10.21	1,403.91
Demolition	0	0.00	10.21	0.00
Pump station construction	5,370	61.63	10.21	6,036.13
			Total	42,020.78

Sources: Appendix B (construction worker CO_2); The Climate Registry 2016 (kg/CO_2/gallon).
CO_2 = carbon dioxide; kg = kilogram; MT = metric ton

Table 3.9-7
Construction Haul Truck Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)	kg CO_2/Gallon	Gallons
Excavation	46,720	2,863.28	10.21	280,438.41
Pipeline installation	3,600	127.26	10.21	12,463.91
Tank construction	20	0.71	10.21	69.15
Flow control station construction	1,600	56.58	10.21	5,541.32
Finish work/site improvements	0	0.00	10.21	0.00
Demolition	80	2.78	10.21	272.70
Pump station construction	40	1.39	10.21	135.79
			Total	298,921.28

Sources: Appendix B (construction worker CO_2); The Climate Registry 2016 (kg/CO_2/gallon).
CO_2 = carbon dioxide; kg = kilogram; MT = metric ton

As shown in Tables 3.9-5 through 3.9-7, the proposed project is estimated to consume 724,606 gallons of petroleum during the construction phase. By comparison, approximately 107.8 billion gallons of petroleum would be consumed in California over the course of the proposed project's construction period based on the California daily petroleum consumption estimate of approximately 52.9 million gallons per day (CEC 2016). The proposed project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. Therefore, because petroleum use during construction, including construction of the proposed project, would be temporary and minimal and would not be wasteful or inefficient, impacts would be **less than significant**.

Operational Use. The majority of fuel consumption resulting from the proposed project's operational phase would be attributable to workers traveling to and from the project site, and worker vehicles traveling around the project site. However, petroleum consumption resulting associated with inspections and ongoing maintenance activities (primarily associated with periodic maintenance vehicle travel) would be negligible because these activities are part of LADWP's ongoing baseline operations and are expected to be infrequent and minimal. Furthermore, over the lifetime of the proposed project, the fuel efficiency of the vehicles being used by the employees is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency. For example, CARB has adopted an approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes efforts to support and accelerate the number of plug-in hybrids and zero-emissions vehicles in California (CARB 2013). Additionally, in response to SB 375, CARB adopted the goal of reducing per-capita GHG emissions from 2005 levels by 8% by 2020, 18% by 2035, and a 21% reduction by 2040 for light-duty passenger vehicles in the planning area for the SCAG. As such, operation of the proposed project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy. Furthermore, the proposed project would also result in petroleum consumption from operation of the emergency generator. As discussed in Section 3.1, Air Quality, the proposed project would include a 2,500-kilowatt (kW) emergency generator. The generator was assumed to run for testing and maintenance approximately 0.5 hours per day and a maximum of 200 hours per year in accordance with SCAQMD's Rule 1110.2, Emissions from Gaseous and Liquid Fueled Engines. Operation was based on a 75% average engine load as presented in CalEEMod. Petroleum consumption was based on a consumption rate of approximately 134.9 gallons per hour (gal/hr) (CAT 2019). Assuming a maximum of 200 hours per year, the emergency generator would consume approximately 26,980 gallons of diesel.

In summary, although the proposed project would increase petroleum use during operation as a result of maintenance vehicles commuting to the site and use of the emergency generator, the use would be a small fraction of the statewide use and, due to efficiency increases, would diminish over time. Given these considerations, petroleum consumption associated with the Project would not be considered inefficient or wasteful and would result in a **less than significant impact.**

Threshold ENG-2: Would the project be inconsistent with adopted plans and policies?

The proposed project's maintenance and worker vehicles would meet the applicable standards of AB 1493 (vehicles manufactured 2009 or later), and as a result would likely consume less energy as fuel efficiency standards are increased and vehicles are replaced. In addition, the proposed project would support the implementation of the City's General Plan objectives by increasing operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply of potable water to the West San Fernando Valley. For reasons stated, the proposed project would be consistent with all applicable energy plans and policies; therefore, impacts would be **less than significant**.

3.9.5 Mitigation Measures

Impacts would be **less than significant** and no mitigation measures are required.

3.9.6 Level of Significance After Mitigation

Impacts to energy consumption as a result of the proposed project would be **less than significant**. Therefore, no mitigation is required.

3.9.7 References Cited

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4 CUMULATIVE IMPACTS

4.1 Introduction

Although the environmental effects of an individual project may not be significant when that project is considered independently, the combined effects of several projects may be significant when considered collectively. Such impacts are "cumulative impacts." 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 this section of the CEQA Guidelines, 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), "An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR."

Cumulative impacts can occur from the interactive effects of a single project. For example, the combination of noise and dust generated during construction activities can be additive and can have a greater impact than either noise or dust alone. However, substantial cumulative impacts more often result from the combined effect of past, present, and 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.

4.2 Cumulative Methodology

Section 15130(b)(1)(A) of the CEQA Guidelines allows for the preparation of a list of past, present, and reasonably anticipated future projects as a viable method of determining cumulative impacts. This discussion uses the following approach: an initial list and description of all related (cumulative) projects is presented, followed by a discussion of the effects that the project may have on each environmental category of concern, such as traffic, noise, etc. Consistent with CEQA (California Public Resources Code, Section 21000 et seq.), this discussion is guided by the standards of practicality and reasonableness.

4.3 Cumulative Projects

A list of cumulative projects has been developed as part of this environmental document. All projects that are proposed (i.e., with pending applications), recently approved, under construction, or reasonably foreseeable that could produce a cumulative impact on the local environment when considered in combination with the proposed project are included in an EIR. These projects can include, if necessary, projects outside of the lead agency. CEQA Guidelines, Section 15130 stipulates that EIRs must consider the significant environmental effects of a proposed project as well as "cumulative impacts." A cumulative impact is defined as an impact that is created as a result of the project evaluated in the EIR combined with the impacts of other projects, thereby causing related impacts (14 CCR 15355). As stated in CEQA

Guidelines, Section 15130(a)(1), the cumulative impacts discussion in an EIR need not discuss impacts that do not result, at least in part, from the project evaluated in an EIR. Cumulative impacts may be analyzed by considering past, present, and probable future projects with related or cumulative impacts (14 CCR 15130(b)(1)(A)).

The study areas for the cumulative impact analyses vary by resource area. Table 4-1 lists the cumulative projects that were considered in the cumulative impact analyses. The locations of the related projects are depicted in Figure 4-1 Cumulative Project Locations.

Table 4-1
Cumulative Projects

No.	Project Name/Address	Description
1	20700 W Sesnon Blvd	Residential – 774 dwelling units
2	12450 Mason Ave	Residential – 220 dwelling units
3	11900 N Mason Ave	Park – 50 acres
4	The Vineyards at Porter Ranch; 20000-20250 W. Rinaldi St.	Mixed use development
5	11010 Sweetwater Court	Residential – 77 dwelling units
6	10247 N Variel Ave	Residential – 38 dwelling units
7	9250 N Owensmouth Ave	Church and daycare – 58 students
8	9119 N De Soto Ave	Commercial – 82,360 square feet
9	9825 N Mason Ave	Mixed use development

Source: Department of City Planning, Case Reports 2018.

