

Draft

GOETZ ROAD POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

Environmental Impact Report

State Clearinghouse Number: 2015101020

Prepared for
Eastern Municipal Water District

July 2020



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- Appendix AQ/GHG/Energy:** Air Quality, Greenhouse Gas Emissions, and Energy Outputs
- Appendix BIO:** Goetz Road Potable Water Storage Tank and Transmission Pipeline
Biological Resources Assessment Update Report
- Appendix CUL:** Goetz Road Potable Water Storage Tank and Transmission Pipeline
Cultural Resources Assessment
- Appendix IS/NOP:** Goetz Road Initial Study, Notice of Preparation and Public Comments
- Appendix NOI:** Noise Calculations and Outputs
- Appendix PALEO:** Goetz Road Potable Water Storage Tank and Transmission Pipeline
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AB	Assembly Bill
ACC	Advanced Clean Cars
AFY	acre-feet per year
AMI	Advanced Metering Infrastructure
AMSL	above mean sea level
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AR4	IPCC's Fourth Assessment Report
ASHRAE	American Society of Heating and Air-Conditioning Engineers
ATCM	Airborne Toxic Control Measure
BACT	Best Available Control Technology
BAU	business-as-usual
bgs	below ground surface
BMPs	best management practices
Btu	British thermal units
CAA	Clean Air Act (federal)
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal/OSHA	California Division of Occupational Safety and Health
CalARP	California Accidental Release Prevention
CalEPA	California Environmental Protection Agency
CalEEMod	California Emissions Estimator Model
CALFIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards
CalTrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	Climate Action Team
CBSC	California Building Standards Commission
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cf	cubic feet
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGC	California Government Code
CGS	California Geological Survey

CGEU	California Gas and Electric Utilities
CGP	Construction General Permit
CH ₄	Methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CIWMB	California Integrated Waste Management Board
CMP	Congestion Management Program
CMU	concrete masonry unit
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	equivalent mass of carbon dioxide
COPD	Chronic obstructive pulmonary disease
CPUC	California Public Utilities Commission
CR	commercial retail
CRA	Colorado River Aqueduct
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
CVC	California Vehicle Code
CWA	Clean Water Act
dB	decibels
dba	A-weighted decibels
DBESP	Determination of Biologically Equivalent or Superior Preservation
DHS	California Department of Health Services
DNL	day-night average noise level
DPF	Diesel Particulate Filter
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EE	energy efficiency
EI	Edison International
EIA	U.S. Energy Information Administration
EIC	Eastern Information Center
EIR	Environmental Impact Report
EMFAC	California Emissions Factor Model
EMWD	Eastern Municipal Water District
EOP	Emergency Operations Plan
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Environmental Science Associates
EV	electric vehicle
FED	Functional Equivalent Document
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FRAP	CALFIRE's Fire Resource Assessment Program
FTA	Federal Transit Administration
g	gravity
GHG	greenhouse gas emission

GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWh	gigawatt-hours
GWP	Global Warming Potential
HANS	Habitat Evaluation and Acquisition Negotiation Strategy
HAPs	hazardous air pollutants
HCFCs	hydrochlorofluorocarbons
HCP	habitat conservation plan
HFCs	Hydrofluorocarbons
HMBPs	Hazardous Materials Release Response Plans and Inventories
HMMP	Habitat Mitigation and Monitoring Program
hp	horsepower
HSWA	Federal Hazardous and Solid Waste Amendments
HWCA	Hazardous Waste Control Act
Hz	hertz
I	Interstate
IPCC	Intergovernmental Panel on Climate Change
ISE	Investigative Science and Engineering
IWMA	California Integrated Waste Management Act
Kgb	Cretaceous Gabbro
kWh	kilowatt-hour
kWh/yr	kilowatt hours per year
LACM	Natural History Museum of Los Angeles County
LCFS	Low Carbon Fuel Standards
LEV	Low-Emission Vehicle
LID	Low-Impact Development
LIPs	Local Implementation Plans
LOS	Level of Service
LRAs	local responsibility areas
LRTP	Long Range Transportation Plan
LSTs	Localized Significance Thresholds
LUST	leaking underground tank site
MATES-IV	Multiple Air Toxics Exposure Study Four
MBTA	Migratory Bird Treaty Act
Mmax	maximum moment magnitude
MMBtu	million British thermal unit
MG	million gallon
mg/L	milligrams per liter
ML	Richter magnitude
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
mpg	miles per gallon
MS4	multiple separate storm sewer systems
MSATs	Mobile Source Air Toxics
MSHCP	Multiple Species Habitat Conservation Plan
Mw	Momentum Magnitude
MW	megawatts
MWD	Metropolitan Water District of Southern California
MWh	megawatt-hours
Mzq	Quartz-rich Mesozoic rocks

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Planning
NDIR	Non-Dispersive Infrared Photometry
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NMFS	National Marine Fisheries Service
NO	nitric oxide
N ₂ O	Nitrous oxide
NO ₂	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NOX	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetlands Inventory
O ₃	Ozone
OA	Operational Area
OCS	Open Space and Conservation Element
OEHHA	Office of Environmental Health Hazard Assessment
OES	State Office of Emergency Services
OHP	State Office of Historic Preservation
OHWM	ordinary high water mark
OPR	The Governor's Office of Planning and Research
OSHA	Federal Occupational Health and Safety Administration
PCBs	polychlorinated biphenyls
PFCs	perfluorocarbons
PGA	peak ground acceleration
PHEV	plug-in hybrid electric vehicles
PM	particulate matter
PM ₁₀	particulate matter with a diameter of 10 micrometers or less
PM _{2.5}	particulate matter with a diameter of 2.5 micrometers or less
POUs	publicly owned utilities
ppd	pound per day
ppm	part per million
PPV	peak particle velocity
PRC	Public Resources Code
PRDs	permit registration documents
PV	photovoltaic
Qa	Quaternary alluvium
Qvof	Very old alluvial fan deposits
RCA	Regional Conservation Authority
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCNM	Roadway Construction Noise Model
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
RMS	root mean square
RPS	Renewable Portfolio Standard
RTA	Riverside Transit Agency

RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
RWRf	Regional Water Reclamation Facility
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCEDC	Southern California Earthquake Data Center
SEMS	Standard Emergency Management System
SF ₆	Sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SKR HCP	Stephens Kangaroo Rat Habitat Conservation Plan
SLF	Sacred Lands File
SO ₂	sulfur dioxide
SO ₄	Sulfates
SoCalGas	Southern California Gas Company
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SRA	state responsibility area
SVP	Society of Vertebrate Paleontology
SWANCC	Solid Waste Agency of Northern Cook County
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TCRs	Tribal Cultural Resources
TeNS	Caltrans Technical Noise Supplement
TNW	Traditionally Navigable Water
TPH	Total petroleum hydrocarbons
TRUs	transport refrigeration units
US	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
US DOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VdB	decibel notation used to measure RMS
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOCs	volatile organic compounds
W	watts
WDID	Waste Discharge Identification
WEAP	Worker Environmental Awareness Program
Wh	Watt hours
WQMP	Water Quality Management Plan
WRCC	Western Regional Climate Center

ZEV zero emission vehicle
μg/m³ micrograms per cubic meter

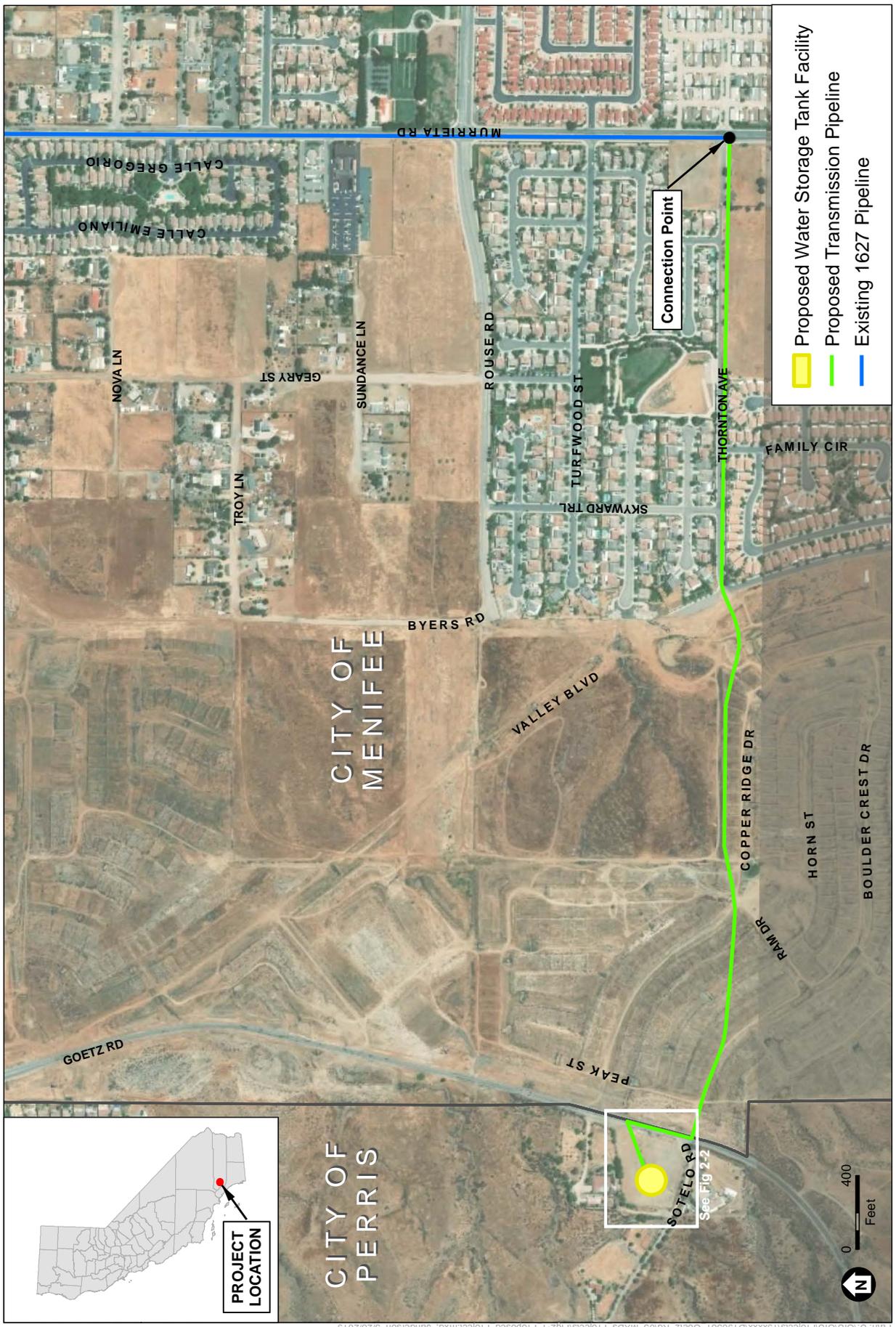
EXECUTIVE SUMMARY

ES.1 Introduction and Background

Eastern Municipal Water District (EMWD) as the lead agency pursuant to the California Environmental Quality Act (CEQA), is proposing to implement the Goetz Road Potable Water Storage Tank and Transmission Pipeline Project (Proposed Project), which would involve construction and operation of an 8 million gallon (MG) potable water storage tank and transmission pipeline, in order to address a number of deficiencies in EMWD's 1627 pressure zone as identified in EMWD's Water Facilities Master Plan. The Project would correct existing storage deficiencies and provide additional storage volume for existing and planned development in the 1627 pressure zone. The proposed Goetz Road potable water storage tank would be constructed on a 2.85-acre parcel owned by EMWD located in the City of Perris. A new transmission pipeline is proposed from the proposed tank (City of Perris) to the existing 1627 transmission pipeline within Murrieta Road (City of Menifee).

This Draft Environmental Impact Report (EIR) has been prepared in compliance with CEQA of 1970 (as amended), codified at California Public Resources Code (PRC) Sections 21000 et. seq., and the *CEQA Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3. The State Clearinghouse Number is 2015101020. The Proposed Project components are described further in Chapter 2, *Project Description* and shown in **Figure ES-1**.

The Project was originally proposed as a 13.4 MG water storage tank and pipeline project. An Initial Study and Mitigated Negative Declaration was prepared in October 2015. A number of public and agency comments were received, after which EMWD decided to prepare an EIR. A Notice of Preparation (NOP) was circulated for public review in November 2015. Since that time, EMWD conducted an extensive study of alternative tank sites to the proposed location off Goetz Road. The original 2.85-acre site was ranked highest among the 21 sites evaluated in the *1627 Zone Tank Siting Study* (Albert A. Webb 2017). The Proposed Project analyzed in this EIR consists of the water storage tank proposed at the Goetz Road site and transmission pipeline to connect the tank to the existing EMWD system in the 1627 pressure zone.



Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure ES-1
Proposed Project

SOURCE: ESRI, 2019; ESA, 2019.



Path: U:\GIS\Projects\190581\Goetz Rd\03 MXDs Projects\Fig2-1 Proposed Project.mxd, Janderson 5/28/2019

ES.2 Project Objectives

The objectives of the Proposed Project are as follows:

- Relieve existing deficiencies in the 1627 pressure zone including hydraulic deficiencies, low pressure, deficient storage, and pumping capacities;
- Provide additional storage volume for existing and planned development in the Central West Area of the 1627 pressure zone;
- Achieve the shortest possible length of pipeline to connect the proposed water storage tank to the existing 1627 pressure zone in order to reduce water quality issues and hydraulic concerns.

ES.3 Project Description

The Proposed Project would involve construction and operation of an 8 MG potable water storage tank and associated facilities on a 2.85-acre parcel owned by EMWD located in the City of Perris. Associated onsite facilities include a chlorination disinfection facility, stormwater drainage facilities, and an electrical building. A new transmission pipeline is proposed to connect the new water storage tank to the existing 1627 transmission pipeline within Murrieta Road in the City of Menifee. The Proposed Project would address a number of deficiencies in EMWD's 1627 pressure zone. Portions of EMWD's 1627 pressure zone are hydraulically isolated due to major north-south pipeline corridors that lack east-west capacity. Additionally, the zone has low pressure, deficient storage, and insufficient pumping capacities. The Proposed Project would correct existing storage deficiencies and provide additional storage volume for existing and planned development within the 1627 pressure zone.

ES.4 Project Alternatives

An EIR must describe a range of reasonable alternatives to the project or alternative project locations that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of project. The alternatives analysis must include the "No Project Alternative" as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the Proposed Project were not approved (*CEQA Guidelines* §15126.6). The following alternatives are discussed further in Chapter 5, *Alternatives Analysis*.

No Project Alternative

Under the No Project Alternative, EMWD would not construct a new 8 MG water storage tank and associated transmission pipeline. The vacant land proposed for the water storage tank would remain undeveloped and the rights-of-ways and undeveloped land would not be impacted by construction of the transmission pipeline. The benefits of the Proposed Project, which include improved operating conditions in the 1627 pressure zone, would not occur.

McLaughlin Avenue Pipeline Alternative

The McLaughlin Avenue Pipeline Alternative would involve use of a different transmission pipeline alignment to connect the proposed water storage tank at Goetz Road to the 1627 pressure zone along Murrieta Road. Instead of being installed within Thornton Avenue, the pipeline would travel north from the proposed water storage tank site along Goetz Road, and east along McLaughlin Road until the terminus within Murrieta Road. The alternative alignment would be approximately 8,950 feet long, approximately 3,460 feet longer than the Proposed Project alignment.

Alternatives Rejected from Further Consideration

EMWD considered two alternatives that were rejected from further consideration in the EIR. The alternatives proposed different locations for the water storage tank, and were based on the analysis included in the *1627 Zone Tank Siting Study* (Albert A. Webb 2017). The Sun City Tank Alternative would involve construction of one storage tank on the existing EMWD Sun City tank site in the City of Menifee. The site is located on top of a small hill adjacent to residences just west of Interstate 215 north of El Rancho Road, and would require approximately 9,900 feet of transmission pipeline. The Holland Road Tank Alternative would involve construction and operation of one or two storage tanks located northeast of the intersection of Holland Road and Murrieta Road in the City of Menifee. The site would be located to the west of an existing knoll adjacent to rural development and would require approximately 18,600 feet of transmission pipeline. These alternatives would not meet the Project objectives and would not avoid significant and unavoidable impacts of the Proposed Project. Additionally, these alternatives were found infeasible by EMWD because of site constraints and limitations, hydraulic capacity, and low operating range relative to existing infrastructure.

ES.5 Areas of Controversy

During the NOP public review period, concerns were raised regarding potential adverse impacts to the following: Aesthetic impacts of the proposed water storage tank, noise and vibration levels associated with construction of the proposed water storage tank, impacts to drainage, inundation and flood control facilities. These concerns have been addressed in Chapter 3 of this Draft EIR. All comments received on the NOP are included in **Appendix IS/NOP** to this Draft EIR.

ES.6 Summary of Impacts

Table ES-1, at the end of this chapter, presents a summary of the impacts and mitigation measures identified for the Proposed Project. The complete impact statements and mitigation measures are presented in Chapter 3 of this Draft EIR. The level of significance for each impact was determined using significance criteria (thresholds) developed for each category of impacts; these criteria are presented in the appropriate sections of Chapter 3. Significant impacts are those adverse environmental impacts that meet or exceed the significance thresholds; less than significant impacts would not exceed the thresholds. Table ES-1 indicates the measures that will be implemented to avoid, minimize, or otherwise reduce significant impacts to a less than significant level.

The *CEQA Guidelines* require that an EIR discuss the significant environmental effects of the Proposed Project (Section 15126.2(a)), which is summarized in Table ES-1 and provided in Chapters 3 and 4 of the Draft EIR. The *CEQA Guidelines* also require that an EIR discuss the significant environmental effects which cannot be avoided (Section 15126.2(b)), and significant irreversible environmental changes which would be caused by the Proposed Project should it be implemented (Section 15126.2(c)). These are discussed below.

Significant Unavoidable Environmental Effects

As required by *CEQA Guidelines* Section 15126.2(b), an EIR must describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less than significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons the Project is being proposed, notwithstanding their effect, should be described. Chapter 3 of this Draft EIR describes the potential environmental impacts of the Proposed Project and recommends mitigation measures to reduce impacts, where feasible. The only resource area that remains at a significant and unavoidable level even after implementation of mitigation measures is noise and vibration during construction of the Proposed Project.