4.4 Cumulative Impact Analysis

The discussion below evaluates the potential for the project to contribute to an adverse cumulative impact on the environment. For issues addressed in this EIR, the thresholds used to determine significance are those presented in each of the sections of Chapter 3, Environmental Analysis. For each resource area, an introductory statement is made regarding what would amount to a significant cumulative impact in that resource area. Discussion is then presented regarding the potential for the identified cumulative projects to result in such a cumulative impact, followed by discussion of whether the project's contribution to any cumulative impact would be cumulatively considerable.

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 1,300 2,600 Feet

FIGURE 4.1

Cumulative Project Locations

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4.4.1 Air Quality

In analyzing cumulative impacts from a proposed project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the South Coast Air Basin (SCAB) is designated as nonattainment for selected air pollutants under the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). If the proposed project does not exceed thresholds and is determined to have a less-than-significant project-specific impact, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

As discussed in Section 3.1 Air Quality, implementation of the proposed project would generate construction-related air pollutant emissions from three general activity categories: entrained dust and equipment and vehicle exhaust emissions. Entrained dust would result from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. To account for dust control measures to comply with SCAQMD Rule 403 in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction. Exhaust from internal combustion engines used by construction equipment and hauling trucks (dump trucks) and vendor trucks (delivery trucks) and worker vehicles would result in emissions of NO_x, VOCs, CO, PM_{10}, and $PM_{2.5}$.

Construction Emissions

Daily construction emissions of the proposed project would not exceed the SCAQMD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. As such, impacts of the proposed project would be less than significant during construction. Since the proposed project does not exceed thresholds project construction, and does not account for a significant proportion of the cumulative total emissions, a cumulatively considerable impact would not occur.

Operational Emissions

The proposed project would store potable water to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. The proposed flow control station would reduce the water pressure coming from Los Angeles Aqueduct Filtration Plant, which has an 1,190-foot high water elevation, to the De Soto Tanks, which have an 1,130-foot high water elevation. The proposed De Soto Pump Station would pump water from the De Soto Tanks to the 1,305-ft pressure zone in the southwest valley. No workers would be required to operate these facilities on a daily basis; however, these facilities would require regular maintenance. As such, operational activities would be essentially the same as those that occur under existing conditions and would not result in a cumulative considerable impact.

Health Effects of Toxic Air Contaminants

The results of the Health Risk Assessment, as summarized in Section 3.1, demonstrate that the toxic air contaminants exposure from construction diesel exhaust emissions would result in cancer risk on site above the 10 in 1 million threshold for the proposed project. However, with implementation of mitigation measure MM-AQ-1, requiring the use Tier 3 engines or higher (i.e., Tier 4 Interim or Tier 4 Final), potential cancer risk at the maximally exposed residential and school receptor would be reduced to a less than significant level. As such, the project would not result in, or contribute to, a cumulatively considerable health risk effect. Cumulative impacts would be less than significant.

4.4.2 Biological Resources

The proposed project would not have any direct or indirect impacts on special-status plant species or special-status wildlife species. The project would have potentially significant impacts on nesting birds. However, compliance with mitigation measures MM-BIO-1 and MM-BIO-2, as identified in Section 3.2 would reduce potentially significant to below a level of significance.

Cumulative projects that would occur on previously undeveloped land would be required to identify and mitigate any potentially significant impacts to biological resources. Projects that would occur on previously developed land or in a highly urbanized area would have less potential to significantly impact biological resources; however, there is a potential for nesting birds to be present on site. The combined construction of projects within the vicinity of the proposed project could deprive some species of a significant amount of habitable space. However, it is anticipated that species that are potentially affected by related projects would also be subject to the same requirements of CEQA as the project. These determinations would be made on a case-by-case basis and the effects of cumulative development on nesting birds would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements. Therefore, for the reasons described above, cumulative adverse effects on biological resources would be less than significant.

4.4.3 Cultural Resources

The proposed project would not have any impacts on historical resources; however, as stated in Section 3.3, Cultural Resources, impacts associated with the potential to uncover archaeological resources, paleontological resources, and unknown human remains were determined to be potentially significant. However, the proposed project's impacts to the cultural resources would be reduced to less than significant through mitigation measures MM-CUL-1 through MM-CUL-3. Cumulative projects would be subject to similar mitigation measures.

Because the proposed project and those projects identified within the cumulative impact study area are primarily mitigated by the monitoring of grading activities, adequate mitigation has occurred and the proposed project would not contribute to a cumulatively significant impact to cultural resources. Cumulative impacts would be less than significant.

4.4.4 Greenhouse Gas Emissions

Greenhouse gas emissions are a cumulative impact—resulting from past, current, and future projects—and the cumulative projects listed in Table 6-1 would likely contribute to this widespread cumulative impact given the cumulative nature of greenhouse gas emissions. Given the global scope of climate change, it is not anticipated that a single project would have an individually discernible effect on global climate change. It is more appropriate to conclude that if a project is anticipated to result in a substantial increase in greenhouse gas emissions, it would combine with global emissions to cumulatively contribute to global climate change.

As stated in Section 3.4 Greenhouse Gas Emissions, and as shown in Table 3.4-3, the estimated annual project-generated GHG emissions during construction would be approximately 7,320 MT CO_2e per year. Estimated proposed project-generated construction emissions amortized over 30 years would be approximately 244 MT CO_2e per year. In regards to operations, the project would generate GHG emissions through motor vehicle trips to and from the project site for routine inspection and maintenance and from the emergency generator. As shown in Table 3.4-4, estimated annual project-generated GHG emissions would be approximately 500 MT CO_2e per year. With amortized construction emissions added, the total operational GHG emissions would be approximately 744 MT CO_2e per year, which is well below the SCAQMD significance threshold of 3,000 MT CO_2e per year. Furthermore, the project was shown to be consistent with the City of Los Angeles' Sustainability Plan, California Air Resources Board (CARB) Scoping Plan, and Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Therefore, impacts associated with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases were determined to be less than significant. Thus, the proposed project would not result in a significant increase in project-level greenhouse gas emissions, which would combine with other emissions form cumulative projects to create a significant cumulative impacts. Cumulative impacts would be less than significant.

4.4.5 Hydrology and Water Quality

The geographic scope of cumulative effects on hydrology and water quality is typically watershed based, whereby projects contributing flow to the same water bodies as the project would be considered. Similarly, the geographic scope of cumulative effects on groundwater is typically based on the groundwater basins, whereby projects deriving groundwater from the same basin would be considered.

As stated in Section 3.5, Hydrology and Water Quality, LADWP would comply with RWQCB requirements, including preparation of a construction SWPPP, under the Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended), which pertains to pollution from grading and project construction. Cumulative construction projects would similarly be required to complete a construction SWPPP, thus minimizing the potential for cumulative water quality impacts. As a result, construction related water quality impacts would not be cumulatively considerable.