Significant Irreversible Environmental Changes

Section 15126.2(c) of the *CEQA Guidelines* require that an EIR analyze the extent to which a Project's primary and secondary effects would affect the environment and commit nonrenewable resources to uses that future generations would not be able to reverse. "Significant irreversible environmental changes" include the use of nonrenewable natural resources during the initial and continued phases of the Project, should this use result in the unavailability of these resources in the future. Also, irreversible damage can result from environmental accidents associated with the Project. Irretrievable commitments of these resources are required to be evaluated in an EIR to ensure that such consumption is justified.

Construction and operation activities for the Proposed Project would require the commitment of renewable and non-renewable sources. Project implementation would necessitate the consumption of resources including, but not limited to: building materials, fuel and operational materials/resources, energy resources, and transportation of persons and goods to and from the Proposed Project site. Transportation fuels (gasoline and diesel) are produced from crude oil which is imported from various regions around the world. Annual diesel fuel consumption associated with construction of the Proposed Project would be approximately 76,204 gallons per year, which represents 0.05 percent of Riverside County transportation fuel consumption. Annual gasoline fuel would be approximately 3,780 gallons per year of construction which would be approximately 0.0003 percent of the County's fuel consumption. Operation-related fuel use would be negligible compared to construction. Therefore, Proposed Project construction and operation activities would have a negligible effect on the transportation fuel supply. Annual operation-related electrical usage would be approximately 64,201 kilowatt hours per year (kWh/yr). This is less than 0.001 percent of Southern California Edison's annual consumption. The Proposed Project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation.

ES.7 Organization of the Draft EIR

This Draft EIR is organized into the following chapters and appendices:

Executive Summary. This chapter summarizes the contents of the Draft EIR.

Chapter 1, Introduction and Background. This chapter discusses the CEQA process and the purpose of the Draft EIR.

Chapter 2, Project Description. This chapter provides an overview of the Proposed Project, describes the need for and objectives of the Proposed Project, and provides detail on the characteristics of the Proposed Project.

Chapter 3, Environmental Setting, Impacts and Mitigation Measures. This chapter describes the environmental setting and identifies impacts of the Proposed Project for each of the following environmental resource areas: Aesthetics; Air Quality; Biological Resources; Cultural Resources; Energy; Geology, Soils, and Paleontology; Greenhouse Gas Emissions; Hazards, Hazardous Materials, and Wildfire; Hydrology and Water Quality; Land Use and Planning; Noise and Vibration; Traffic and Transportation; Tribal Cultural Resources; and Utilities and Service Systems. Measures to mitigate the impacts of the Proposed Project are presented for each resource area, as applicable. Based on the Initial Study and public scoping process, it was determined that several environmental topics would have no impact due to implementation of the Proposed Project. These “no impact” conclusions in the Initial Study that are still true and accurate are briefly explained in this chapter, and a discussion is not included further. This chapter provides a list of past, present and reasonably foreseeable projects in the project area and analyzes the cumulative impacts associated with the Proposed Project in each of the environmental impact areas described in this Chapter.

Chapter 4, Growth Inducement. This chapter describes the potential for the Proposed Project to induce economic, population or housing growth in the surrounding environment.

Chapter 5, Alternatives Analysis. This chapter presents an overview of the alternatives development process and describes the alternatives to the Proposed Project that were considered.

Chapter 6, Report Preparers. This chapter identifies the key staff and the authors involved in preparing this Draft EIR.

ES.8 References

Albert A. Webb Associates, 2017. 1627 Zone Tank Siting Central / West Area. Prepared for Eastern Municipal Water District. November 2017.

**TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impacts	Mitigation Measures	Significance after Mitigation
Aesthetics		
3.1-1: The Proposed Project could have a substantial adverse effect on a scenic vista.	None Required	Less than Significant
3.1-2: The Proposed Project could substantially degrade the existing visual character or quality of public views of the site and its surroundings or other natural resources. (Public views are those that are experienced from publicly accessible vantage point).	Mitigation Measure AES-1: During Project design, EMWD shall prepare a landscape plan that includes measures to provide vegetation screening to assist in shielding the proposed water storage tank and other on-site facilities from surrounding views. The landscaping plan would provide for tall growth trees and multi-level vegetation in between the storage tank and Goetz Road, Sotelo Road, and Our Way to buffer the water storage tank from adjacent public vantage points. The landscape plan shall also include restoration of disturbed areas by replanting trees and/or reseeding with a native seed mix typical of the surrounding area. Mitigation Measure AES-2: Aboveground buildings/structures shall be finished with a non-reflective material and painted with an earth-tone color to blend in with the surrounding landscape and vegetation.	Less than Significant with Mitigation
3.1-3: The Proposed Project could create a new source of substantial light or glare that would adversely affect sensitive receptors, and/or daytime/nighttime views in the area.	Mitigation Measure AES-3: All new permanent exterior lighting associated with the proposed water storage tank shall be shielded and directed downward to avoid light spill onto neighboring parcels and visibility from surrounding public vantage points. Mitigation Measure AES-4: The proposed water storage tank aboveground facilities shall be designed to include non-glare exterior materials and coatings to minimize glare or reflection. The paint used for this purpose should be low-luster (low reflectivity) so as to reduce glare.	Less than Significant with Mitigation
3.1-4: The Proposed Project could create a new source of shade or shadow that would adversely affect public rights-of-way or sensitive receptors in the area.	None Required	Less than Significant
3.1-5: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to aesthetics.	Implement Mitigation Measures AES-1 through AES-4.	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
<p>Air Quality</p>	<p>Mitigation Measure AQ-1: Prior to ground disturbing activities, EMWD shall require all diesel-fueled scrapers, graders, and pavers greater than 50 horsepower (hp) to meet USEPA Tier 3 off-road emission standards or equivalent. All other equipment greater than 50 hp shall meet the USEPA Tier 4 final off-road emission standards or equivalent. All equipment greater than 50 hp shall be outfitted with Best Available Control Technology (BACT) devices including a California Air Resources Board certified Level 3 Diesel Particulate Filter (DPF) or equivalent. Certification for all equipment, including certification of DPF installation for any Tier 3 equipment used, shall be maintained onsite. Additionally, the contractor may also limit the concurrent use of off-road construction vehicles used to install the pipeline and the tank and re-calculate the emissions to demonstrate the combined fleet would emit less than 100 pounds per day of NOx.</p>	<p>Less than Significant with Mitigation</p>
<p>3.2-1: The Proposed Project could 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.</p>	<p>3.2-2: The Proposed Project could expose sensitive receptors to substantial pollutant concentrations.</p> <p>Implementation of Mitigation Measure AQ-1</p> <p>Mitigation Measure AQ-2: Prior to ground disturbance, EMWD shall require certain types of off-road equipment to be electrified. Equipment that is to be electrified should, at a minimum, include all air compressors, all cranes, all plate compactors, and welders. Electricity or temporary electricity from SCE shall be used to provide electricity where feasible. If infeasible to connect to SCE for electricity during construction activities, a non-diesel powered generator shall be used. In addition, for sweepers and scrubbers, in lieu of meeting the Tier 3 or Tier 4 Final emissions standards requirements in Mitigation Measure AQ-1, such equipment may be alternative-fueled, such as CNG or other non-diesel fuel such as electricity, if Tier 3 or Tier 4 Final sweepers and scrubbers cannot be readily obtained.</p>	<p>Less than Significant with Mitigation</p>
<p>3.2-3: The Proposed Project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.2-4: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to air quality.</p>	<p>Implementation of Mitigation Measure AQ-1 and AQ-2</p>	<p>Less than Significant with Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>Biological Resources</p> <p>3.3-1: The Proposed Project could 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.</p>	<p>Mitigation Measure BIO-1: Special-Status and Narrow Endemic Plant Surveys. Prior to initiation of construction activities, focused surveys for special-status and MSHCP narrow endemic plant species shall be conducted within area that contain suitable habitat that will be directly disturbed. This includes the portion of the Proposed project that traverses through the Cimarron Ridge Development Project that were disturbed over four years ago that may now contain suitable habitat. The focused surveys must be conducted by a qualified botanist in accordance with the MCHCP requirements for conducting surveys for narrow and endemic plants, the 2001 CNPS Botanical Survey Guidelines (CNPS 2001), 2002 USFWS General Rare Plant Survey Guidelines (USFWS 2002) and <i>Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities</i> (CDFW, March 20, 2018).</p> <p>Mitigation Measure BIO-2: Avoidance of Special-Status Plants. If narrow endemic species are observed during the focused surveys and found to be potentially impacted by the Project, the locations of special-status plants and/or MSHCP narrow endemic species within 25-feet of construction areas shall be identified and mapped. Individual plants shall be flagged for avoidance and an avoidance buffer of at least 10-feet comprised of temporary fence material shall be established around the plant(s). If avoidance is not feasible, no impacts may occur to the plants until avoidance or mitigation strategies are determined through consultation with the CDFW and/or RCA, such as relocation or restoration based on an approved Restoration Plan. If take of a federal- or State-listed species if unavoidable, take authorization shall be obtained from USFWS and/or CDFW prior to impacting the plant(s).</p> <p>Mitigation Measure BIO-3: Environmental Awareness Training. Prior to commencement of construction activities, a qualified biologist shall prepare a WEAP that provides a description of potentially-occurring special-status species that could be affected. The WEAP shall include information on identifying special-status species, and measures to avoid special-status species during construction activities, such as establishing an onsite speed limit of 15 miles per hour, covering trenches and open pits at the end of each workday, installing wildlife escape ramps in open trenches or pits, and daily trash and debris disposal from the Project site. The WEAP training shall be provided to all construction personnel by a qualified biologist. Completion of the WEAP training shall be documented for all construction personnel on a sign-in sheet that shall be onsite at all time during construction activities.</p> <p>Mitigation Measure BIO-4: Preconstruction Habitat Assessment. Prior to initiating construction activities, a habitat assessment shall be conducted within the portions of the Project site that are located within the Cimarron Ridge Development Project that have not been assessed</p>	<p>Less than Significant with Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
	<p>in over four years. The assessment shall be focused on identifying presence of suitable habitat for special-status plant and animal species identified in Tables 3.3-1 and 3.3-2. If suitable habitat is determined to present within areas that will be disturbed during construction activities, Mitigation Measure BIO-5 shall be implemented.</p> <p>Mitigation Measure BIO-5: Pre-Construction Wildlife Surveys: If suitable habitat for special-status species is determined to be present within areas that will be disturbed during construction activities, preconstruction surveys for special-status wildlife shall be conducted by a qualified biologist prior to the start of ground-disturbing activities. The pre-construction survey shall focus on those species having potential to occur, including American badger, San Diego black-tailed jackrabbit, coast horned lizard, orange-throated whiptail and red diamond rattlesnake, Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens's kangaroo rat and Los Angeles pocket mouse. For listed species, including Stephens's kangaroo rat, surveys shall be conducted by a USFWS-permitted (10(a)(1)(A)) biologist in accordance with USFWS survey protocols. If a special-status species is identified to be present during the preconstruction survey, and impacts cannot be avoided, consultation with CDFW and/or USFWS shall be conducted to determine avoidance or mitigation measures. Construction activities shall not commence until take authorization by CDFW and/or USFWS is provided.</p> <p>Mitigation Measure BIO-6: Wildlife Avoidance Plan: If a special-status species is determined to be present within areas that will be directly impacted by Project-related construction activities, a Wildlife Avoidance Plan shall be prepared by a qualified biologist that identifies measures to avoid species-status wildlife, such as establishment of avoidance buffers, exclusionary fencing, monitoring, and relocation. The Plan shall be approved by CDFW prior to initiation of construction activities. The Plan shall identify biologist qualifications, handling methods, and identification of relocation sites.</p> <p>Mitigation Measure BIO-7: Habitat Assessment and Protocol Surveys for Burrowing Owl. Prior to commencement of construction activities, focused surveys for burrowing owl shall be conducted in areas that contain suitable habitat for the species that would be directly impacted, such as portions of the Project that occur with the Cimarron Ridge Development Project that have not been assessed since 2015. If suitable habitat is determined to be present in such areas, a protocol survey shall be conducted by a qualified biologist following the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) on EMWD-owned parcels, and following the Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area (RCA 2006) on all other properties containing suitable habitat that are not owned by EMWD.</p>	<p>If a burrowing owl is observed during the focused surveys where construction activities would occur, avoidance and mitigation measures</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.3-2: The Proposed Project could 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.</p> <p>3.3-3: The Proposed Project could 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.</p>	<p>shall be established and approved by CDFW and/or RCA, respectively, prior to commencement of construction activities. Avoidance of burrowing owls can be achieved by avoiding construction activities during the breeding season (February 1 to August 31), establishing a minimum 300-foot buffer around an active burrow comprised of orange mesh drift fencing or temporary chain-link fencing, or excluding and relocating owls based on coordination with CDFW. If a burrowing owl may be impacted during construction activities, a Burrow Exclusion Plan approved by CDFW and/or RCA shall be prepared by a qualified biologist that identifies methods for excluding burrowing owls from the site, relocation methods, and identification of recipient sites. Permanent impacts to land that supports burrowing owls may require conservation of mitigation lands to offset the impact to burrowing owl and its habitat. The conservation of mitigation lands will be determined through consultation with CDFW and/or the RCA depending on the ownership of the occupied land, which shall be established and approved prior to commencement of construction activities.</p> <p>Mitigation Measure BIO-8: Nesting Bird and Raptor Avoidance. To avoid potential impacts to nesting birds, including California horned lark, vegetation removal and/or ground disturbance shall be timed to occur between September 1 and January 31, which is outside of the typical nesting season for birds in the region. If vegetation removal and/or ground disturbances must occur during the typical nesting season (February 1 – August 31), a qualified biologist shall conduct a preconstruction survey for active nests within areas that will be subject to vegetation removal and/or ground disturbances, including an approximate 300-foot buffer to identify active nests that could be indirectly impacted during construction by noises and vibrations generated from construction equipment. Buffer distances may be adjusted at the discretion of a qualified biologist based on the location of the nest, species, surrounding land uses, and the type of construction that will be occurring in the area.</p> <p>Construction activities shall be avoided within the buffer, unless otherwise approved by a qualified biologist. The buffer shall be delineated with exclusionary fencing or flagging to prevent the nest from being inadvertently impacted, and shall remain in place until the nest is no longer active as determined by the biologist.</p>	<p>No Impact</p> <p>No Impact</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.3-4: The Proposed Project could 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.</p>	<p>None Required</p>	<p>No Impact</p>
<p>3.3-5: The Proposed Project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.3-6: The Proposed Project could conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.</p>	<p>Mitigation Measure BIO-9: Western Riverside MSHCP. Focused rare plant and burrowing owl surveys shall be conducted to verify if any narrow endemic plant species and burrowing owl are present that may be effected by construction activities. In accordance with the MSHCP, the Project shall demonstrate consistency on non-EMWD owned properties through the preparation of a MSHCP Consistency Analysis Report. A DBESP Report will be required if rare plants or burrowing owls are detected and impacts are unavoidable. The DBESP will need to include a discussion of why avoidance is not feasible, including minimization measures for addressing potential indirect impacts, mitigation that will offset the Project's impacts, and a determination that mitigation proposed is biologically equivalent or superior. A DBESP, should it be required, must be prepared when the project is finalized and any replacement land required shall be determined prior to the issuance of a grading permit. Both the Consistency Analysis and DBESP will be reviewed and approved by the RCA and/or wildlife agencies prior to issuance of a grading permit.</p>	<p>Less than Significant with Mitigation</p>
<p>In addition, the Project shall follow guidelines listed under Section 7.5.3 of the MSHCP as well as standard BMPs listed under Appendix C of the MSHCP during construction and operations activities. The following guidelines and BMPs shall be implemented in accordance with MSCHP Section 7.5.3.</p>	<ul style="list-style-type: none"> • Timing of construction activities will consider seasonal requirements for breeding birds and migratory non-resident species. Habitat clearing will be avoided during species active breeding season defined as March 1 to June 30. • The footprint of disturbance will be minimized to the maximum extent Feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible. • Equipment storage, fueling and staging areas will be sited on non-sensitive upland Habitat types with minimal risk of direct discharge into riparian areas or other sensitive Habitat types. • Exotic species removed during construction will be properly handled to prevent sprouting or regrowth. • Training of construction personnel will be provided. 	