During project operations, an increase in project-related impervious surfaces on gentle to moderately sloping topography would result in increased runoff rates. Impacts are considered potentially significant**.** Implementation of **MM-HYD-1**, Flood Control, would require that post-construction stormwater runoff rates would be equal or less than existing rates, such that downstream flooding and erosive scour would not occur. Similarly, cumulative project development would be required to limit post-construction runoff rates equal or less than existing conditions. Therefore, drainage related impacts would not be cumulatively considerable.

Vehicle use and maintenance activities in the vicinity of the tanks, flow control station, and pump station could result in incidental spills of residual oil, grease, and other petroleum products, which in turn could result in adverse impacts to downstream Browns Canyon Wash and the Los Angeles River. Impacts are considered potentially significant**.** Implementation of **MM-HYD-1**, Flood Control, would require that **MM-HYD-2a** and **MM-HYD-2b**, Low Impact Development Features, would require that the project remove nutrients, bacteria, petroleum products, and metals from stormwater while also reducing the quantity and intensity of stormwater flows. Similarly, cumulative project development would be required to implement Low Impact Development Features in order to reduce downstream water quality impacts during operations. On a cumulative scale, the proposed project in conjunction with other future projects, may potentially have an impact on water quality; however, future projects are also required to comply with applicable federal, state, and local regulations for stormwater and construction discharges, including the application of appropriate site-specific BMPs, which would help to reduce cumulatively related water quality impacts. Therefore, operational water quality related impacts would not be cumulatively considerable.

The proposed project would not use local groundwater supplies and increased impervious surfaces resulting from project construction would result in minimal denial of groundwater recharge, in comparison to existing conditions. Cumulative project development would be limited by local water purveyor supplies and potential restrictions resulting from the Sustainable Groundwater Management Act, which can limit groundwater pumping in high priority groundwater basins. As a result, project construction and operation impacts on groundwater supplies would not be cumulatively considerable.

The project site is not subject to flooding. Cumulative development projects would be required to comply with FEMA and Los Angeles County Department of Public Works regulations, such that construction would not impede or redirect flood flows that would result in downstream flooding and erosive scour. Therefore, project flooding impacts would not be cumulatively considerable and impacts would be less than significant.

4.4.6 Noise

The geographic extent for the analysis of cumulative impacts related to noise is generally limited to areas within approximately 0.25 mile of the project components and access routes. This is because noise impacts are generally localized, mainly within approximately 500 feet from any noise source; however, it is possible that noise from different sources within 0.25 mile of each other could combine to create a significant impact to receptors at any point between the projects. At distances greater than 0.25 mile, construction noise would be briefly audible and steady construction noise from the project would generally dissipate into quiet background noise levels.

As discussed in Section 3.6 Noise, on-site noise-generating activities associated with all phases of the project would include short-term construction as well as long-term operational noise associated with mechanical equipment. On-site noise generating activities during construction would be minimized through implementation of mitigation measures; operational noise was determined to generate relatively low levels of noise which would be less than significant.

Construction Impacts

The proposed project and related projects would result in temporary and periodic noise increases during their respective construction periods. In the event that the proposed project's construction period overlapped with the related projects' construction processes, cumulatively significant temporary or periodic increases in ambient noise levels could result. Of the nine related (cumulative) projects within the geographic scope for cumulative noise impacts, none are located within 0.25 miles of the proposed project; the nearest cumulative project (the westernmost extent of The Vineyards at Porter Ranch) is located just beyond 0.25 mile away; however, that project is located on the north side of the 118 Freeway, and therefore is acoustically shielded from the project site and nearby noise-sensitive receivers. Additionally, the freeway noise would likely mask any construction noise from a project on the north side of the freeway at receivers to the south, and vice-versa. As stated in Section 3.6.5, and as shown in Table 3.6.-6, the predicted construction noise from the proposed project would result in relatively high noise levels compared to ambient noise. Thus, in order ensure construction activity noise is adequately controlled and/or abated and results in less than significant noise impacts, two construction noise mitigation measures (MM-NOI-1 and MM-NOI-2) as outlined in Section 3.6.6, Mitigation Measures, have been set forth to reduce construction noise associated with the proposed project and to ensure that nearby receptors are informed of construction activities. Furthermore, construction activities would be short-term, and would cease upon construction completion. Therefore, short-term construction noise from onsite sources would be less than significant with mitigation. The combination of project generated temporary construction noise and noise generated from surrounding projects, impacts would not be cumulatively considerable. Cumulative construction noise impacts would be less than significant.

Operational Emissions

The proposed project would store potable water to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. The proposed flow control station would reduce the water pressure coming from Los Angeles Aqueduct Filtration Plant, which has an 1,190-foot high water elevation, to the De Soto Tanks, which have an 1,130-foot high water elevation. The proposed De Soto Pump Station would pump water from the De Soto Tanks to the 1,305-ft pressure zone in the southwest valley. No workers would be required to operate these facilities on a daily basis and minimal noise would emanate from the project site. As such, operational activities would be essentially the same as those that occur under existing conditions and would not result in a cumulatively considerable impact.

4.4.7 Transportation

Cumulative traffic conditions during peak construction year of the proposed project includes traffic from ambient traffic growth, and the traffic from the addition of cumulative projects in the vicinity of the project. The following intersections would operate at a deficient LOS, however based on LADOT and Caltrans significance criteria project impacts at the study intersections would be less than significant.

- <u>Intersection 1 - De Soto Avenue/SR-118 westbound ramps</u>: This intersection is forecast to operate at LOS F during both peak hours under Peak Construction Year Baseline and Peak Construction Year plus Project traffic conditions.

- Intersection 2 – De Soto Avenue/SR-118 eastbound ramps: This intersection is forecast to operate at LOS F and E during AM and PM peak hour, respectively under Peak Construction Year Baseline and Peak Construction Year plus Project traffic conditions.
- Intersection 3 – De Soto Avenue/Rinaldi Street: This intersection is forecast to operate at LOS E during AM peak hour, under Peak Construction Year Baseline and Peak Construction Year plus Project traffic conditions.

As stated in Section 3.7, Transportation and Traffic, the traffic generated by the peak construction phase of the proposed project would be temporary, and would be removed from the street network once the project is constructed. Further, based on the LADOT and Caltrans significance criteria, the project traffic impacts at the study area intersections would be less than significant.

4.4.8 Utilities and Service Systems

As stated in Section 3.8 Utilities and Service Systems, LADWP has sufficient capacity to provide electric power to the project site. Additionally, Southern California Gas Company has sufficient capacity to provide natural gas services to the project site. Therefore, impacts associated with the construction or expansion of electrical power facilities, natural gas facilities, and telecommunication facilities would be less than significant. The project's expansion of such facilities within the project site would not result in a cumulatively considerable impact. Cumulative impacts would be less than significant.