Impacts	Mitigation Measures	Significance after Mitigation
	<ul style="list-style-type: none"> • Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices. • When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities. • Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation. • All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off. • Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat. <p>The following BMPs that are applicable to the Project shall be implemented in accordance with Appendix C of the MSHCP:</p> <ul style="list-style-type: none"> • A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished. • The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible. • Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7. • Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, USFWS, and CDFW, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.</p> <ul style="list-style-type: none"> • The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint. • The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species. • Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible. • To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s). • Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas. • The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs. 	
	<p>Mitigation Measure BIO-10: SKR HCP. A USFWS-permitted biologist shall conduct preconstruction surveys for the Stephens's kangaroo rat in areas determined to provide suitable habitat that would be disturbed during construction activities. Burrows determined to be occupied by Stephens's kangaroo rat presents shall be avoided with the establishment of a minimum 50-foot buffer zone approved by USFWS and CDFW. The buffer zone shall be enclosed with orange drift fencing material or temporary chain-link fence to limit access where occupied burrows occur. Where avoidance of Stephens's kangaroo rat is</p>	

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.3-7: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to biological resources.</p>	<p>infeasible, prior to construction-related activities, EMWD shall consult with the RCA, CDFW and/or USFWS to determine adequate compensatory mitigation, such as purchasing credits at an approved mitigation bank or restoration.</p> <p>Implement Mitigation Measures BIO-1 through BIO-10</p>	<p>Less than Significant with Mitigation</p>
<p>Cultural Resources</p>		
<p>3.4-1: The Proposed Project could Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.</p>	<p>Mitigation Measure CUL-1: Prior to earth moving activities, a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior 2008) shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of cultural resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. EMWD shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.</p> <p>Mitigation Measure CUL-2: Prior to the start of any ground-disturbing activities, EMWD shall retain an archaeological monitor and a Consulting Tribe (s) monitor to observe all ground-disturbing activities. Archaeological monitoring shall be conducted by a monitor familiar with the types of archaeological resources that could be encountered and shall work under the direct supervision of the qualified archaeologist. Monitoring may be reduced or discontinued by the qualified archaeologist, in coordination with EMWD, based on observations of subsurface soil stratigraphy. Both the archaeological and Tribal monitors shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the qualified archaeologist has evaluated the discovery and determined appropriate treatment in coordination with the Tribe. The monitors shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to EMWD, EIC, and any Native American groups who request a copy.</p> <p>Mitigation Measure CUL-3: Prior to the start of any ground-disturbing activities, EMWD shall retain a Native American monitor to observe all ground-disturbing activities. The monitor shall be obtained from a Tribe that is traditionally and culturally affiliated with the area, according to the NAHC list. The monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the qualified archaeologist has evaluated the discovery and determined appropriate treatment. Monitoring may be reduced or discontinued, in coordination with EMWD and the qualified archaeologist, based on observations of subsurface soil stratigraphy.</p>	<p>Less than Significant with Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
	<p>Mitigation Measure CUL-4: In the event of the discovery of archaeological materials, EMWD or its contractor shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by the qualified archaeologist. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Construction shall not resume until the qualified archaeologist has conferred with EMWD on the significance of the resource.</p> <p>If it is determined that the discovered archaeological resource constitutes a historical resource under CEQA, avoidance and preservation in place shall be the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Treatment Plan that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource shall be prepared and implemented by the qualified archaeologist in consultation with EMWD. The appropriate Native American representatives shall be consulted in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered. In the event that on-site reburial is not feasible, EMWD will enter into a curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 Code of Federal Regulations 800 Part 79, if one will accept the collection, and therefore would be curated and made available to other archaeologists/researchers for further study. If the collection is not accepted by a curation center with federal standards the collection(s) may be curated at a local facility, donated to tribes, or local historical societies. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation. All reports, DPR 523 forms, and catalogs, shall be filed with the EIC.</p>	

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.4-2: The Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.</p>	<p>Implement Mitigation Measures CUL-1 through CUL-4</p>	<p>Less than Significant with Mitigation</p>
<p>3.4-3: The Proposed Project could disturb human remains, including those interred outside of formal cemeteries.</p>	<p>Mitigation Measure CUL-5: If Native American human remains are encountered, Public Resources Code Section 5097.98 and California Health and Safety Code Section 7050.5 will be followed. If human remains are encountered no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the coroner shall contact the NAHC within 24 hours. Subsequently, the NAHC shall identify the person or persons it believes to be the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.</p>	<p>Less than Significant with Mitigation</p>
<p>3.4-4: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to cultural resources.</p>	<p>Implement Mitigation Measures CUL-1 through CUL-5</p>	<p>Less than Significant with Mitigation</p>
<p>Energy</p>		
<p>3.5-1: The Proposed Project could result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.5-2: The Proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.5-3: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to energy.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>Geology, Soils, and Paleontology</p>		
<p>3.6-1: The Proposed Project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic groundshaking.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.6-2: The Proposed Project could result in substantial soil erosion or the loss of topsoil.</p>	<p>None Required</p>	<p>Less than Significant</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.6-3: The Proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	<p>Mitigation Measure GEO-1: A qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP 2010) (Qualified Paleontologist) shall be retained prior to the approval of demolition or grading permits to produce a Paleontological Resource Monitoring and Mitigation Plan for the Project. The Plan shall include monitoring specifications based on location and sediments within the Project Site and the type of ground disturbance planned for each portion of the alignment. The plan will also include mapping of the alignment to visually highlight the locations requiring monitoring. The plan will further identify locations for sediment sampling and procedures for communication and collection and recodation protocol of findings. The Qualified Paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources, shall attend the Project kick-off meeting and Project progress meetings on a regular basis, and shall report to the Project area in the event potential paleontological resources are encountered.</p> <p>Mitigation Measure GEO-2: The Qualified Paleontologist shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project area and the procedures to be followed if they are found. Documentation shall be retained by the Qualified Paleontologist demonstrating that the appropriate construction personnel attended the training.</p> <p>Mitigation Measure GEO-3: Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP 2010) under the direction of the Qualified Paleontologist within the Qvof alluvial fan sediments. Paleontological resources monitoring shall be conducted for all ground disturbing activities in previously undisturbed alluvial fan sediments as described and mapped in the monitoring and mitigation plan. Sediment samples shall be tested for the presence of microvertebrate fossils. However, depending on the conditions encountered, full-time monitoring within these sediments can be reduced to part-time inspections or ceased entirely if determined adequate by the Qualified Paleontologist. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils or potential fossils. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries.</p> <p>Mitigation Measure GEO-4: Any significant fossils collected during project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable</p>	<p>Less than Significant with Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.6-4: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to geology, soils, and paleontological resources.</p>	<p>The Qualified Paleontologist shall prepare a final monitoring and mitigation report for submittal to EMWD in order to document the results of the monitoring effort and any discoveries. If there are significant discoveries, fossil locality information and final disposition will be included with the final report which will be submitted to the appropriate repository and EMWD.</p> <p>Implement Mitigation Measures GEO-1 through GEO-4</p>	<p>Less than Significant with Mitigation</p>
<p>Greenhouse Gas Emissions</p>		
<p>3.7-1: The Proposed Project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.7-2: The Proposed Project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.7-3: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts regarding greenhouse gas emissions.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>Hazards, Hazardous Materials, and Wildfire</p>		
<p>3.8-1: The Proposed Project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.8-2: The Proposed Project could be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.</p>	<p>None Required</p>	<p>No Impact</p>
<p>3.8-3: The Proposed Project could expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.</p>	<p>Mitigation Measure HAZ-1: Implement Fire Hazard Reduction Measures. During construction of facilities located in areas designated high or very high fire hazard severity zone by CALFIRE, EMWD shall require that all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrester shall be equipped with a spark arrester in good working order. During the construction of the Proposed Project facilities, contractors shall require all vehicles and crews to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.</p>	<p>Less than Significant with Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.8-4: The Proposed Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or substantially impair an adopted emergency response plan or emergency evacuation plan within a very high fire severity zone or state responsibility area.</p>	<p>Implement Mitigation Measure TRA-1 (see <i>Traffic and Transportation</i>)</p>	<p>Less than Significant with Mitigation</p>
<p>3.8-5: The Proposed Project could exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire within a very high fire severity zone or state responsibility area.</p>	<p>Implement Mitigation Measure HAZ-1</p>	<p>Less than Significant with Mitigation</p>
<p>3.8-6: The Proposed Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment within a very high fire severity zone or state responsibility area.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.8-7: The Proposed Project could expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes within a very high fire severity zone or state responsibility area.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.8-8: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to hazards, hazardous materials, and wildfires.</p>	<p>Implement Mitigation Measures HAZ-1 and TRA-1</p>	<p>Less than Significant with Mitigation</p>
<p>Hydrology and Water Quality</p>		
<p>3.9-1: The Proposed Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.9-2: The Proposed Project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.</p>	<p>None Required</p>	<p>Less than Significant</p>
<p>3.9-3: The Proposed Project could 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 result in substantial erosion or siltation onsite or offsite; or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite; or 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 impede or redirect flood flows.</p>	<p>None Required</p>	<p>Less than Significant</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.9-4: The Proposed Project could result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.</p>	None Required	Less than Significant
<p>3.9-5: The Proposed Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.</p>	None Required	No Impact
<p>3.9-6: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to hydrology and water quality.</p>	None Required	Less than Significant
<p>Land Use and Planning</p>		
<p>3.10-1: The Proposed Project could cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</p>	None Required	Less than Significant
<p>3.10-2: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to land use and land use planning.</p>	None Required	Less than Significant
<p>Noise and Vibration</p>		
<p>3.11-1: The Proposed Project could have a significant impact if it would generate 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.</p>	<p>Mitigation Measure NOISE-1: The following mitigation measures are recommended to minimize the noise impacts near the water storage tank site:</p> <ul style="list-style-type: none"> • For water storage tank construction activities, the contractor shall provide a minimum 8-foot-tall temporary noise barrier around the tank site between the adjacent receivers to the north, west, and south with a performance standard of achieving a minimum 10 dBA noise level reduction at the residential receptors to the north, south, and west. • Notice should be sent out to residences within 1,000 feet of the water storage tank site at least 10 days prior to the occurrence of blasting. <p>Mitigation Measure NOISE-2: In coordination with the City of Perris and City of Menifee, construction contractors shall implement the following:</p> <ul style="list-style-type: none"> • Signs shall be posted at the construction sites that include permitted construction days and hours, a day and evening contact number for the job site, and an EMWD contact number in the event of problems. • An on-site complaint and enforcement manager shall respond to and track complaints and questions related to noise. 	Significant and Unavoidable

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.11-2: The Proposed Project could have a significant impact if it would generate excessive ground-borne vibration or ground-borne noise levels.</p> <p>3.11-3: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to noise and vibration.</p>	<p>Mitigation Measure NOISE-3: To reduce noise impacts due to construction, EMWD shall require construction contractors to implement the following BMP measures:</p> <ul style="list-style-type: none"> • During construction, the contractor shall outfit all equipment, fixed or mobile, with properly operating and maintained exhaust and intake mufflers, consistent with manufacturers' standards. • Impact tools (e.g., jack hammers, pavement breakers) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used where feasible. • Stationary noise sources that could affect adjacent receptors shall be located as far from adjacent receptors as possible. 	<p>None Available</p> <p>Significant and Unavoidable</p> <p>Significant and Unavoidable</p>
<p>Transportation and Traffic</p> <p>3.12-1: The Proposed Project could conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.</p>	<p>Mitigation Measure TRA-1: Prior to the start of construction, EMWD shall require the construction contractor to prepare and have approved a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations, and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of Perris, City of Menifee, and Riverside County, as applicable. The Traffic Control Plan shall be prepared in accordance with the City of Perris' and City of Menifee's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan will ensure that congestion and traffic delays are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.</p> <p>EMWD shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction.</p>	<p>Less than Significant with Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.12-2: The Proposed Project could conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).</p> <p>3.12-3: The Proposed Project could substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</p> <p>3.12-4: The Proposed Project could result in inadequate emergency access.</p> <p>3.12-5: Concurrent construction of the Proposed Project and related projects in the geographic scope could result in cumulative short-term impacts to traffic and transportation.</p>	<p>During construction, EMWD will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, EMWD shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The Traffic Control Plan shall include provisions to ensure that the construction of the Project does not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.</p> <p>EMWD shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for project construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow emergency response providers adequate time to prepare for lane closures.</p>	<p>Less than Significant</p> <p>Less than Significant with Mitigation</p> <p>Less than Significant with Mitigation</p> <p>Less than Significant with Mitigation</p>
<p>3.13-1: The Proposed Project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).</p>	<p>None Required</p> <p>Implement Mitigation Measure TRA-1</p> <p>Implement Mitigation Measure TRA-1</p> <p>Implement Mitigation Measure TRA-1</p>	<p>None Required</p> <p>Less than Significant</p>
<p>Tribal Cultural Resources</p>		

Impacts	Mitigation Measures	Significance after Mitigation
<p>3.13-2: The Proposed Project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Section 2.1074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	None Required	Less than Significant
<p>3.13-3: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to tribal cultural resources.</p>	None Required	Less than Significant
<p>Utilities and Service Systems</p>		
<p>3.14-1: The Proposed Project could 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.</p>	None Required	Less than Significant
<p>3.14-2: The Proposed Project could result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years.</p>	None Required	Less than Significant
<p>3.14-3: The Proposed Project could result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.</p>	None Required	Less than Significant
<p>3.14-4: The Proposed Project could 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.</p>	None Required	Less than Significant
<p>3.14-5: The Proposed Project could not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.</p>	None Required	Less than Significant
<p>3.14-6: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to utilities and service systems.</p>	None Required	Less than Significant

CHAPTER 1

Introduction and Background

EMWD is proposing to implement the Proposed Project in the City of Menifee and City of Perris, California. The Proposed Project would involve construction and operation of an 8 MG potable water storage tank, disinfection facilities, and associated transmission pipeline, in order to address a number of deficiencies in EMWD's 1627 pressure zone as identified in EMWD's Water Facilities Master Plan (see **Figure 1-1**). Portions of EMWD's 1627 pressure zone are hydraulically isolated due to major north-south pipeline corridors that lack east-west capacity. Additionally, the pressure zone has low pressure, deficient storage, and insufficient pumping capacities. The Project would correct existing storage deficiencies and provide additional storage volume for existing and planned development in the 1627 pressure zone.

1.1 Purpose of the Environmental Impact Report

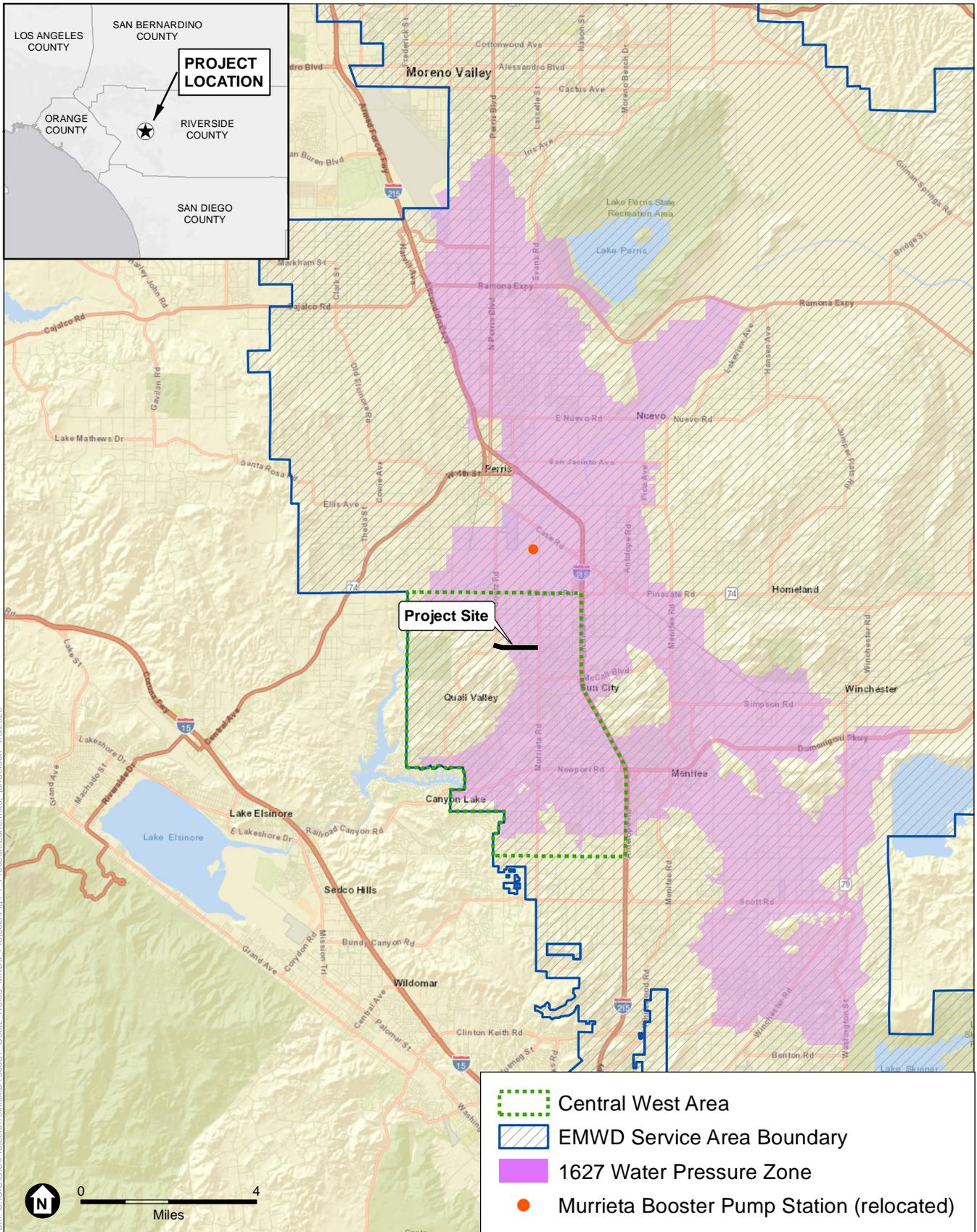
As the lead agency, EMWD has prepared this Draft EIR pursuant to CEQA of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the State *CEQA Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3. The purpose of this Draft EIR is to provide the public and responsible and trustee agencies with information about the potential effects on the environment associated with the Proposed Project.

As described in Section 15121(a) of the *CEQA Guidelines*, this Draft EIR is intended to serve as an informational document for the public and pertinent public agency decision makers. Accordingly, this Draft EIR has been prepared to identify the significant environmental effects of the Proposed Project, identify mitigation measures to minimize significant environmental effects, and consider reasonable alternatives to the Proposed Project. The environmental impact analyses in this Draft EIR are based on a variety of sources, including publicly-available documents, agency consultation, technical studies, and field surveys.

1.2 Project Background

Overview of EMWD

EMWD provides potable water, recycled water, and wastewater services to an area of approximately 555 square miles in western Riverside County. EMWD is both a retail and wholesale agency, serving a retail population of 546,146 people and a wholesale population of 215,075 people. The agency was initially formed in 1950 to bring imported water to the area and in 1951 was annexed into the Metropolitan Water District of Southern California (MWD). EMWD is now one of MWD's 26 member agencies (EMWD 2016).



SOURCE: ESRI

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 1-1
Regional Location



The majority of EMWD’s supplies are imported water purchased through MWD from the State Water Project (SWP) and the Colorado River Aqueduct (CRA). Imported water is delivered to EMWD either as potable water treated by MWD, or as raw water that EMWD can either treat at one of its two local filtration plants or deliver as raw water for non-potable uses. EMWD’s local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. Groundwater in portions of the West San Jacinto Basin is high in salinity and requires desalination for potable use. EMWD owns and operates two desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water. EMWD also owns, operates, and maintains its own recycled water system that consists of four Regional Water Reclamation Facilities and several storage ponds spread throughout EMWD’s service area that are all connected through the recycled water system. As of 2014, EMWD has used 100 percent of the recycled water it produces (EMWD 2016).

EMWD Water System

EMWD’s service area is vast and has significant elevation differences. These areas of distinct elevation are separated into hydraulic pressure zones, which refer to the different elevations or “pressures” at which water is transported within the service area. Water is transported by a network of pipelines that are either gravity fed or powered by pumps to offset elevation changes. Storage tanks are located strategically to store water for future use within the service area and are connected via pipelines. Ideally, pressure zones contain the same pressures and, therefore, the infrastructure within each pressure zone can be designed with a uniform set of design criteria which stresses efficiency, reliability and durability. This Project is located in the 1627 pressure zone, specifically within the Central West Area of the zone (see Figure 1-1).

1.3 CEQA Environmental Review Process

1.3.1 CEQA Process Overview

The basic purposes of CEQA are to (1) inform the public and governmental decision makers about potential significant environmental effects of proposed activities, (2) identify ways in which potential environmental effects can be avoided or significantly reduced, (3) prevent significant, avoidable environmental effects by requiring changes in projects through the use of alternatives or mitigation measures, and (4) disclose to the public the reasons why a governmental agency approved the project if significant environmental effects are involved.

An EIR should use a multidisciplinary approach applying social and natural sciences to provide a qualitative and quantitative analysis of all the foreseeable environmental impacts that a Proposed Project would exert on the surrounding area. As stated in *CEQA Guidelines* Section 15151:

“An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which intelligently takes an account of environmental consequences. An evaluation of the environmental effects of a proposed project need not

be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonable feasible.”

This EIR was prepared to comply with the *CEQA Guidelines* and is to be used by local regulators and the public in their review of the potential environmental impacts of the Proposed Project, alternatives, and mitigation measures that would minimize or avoid the potential environmental effects. The EMWD Board of Directors will consider the information presented in this EIR, along with other factors, prior to approving the Proposed Project for implementation.

1.3.2 Planning Process for the Proposed Project

The Project was originally proposed as a 13.4 MG water storage tank and pipeline project. An Initial Study and Mitigated Negative Declaration was circulated for public review in October 2015. Nine comments were received. Subsequently, a decision was made to prepare an EIR. A NOP was circulated for public review in November 2015, and six comments were received from agencies and local citizens. The Initial Study and NOP and associated comments are included in Appendix IS/NOP.

Since that time, EMWD proceeded to study alternative tank sites. In 2017, the *1627 Zone Tank Siting Study* was prepared, which assessed 21 alternative tank sites (Albert A. Webb Associates 2017). The original 2.85-acre site was ranked highest among the 21 sites evaluated in the study. Subsequently, the *Goetz Road Tank Siting Hydraulic Analysis Technical Memorandum* was prepared in 2018 (West Yost Associates 2018) and evaluated the top ranked sites that were identified in Albert A. Webb’s 2017 tank siting study. The Technical Memorandum assessed whether additional conveyance improvements or acceleration of planned conveyance improvements would be needed for sites to be hydraulically similar to the Goetz Road site. Four alternatives were evaluated for siting the new storage tank. Based on the results of the hydraulic evaluation, splitting storage at the Goetz Road and Sun City tank sites was identified as the hydraulically preferred alternative for the 13.4 MG storage tank capacity identified in 2017. The Proposed Project analyzed in this EIR consists of a reduced storage capacity water storage tank proposed at the Goetz Road site and the associated facilities and transmission pipeline to connect the tank to the existing EMWD system in the 1627 pressure zone. The proposed tank in Sun City is not a part of this EIR and is subject to separate CEQA review.

1.3.3 Notice of Preparation

A NOP for this EIR was published by EMWD on November 25, 2015. The NOP was circulated to federal, State, and local agencies, as well as other interested parties, for a period of 36 days until December 30, 2015. The NOP presented an overview of the Project, and provided a brief and preliminary list of environmental resources that could be affected. A public scoping meeting was not held. Appendix IS/NOP includes a copy of the NOP and as well as all written comments received on the NOP.

1.3.4 Draft Environmental Impact Report

This Draft EIR has been prepared pursuant to the requirements of *CEQA Guidelines* Section 15126. The environmental issues addressed in this Draft EIR were established through review of environmental documentation developed for the Proposed Project and comments from agencies, interested organizations, and interested individuals on the NOP and Initial Study. This Draft EIR provides an analysis of reasonably foreseeable environmental impacts associated with the implementation of the Proposed Project. The environmental baseline for determining the potential impacts reflects the existing conditions at the date of publication of the NOP for the Proposed Project (November 2015); *CEQA Guidelines* Section 15125(a). In some cases, this environmental baseline has been updated to account for existing conditions at the time of resource surveys conducted in 2019.

In accordance with the *CEQA Guidelines* Section 15126, this Draft EIR describes the Proposed Project and the baseline environmental setting, identifies project-related, and cumulative environmental impacts associated with Project implementation, identifies mitigation measures for significant environmental impacts identified, analyzes potential growth-inducing impacts, and provides an analysis of alternatives to the Proposed Project. Significance criteria have been developed for each environmental resource analyzed in this Draft EIR based on the *CEQA Guidelines* Appendix G and comments provided on the NOP and Initial Study during the public review period. More information on the format and methodology for the environmental analysis is included in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, of this Draft EIR.

1.3.5 Public Review

In accordance with Section 15105 of the *CEQA Guidelines*, the Draft EIR is available for public review and comment for a 45-day review period. This Draft EIR has been circulated to federal, State, and local agencies and interested parties for their review and comment. All comments should be sent to:

Joe Broadhead, Principal Water Resource Specialist – CEQA Compliance
 Eastern Municipal Water District
 2270 Trumble Road
 P.O. Box 8300
 Perris, CA 92572-8300

EMWD will respond to comments received on the Draft EIR; the responses to comments will be included in the Final EIR. Comments on the Draft EIR must be received by 5:00 p.m. on the last day of the 45-day review period.

1.3.6 Final EIR Publication and Certification

Written and oral comments received on the Draft EIR will be addressed in a Response to Comments document which, together with the Draft EIR and changes and corrections to the Draft EIR, will constitute the Final EIR. Following the release of the Final EIR, EMWD will decide

whether to certify the Final EIR. If the Final EIR identifies environmental impacts that are considered significant and unavoidable, EMWD must state in writing the reasons for certifying the Final EIR in a Statement of Overriding Considerations, which will be included in the record of the project approval, and mentioned in the Notice of Determination (*CEQA Guidelines* Section 15093[c]). Upon certification of the Final EIR, implementation of the Proposed Project can begin.

1.3.7 Mitigation Monitoring and Reporting Program

CEQA Guidelines Section 21081.6(a) requires lead agencies to “adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment.” Throughout the EIR, mitigation measures are clearly identified and presented in language that will facilitate establishment of a monitoring and reporting program. Any mitigation measures adopted by EMWD will be included in a Mitigation Monitoring and Reporting Program (MMRP) to verify compliance. The MMRP will be included in the Final EIR.

1.4 Areas of Controversy

Pursuant to Section 15123(b)(2) of the *CEQA Guidelines*, a lead agency is required to include areas of controversies raised by agencies and the public during the public scoping process. Based on comments made during the public review period in response to information published in the NOP and Initial Study, the following areas of controversy and issues of concern have been identified for inclusion in this Draft EIR:

- Aesthetic impacts of the proposed water storage tank should be identified and mitigated.
- Noise and vibration levels associated with construction of the proposed water storage tank should be quantified and sound attenuation measures specified.
- Impacts to drainage, inundation and flood control facilities should be addressed.

Additionally, each resource topics included in Chapter 3 includes more detailed information on scoping comments related to that environmental resource topic.

1.5 EIR Organization

This Draft EIR is organized into the following chapters and appendices:

Executive Summary. This chapter summarizes the contents of the Draft EIR.

Chapter 1, Introduction and Background. This chapter discusses the CEQA process and the purpose of the Draft EIR.

Chapter 2, Project Description. This chapter provides an overview of the Proposed Project, describes the need for and objectives of the Proposed Project, and provides detail on the characteristics of the Proposed Project.

Chapter 3, Environmental Setting, Impacts and Mitigation Measures. This chapter describes the environmental setting and identifies impacts of the Proposed Project for each of the following

environmental resource areas: Aesthetics; Air Quality; Biological Resources; Cultural Resources; Energy; Geology, Soils, and Paleontology; Greenhouse Gas Emissions; Hazards, Hazardous Materials, and Wildfire; Hydrology and Water Quality; Land Use and Planning; Noise and Vibration; Transportation and Traffic; Tribal Cultural Resources; and Utilities and Service Systems. Measures to mitigate the impacts of the Proposed Project are presented for each resource area, as applicable.

All sections will include an analysis of past, present and reasonably foreseeable projects in the Project area and analyzes the cumulative impacts associated with the Proposed Project in each of the environmental impact areas described in Chapter 3.

Chapter 4, Growth Inducement. This chapter describes the potential for the Proposed Project to induce economic, population or housing growth in the surrounding environment.

Chapter 5, Alternatives Analysis. This chapter presents an overview of the alternatives development process and describes the alternatives to the Proposed Project that were considered.

Chapter 6, Report Preparers. This chapter identifies the key staff and the authors involved in preparing this Draft EIR.

1.6 References

Albert A. Webb Associates, 2017. *1627 Zone Tank Siting Study Central West Area*. Prepared for EMWD. November 2017.

EMWD, 2016. *Eastern Municipal Water District, 2015 Urban Water Management Plan, Final*. June 2016.

West Yost Associates, 2018. *Goetz Road Tank Siting Hydraulic Analysis*. October 2, 2018.

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CHAPTER 2

Project Description

2.1 Overview and Location

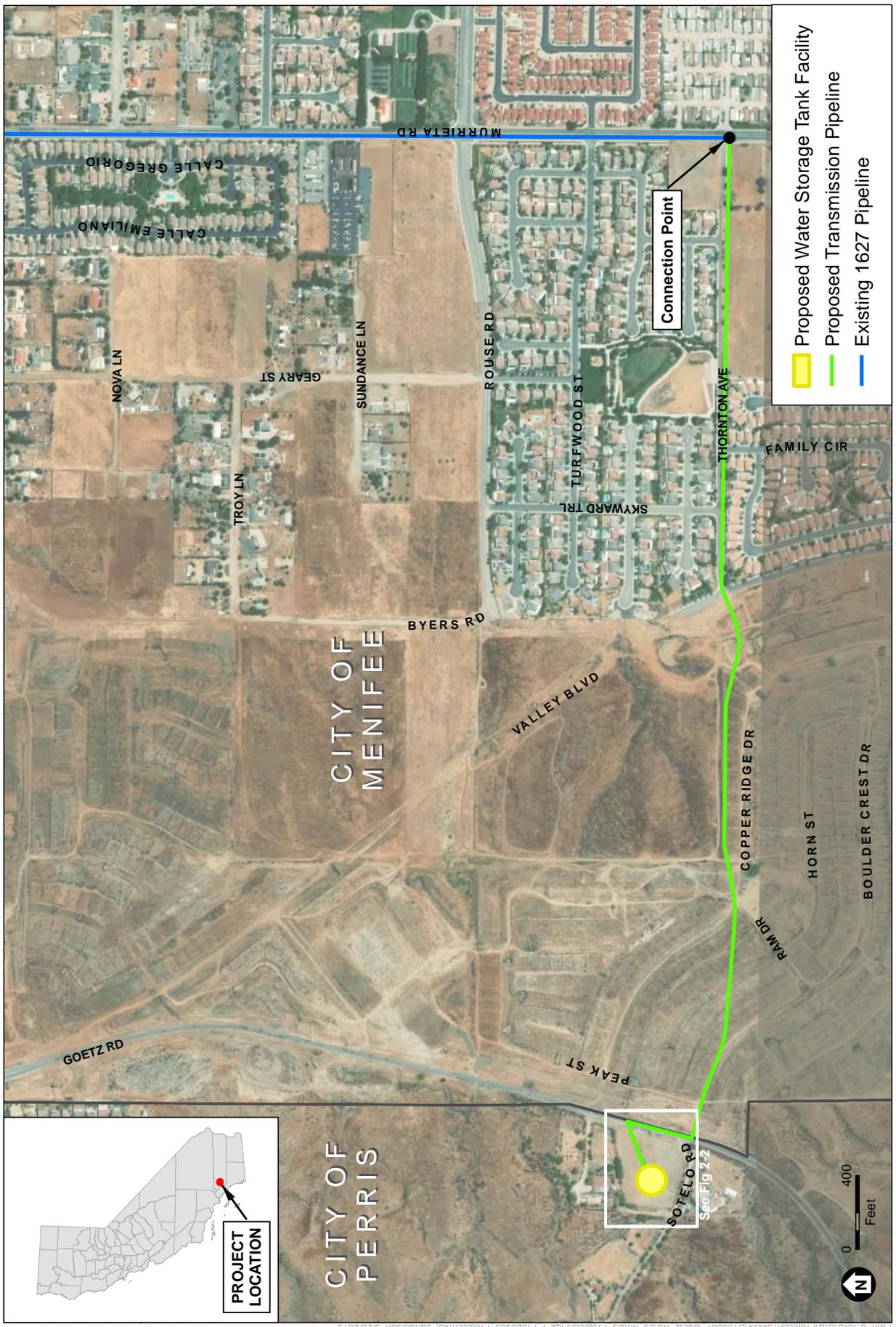
EMWD is proposing to implement the Proposed Project within the cities of Menifee and Perris, California. The Proposed Project would involve construction and operation of an 8 MG potable water storage tank, a chlorination facility, and associated transmission pipeline. The Proposed Project would address a number of deficiencies in EMWD's 1627 pressure zone as identified in EMWD's Water Facilities Master Plan. Portions of EMWD's 1627 pressure zone are hydraulically isolated due to major north-south pipeline corridors that lack east-west capacity. Additionally, the zone has low pressure, deficient storage, and insufficient pumping capacities. The Proposed Project would correct existing storage deficiencies and provide additional storage volume for existing and planned development within the 1627 pressure zone (See Figure 1-1).

The proposed water storage tank and chlorination facility would be constructed on a 2.85-acre parcel owned by EMWD located in the City of Perris. A new transmission pipeline is proposed to connect the new water storage tank to the existing 1627 transmission pipeline within Murrieta Road in the City of Menifee. Proposed Project facilities are shown on **Figure 2-1**.

2.2 Project Objectives

The objectives of the Proposed Project are as follows:

- Relieve existing deficiencies in the 1627 pressure zone including hydraulic deficiencies, low pressure, deficient storage, and pumping capacities;
- Provide additional storage volume for existing and planned development in the Central West Area of the 1627 pressure zone;
- Achieve the shortest possible length of pipeline to connect the proposed water storage tank to the existing 1627 pressure zone in order to reduce water quality issues and hydraulic concerns.



SOURCE: ESRI, 2019; ESA, 2019.

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 2-1
Proposed Project



2.3 Project Description

2.3.1 Potable Water Storage Tank and Associated Facilities

The proposed water storage tank would have the capacity to store up to approximately 8 MG of potable water. The tank would be located on the northwest corner of Goetz Road and Sotelo Road as identified on Figure 2-1. The proposed site for the water storage tank was selected based on the *1627 Zone Tank Siting Study* prepared for EMWD by Albert A. Webb Associates (2017), which took into consideration a variety of constraints including buildable space, hydraulics, grading, and topography. The proposed water storage tank site was selected in part because it is relatively flat and even. The tank would be approximately 190 feet in diameter and approximately 42 feet in height. Grading and excavation would be required to construct the tank foundation that would extend approximately 6 feet to 20 feet below ground surface (bgs). The tank would be comprised of pre-stressed concrete, allowing the tank sidewalls to be buried up to 13-feet deep along parts of the tank walls to help conceal the tank from surrounding properties. A preliminary site plan is shown on **Figure 2-2**.

Water would be supplied to and from the water storage tank via the proposed transmission pipeline. Water supply to the tank would be pumped from the existing Murrieta Booster pumping station within the existing 1627 pressure zone (see Figure 1-1). Water supply from the proposed water storage tank would be provided by gravity and would not require the addition of new pumps. A series of 30-inch inlet and outlet pipes would be installed to connect the tank to the proposed transmission pipeline.

In certain instances, such as tank maintenance and cleaning, the water within the tank may not be able to be drained through the pipeline, and would require discharge to the local storm drain system. In this case, and to comply with EMWD's National Pollutant Discharge Elimination System (NPDES) permit for discharges to surface waters that pose an insignificant threat to water quality (Order No. R8-2015-004, NPDES No. CAG998001), the tank drainage water would be dechlorinated and filtered before discharge to the local storm drain system. EMWD would ensure that the water storage tank would not be drained during rain events, in order to prevent the drainage system from being overwhelmed. The drained water would be discharged to a vault where it would be dechlorinated within the vault. A mobile submersible pump would pump the water to the discharge pipe for the tank overflow for conveyance to the on-site storm drain system.

Proposed water storage tank appurtenances include a booster pump to support an internal tank washdown system, a 1-horsepower motor to support water mixing within the tank, an exterior circumferential stairway, lighting, and an antenna tower (40 feet high by 4 feet wide). Additionally, a proposed Southern California Edison (SCE) transformer and meter would be installed on the proposed water storage tank site to power the facility (see Section 2.6).

Chlorination Facility

Due to the size of the proposed water storage tank and concern about water quality during both low demand periods and prolonged hot weather periods, an on-site chlorination system would be

constructed to allow additional treatment to take place, as needed. The chlorination facility would have a footprint of approximately 900 square feet within the 2.85-acre tank site and would be connected to the water storage tank as shown on Figure 2-2. Disinfection equipment would consist of a sodium hypochlorite generation system and aqueous ammonia feed system; and would be housed in a climate-controlled building that also conceals potential noise generated by the chlorine pump. A ClorTec sodium hypochlorite generator would support a chlorine boosting dose of 1.0 part per million (PPM), with sufficient additional capacity to account for chloramine degradation during periods of low tank turnover.