Waste generated at the project site would consist of excavated soil during construction, construction equipment packaging, construction scrap, and debris from the demolition of De Soto Reservoir. No waste generation is expected to occur at the site as a result of the proposed project during operations. Potential landfills that would accommodate construction waste generated by the proposed project include the Sunshine Canyon, located approximately 6 miles northeast of the project site, and Calabasas Landfill, located approximately 11 miles southwest of the project site. Sunshine Canyon is owned and operated by Republic Services and currently handles approximately one-third of the daily waste of all of Los Angeles County. Sunshine Canyon has a maximum permitted throughput of 8,300 tons of waste per day. This amounts to more than 3 million tons annually. Calabasas Landfill currently has a maximum permitted throughput of 5,000 tons of waste per day. This amounts to more than 1.8 million tons annually. General construction waste, including the demolition debris from De Soto Reservoir (which would generate about 560 tons of waste requiring disposal), is anticipated to be small in relation to the capacity of local landfills.

The proposed project would require excavation of approximately 350,000 cubic yards of soil during an approximately 8.5-month period of time. Approximately 116,000 cubic yards of this material would be reused to backfill on site. However, the majority of the excavated material, approximately 340,000 cubic yards, would be hauled off site, requiring approximately 160 truck trips per day, assuming 50% of the trucks would be 10 cubic-yard haul trucks and 50% of the trucks would be 15 cubic-yard haul trucks, for 8 hours per day for hauling activities. Of the excavated material, approximately 100,000 cubic yards would be hauled for use at LADWP's Mojave Yard site; the remaining 240,000 cubic yards, which is equivalent to 64,800 tons, of soil would be disposed of at the two area landfills. Assuming 160 truck trips per day, half of which would be with 10 cubic-yard haul trucks (2.7 tons) and half of which would be with 15 cubic yard trucks (4.05 tons), approximately 560 tons of soil would be hauled from the project site to either Sunshine Canyon or Calabasas Landfill each day. As discussed above, Sunshine Canyon has a maximum permitted throughput of 8,300 tons of waste per day and Calabasas Landfill has a maximum permitted throughput of 5,000 tons of waste per day. Collectively, this amounts to 13,300 tons of waste per day. If all of the exported soils were to be disposed of at landfills, during the 8.5-month excavation period, this would represent an approximately 4% contribution to the total maximum permitted throughput of 13,300 tons of waste per day. As such, impacts to landfill facilities would be less than significant. Given that impacts would be less than significant for the proposed project, impacts associated with solid waste would not be cumulatively considerable based on the proposed project's projected generation and compliance with applicable laws and ordinances. Cumulative impacts would be less than significant.

4.4.9 Energy

Potential cumulative impacts on energy would result if the proposed project, in combination with past, present, and future projects, would result in the wasteful or inefficient use of energy. This could result from development that would not incorporate sufficient building energy efficiency features, would not achieve building energy efficiency standards, or would result in the unnecessary use of energy during construction and/or operation. The cumulative projects within the areas serviced by the energy service providers would be applicable to this analysis. Projects that include development of large buildings or other structures that would have the potential to consume energy in an inefficient manner would have the potential to contribute to a cumulative impact. Projects that would mostly include construction, such as transportation infrastructure, could also contribute to a cumulative impact; however, the impact of these projects would be limited because they would not typically involve substantial ongoing energy use.

As described previously, the proposed project would not result in wasteful, inefficient, or unnecessary use of energy due to the minimal amount of energy consumed once construction has been completed. Cumulative projects that include long-term energy demand, such as residential developments, would be subject to CALGreen, which provides energy efficiency standards for commercial and residential buildings. CALGreen would implement increasingly stringent energy efficiency standards that would require the Project and the cumulative projects to minimize the wasteful and inefficient use of energy. In addition, cumulative projects would be required to meet or exceed the Title 24 building standards, further reducing the inefficient use of energy. Future development would also be required to meet even more stringent requirements, including the objectives set in the Assembly Bill 32 Scoping Plan (CARB 2017), which would seek to make all newly constructed residential homes produce a sustainable amount of renewable energy through the use of on-site photovoltaic solar systems. Furthermore, various federal and state regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would serve to reduce the transportation fuel demand of cumulative projects.

In consideration of cumulative energy use, the proposed project would not contribute to a substantial demand on energy resources or services such that new regional energy facilities would be required to be constructed as a result of the incremental increase in energy demand resulting from the proposed project. Therefore, the proposed project would have a less than significant cumulative impact with respect to the wasteful or inefficient use of energy. As such, the proposed project would not result in a cumulatively considerable contribution to a potential cumulative impact.

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5 ALTERNATIVES

5.1 Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, an Environmental Impact Report (EIR) is required to "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. An EIR need not consider every conceivable alternative to a project." (14 CCR 15126.6(a)). An EIR "must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation" (14 CCR 15126.6(a)). This alternatives discussion is required even if these alternatives "would impede to some degree the attainment of the project objectives, or would be more costly" (14 CCR 15126.6(b)).

The Guidelines further provide that the range of alternatives is guided by a "rule of reason", such that only those alternatives necessary to permit a reasoned choice are included. (14 CFR 15126.6(f)). The EIR need only examine alternatives that could feasibly attain most of the basic objectives of the project. "Among the factors that may be taken into account when addressing feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries…, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site…"

The inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact "feasible." The final decision regarding the feasibility of alternatives lies with the decision maker for a given project, who must make the necessary findings addressing the potential feasibility of an alternative, including whether it meets most of the basic project objectives or reduces the severity of significant environmental effects pursuant to CEQA (California Public Resources Code, Section 21081; see also 14 CCR 15091).

Beyond these factors, the Guidelines require the analysis of a "no project" alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the "no project" alternative, then the EIR shall identify an environmental superior alternative among the other alternatives.

5.2 Project Objectives

In developing the alternatives to be addressed in this chapter, consideration was given to the ability to meet the basic objectives of the De Soto Tanks and Pump Station Project (proposed project or project) and eliminate or substantially reduce the identified significant environmental impacts. As stated in Chapter 2, Project Description, of this Draft EIR, the primary objectives of the proposed project include the following:

- Replace the existing De Soto Reservoir with modern and reliable underground tanks.
- Provide additional local storage to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.

- Maintain appropriate operating pressure by installing the new tanks at an appropriate elevation to maximize gravity flows and minimize the need to pump water.
- Provide upgraded connections to the Rinaldi and De Soto Trunk Lines.

Pursuant to the CEQA Guidelines previously stated, as well as the project objectives, a range of alternatives to the project are considered and evaluated in this Draft EIR. To summarize these project alternatives, as suggested in CEQA Section 15126.6(d), a matrix was prepared to summarize and compare the impacts of each project alternative (Table 5-1).