Stormwater Drainage Facilities

Due to large predicted storm flows through the site, the current drainage design concept includes proposed offsite drainage facilities adjacent to the site that would allow a 100-year storm event to be conveyed around the site without impacting the water storage tank and other site facilities, or creating additional runoff that could impact adjacent properties. As shown on Figure 2-2, a proposed inlet and 18-inch storm drain would be installed within the Our Way right-of-way on the western side of the proposed water storage tank site. The 18-inch storm drain would extend south on Our Way and then east onto Sotelo Road, where it would be joined by another inlet and a 30-inch storm drain within the Sotelo Road right-of-way. The storm drain would then be sized at 42 inches in the remainder of Sotelo Road right-of-way and extend north within the Goetz Road right-of-way, where it would end as a 48-inch storm drain that would connect with the existing storm drain within Goetz Road. This activity would occur outside of EMWD's property and would require coordination with the Riverside County Flood Control and Water Conservation District (RCFCWCD), the City of Perris, and the City of Menifee. The drainage features are demonstrated in Figure 2-2.

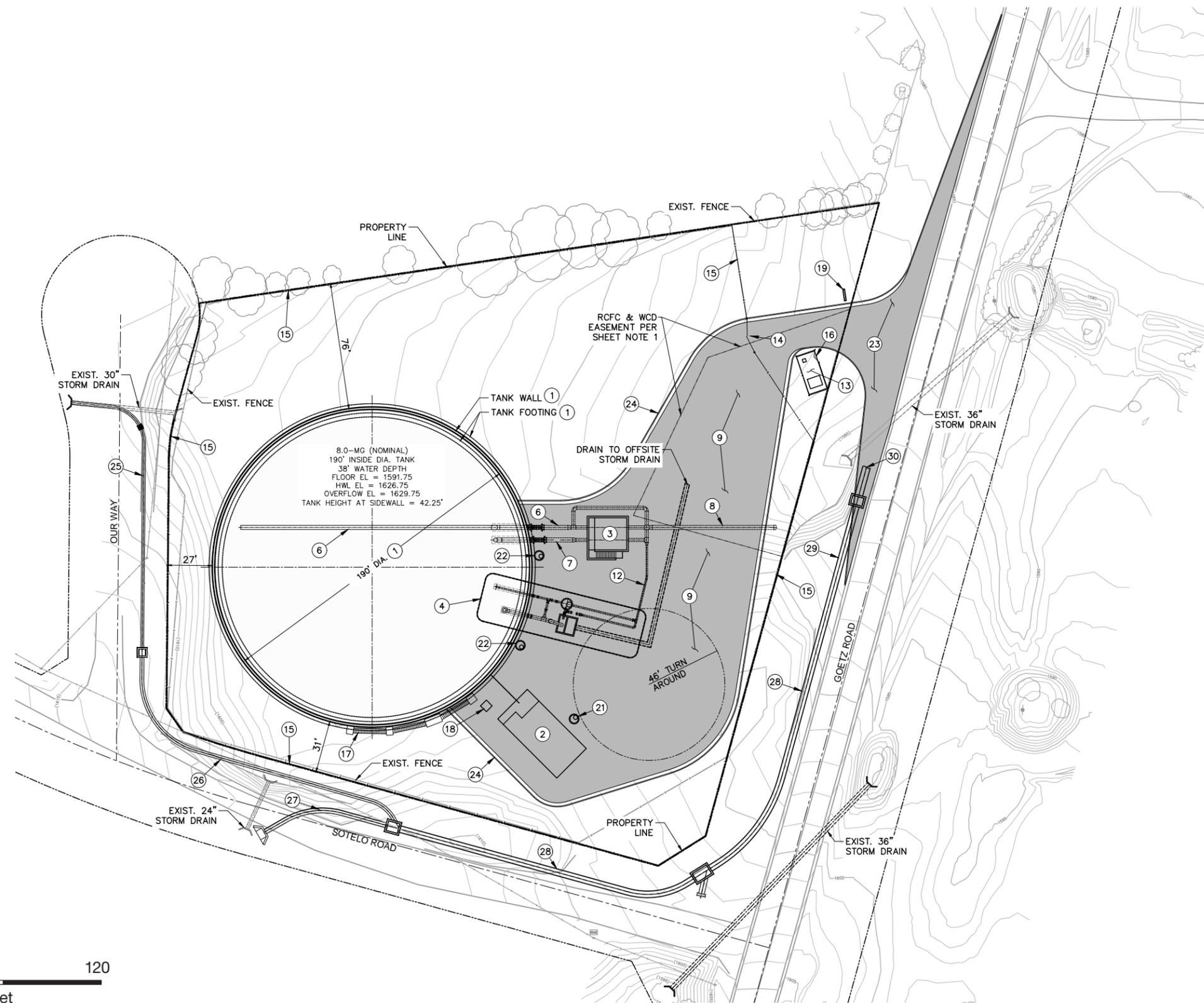
Staging Areas

Staging areas for construction of the water storage tank and the transmission pipeline alignment would be located within the 2.85-acre tank site.

2.3.2 Transmission Pipeline

A 30-inch transmission pipeline would be installed to connect the water storage tank to the existing 1627 pressure zone pipeline on Murrieta Road as shown on Figure 2-1. The pipeline would be installed entirely within existing and future public rights-of-way along Thornton Avenue, Goetz Road, and Murrieta Road. The pipeline would be approximately 5,490 feet in length and would be installed up to approximately 72 inches bgs. Blow off and air valves would be installed along the transmission pipeline route. The pipeline would traverse the Cimarron Ridge Development Project that is expected to begin development in 2020, therefore the alignment of the pipeline has been coordinated between EMWD and the developer.

Staging areas required for the transmission pipeline would be at the tank site, as well as along the alignment of the pipeline as needed, at locations to be approved by the City of Menifee.



CONSTRUCTION NOTES

- ① PRE-STRESSED CONCRETE TANK PER AWWA STD 110, TYPE I.
- ② ELECTRICAL AND DISINFECTION BUILDING
- ③ ALTITUDE VALVE VAULT.
- ④ TANK DRAIN AND OVERFLOW FACILITIES.
- ⑤ NOT USED.
- ⑥ 30-INCH INLET PIPING.
- ⑦ 30-INCH OUTLET PIPING.
- ⑧ 30-INCH INLET/OUTLET PIPING.
- ⑨ ASPHALT CONCRETE PAVING.
- ⑩ NOT USED.
- ⑪ NOT USED.
- ⑫ 12-INCH DRAIN RETURN PIPING.
- ⑬ SCE FACILITIES (TRANSFORMER, METER, ETC.).
- ⑭ 20-FT WIDE DOUBLE SWING GATE.
- ⑮ 6-FT HIGH PERIMETER SITE FENCING.
- ⑯ 4-FT WIDE DOUBLE SWING GATE.
- ⑰ STAIRWAY
- ⑱ ANTENNA TOWER
- ⑲ GOETZ ROAD TANK FACILITY MONUMENT SIGN PER EMWD STD DWG B-987.
- ⑳ NOT USED.
- ㉑ 60-INCH DRAIN CONTAINMENT MANHOLE, WITH 36-INCH CLR OPENING PER EMWD STD DTL SB-53, FRAME AND COVER TO BE GMI COMPOSITE, SERIES 3800 PER EMWD STD DWG SB-53.
- ㉒ 60-INCH UNDER DRAIN INSPECTION MANHOLE, WITH 36-INCH CLR OPENING PER EMWD STD DTL SB-53, FRAME AND COVER TO BE GMI COMPOSITE, SERIES 3800
- ㉓ PAVED SHOULDER APPROACH AND SITE ACCESS.
- ㉔ CURB AND GUTTER
- ㉕ 18" STORM DRAIN
- ㉖ 24" STORM DRAIN
- ㉗ 30" STORM DRAIN
- ㉘ 42" STORM DRAIN
- ㉙ 48" STORM DRAIN
- ㉚ CONNECT TO STORM DRAIN WITHIN GOETZ ROAD.

SHEET NOTES

- 1. EXISTING RCFC&WCD EASEMENT TO BE VACATED PROVIDED DRAINAGE FACILITIES SHOWN HEREON ARE CONSTRUCTED.
- 2. ALL EXISTING FACILITIES, CALLED OUT OR NOT, SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE INDICATED.
- 3. ALL TRENCHING, BACKFILL, AND COMPACTION FOR UNDERGROUND UTILITIES SHALL BE PER EMWD STD DWGS B-286B.



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SOURCE: Dudek, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 2-2
Proposed Site Plan



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2.4 Construction

2.4.1 Construction Schedule

Construction of the Proposed Project is anticipated to occur from the fourth quarter of 2021 through fourth quarter 2023. Construction of the water storage tank would take approximately 325 working days and the transmission pipeline would take approximately 110 working days. It is assumed for the purposes of analysis included within this EIR that there would be overlap of construction of both pipeline and tank and related facilities.

Construction would occur consistent with the applicable jurisdictions' municipal codes. In the City of Perris, construction activities are allowed between 7:00 a.m. to 7:00 p.m. Monday through Saturday. In the City of Menifee, construction activities are allowed between the hours of 6:00 a.m. and 6:00 p.m. from June through September and between 7:00 a.m. and 6:00 p.m. from October through May, Monday through Saturday. No construction activities would occur on Saturday and Sunday or on holidays. Nighttime work would not be required.

2.4.2 Water Storage Tank and Associated Facilities

Construction of the water storage tank, chlorination facility, and stormwater drainage facilities would require a footprint of approximately 2.85 acres for construction (and subsequent operation). Construction would require use of two off road trucks, an air compressor, two cranes, a grader, an earthmover, two backhoes/excavators, a jackhammer, a hydraulic hammer, a paver, a sweeper, one full time water truck, vibratory compactors, and welding materials along with supporting equipment. Construction would entail site clearing/preparation, grading, excavation and earth moving, possible blasting, tank installation, paving, testing, and start up. Installation of the proposed water storage tank would involve excavation between 6 feet and 20 feet bgs. Due to the possibility of shallow bedrock at the proposed water storage tank site, earthmoving equipment may be required to rip up the bedrock. Blasting may be required at depths greater than 10ft bgs. Other low impact or non-explosive methods can be used to remove bedrock if more sensitive demolition techniques are required. If blasting is required, it would occur primarily within the southwest portion of the 2.85-acre tank site where the tank would be installed. Blasting would involve controlled use of explosives or other materials to break up bedrock material. Holes would be drilled and then filled with blasting agent (ammonium-nitrate fuel oil), followed by detonation of each hole. Blasting blankets would be used to contain dust and materials. Once loosened by blasting, the material would be removed by bulldozer and exported offsite. The transportation, storage, and handling of explosives and the associated hazardous substances shall be performed or supervised by a licensed explosives expert contracted by EMWD.

Construction of the water storage tank and associated facilities would result in approximately 22,500 cubic yards of soil and bedrock material that would need to be disposed of offsite. Additionally, approximately 8,500 cubic yards of fill would be imported to the site. This would result in approximately 3,100 truck trips to/from the Project site, assuming ten cubic yards of material per truck. Equipment may be temporarily staged at the proposed water storage tank site.

A total of up to 10 workers would be needed per day for construction activities associated with the water storage tank construction.

2.4.3 Transmission Pipeline

Construction of the proposed transmission pipeline would involve conventional cut and cover trenching technique. Localized trench and pipeline dewatering may be required depending on location, as the transmission pipeline would be installed up to 72 inches bgs. Water collected from dewatering would be reused for dust control purposes during construction, as needed. Any excess water not able to be used for dust control may require issuance of a dewatering permit from the Santa Ana Regional Water Quality Control Board (RWQCB) for discharges to the stormwater system. The proposed transmission pipeline would be installed within the Cimarron Ridge Development Project area, which is planned to be constructed concurrently with the Project, and within public rights-of-way of Thornton Avenue, Goetz Road, and Murrieta Road. The trenching activities would include saw cutting of the pavement where applicable, trench excavation, shoring, pipe installation, trench backfill and compaction, site restoration/pavement replacement, as applicable, and testing. One full time water truck is anticipated for the duration of construction.

Trench width, depth, depth of cover and progress per day estimates are included in **Table 2-1**. The construction corridor would be wide enough to accommodate the trench and to allow for staging areas and vehicle access.

**TABLE 2-1
TYPICAL PIPELINE CONSTRUCTION REQUIREMENTS AND PROGRESS RATES**

Pipeline Size	Depth of Cover Over Pipeline (Feet)	Typical Depth of Excavation¹ (Feet)	Typical Width of Construction Area² (Feet)	Typical Rate of Progress³ (Feet per Day)
Up to 30-inch	4.5 to 6	9 to 10.5	15 to 25	80 to 120

¹ The trench would be excavated approximately 0.5-feet below the bottom (invert) of the pipeline for bedding installation. Depths are typical for industry. The actual depth will vary as it highly depends on above ground features, soil conditions, design complexity, appurtenances, number of utilities, and location of utilities.

² The width noted above is typical and the minimum amount of width necessary based on ideal conditions for construction. The actual width will vary as it highly depends on available space in public rights-of-way, above ground features, property ownership location and type, terrain, alignment location, soil conditions, design complexity, required appurtenances, number of utilities, and location of utilities.

³ The actual progress will vary as it highly depends on soil conditions, traffic conditions, design complexity, appurtenances, number of utilities, and location of utilities.

Trenches would be backfilled at the end of each work day or temporarily closed by covering with steel trench plates. The construction equipment needed for pipeline installation generally includes: backhoes, excavators, dump trucks, pipe trailers, shoring equipment, steam roller, and plate compactor. Approximately 5 to 10 workers would be required during various phases of pipeline installation. Excavated soils would be reused as backfill and otherwise disposed of offsite at a local disposal facility. It is estimated that approximately 1,105 cubic yards of soil may need to be disposed of offsite from installation of the pipeline. This would result in approximately 111 roundtrip truck trips to/from the Project site. Once constructed, pipeline segments would be

contained entirely below ground, except for any above-grade pipeline appurtenances such as blow-offs or hydrants.

Work within roadways would potentially require localized closure of traffic lanes, including portions of Goetz Road, Sotelo Road, Thornton Avenue, and Murrieta Road. It is anticipated that any construction occurring within the Goetz Road right-of-way would be coordinated with the Cimarron Ridge Development Project (Van Daele Homes), such that work within the roadway associated with both projects would be conducted concurrently. Traffic control would be necessary during pipeline construction within roadways. Typically, two to four workers would be required for traffic control during pipeline installation. Equipment necessary for traffic control includes changeable message signs, delineators, arrow boards, and K-Rails. The Traffic Control Plan for the Proposed Project would be coordinated with the City of Perris and the City of Menifee.

2.5 Operation and Maintenance

The existing Murrieta Road booster station within the existing 1627 pressure zone shown on Figure 1-1 would be used to pump water to the proposed water storage tank site. The existing pumps have sufficient capacity to accommodate the Project without any upgrades. These existing pumps are located within an enclosed structure to minimize operational noise. Water stored in the tank would be gravity fed to the connection point on Murrieta Road and would not require the use of new pumps.

On-site lighting at the proposed water storage tank site would be shielded downwards to minimize the amount of light cast on adjacent properties, consistent with the City of Perris zoning ordinance 1051.

The proposed water storage tank and chlorination facility would require weekly maintenance consisting of a maximum of two service truck trips per week (1/2 ton pickup), and two truck trips per month for material delivery (see **Table 2-2** below). Additionally, the water storage tank would be drained for maintenance and cleaning as indicated in Section 2.3.1, which could occur several times per year, and could require up to 500,000 gallons of water stored in the tank to be drained into the local storm drain system. The transmission pipeline would be installed underground and would not require regular maintenance. No new employees would be required to operate the facilities.

Operation of the proposed chlorination facility would involve chemical deliveries and on-site chemical use and storage. An inventory of chemicals that would be stored and used at the facility is provided in Table 2-2. Chemicals would be stored onsite in a tank with secondary containment within an enclosed building. Anticipated delivery frequency for chemicals is anticipated to occur once per month.

TABLE 2-2
CHEMICAL INVENTORY – CHEMICAL STORAGE ROOM

Chemical	Purpose	Concentration	Storage (gallons) ^a	Delivery Frequency (truck trips)
Sodium Hypochlorite	Chlorine Chlorination	8%	1,000	1 per month
Aqueous Ammonia	Chlorine Chlorination	12.5%	78	1 per month

^a Chemical storage volume is based on the flow rate for the Proposed Project and projected average chemical dose.

2.6 Energy Consumption

The Proposed Project would require operation of the proposed water storage tank, chlorination facility, and transmission pipeline. The proposed water storage tank would involve electricity to operate lighting, valve actuators, and a 3-horsepower motor to support water mixing within the tank and injection pumps among other equipment. The chlorination facility would require 2 metering pumps, 2 sample return pumps, and 2 water supply pumps. Operation of these facilities would require consumption of approximately 54,645 kilowatt hours per year (kWh/yr). To operate these facilities, a new low voltage (480-volt, 3-phase, 200A) SCE electrical service line would be required at the proposed water storage tank site. The electrical line would be installed underground and an SCE transformer and meter would be constructed as shown on Figure 2-2. The facility would also house a 201 horse power, 150 KW diesel emergency generator to sustain essential functions in the event of power outage.

Water would be supplied by gravity from the proposed water storage tank to the 1627 pressure zone pipeline on Murrieta Road. Water would be required to be pumped from the existing Murrieta Booster Station along Murrieta Road to the proposed water storage tank. Activation of the pumps would be triggered by a drop in the static water level of the tank below the required level in the entire pressure zone. Based on current usage, the existing booster station consumes approximately 38,224 kWh/yr. As a conservative estimate, the Proposed Project is anticipated to increase consumption from the pump by approximately 25 percent. As a result, the annual additional energy needed from the booster station for the Proposed Project is estimated to be 9,556 kWh/yr. The total energy consumption of the Proposed Project would be 64,201 kWh/yr.

A temporary submersible pump would be required for discharge water, and would result in approximately 523 gallons of natural gas per year. Additionally, weekly maintenance activities would require travel from the nearest EMWD facility (approximately 10 miles) to the proposed water storage tank site. This round trip would be 20 miles per week of vehicle travels plus the fossil fuel consumption from the monthly deliveries for chemical stocking. Operational activities would not otherwise require the consumption of natural gas.