Table 5-1
Comparison of Project and Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 No Project	Alternative 2 Reduced Project	Alternative 3 Aboveground Tanks
Air Quality	Less than Significant with Mitigation	▼	▼	▼
Biological Resources	Less than Significant with Mitigation	▼	▼	=
Cultural Resources	Less than Significant with Mitigation	▼	▼	▼
Greenhouse Gas Emissions	Less than Significant	▼	▼	▼
Hydrology/Water Quality	Less than Significant with Mitigation	▼	▼	▼
Noise	Less than Significant with Mitigation	▼	▼	=
Transportation	Less than Significant	▼	▼	▼
Utilities and Service Systems	Less than Significant	▼	▼	▼
Energy	Less than Significant	▼	▼	▲

▼ : Reduced impacts; =: comparable impacts; ▲ : increased impacts

5.3 Alternatives Considered But Rejected

As set forth in CEQA Guidelines Section 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for rejection. According to the CEQA Guidelines, among the factors that may be used to eliminate an alternative from detailed consideration is the alternative's failure to meet most of the basic project objectives, the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts. The following discussion presents information on one alternative to the project that were considered but rejected. This alternative is not discussed in further detail and has been eliminated from further consideration.

10-MG Tank with De Soto Reservoir

LADWP previously considered constructing a new 10-million gallon (MG) concrete tank north of the existing De Soto Reservoir. The tank would have been used in concert with the De Soto Reservoir to provide a total of 13 MG of storage to supply demands. This alternative would provide the combined storage of 13 MG showed that only 1.5 MG of emergency storage would be available during a maximum day demand scenario. The tank and reservoir would also experience a 2.5 MG deficit at the end of maximum day demands. As such, this alternative was dismissed from further consideration because of 1) the reduced capacity, 2) this alternative required maintaining an existing reservoir and dam, and 3) it took away the available footprint needed for the De Soto Pump Station.

5.4 Alternatives Under Consideration

This section discusses the alternatives to the project, including the No Project Alternative, under consideration. The No Project (No Development) Alternative, which is a required element of an EIR pursuant to Section 15126.6(e) of the CEQA Guidelines, examines the environmental effects that would occur if the project were not to proceed and no development activities were to occur. The other alternatives are discussed as part of the "reasonable range of alternatives" selected by the lead agency. The following alternatives are addressed in this section, followed by a more detailed discussion of each:

- Alternative 1 – No Project
- Alternative 2 – Reduced Project
- Alternative 3 – Aboveground Tanks

5.4.1 Alternative 1 – No Project

Under the Alternative 1, the No Project Alternative, no new underground tanks would be constructed at the project site, and existing De Soto Reservoir would continue to provide water in the northwestern area of the San Fernando Valley.

5.4.1.1 Environmental Impact Analysis

Air Quality

As discussed in Section 3.1, Air Quality, construction air quality impacts can be reduce to a less than significant level with implementation of mitigation. Operational air quality impacts would be less than significant and not require mitigation.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. Alternative 1 would therefore result in fewer overall construction and operational air quality impacts when compared to the proposed project.

Biological Resources

As discussed in Section 3.2, Biological Resources, construction of the proposed project has the potential to result in impacts to biological resources. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would not result in impacts to biological resources.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. The land on which the proposed underground tanks would be located would remain undisturbed under Alternative 1. As such, Alternative 1 would therefore result in fewer overall construction impacts to biological resources when compared to the proposed project.

Cultural Resources

As discussed in Section 3.3, Cultural Resources, construction of the proposed project has the potential to result in impacts to cultural resources. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would not result in impacts to cultural resources.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. The land on which the proposed underground tanks would be located would remain undisturbed under Alternative 1. As such, Alternative 1 would therefore result in fewer overall construction impacts to cultural resources when compared to the proposed project.

Greenhouse Gas Emissions

As discussed in Section 3.4, Greenhouse Gas Emissions, all impacts associated with greenhouse gas (GHG) emissions would be less than significant with implementation of the proposed project.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. Alternative 1 would therefore result in fewer overall GHG impacts because no ground disturbing activities or new vehicle trips would be generated under Alternative 1. As such, Alternative 1 would have fewer GHG impacts when compared to the proposed project.

Hydrology and Water Quality

As discussed in Section 3.5, Hydrology and Water Quality, construction of the proposed project has the potential to result in hydrology and water quality impacts. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would result in less than significant hydrology and water quality impacts.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. The land on which the proposed underground tanks would be located would remain undisturbed under Alternative 1. As such, Alternative 1 would therefore result in fewer overall hydrology and water quality impacts when compared to the proposed project.

Noise

As discussed in Section 3.6, Noise, construction noise impacts can be reduce to a less than significant level with implementation of mitigation. Operational noise impacts would be less than significant and not require mitigation.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. Alternative 1 would therefore result in fewer overall construction and operational noise impacts when compared to the proposed project.

Transportation

As discussed in Section 3.7, Transportation, all impacts associated with traffic and transportation would be less than significant with implementation of the proposed project.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. Alternative 1 would therefore result in fewer overall traffic impacts because no ground disturbing activities or new vehicle trips would be generated under Alternative 1. As such, Alternative 1 would have fewer transportation and traffic impacts when compared to the proposed project.

Utilities and Service Systems

As discussed in Section 3.8, Utilities and Service Systems, construction and operational impacts would be less than significant.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. Alternative 1 would therefore result in fewer overall construction and operational utilities and service systems impacts when compared to the proposed project.

Energy

As discussed in Section 3.9, Energy, all energy impacts associated with construction and operation of the proposed project would be less than significant.

Under Alternative 1, no construction activities would occur and no operational changes would occur given that the existing De Soto Reservoir would continue to provide water storage at the project site. Alternative 1 would therefore result in fewer overall energy impacts when compared to the proposed project.

5.4.1.2 Relationship to Project Objectives

Under Alternative 1, the project site would remain unchanged and the existing De Soto Reservoir would continue to provide water storage at the project site. Table 5-2 provides as list of the project objectives and whether Alternative 1 meets each objective. As discussed in Table 5-2, Alternative 1 would not meet any of the project objectives.

Table 5-2
Summary of Alternative 1 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Replace the existing De Soto Reservoir with modern and reliable underground tanks.	No. Under Alternative 1, the existing De Soto Reservoir would continue to provide water storage within the northwestern portion of the San Fernando Valley. No new tanks would be constructed. As such, the existing De Soto Reservoir would not be replaced. Alternative 1 would not meet this project objective.
Provide additional local storage to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.	No. Under Alternative 1, the existing De Soto Reservoir would continue to provide water storage within the northwestern portion of the San Fernando Valley. No new tanks would be constructed. As such, the existing storage

Table 5-2
Summary of Alternative 1 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
	and capacity would not be increased and no improvements to the operational effectiveness, reliability and flexibility of the water supply system would be achieved. Alternative 1 would not meet this project objective.
Maintain appropriate operating pressure by installing the new tanks at an appropriate elevation to maximize gravity flows and minimize the need to pump water.	No. Under Alternative 1, the existing De Soto Reservoir would continue to provide water storage within the northwestern portion of the San Fernando Valley. No new tanks would be constructed. As such, operational efficiencies associated with installing new tanks at an appropriate elevation would not be achieved. Alternative 1 would not meet this project objective.
Provide upgraded connections to the Rinaldi and De Soto Trunk Lines.	No. Under Alternative 1, the existing De Soto Reservoir and pipeline infrastructure would remain unchanged. As such, upgraded connections to the Rinaldi and De Soto Trunk Lines would not occur and would remain unchanged. Alternative 1 would not meet this project objective.