2.7 Proposed Project Approvals

The following list presents a preliminary list of the agencies and entities in addition to EMWD that would use this EIR in their consideration of specific permits and other discretionary approvals that may apply to this Project:

- California Regional Water Quality Control Board, Santa Ana Region (CEQA Responsible Agency)
 - General Permit for stormwater discharges associated with construction activity
- South Coast Air Quality Management District (CEQA Responsible Agency)
 - Permit to operate emergency generators.
- Riverside County Flood Control and Water Conservation District (CEQA Responsible Agency)
 - Encroachment Permit for work in the District’s rights-of-way, easements or other facilities.
 - Romoland Master Drainage Plan compliance.
- City of Perris (CEQA Responsible Agency)
 - Encroachment Permit for construction access within City of Perris rights-of-way (i.e. Goetz Road, Sotelo Road, Our Way).
- City of Menifee (CEQA Responsible Agency)
 - Encroachment Permit for construction access within City of Menifee rights-of-way (i.e. Thornton Avenue, Murrieta Road).

2.8 References

Albert A. Webb Associates, 2017. 1627 Zone Tank Siting Central / West Area. Prepared for Eastern Municipal Water District. November 2017.

Eastern Municipal Water District (EMWD), 2016. 2015 Urban Water Management Plan, June 2016. Available at: <https://www.emwd.org/home/showdocument?id=1506>, accessed July 8, 2019.

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CHAPTER 3

Environmental Setting, Impacts, and Mitigation Measures

3.01 Scope of the Draft EIR

In compliance with *CEQA Guidelines* Sections 15125 and 15126, Chapter 3 of this Draft EIR provides an analysis of the environmental effects of the Proposed Project with respect to existing baseline conditions. The baseline environmental conditions for the analysis included within this Draft EIR are generally from November 2015 when the NOP was published. In some cases, this environmental baseline has been updated to account for existing conditions at the time of resource surveys conducted in 2019. The following environmental issue areas are assessed in this chapter in accordance with Appendices G of the *CEQA Guidelines*:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, and Paleontology
- Greenhouse Gas Emissions
- Hazards, Hazardous Materials, and Wildfire
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems

As explained in Chapter 1, *Introduction and Background*, the Project was originally proposed as a 13.4 MG water storage tank and pipeline project. An Initial Study and Mitigated Negative Declaration was circulated for public review in October 2015. Subsequently, a decision was made by EMWD to prepare an EIR. A NOP was circulated for public review in November 2015. Based on the Initial Study and public scoping process, it was determined that several environmental topics would have no impact due to implementation of the Proposed Project. These “no impact” conclusions in the Initial Study that are still true and accurate are briefly explained below, and a discussion is not included further. For further information, see Appendix IS/NOP.

Environmental Topics Found to Have No Impact

Aesthetics

Scenic Resources Within Scenic Highway

There are no officially designated State scenic highways in the Project area. There are several eligible State scenic highways in Riverside County, but only Highway 243 and portions of Highway 74 and Highway 62 are officially designated state scenic highways at this time. These designated scenic highways are over 20 miles from the Project area (Caltrans 2020). As a result, there would be no impact with respect to substantially damaging scenic resources within a State scenic highway.

Agricultural and Forestry Resources

All CEQA Guidelines Questions

The Proposed Project area is not within an agricultural preserve and does not contain prime farmland, farmland of statewide importance, unique farmland, or farmland of local importance. The proposed transmission pipeline would be constructed within existing or future public rights-of-way which also do not contain farmland. Therefore, implementation of the Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. Further, there are no forest lands or timberlands in the Project area. Therefore, implementation of the Project would not result in the loss of forest land or conversion of forest land to non-forest use as there are no forest or timberlands within the Project area. Implementation of the Project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. No impacts to agricultural or forestry resources would occur.

Air Quality

Conflict with or Obstruct Air Quality Plans

There would be no impact with respect to conflicting with applicable air quality plans as the Project is an infrastructure improvement project to support and accommodate planned and approved growth in the City of Perris and City of Menifee General Plans, and therefore would be consistent with the Air Quality Management Plan.

Geology, Soils, and Paleontology

Earthquake Fault Zone

The Project is not located within or near an earthquake fault as designed by the Alquist-Priolo Fault Zoning Act. The nearest Alquist-Priolo Fault Zone is the Lake Elsinore fault zone located approximately 8 miles to the southwest of the Project site. The nearest active fault to the Project area is the Elsinore-Temecula fault located approximately 14.5 kilometers (9 miles) away

(Appendix IS/NOP, Initial Study and MND for the Goetz Road Potable Water Storage Tank and Pipeline Project, page 3-37). As a result, no impacts would occur.

Seismic-Related Ground Failure and Landslides

The Project site is not susceptible to seismic related ground-failure including liquefaction because the Project site is underlain by shallow dense bedrock and does not have shallow groundwater (Converse Consultants 2014). Based on the shallow meta-sandstone bedrock materials and the relatively flat topography of the site and immediate vicinity, the potential for landsliding is considered to be low (Converse Consultants 2014). As a result, no impacts would occur.

Unstable Geologic Units

The Project site is not located within a Riverside County designated liquefaction hazard zone (Converse Consultants 2014). Seismically induced lateral spreading involves primarily lateral movement of earth materials over deeper layers liquefied due to ground shaking. Because the site is not susceptible to liquefaction, the risk of lateral spreading is low (Converse Consultants 2014). Additionally, the depth to groundwater is anticipated to be more than 50 feet below the ground surface (Converse Consultants 2014). The Proposed Project would not extract groundwater and would not inject water into a subsurface aquifer, resulting in low subsidence risk. As a result, no impacts would occur.

Expansive Soils

The Project site is not on expansive soil as defined by Table 18-1-B of the Uniform Building Code. According to the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey, soils at the site consist of silty, sandy loams and are not reported to be significantly expansive. As a result, no impacts would occur.

Soils Supporting Waste Systems

The Project does not involve implementation of septic tanks or other alternative waste disposal systems. As a result, no impacts would occur.

Hazards, Hazardous Materials, and Wildfire

Hazardous Materials Near Schools

There are no existing or planned schools within one-quarter mile of either the proposed water storage tank or transmission pipeline. As a result, no impact would occur with respect to emitting hazardous emissions or handling hazardous materials, substances, or waste within one quarter-mile of a school.

Airport Land Use Plan

The Project site is not located within an airport land use plan or within two miles of a public use airport. As a result, the Project would not result in a safety hazard or excessive noise for people residing or working within two miles of an airport land use plan.

Land Use

Physically Divide an Established Community

The proposed water storage tank would be installed on EMWD-owned land and the transmission pipeline would be installed underground within existing and future public rights-of-way. As a result, the Project would not divide an established community, and no impacts would occur.

Mineral Resources

All CEQA Guidelines Questions

There are no known mineral resources in the Proposed Project area that would be of value to the region and the residents of the State. Additionally, there are no locally-important mineral resource recovery sites delineated on the applicable local general plans, specific plan or other land use plan in the Project area. Therefore, no impacts to mineral resources would occur.

Noise

Noise Near Airports

The Project site is not located within an airport land use plan, private airstrip, or within two miles of a public airport. As a result, the Project would not expose people residing or working within an airport to excessive noise levels, and no impacts would occur.

Population and Housing

All CEQA Guidelines Questions

The Proposed Project involves the construction and operation of a water storage tank and transmission pipeline. The Proposed Project would not displace existing housing or substantial numbers of people and would not require construction of replacement housing. The Proposed Project would not directly induce population growth by constructing new homes or businesses. Therefore, no impact would occur. The potential for the Proposed Project to indirectly induce population growth is evaluated in Chapter 4, *Growth Inducement*.

Public Services

All CEQA Guidelines Questions

Implementation of the Proposed Project would not result in the need for additional fire protection or police services because the proposed water storage tank site would be a negligible expansion of operations for which fire protection and police services would not be required. Additionally, the proposed transmission pipeline would be located underground and would not require increased services. Further, the Proposed Project would not require the expansion of school, parks, or other public services because the Project would not induce growth, thereby increasing the need/use of these public services. Therefore, no impacts to public services would occur.

Recreation

All CEQA Guidelines Questions

The Proposed Project would not increase the use or demand for park or recreational facilities because the Project does not include the development of uses that would place demands on these facilities, such as residential dwellings or office employment beyond that included in the City of Menifee's and City of Perris' General Plans. The Project also does not include construction of recreation facilities which could have impacts on the environment. Therefore, no impacts to recreation would occur.

3.02 Format of the Environmental Analysis

For the 14 environmental topics included in Chapter 3, each section includes a description of the baseline environmental setting, regulatory framework, impacts and mitigation measures, and significance determinations, as further described below.

Environmental Setting

In accordance with *CEQA Guidelines* Section 15125(a), the environmental setting contains a description of the regional and local physical environmental conditions in the Project vicinity at the time of the publication of the NOP (November 2015). In some cases, this environmental baseline has been updated to account for existing conditions at the time of resource surveys conducted in 2019. This environmental setting constitutes the baseline physical condition by which a lead agency determines whether an impact is significant. Extraneous setting information that does not shed light on the impact analysis is not included in this Draft EIR.

Regulatory Framework

Where the Project area falls within the jurisdiction of federal, State, and local regulatory agencies, the Project proponent would be subject to the laws, regulations, and policies of those agencies. These regulations are intended to guide development and/or to reduce adverse effects on sensitive resources, or offer general guidance on the protection of such resources. The regulatory framework section summarizes the applicable laws, rules, and regulations for the Project. These rules may also set the standards (significance criteria or thresholds of significance) by which potential Project impacts are evaluated.

Impact Analysis and Mitigation Measures

Significance Criteria and Methodology

This section presents the significance criteria against which potential impacts are evaluated. As defined by *CEQA Guidelines* Section 15064.7(a), thresholds of significance are an identifiable quantitative, qualitative, or performance standard for a particular environmental effect. Significance criteria against which impact assessments are based are included for each environmental topic.

Modifications have been made to the significance criteria based on the updated *CEQA Guidelines* as amended on December 28, 2018. These additions are detailed throughout this chapter for each environmental topic when applicable.

The methodology section presents the methods and results upon which the analysis is based on. This can include resource surveys, reports, and measurements which establish baseline conditions.

Impact Analysis

This section includes a discussion of potential impacts that could result from implementation of the Proposed Project. This Draft EIR addresses the direct, indirect, and cumulative impacts associated with implementation of the Proposed Project. The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact considered in relation to baseline environmental conditions and applicable regulations, and measured against the significance criteria. Mitigation measures are discussed and recommended for any potentially significant impacts that are identified. Based on the significance criteria, significance determinations are assigned to each impact according to the following categories:

- **No Impact:** A no impact determination would occur if the Project would not result in a substantive change to the environmental topic that is being evaluated.
- **Less than Significant Impact:** California Public Resources Code Section 21068 defines a significant impact as “a substantial, or potentially substantial, adverse change in the environment.” The Environmental Checklist included as Appendix G of the *CEQA Guidelines* provides additional guidance for determining which impacts would be regarded as significant. This Draft EIR applies the thresholds contained within Appendix G of the *CEQA Guidelines* and uses the CEQA definition of “significant impact.” Therefore, a less than significant impact determination occurs if the Proposed Project would not result in a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (see *CEQA Guidelines* Section 15382). In addition, an economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. Impacts determined to be less than significant do not require mitigation measures.
- **Potentially Significant Impact:** A potentially significant impact determination occurs if the Project could result in a substantial, or potentially substantial, adverse change in the physical conditions of the environmental resource being evaluated. If such a determination is made, mitigation measures or alternatives must be considered if they would avoid or substantially reduce the significant impact. Feasible mitigation measures are then adopted to avoid or substantially reduce the significant impact. The level of significance with the mitigation measure is evaluated and can result in a determination that is less than significant with mitigation or significant and unavoidable.
- **Significant and Unavoidable:** A significant and unavoidable impact is a substantial adverse effect on the environment that cannot be mitigated to a less than significant level. A project with significant and unavoidable impacts could still proceed, but EMWD would be required to prepare a Statement of Overriding Considerations, pursuant to *CEQA Guidelines* Section

15093, explaining why EMWD would proceed with the Project in spite of the potential for significant environmental impacts.

References

Sources relied upon for each environmental topic analyzed in this Draft EIR are included at the end of the section.

3.03 Cumulative Impacts

As indicated above, in addition to direct and indirect impacts associated with implementation of the Proposed Project as described in Chapter 2, *Project Description*, this Draft EIR also includes an assessment of cumulative impacts for each environmental topic. The cumulative effects of implementing the Proposed Project in combination with other past, present, and reasonably foreseeable future projects within and around the Project site are considered. The analysis of cumulative impacts considers whether other projects could cause related environmental impacts similar to the environmental impacts anticipated to occur due to the Proposed Project.

CEQA Guidelines Section 15130 requires that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" [CEQA Guidelines, Section 15355; see also Public Resources Code, Section 21083(b)]. Stated another way, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" [CEQA Guidelines, Section 15130(a)(1)]. The definition of cumulatively considerable is provided in Section 15065(a)(3):

Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

According to Section 15130(b) of the *CEQA Guidelines*:

[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion 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, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

For purposes of this Draft EIR, the Proposed Project would contribute to a cumulatively considerable and, therefore, significant cumulative impact if:

- The cumulative effects of other past, current, and probable future projects without the Project are not significant and the Project's incremental impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- The cumulative effects of other past, current, and probable future projects without the Project are already significant and the Project would result in a cumulatively considerable contribution to the already significant effect. The standards used herein to determine whether the contribution is cumulatively considerable include the existing baseline environmental conditions, and whether the Project would cause a substantial increase in impacts, or otherwise exceed an established threshold of significance.

Geographic Scope

The geographic area affected by the Proposed Project and its potential to contribute to cumulative impacts varies based on the environmental resource under consideration. Generally, the geographic area associated with the environmental effects of the Proposed Project as described in Chapter 3 define the boundaries of the area used for compiling the list of past, present, and reasonably foreseeable future related projects considered in the cumulative impact analysis.

Table 3-1 presents the geographic areas analyzed to determine if the Project's contribution to a particular impact would be cumulatively considerable and, therefore, significant.

**TABLE 3-1
GEOGRAPHIC SCOPE OF CUMULATIVE IMPACTS ANALYSIS**

Resource Issue	Geographic Scope
Aesthetics	View sheds of surrounding hillsides within Riverside County, and foreground views of specific project components
Air Quality	South Coast Air Basin
Biological Resources	Species within a 500-foot buffer of specific Project components
Cultural Resources	Resources within a quarter-mile buffer of specific Project components
Energy	SCE and SoCal Gas service areas
Geology, Soils, and Paleontology	Project site (water storage tank and transmission pipeline) and immediately surrounding area
Greenhouse Gas Emissions	Global
Hazards, Hazardous Materials, and Wildfire	Project site (water storage tank and transmission pipeline) and immediately surrounding area
Hydrology and Water Quality	Drainages in and around the Project site
Land Use and Planning	Cities of Perris and Menifee
Noise and Vibration	Project site (water storage tank and transmission pipeline) and immediately surrounding area
Transportation and Traffic	Cities of Perris and Menifee within 5 miles of the Project site
Tribal Cultural Resources	Project site and surrounding areas as manifested through tribal resources
Utilities and Service Systems	Riverside County and EMWD service area

Temporal Scope

This cumulative impact analysis considers other projects that have been recently completed, are currently under construction, or are reasonably foreseeable (e.g., for which an application has been submitted). Impacts of the Proposed Project, in conjunction with other cumulative projects in the area, are evaluated in this chapter.

The schedule and timing of the Proposed Project and other cumulative projects is relevant to the consideration of cumulative impacts. The Proposed Project's construction activities are expected to occur from the end of 2021 through the end of 2023. Operation of the Project would occur following construction. The cumulative impact analysis pays particular attention to cumulative projects in the identified geographic scope with implementation schedules that could overlap with the Proposed Project schedule.

Method of Analysis

CEQA Guidelines

CEQA Guidelines Section 15130 provides that the following approaches can be used to adequately address cumulative impacts:

- **Regional Growth Projections Method** — A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency; or
- **List Method** — A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the lead agency.

For this Draft EIR, the list method is used primarily. Consistent with CEQA, a two-step approach was used to analyze cumulative impacts. The first step was to determine whether the combined effects from the Proposed Project and related projects would be cumulatively significant. This was done by adding the Proposed Project's incremental impact to the anticipated impacts of other probable future projects and/or reasonably foreseeable development. Where the combined effect of the projects and/or projected development was determined to result in a significant cumulative effect, the second step was to evaluate whether the Proposed Project's incremental contribution to the combined significant cumulative impact would be cumulatively considerable, as required by *CEQA Guidelines* Section 15130(a).

CEQA Guidelines Section 15064(h)(4) states that

“[t]he mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.”

Therefore, it is not necessarily true that, even where cumulative impacts are significant, any level of incremental contribution must be deemed cumulatively considerable by the lead agency. If the Proposed Project's individual impact is less than significant, however, its contribution to a significant cumulative impact could also be deemed cumulatively considerable, depending on the nature of the impact and the existing environmental setting. If, for example, a project is located in an air basin determined to be in extreme or severe nonattainment for a particular criteria pollutant, a project's relatively small contribution of the same pollutant could be found to be cumulatively considerable. Thus, depending on the circumstances, an impact that is less than significant when considered individually may still be cumulatively considerable in light of the impact caused by all projects considered in the analysis.

List of Related Projects

Cumulative effects could result when considering the effects of the Proposed Project in combination with the effects of other related projects in the area. For this Draft EIR analysis, other past, present, and reasonably-foreseeable future related projects have been identified. **Table 3-2** lists projects in the Proposed Project vicinity that are included in the analysis of cumulative impacts. **Figure 3-1** graphically displays the cumulative projects. There are no projects within the City of Perris that are within the geographic or temporal scope of the cumulative analysis.