5.4.2 Alternative 2 – Reduced Project

Under Alternative 2, Reduced Project, instead of installing two underground tanks with a total capacity of 20 million gallons, one underground tank would be installed with a total capacity of 10 million gallons, thereby replacing the existing 3 million gallon De Soto Reservoir. Alternative 2 would also include the installation of:

- Approximately 1,450 linear-feet of new 66-inch-diameter inlet pipeline that would connect the tanks and flow control station to Rinaldi Trunk Line to the east.
- A new underground flow control station on the inlet line to control water flow into the tank from Rinaldi Trunk Line.
- Approximately 30 linear-feet of new 48-inch-diameter pipeline to provide an emergency connection between the inlet line and Granada Trunk Line.
- A new inlet/outlet vault.
- Approximately 450 linear-feet of new 66-inch-diameter and 3,200 linear-feet of new 54-inch-diameter outlet pipeline that would connect to De Soto Trunk Line. This connection would require the installation of the outlet pipeline from the proposed project site boundary, south along De Soto Avenue to the intersection of De Soto Avenue and Chatsworth Street. This outlet pipeline would also connect to Granada Trunk Line via the proposed De Soto Pump Station. These new pipelines would be located beneath Rinaldi Street, LADWP property, and De Soto Avenue.
- A new pump station (the De Soto Pump Station) to be located at the existing De Soto Reservoir site. Upon placing the De Soto Tank in-service, the existing De Soto Reservoir will be demolished.

5.4.2.1 Environmental Impact Analysis

Air Quality

As discussed in Section 3.1, construction air quality impacts can be reduce to a less than significant level with implementation of mitigation. Operational air quality impacts would be less than significant and not require mitigation.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less construction activity would be required, and less excavation and soil export would be required. As such, construction air quality impacts would be reduced when compared to the proposed project. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, air quality impacts would be reduced under Alternative 2 when compared to the proposed project.

Biological Resources

As discussed in Section 3.2, construction of the proposed project has the potential to result in impacts to biological resources. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would not result in impacts to biological resources.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less ground disturbance would occur and less construction activity would be required, thereby reducing impacts to biological resources when compared to the proposed project. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, impacts to biological resources would be reduced under Alternative 2 when compared to the proposed project.

Cultural Resources

As discussed in Section 3.3, construction of the proposed project has the potential to result in impacts to cultural resources. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would not result in impacts to cultural resources.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less ground disturbance would occur and less construction activity would be required, thereby reducing impacts to cultural resources when compared to the proposed project. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, impacts to cultural resources would be reduced under Alternative 2 when compared to the proposed project.

Greenhouse Gas Emissions

As discussed in Section 3.4, all impacts associated with GHG emissions would be less than significant with implementation of the proposed project.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less construction activity would be required, and less excavation and soil export would be required thereby resulting in fewer air emissions and precursors to GHGs. As such, construction GHG impacts would be reduced when compared to the proposed project. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, GHG impacts would be reduced under Alternative 2 when compared to the proposed project.

Hydrology and Water Quality

As discussed in Section 3.5, construction of the proposed project has the potential to result in hydrology and water quality impacts. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would result in less than significant hydrology and water quality impacts.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less ground disturbance would occur and less construction activity would be required, thereby reducing hydrology and water quality impacts when compared to the proposed project. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, hydrology and water quality impacts would be reduced under Alternative 2 when compared to the proposed project.

Noise

As discussed in Section 3.6, construction noise impacts can be reduce to a less than significant level with implementation of mitigation. Operational noise impacts would be less than significant and not require mitigation.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less construction activity would be required, and less excavation and soil export would be required. As such, construction noise impacts would be reduced when compared to the proposed project. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, noise impacts would be reduced under Alternative 2 when compared to the proposed project.

Transportation

As discussed in Section 3.7, all impacts associated with traffic and transportation would be less than significant with implementation of the proposed project.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less construction activity would be required, and less excavation and soil export would be required, thereby resulting in fewer overall vehicle trips during project construction. As such, construction transportation impacts would be reduced when compared to the proposed project. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, transportation impacts would be reduced under Alternative 2 when compared to the proposed project.

Utilities and Service Systems

As discussed in Section 3.8, construction and operational impacts associated with solid waste would be less than significant.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less construction activity would be required, and less excavation and soil export would be required, thereby reducing the amount of exported material transported to and dumped at landfills. As such, construction impacts would be reduced when compared to the proposed project. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, utilities and service system impacts would be reduced under Alternative 2 when compared to the proposed project.

Energy

As discussed in Section 3.9, all energy impacts associated with construction and operation of the proposed project would be less than significant.

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of only one underground tank, less construction activity would be required thereby resulting in less energy consumption and fewer energy impacts. Operational activities under Alternative 2 would be comparable to those under the proposed project. As such, overall, energy impacts would be reduced under Alternative 2 when compared to the proposed project.

5.4.2.2 Relationship to Project Objectives

Under Alternative 2, instead of two underground tanks being installed, one 10 million gallon underground tank would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. Table 5-3 provides as list of the project objectives and whether Alternative 2 meets each objective. As discussed in Table 5-3, Alternative 2 would meet the project objectives yet not to the same degree as the proposed project.

Table 5-3
Summary of Alternative 2 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Replace the existing De Soto Reservoir with modern and reliable underground tanks.	Partially. Alternative 2 would replace the existing De Soto Reservoir with one modern and reliable underground tank. Alternative 2 would meet this project objective, but not to the same degree was the proposed project.
Provide additional local storage to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.	Yes. Alternative 2 would replace the existing 3 million gallon De Soto Reservoir with a 10 million gallon underground tank, thereby increasing operational effectiveness, reliability, and flexibility while also providing system redundancy and emergency water supplies to the West San Fernando Valley. Alternative 2 would meet this project objective, although not to the same degree as the proposed project.
Maintain appropriate operating pressure by installing the new tanks at an appropriate elevation to maximize gravity flows and minimize the need to pump water.	Yes. Alternative 2 would replace the existing De Soto Reservoir with one underground tank at an elevation appropriate to maximize gravity flows and minimize the need to pump water. As such, Alternative 2 would meet this project objective.
Provide upgraded connections to the Rinaldi and De Soto Trunk Lines.	Yes. Alternative 2 would include upgrading connections to the Rinaldi and De Soto Trunk Lines. As such, Alternative 2 would meet this project objective.