**TABLE 3-2
RELATED PROJECTS FOR CUMULATIVE ANALYSIS**

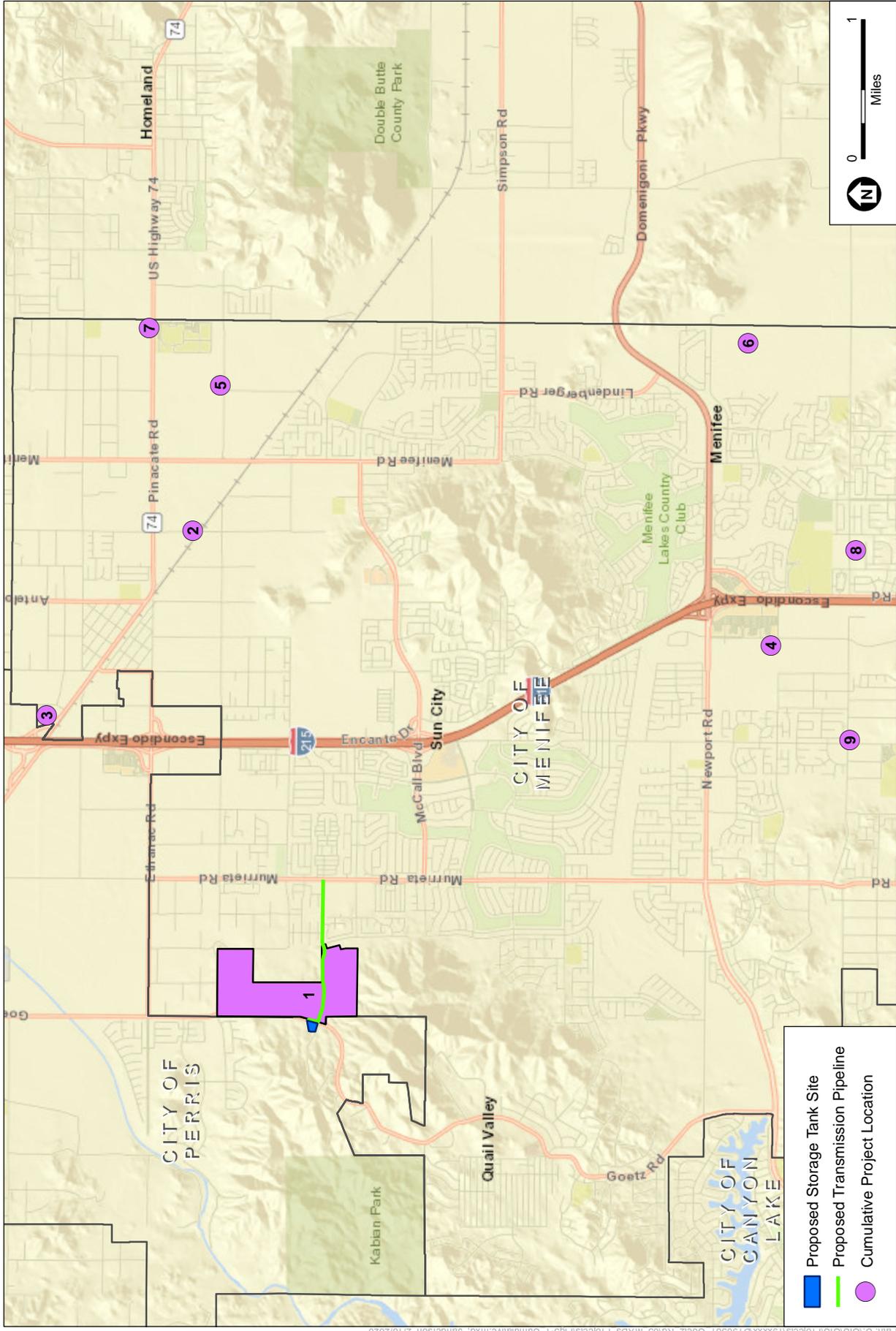
Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
Projects in the Local Vicinity						
1	City of Menifee	Cimarron Ridge Development Project	City of Menifee Directly adjacent to the Project area to the east.	Specific Plan/Development	The Cimarron Ridge Development Project is a specific plan for the development of a new community that will be comprised of traditional residential neighborhoods (756 residential units) combined with parks, functional open space areas, a multi-purpose trail system and road improvements.	Planning, Specific Plan (Final EIR) approved by City Council in Fall of 2015. Construction anticipated to begin in 2020.
2	City of Menifee	Forterra Pipe Expansion	City of Menifee Located at the northwest and northeast corners of the intersection of Matthews Road and Palomar Road.	Redevelopment/Development	The project is a redevelopment project of the Forterra pipe manufacturing site approved by the County of Riverside in 1988. In 2017, CUP 2016-263 was approved by the City of Menifee for construction of a new 16,323 square foot metal building addition in two phases. That building addition (proposed under CUP 2016-263) proposed to enclose new concrete pipe manufacturing equipment. Presently, only Phase 1, which included a portion of the overall metal building additional (12,323 square feet), has been constructed. Construction documents for Phase 2, which include the remaining portion of the addition (4,000 square footage), have not yet been submitted to the City.	Planning, Notice of Intent to Adopt the IS/MND in October 2019, Construction anticipated to begin in 2020.
3	City of Menifee	On Deck Center	City of Menifee Located west of Trumble Road, north of Highway 74, and east of Interstate 215.	Development	The proposed "On Deck Center" would include a 29,449 square foot retail shopping and hotel center on 4.82 acres. The shopping center would include a 15,817 square-foot 108 room hotel, a 5,500 square foot restaurant, a 3,000 square drive-thru foot fast food restaurant, and a gas station with six (6) fueling pumps, and a 5,132 square foot convenience store with attached car wash.	Planning, Draft IS/MND in Public Review Period, Construction anticipated in June 2020.
4	City of Menifee	The Town Center Specific Plan	City of Menifee The intersection of Haun Road and La Piedra Road in the City of Menifee.	Specific Plan/Development	The Town Center Specific Plan refines the existing land use plan to allow for mixed-use development of higher density residential, civic, office, commercial and recreational uses that could not currently be developed under the Countryside Specific Plan.	Planning, Specific Plan Amendment August 2017, approved and construction partially complete, new construction in planning phase.

3. Environmental Setting, Impacts, and Mitigation Measures

Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
5	City of Menifee	Menifee Valley Specific Plan, Amendment	City of Menifee In the northeast portion of the City of Menifee, bound by State Route 74 (SR-74) to the north, Menifee Road to the west, Matthews Road to the south, and Briggs Road to the east.	Specific Plan/Development	The Specific Plan Amendment an array of residential uses mixed with complementary retail-mixed use development, civic, open space recreational amenities as well as open space-conservation and establish the necessary plans, development standards, regulations, zoning, infrastructure requirements, and implementation on which subsequent project-related development activities (i.e. future implementing development projects) are to be founded. There is also a provision with the Project to include an elementary school and up to 120,000 square feet of office park within the Residential land use designations.	Planning, Notice of Preparation released Fall 2019. Currently in Draft EIR phase.
6	City of Menifee	Rockport Ranch	City of Menifee Intersection of Old Newport Road and Briggs Road in the City of Menifee.	Development	The proposed Rockport Ranch project entails the development of approximately 79.68- acres and will be comprised of two main land uses: a residential land use component and an open space land use component. These individual land uses will be subdivided to accommodate two forms of residential development and two forms of open space use. Residential land uses, totaling 38.4 acres, will be a mix of single-family homes and single-family courtyard residential development with each type located in clusters of like products. Open space within the Specific Plan area will total 20.1 acres and is the only other land use allowed within the Specific Plan area.	Planning, Public Review of Draft EIR ends October 2019.
7	City of Menifee	Harvest Glen	City of Menifee Located at the northwest corner of Briggs Road and Highway 74 in the City of Menifee, County of Riverside.	Development	The 5.04-acre site will consist of 3 parcels that will be developed with commercial uses. The project's plot plan proposes a commercial center with fast food/drive-thru, gas station, convenience store, and carwash. An off-site interim basin (approximately 55,000 square feet) will be located on the western portion of APN 327-320-019, and will be used for storm water retention purposes, only. There are two (2) water quality treatment basins proposed on-site. There are also off-site access easements provided to allow more efficient ingress and egress to the site for customers and deliveries from merchants and vendors.	Planning, Initial Study prepared July 2019.
8	City of Menifee	Palomar Crossings	City of Menifee Intersection of SR 74 and Palomar Road in the City of Menifee.	Development	This project includes the development of 246,312 square feet of commercial uses and 637 multi-family dwelling units.	Planning, Notice of Preparation of Draft EIR in February 2019.

Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
9	City of Menifee	Change of Zone No. 2018-248 and Tentative Tract Map No. 2018-249	City of Menifee Located at the southeast corner of Holland Road and Bradley Road in the City of Menifee	Development	This project includes the subdivision of 17 acres into 65 single-family residential lots with a minimum lot size of 7,200 square feet, two HOA-maintained open space areas, which would include a paseo and the other a pocket park with picnic tables and barbeque grills, as well as a proposed bio-retention device and emergency access, two lots with landscape and maintenance easements to the City for trail purposes along Holland Road, and one roadway parcel.	Planning, IS/MND in 2018, Construction anticipated in 2019-2021.

Sources: City of Menifee 2015; 2017; 2019a; 2019b; 2019c; 2019d; 2019e; 2019f; 2019g; 2019h.



Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3-1
Cumulative Project Locations

SOURCE: ESRI, 2019; ESA, 2019.



3.04 References

- Caltrans, 2020. List of Eligible and Officially Designated Scenic Highways. Available online at: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>, accessed February 14, 2020.
- City of Menifee, 2015. Cimarron Ridge Specific Plan. Available online at: <https://cityofmenifee.us/DocumentCenter/View/6021/Cimarron-Ridge-SP-07-10-15?bidId=>, accessed October 2019.
- City of Menifee, 2017. The Town Center Specific Plan. Available online at: <https://cityofmenifee.us/DocumentCenter/View/6022/MTCSP-Approved-as-of-8-2017?bidId=>, accessed October 2019.
- City of Menifee, 2019a. Specific Plans. Available online at: <https://cityofmenifee.us/492/Specific-Plans>, accessed October 2019.
- City of Menifee, 2019b. Environmental Notices/Document. Available online at: <https://cityofmenifee.us/325/Environmental-Notices-Documents>, accessed October 2019.
- City of Menifee, 2019c. Notice of Public Hearing and Intent to Adopt a Mitigated Negative Declaration. Available online at: <https://cityofmenifee.us/DocumentCenter/View/8631/Forterra-Pipe-NOA>, accessed October 2019.
- City of Menifee, 2019d. City of Menifee, CEQA Environmental Checklist Form. Available online at: <https://cityofmenifee.us/DocumentCenter/View/8992/On-Deck---Initial-Study-MND-Draft-Oct-10-2019>, accessed October 2019.
- City of Menifee, 2019e. Notice of Scoping Meeting and Preparation of a Draft Environmental Impact Report. Available online at: <https://cityofmenifee.us/DocumentCenter/View/8524/Final-Notice-of-Preparation->, accessed October 2019.
- City of Menifee, 2019f. Notice of Availability of Draft Environmental Impact Report. Available online at: <https://cityofmenifee.us/DocumentCenter/View/8639/Notice-of-Availability>, accessed October 2019.
- City of Menifee, 2019g. Initial Study for “Harvest Glen”. Available online at: <https://cityofmenifee.us/DocumentCenter/View/8398/R-MR-Initial-Study---Harvest-Glen-PP-2017-225--FINAL>, accessed October 2019.
- City of Menifee, 2019h. Notice of Preparation of a Draft Environmental Impact Report and Scoping Meeting. Available online at: <https://cityofmenifee.us/DocumentCenter/View/7510/Palomar-Crossings-Notice-of-Preparation>, accessed October 2019.
- Converse Consultants. 2014. Geotechnical Investigations Report: 10 to 12.5 million Gallon Goetz Road Water Storage Tank 2.88 acre site Northwest of Goetz Road and Sotelo Road, City of Perris, Riverside, CA. Prepared for: Eastern Municipal Water District, 2270 Trumble Road, P.O. Box 8300, Perris, CA 92572. Prepared by: Converse Consultants, 1039 Corporate Drive, Redlands, CA 92374.

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3.1 Aesthetics

This section addresses the aesthetic and visual impacts associated with construction and operation of the Proposed Project. This section includes: a description of existing visual resources and aesthetic conditions at the Proposed Project site; a summary of applicable regulations related to aesthetics; and an evaluation of potential impacts on visual resources, including scenic vistas, and on the visual character and quality of the Project site, including cumulative impacts.

3.1.1 Environmental Setting

Definitions Related to Visual Resources

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public viewer's experience and appreciation of the environment.¹ Depending on the extent to which a project's presence would alter the perceived visual character and quality of the environment, a visual or aesthetic impact may occur. Key terms that are used to describe aesthetic views include:

Visual character is a general description of the visual attributes of a particular land use setting as defined by local municipalities and other land use agencies. The purpose of defining the visual character of an area is to provide the context within which the visual quality of a particular site or locale is most likely to be perceived by the viewing public. For urban areas, visual character is typically described on the neighborhood level or in terms of areas with common land use, intensity of development, socioeconomic conditions, and/or landscaping and urban design features. For natural and open space settings, visual character is most commonly described in terms of areas with common landscape attributes (such as landform, vegetation, water features, etc.).

Visual quality is defined as the overall visual impression or attractiveness of a site or locale as determined by its aesthetic qualities (such as color, variety, vividness, coherence, uniqueness, harmony, and pattern). For the aesthetic analysis, the visual quality of a site or locale is defined according to three levels:

- **Low.** The location is lacking in natural or cultural visual resource amenities typical of the region. A site with low visual quality will have aesthetic elements that are perceptibly uncharacteristic of the surrounding area.
- **Moderate.** The location is typical or characteristic of the region's natural or cultural visual amenities. A site with moderate visual quality maintains the visual character of the surrounding area, with aesthetic elements that do not stand out as either contributing to or detracting from the visual character of an area.
- **High.** The location has visual resources that are unique or exemplary of the region's natural or cultural scenic amenities. A site with high visual quality is likely to stand out as

¹ CEQA Guidelines, Appendix G, Environmental Checklist Form defines public views as those that are experienced from a publicly accessible vantage point.

particularly appealing and makes a notable positive contribution to the visual character of an area.

The identification of public viewer types describes the type of potentially affected viewers within the visual study area (defined below). Land uses that derive value from the quality of their settings are potentially sensitive to changes in visual conditions.

Viewer Exposure addresses the variables that affect the viewing conditions of a site. Viewer exposure considers some or all of the following factors: landscape visibility (the ability to see the landscape); viewing distance (i.e., the proximity of viewers to the Project); viewing angle (whether the Project would be viewed from a superior, inferior, or level line of sight); extent of visibility (whether the line of sight is open and panoramic to the Project area or restricted by terrain, vegetation, and/or structures); and duration of view.

Visual Sensitivity is the overall measure of a site's susceptibility to adverse visual changes. Visual sensitivity is rated as high, moderate, or low and is determined based on the combined factors of visual quality, viewer types, how many viewers, and viewer exposure to the Project. Higher visual sensitivity is associated with sites with a higher visual quality and with a greater potential for changes to degrade or detract from the visual character of a public view.

Light originates from human activity from the following two primary sources): light emanating from building interiors that passes through windows, and light originating from exterior sources (e.g., street lighting, building illumination, security lighting, parking lot lighting, landscape lighting, and signage). These sources of light can be a nuisance to adjacent residential areas, diminish the view of the clear night sky, and if uncontrolled, can cause disturbances for motorists traveling in the area. Land uses such as residences and hotels are considered light sensitive, since occupants have expectations of privacy during evening hours and may be subject to disturbances by bright light sources. Light spill is typically defined as the presence of unwanted light on properties adjacent to the property being illuminated.

Glare is caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces or vehicle headlights. Perceived glare is the unwanted and potentially objectionable sensation as observed by a person as they look directly into the light source of a luminaire. Daytime glare generation in urban areas is typically associated with buildings with exterior facades largely or entirely comprised of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources, such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses include residences and transportation corridors.

Shadow and Shading from buildings and structures has the potential to block sunlight on adjacent properties. Although shading is common and expected in urban areas and can be considered a beneficial feature when it provides protection from excess sunlight and heat, shading can have an adverse impact if it interferes with activities that rely on sunlight to function properly, or to provide physical comfort, or to support commercial activity. Such uses include routinely usable outdoor spaces associated with residential, recreational, and institutional uses

(e.g., schools, convalescent homes), commercial pedestrian-oriented outdoor eating areas or other spaces, operations such as nurseries and solar collectors.

Regional Setting

The Project site is located in western Riverside County (County). The County encompasses approximately 7,400 square miles, stretching from the Colorado River to the Santa Ana Mountains. At its westernmost point, Riverside County is less than 10 miles from the Pacific Ocean. The western half of the county is separated from the eastern half by the San Jacinto and Santa Rosa Mountains. Several man-made lakes are located in the western portion of the County, including Lake Matthews, Lake Perris, Lake Skinner, Vail Lake, and Diamond Valley Lake. These lakes provide water storage and recreational uses. In recent years, Riverside County has experienced substantial urbanization that has altered the regional character from that of a rural, inland desert area, to one of the major population centers of Southern California (County of Riverside 2015). The Proposed Project is located within the western portion of the County, within the cities of Perris and Menifee. The major roadway corridor in the Project vicinity includes Interstate (I) 215 located approximately 2 miles east of the Project area.