5.4.3 Alternative 3 – Aboveground Tanks

Under Alternative 3, Aboveground Tanks, instead of installing two underground tanks with a total capacity of 20 million gallons, both tanks would be constructed aboveground on the same project site, thereby replacing the existing 3 million gallon De Soto Reservoir. With the construction of the tanks aboveground, new pumps would be required to direct water uphill from the Rinaldi Trunk Line because of the increased elevation of the tanks. The pressure increase from the pumps required to fill the tanks would result in breaks to the distribution system and increase the pressure to thousands of homes that would now be required to have pressure reducing valves installed at their meters.

- Approximately 1,450 linear-feet of new 66-inch-diameter inlet pipeline that would connect the tanks and flow control station to Rinaldi Trunk Line to the east.
- A new underground flow control station on the inlet line to control water flow into the tanks from Rinaldi Trunk Line.
- Approximately 30 linear-feet of new 48-inch-diameter pipeline to provide an emergency connection between the inlet line and Granada Trunk Line.
- A new inlet/outlet vault.

- Approximately 450 linear-feet of new 66-inch-diameter and 3,200 linear-feet of new 54-inch-diameter outlet pipeline that would connect to De Soto Trunk Line. This connection would require the installation of the outlet pipeline from the proposed project site boundary, south along De Soto Avenue to the intersection of De Soto Avenue and Chatsworth Street. This outlet pipeline would also connect to Granada Trunk Line via the proposed De Soto Pump Station. These new pipelines would be located beneath Rinaldi Street, LADWP property, and De Soto Avenue.
- A new pump station (the De Soto Pump Station) to be located at the existing De Soto Reservoir site. Upon placing the De Soto Tanks in-service, the existing De Soto Reservoir will be demolished.

5.4.3.1 Environmental Impact Analysis

Air Quality

As discussed in Section 3.1, construction air quality impacts can be reduced to a less than significant level with implementation of mitigation. Operational air quality impacts would be less than significant and not require mitigation.

Under Alternative 3, instead of two underground tanks being installed, two new aboveground tanks would be constructed, additional pumping apparatus would be required, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, a comparable amount of construction activity would occur at the project site. However, significant less excavation would be required, as construction would predominantly occur aboveground. Because less soil export would be required given the aboveground nature of the tanks, fewer overall truck haul trips would be required, thereby reducing construction air quality emissions when compared to the proposed project. As such, construction air quality impacts would be reduced when compared to the proposed project. Operational activities under Alternative 3 would be comparable to those under the proposed project. As such, overall, air quality impacts would be reduced under Alternative 3 when compared to the proposed project.

Biological Resources

As discussed in Section 3.2, construction of the proposed project has the potential to result in impacts to biological resources. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would not result in impacts to biological resources.

Under Alternative 3, instead of two underground tanks being installed, two aboveground tanks would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, comparable ground disturbance would occur and comparable construction activity would be required, thereby reducing resulting in comparable impacts to biological resources when compared to the proposed project. Operational activities under Alternative 3 would be comparable to those under the proposed project. As such, overall, impacts to biological resources under Alternative 3 would be comparable to those associated with the proposed project.

Cultural Resources

As discussed in Section 3.3, construction of the proposed project has the potential to result in impacts to cultural resources. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would not result in impacts to cultural resources.

Under Alternative 3, instead of two underground tanks being installed, two aboveground tanks would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, less ground disturbance would occur and less construction activity would be required, thereby reducing impacts to cultural resources when compared to the proposed project. Operational activities under Alternative 3 would be comparable to those under the proposed project. As such, overall, impacts to cultural resources would be reduced under Alternative 3 when compared to the proposed project.

Greenhouse Gas Emissions

As discussed in Section 3.4, all impacts associated with GHG emissions would be less than significant with implementation of the proposed project.

Under Alternative 3, instead of two underground tanks being installed, two aboveground tanks would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, comparable construction activity would be required, however, substantially less excavation and soil export would be required thereby resulting in fewer air emissions and precursors to GHGs. As such, construction GHG impacts would be reduced when compared to the proposed project. Operational activities under Alternative 3 would be comparable to those under the proposed project. As such, overall, GHG impacts would be reduced under Alternative 3 when compared to the proposed project.

Hydrology and Water Quality

As discussed in Section 3.5, construction of the proposed project has the potential to result in hydrology and water quality impacts. However, with implementation of mitigation, impacts can be reduced to less than significant levels. Operation of the project would result in less than significant hydrology and water quality impacts.

Under Alternative 3, instead of two underground tanks being installed, two aboveground tanks would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, less ground disturbance would occur but comparable construction activity would be required, thereby slightly hydrology and water quality impacts when compared to the proposed project. Operational activities under Alternative 3 would be comparable to those under the proposed project. As such, overall, hydrology and water quality impacts would be reduced under Alternative 3 when compared to the proposed project.

Noise

As discussed in Section 3.6, construction noise impacts can be reduce to a less than significant level with implementation of mitigation. Operational noise impacts would be less than significant and not require mitigation.

Under Alternative 3, instead of two underground tanks being installed, two new aboveground tanks would be installed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, comparable construction activity would be required; however, substantially less excavation and soil export would be required. Because less excavation would be required, fewer ground disturbing activities would occur and fewer overall truck haul trips would be required; however, with the construction of the tanks aboveground, there is the increased chance that construction activities would be more audible than when tanks are constructed below ground. As such, construction noise impacts would be comparable to, but different in nature than, those associated with the proposed project. Operational activities under Alternative 3 would be comparable to those under the proposed project. As such, overall, noise impacts would be comparable under Alternative 3 to those of the proposed project.

Transportation

As discussed in Section 3.7, all impacts associated with traffic and transportation would be less than significant with implementation of the proposed project.

Under Alternative 3, instead of two underground tanks being installed, two aboveground tanks would be constructed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, comparable construction activity would be required; however, substantially less excavation and soil export would be required, thereby resulting in fewer overall vehicle trips during project construction. As such, construction transportation impacts would be reduced when compared to the proposed project. Operational activities under Alternative 3 would be comparable to those under the proposed project. As such, overall, transportation impacts would be reduced under Alternative 3 when compared to the proposed project.

Utilities and Service Systems

As discussed in Section 3.8, construction and operational impacts associated with solid waste would be less than significant.

Under Alternative 3, instead of two underground tanks being installed, two aboveground tanks would be constructed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, comparable construction activity would be required; however, substantially less excavation and soil export would be required, thereby reducing the amount of exported material transported to and dumped at landfills. As such, construction impacts would be reduced when compared to the proposed project. Operational activities under Alternative 3 would be comparable to those under the proposed project. As such, overall, utilities and service system impacts would be reduced under Alternative 3 when compared to the proposed project.

Energy

As discussed in Section 3.9, all energy impacts associated with construction and operation of the proposed project would be less than significant.

Under Alternative 3, instead of two underground tanks being installed, two aboveground tanks would be constructed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. With the installation of two aboveground tanks, comparable construction activity would be required thereby resulting in the consumption of a comparable amount of energy when compared to the proposed project. However, during operational activities under Alternative 3, because the water would be stored in aboveground tanks, the water would have to be pumped into the aboveground tanks. Use of the pumps would result in increased demand for and use of energy when compared to the proposed project. As such, Alternative 3 would result in more energy impacts when compared to the proposed project.

5.4.3.2 Relationship to Project Objectives

Under Alternative 3, two aboveground tanks would be constructed, and all planned pipeline infrastructure upgrades connecting the project to the De Soto and Granada Trunk Lines would occur. Table 5-4 provides as list of the project objectives and whether Alternative 3 meets each objective. As discussed in Table 5-4, Alternative 3 would meet some, but not all, of the project objectives.

Table 5-4
Summary of Alternative 3 Success at Meeting Project Objectives

Project Objective	Alternative Meets Objective?
Replace the existing De Soto Reservoir with modern and reliable underground tanks.	No. Under Alternative 3, the new tanks would be constructed aboveground rather than underground. As such, Alternative 3 does not meet this project objective.
Provide additional local storage to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.	Yes. Under Alternative 3, two new tanks would be constructed to provide additional local storage to increase the operational effectiveness, reliability and flexibly, system redundancy and emergency water supply to the West San Fernando Valley.
Maintain appropriate operating pressure by installing the new tanks at an appropriate elevation to maximize gravity flows and minimize the need to pump water.	No. Under Alternative 3, the new aboveground tanks would not be installed at an elevation to maximize gravity flows, and the need for pumping would be increased.
Provide upgraded connections to the Rinaldi and De Soto Trunk Lines.	Yes. Under Alternative 3, connections to the Rinaldi and De Soto Trunk Lines would be upgraded.

5.5 Evaluation of Alternatives

In accordance with the CEQA Guidelines Section 15126.6(d), the discussion of the environmental effects of the alternatives may be less detailed than the discussion of the impacts of the project. Table 5-1 provides a summary of the comparison of the impacts of the alternatives with the project; an analysis of the Environmentally Superior Alternative is provided in Section 5.6, as follows.

5.6 Environmentally Superior Alternative

As indicated in Table 5-1, Alternative 1, the No Project Alternative, would result in the least environmental impacts, and therefore would be considered the Environmentally Superior Alternative. However, Section 15126.6(e)(2) of the CEQA Guidelines states that if the Environmentally Superior Alternative is the No Project Alternative, the EIR shall also identify an Environmentally Superior Alternative among the other alternatives.

Of the alternatives previously evaluated, Alternative 2 was found to be environmentally superior over the proposed project (see Table 5-1) because it had the most reductions in impacts from the proposed project. Alternative 2 was found to have fewer air quality impacts, biological resources impacts, cultural resources impacts, greenhouse gas emission impacts, hydrology and water quality impacts, noise impacts, transportation impacts, utilities and service system impacts, and energy impacts when compared to the proposed project. While Alternative 2 would be the Environmentally Superior Alternative, this alternative would not achieve the primary objectives of the proposed project, including providing the maximum amount of additional local storage to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley.

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6 OTHER CEQA REQUIREMENTS

6.1 Significant and Unavoidable Environmental Impacts

This section is prepared in accordance with Section 15126.2(b) of the California Environmental Quality Act (CEQA) Guidelines, which requires the discussion of any significant environmental effects that cannot be avoided if a project is implemented. These include impacts that can be mitigated, but cannot be reduced to a less-than-significant level. An analysis of environmental impacts of the De Soto Tanks and Pump Station Project (proposed project or project) has been conducted and is contained in this Environmental Impact Report (EIR). A total of nine issue areas were analyzed in detail in Chapter 3, Environmental Impact Analysis. According to the environmental impact analysis presented in Chapter 3, the proposed project would not result in any significant unavoidable adverse impacts.

6.2 Effects Found Not to Be Significant

Section 15128 of the CEQA Guidelines requires a statement that briefly indicates the reasons that various possible significant effects of a project were determined not be significant and were therefore not discussed in detail in the EIR. As stated in the CEQA Guidelines, such a statement may be contained in an attached copy of an Initial Study. The Initial Study for the proposed project is included in this EIR as Appendix A. As described and substantiated in Appendix A, the following issue areas were not found to be significant: aesthetics, agriculture and forestry resources, geology and soils, hazards and hazardous materials (including wildfire), land use and planning, mineral resources, population and housing, public services, recreation, and tribal cultural resources.

6.3 Significant Irreversible Environmental Changes

Uses of nonrenewable resources during the initial and continued phases of the proposed project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Section 15126.2(c) of the CEQA Guidelines requires that an EIR evaluate the proposed project's irretrievable commitments of resources to assure that current consumption is justified.

Implementation of the proposed project would occur on undeveloped land located north of the existing De Soto Reservoir. Implementation of the proposed project would increase the intensity of the site compared to existing conditions. Proposed development would include the irreversible commitment of natural resources, energy, and human resources. Nonrenewable resources that would be used on site during construction and operation include natural gas, other fossil fuels, water, concrete, steel, and lumber. The proposed project would result in the commitment of such resources. (The proposed project's energy consumption is discussed in greater detail in Section 3.9 of this EIR.) Ongoing maintenance and operation of the proposed project would entail a further irreversible commitment of energy resources in the form of petroleum products (diesel fuel and gasoline), natural gas, and electricity.

The proposed project is not anticipated to consume substantial amounts of energy in a wasteful manner (see Section 43.9 for details), and it would not result in significant impacts from consumption of utilities (see Section 3.8, Utilities and Service Systems, for details).

6.4 Growth Inducing Impacts

According to Section 15126.2(d) of the CEQA Guidelines, growth-inducing impacts of the proposed project shall be discussed in the EIR. Growth-inducing impacts are those effects of the proposed project that might foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. According to CEQA Guidelines Section 15126.2(d), increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place without the implementation of the proposed project. Typically, the growth-inducing potential of a project would be considered significant if it results in growth or population concentration that exceeds those assumptions included in pertinent master plans, land use plans, or projections made by regional planning authorities. However, the creation of growth-inducing potential does not automatically lead to growth, whether it would be below or in exceedance of a projected level.

The environmental effects of induced growth are secondary or indirect impacts of the proposed project. Secondary effects of growth could result in significant, adverse environmental impacts, which could include increased demand on community or public services, increased traffic and noise, degradation of air and water quality, and conversion of agricultural land and open space to developed uses.

The Population and Housing section of the Initial Study discussed the potential growth inducement of the proposed project (Appendix A). The proposed project does not include construction of new homes or businesses or the extension of roads or other infrastructure that would induce population growth. The project does not propose to increase overall water supply, but rather provide additional local storage to increase operational effectiveness, reliability, and flexibility; system redundancy; and emergency supply to the West San Fernando Valley. Additionally, the number of personnel required for project construction in the context of the Los Angeles urban area would be low and temporary in nature, and no substantial population growth in the area would occur related to construction. The operation of the proposed project would not increase the number of operating personnel on site and thus would not induce population growth or the need for new housing in the area. No impact would occur relative to population growth.

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