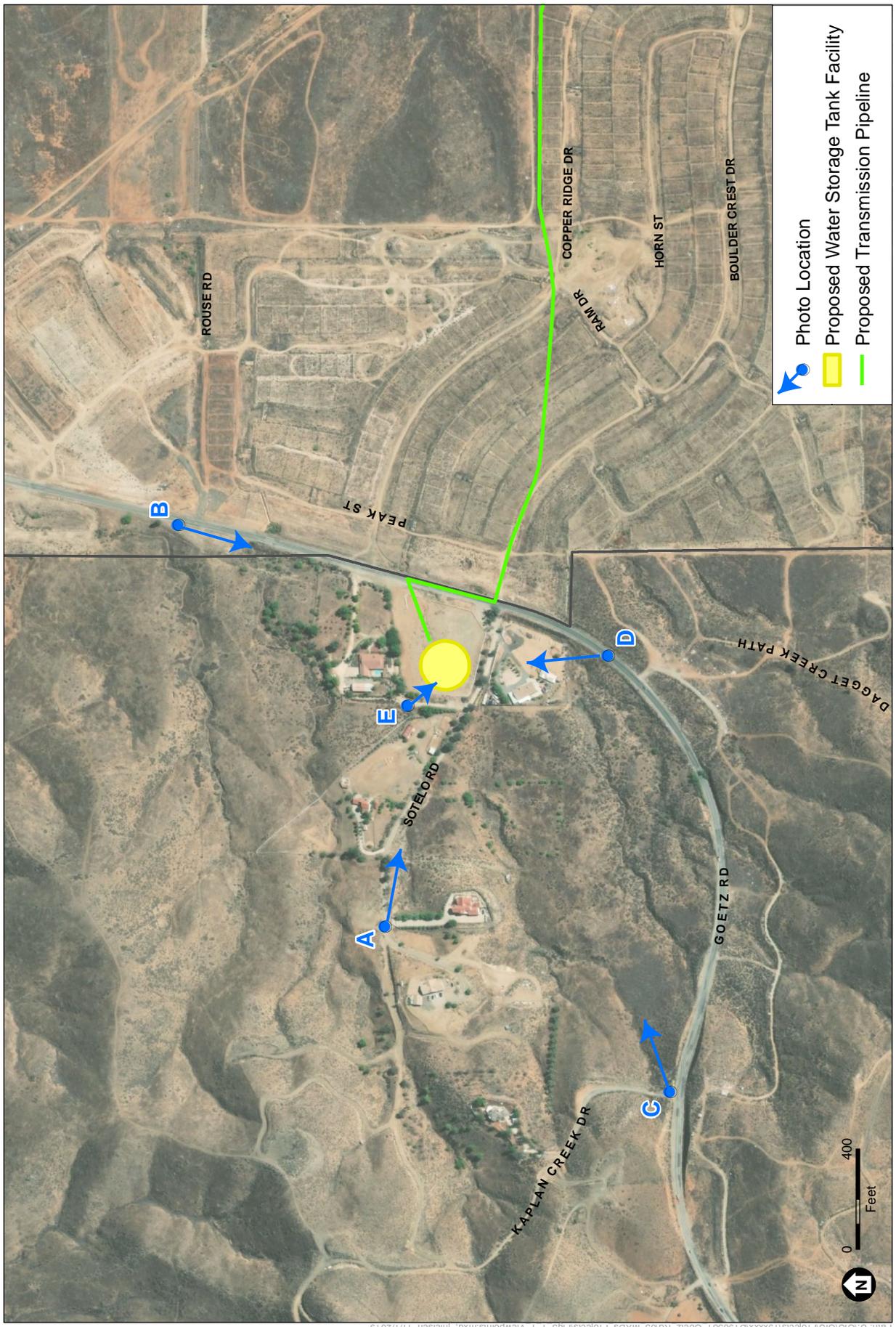
Visual Study Area

The proposed water storage tank and proposed transmission pipeline would be located within the cities of Perris and Menifee (refer to Figure 2-1). Site reconnaissance of the Project area was performed in 2019 to identify the visual study area and take representative photographs of existing visual conditions of the Project site and adjacent areas. The study area focuses on the area around the proposed water storage tank site, which would be the primary aboveground feature in operation as part of the Project. **Figure 3.1-1** identifies the viewpoints chosen to document the visual study area in and around the Proposed Project. **Figures 3.1-2** through **3.1-4** include existing views from those viewpoints.

The 2.85-acre vacant parcel proposed for the water storage tank would be situated on a site at the bottom of foothills located in the southeastern most portion of the City of Perris. The Project site is undeveloped and slopes downward to the northeast and east. A rural residential house/lot borders the Project site to the north, south, and west. To the east is Goetz Road, which travels in a north-south direction, beyond which is a large undeveloped area of land². Two local public rights-of-way are located to the west and south of the proposed tank site, Our Way and Sotelo Road.

The proposed transmission pipeline would connect the new storage tank to an existing transmission pipeline, which would be installed underground and would primarily be located in the City of Menifee with a small western portion located in the City of Perris. The Project site is undeveloped and is part of the flat-bottomed Menifee Valley.

² The owner of the undeveloped land east of Goetz Road (Cimarron Ridge) has received City entitlements for a 750-unit residential subdivision which will begin construction in the first quarter of 2020. See Impact 3.1-5 for more discussion.



SOURCE: ESRI, 2019; ESA, 2019.

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-1
Viewpoint Map





Viewpoint A



Viewpoint B

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SOURCE: ESA, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-2
Existing Views from Viewpoint A and Viewpoint B





Viewpoint C



Viewpoint D

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SOURCE: ESA, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-3
Existing Views from Viewpoint C and Viewpoint D





Viewpoint E

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SOURCE: ESA, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-4
Existing Views from Viewpoint E



Scenic Vistas

Scenic vistas are identified by the cities of Perris and Menifee in their respective General Plan EIRs. The City of Perris identifies the northern views of the San Bernardino Mountains as a scenic vista (City of Perris 2005). Scenic vistas within the City of Menifee include the San Jacinto Mountains to the northeast and east, the San Bernardino Mountains to the north, the San Gabriel Mountains to the northwest, and the Santa Ana Mountains to the west and southwest (City of Menifee 2013).

Visual Character

The water storage tank site is identified as a rural residential and largely undeveloped area within the foothills of the City of Perris. The site is located specifically within the City's Planning Area 10 (City of Perris 2005), which is characterized by low-density residential uses and open space. The current visual character of the immediate area surrounding the water storage tank site is largely rural residential and open space flatlands and hillsides, and is consistent with the intended use of the area by the City of Perris. The slopes of the surrounding mountains and hillsides provide a contrast to the generally flat topography within the city. Much of the built environment within the city consists of low-rise buildings that preserve scenic views.

Views west of the water storage tank site are towards local hillsides. Views east of the Project site (north and south along Goetz Road) include expansive flat topography surrounded by local hillsides. Additional local hills and the San Jacinto Mountains can be seen across the City of Menifee (Menifee Valley) to the northeast and east. Local hillsides are considered to have open space value (City of Perris 2005). Public views of the proposed water storage tank site are available to motorists, cyclists and pedestrians traveling along local roadways adjacent to the Project site: Goetz Road, Sotelo Road and Our Way. Goetz Road has an average daily traffic load of approximately 3,760 vehicles in the Project area between Rouse Road and Lesser Lane (City of Perris 2014). The number of daily vehicles traveling along Goetz Road in front of the Project site is relatively small compared to other Primary Arterial and Collector roadways in the city (City of Perris 2008, 2014). Our Way and Sotelo road provide access to several residences and are not heavily used (and are not mentioned in the city's Circulation Element) (City of Perris 2008). Existing views of the Project site (Viewpoints A through E) are shown in Figure Figures 3.1-2 through 3.1-4.

The transmission pipeline alignment is located within the Menifee Valley area of the City of Menifee (City of Menifee 2013). The visual character of the Menifee Valley is comprised of a series of established residential communities surrounded by natural landforms such as brush-covered hills and low mountains (City of Menifee 2013). The natural mountainous setting located east of the City is critical to identification of the city's overall visual character, and provides recognized natural landforms for the community which include undistributed slopes, hillsides, and rock outcroppings (City of Menifee 2013). The flat topography and lack of dense vegetation or urban development offer views throughout the City, including to surrounding hillsides.

Views surrounding the proposed transmission pipeline include residential communities and open space that is proposed for development of residences. Public views of the proposed transmission

pipeline during construction would temporarily be visible to motorists, cyclists and pedestrians traveling along segments of Goetz Road, Valley Boulevard, Thornton Avenue, and Murrieta Road.

Visual Quality and Sensitivity

The overall visual sensitivity of the Project site from public views is described in terms of its visual quality, potentially affected viewers, and exposure conditions (i.e., landscape visibility, viewing angle, extent of visibility, and duration of view). **Table 3.1-1** summarizes these attributes.

Viewpoint A

Viewpoint A (Figure 3.1-2) is looking southeast to the Project site from public right-of-way Sotelo Road. This viewpoint is elevated above the Project site. The foreground view includes a local residence and vegetation/trees aligning Sotelo Road. A designated scenic vista of the San Jacinto Mountains is experienced in the distant background looking down and across the Menifee Valley floor (City of Menifee 2013).

Visual Quality. The visual quality of the area is typical of a rural residential area in the City of Perris' Planning Area 10 (City of Perris 2005). The area contains an unpaved road, rural houses, native vegetation and trees. While a scenic vista of the San Jacinto Mountains is seen in the distant background from this viewpoint, the extent of visibility is limited by existing topography and residences around the Project site. Because the viewpoint is characteristic of typical rural residential areas, the existing visual quality is considered moderate (i.e. it is not lacking visual amenities but is not unique compared with the intended visual character of the area).

Affected Viewers and Exposure Conditions. Public views of the Project site are provided to motorists traveling southeast along Sotelo Road. While the road is public, it provides access to several residences and otherwise is not heavily traveled. Therefore, views of the site would be restricted to views from residents traveling to and from their homes. Views of the Project site are partially obstructed by existing trees surrounding the site. Therefore, the site has low viewer exposure.

Visual Sensitivity Conclusion. Because the view of the site from this area has moderate visual quality and low exposure to public views, it is considered to have low visual sensitivity.

Viewpoint B

Viewpoint B (Figure 3.1-2) is looking southwest to the Project site from public right-of-way Goetz Road. The viewpoint is from motorists/pedestrians/bicyclists traveling south along Goetz Road. Views show Goetz Road, local hillsides, vegetation, trees, and a local residence. Viewpoint B does not contain an expansive scenic vista, but provides views of local hillsides, which are considered to have natural landform and open space value (City of Perris 2005; City of Menifee 2013).

Visual Quality. The visual quality of the area is typical of a rural residential area containing open space (City of Perris 2005; City of Menifee 2013). The area contains a paved road surrounded by

native vegetation and utility poles to the east. Because the viewpoint is characteristic of typical rural residential/open space areas, and provides views of scenic local hillsides, the existing visual quality is considered moderate (i.e. it is not lacking visual amenities but is not unique compared with the intended visual character of the area).

Affected Viewers and Exposure Conditions. Public views of the Project site are provided to approximately 3,760 motorists, bicyclists and pedestrians traveling south along Goetz Road. The Project site is partially obstructed by existing topography and trees/vegetation from this location. Direct views of the Project site would be available for brief periods of time where there is a break in landscaping. The site has low viewer exposure and would be seen only briefly as viewers pass by.

Visual Sensitivity Conclusion. Because the view of the site from this area has moderate visual quality and low exposure, it is considered to have low visual sensitivity.

Viewpoint C

Viewpoint C (Figure 3.1-3) is looking northeast to the Project site from public right-of-way Goetz Road. The viewpoint is elevated above the Project site. As this viewpoint, the foreground view shows undeveloped land covered in brush, the middleground view shows residences and existing vegetation surrounding the Project site, and the background includes expansive views of the distant hills across Menifee Valley. A designated scenic vista of the San Jacinto Mountains is experienced in the distant background looking down and across the Menifee Valley floor (City of Menifee 2013). The taller peaks of the San Jacinto Mountains are especially apparent from this view.

Visual Quality. The visual quality of the area is typical of a rural residential area containing open space (City of Perris 2005; City of Menifee 2013) and is surrounded by native vegetation. In addition to having attributes of the typical rural residential neighborhood, this particular view also provides views of scenic vistas established by the City of Menifee. Given the visual resources experienced from Viewpoint C that are unique or exemplary of the region's natural scenic amenities, the existing visual quality is considered high (i.e. it is considered unique when compared to the rural residential area).

Affected Viewers and Exposure Conditions. Public views of the Project site are provided to approximately 3,760 motorists, bicyclists and pedestrians traveling north along Goetz Road. Existing trees and topography partially obstruct views of the Project site. Direct views of the Project site would be available for brief periods of time where there is a break in landscaping. The site has low viewer exposure and would be seen only briefly as viewers pass by.

Visual Sensitivity Conclusion. Because the view of the site from this area has high visual quality and low exposure, it is considered to have moderate visual sensitivity.

Viewpoint D

Viewpoint D (Figure 3.1-3) is looking directly north to the Project site from public right-of-way Goetz Road. The viewpoint is from motorists/pedestrians/bicyclists traveling north along Goetz Road. As this viewpoint, the foreground shows a local residence/yard area, existing vegetation and trees, and residences amongst the vegetation. The background presents a view of local hillsides, which are considered to have natural landform and open space value (City of Perris 2005; City of Menifee 2013).

Visual Quality. The visual quality of the area is typical of a rural residential area containing open space (City of Perris 2005; City of Menifee 2013). The area contains a paved road (Goetz) surrounded by native vegetation and utility poles to the west. Because the viewpoint is characteristic of typical rural residential/open space areas, and provides views of scenic local hillsides, the existing visual quality is considered moderate (i.e. it is not lacking visual amenities but is not unique compared with the intended visual character of the area).

Affected Viewers and Exposure Conditions. Public views of the Project site are provided to approximately 3,760 motorists, bicyclists and pedestrians traveling north along Goetz Road. Existing trees minimally obstruct views of the Project site. Direct unobstructed views of the Project site would be available for brief periods of time when a motorist, bicyclist, or pedestrian passes the site. The viewing angle from Goetz Road is in level line of site. Given that the view of the site is relatively clear and unobstructed and would be observed by 3,760 daily users of Goetz Road, the viewer exposure is considered moderate.

Visual Sensitivity Conclusion. Because the view of the site from this area has moderate visual quality and moderate exposure, it is considered to have moderate visual sensitivity.

Viewpoint E

Viewpoint E (Figure 3.1-4) is looking southeast to the Project site from public right-of-way Our Way. The viewpoint is immediately adjacent to the Project site. Views show the undeveloped Project site, fencing, existing trees surrounding the Project site, and distant views of hillsides across Menifee Valley. The view does not contain an expansive scenic vista, but provides partial views of local hillsides across the Menifee Valley floor from Our Way (City of Perris 2005; City of Menifee 2013).

Visual Quality. The visual character of the area is typical of a rural residential area in the City of Perris' Planning Area 10 (City of Perris 2005). The area contains wire fence, native vegetation and trees. Because the viewpoint is characteristic of typical rural residential areas, the existing visual quality is considered moderate (i.e. it is not lacking visual amenities but is not unique compared with the intended visual character of the area).

Affected Viewers and Exposure Conditions. Public views of the Project site are provided to motorists traveling along Our Way. There is virtually no vegetation screening and the viewing angle is within a level line of sight from this viewpoint. While the road is public, it does not currently provide access to any existing residence or other land uses. The views of the site would

be restricted to rare use of the road from people traveling to currently vacant land. Therefore, the site has low viewer exposure.

Visual Sensitivity Conclusion. Because the view of the site from this area has moderate visual quality and low exposure to public views, it is considered to have low visual sensitivity.

**TABLE 3.1-1
 SUMMARY OF VISUAL QUALITY AND SENSITIVITY FINDINGS**

Viewing Location and Representative Photos	Visual Quality	Affected Viewers and Viewer Exposure Conditions	Visual Sensitivity
Viewpoint A (Figure 3.1-2)	Moderate	Viewpoint A is taken from the public right-of-way Sotelo Road. While the road is public, it provides access to several residences and otherwise is not heavily traveled. Therefore, views of the site would be restricted to views from the few residents traveling to and from their homes. Views of the Project site are partially obstructed by existing trees surrounding the site. Therefore, the site has low viewer exposure.	Low
Viewpoint B (Figure 3.1-2)	Moderate	Viewpoint B is taken from the public right-of-way Goetz Road, which provides public views to motorists, bicyclists or pedestrians traveling south along Goetz Road. The Project site is partially obstructed by existing topography and trees/vegetation from this location. Direct views of the Project site would be available for brief periods of time where there is a break in landscaping. The site has low viewer exposure and would be seen only briefly as viewers pass by.	Low
Viewpoint C (Figure 3.1-3)	High	Viewpoint C is taken from the public right-of-way Goetz Road, which provides public views of the Project site to motorists, bicyclists or pedestrians traveling northeast along Goetz Road. Existing trees and topography partially obstruct views of the Project site. Direct views of the Project site would be available for brief periods of time where there is a break in landscaping. The site has low viewer exposure and would be seen only briefly as viewers pass by.	Moderate
Viewpoint D (Figure 3.1-3)	Moderate	Viewpoint D is taken from the public right-of-way Goetz Road, which provides public views of the Project site to motorists, bicyclists or pedestrians traveling north along Goetz Road. Limited vegetation minimally screens the site from this vantage point. Direct unobstructed views of the Project site would be available for brief periods of time when a motorist, bicyclist, or pedestrian passes the site. The viewing angle from Goetz Road is in level line of site. Given that the view of the site is relatively clear and unobstructed and would be observed by 3,760 daily users of Goetz Road, the viewer exposure is considered moderate.	Moderate
Viewpoint E (Figure 3.1-4)	Moderate	Viewpoint E is taken from the public right-of-way Our Way. There is virtually no vegetation screening and the viewing angle is within a level line of sight from this viewpoint. While the road is public, it does not currently provide access to any existing residence or other land uses. The views of the site would be restricted to rare use of the road from people traveling to currently vacant land. Therefore, the site has low viewer exposure.	Low

Light, Glare, Shade and Shadow

Water Storage Tank

The water storage tank site is undeveloped and does not contain any major sources of lighting or glare as there are no built facilities. Shade or shadow that occurs on the Project site includes very small areas of shadows/shade cast by existing vegetation/trees surrounding the site. Existing light and glare in the immediate area is produced from motor vehicles traveling north and south along Goetz Road. Residential receptors (single family homes) are located north (110 feet), south (90 feet) and west (162 feet) of the proposed storage tank site, and emit small amounts of human-generated lighting emanating from building interiors and small amounts of outside lighting. There are no other uses located near or adjacent to the water storage tank site that generate glare such as large bodies of water or solar panels.

Transmission Pipeline

A majority of the western area of the proposed transmission pipeline alignment is undeveloped and does not contain any major sources of lighting or glare as there are no built facilities. Shade or shadow that occurs on the eastern portion of the Project site includes shadows/shade cast by existing vegetation/trees and residences surrounding the site along Thornton Avenue and Murrieta Road. Existing light and glare in the immediate area would be produced by motor vehicles traveling north and south along Thornton Avenue and Murrieta Road. Residential receptors (single family homes) are located as close as 25 feet from the proposed transmission pipeline along Thornton Avenue and Murrieta Road emit small amounts of human-generated lighting emanating from building interiors and small amounts of outside lighting. Other lighting includes street lighting along the paved rights-of-way. There are no other uses located near or adjacent to the Project site that generate glare such as large bodies of water or solar panels.

3.1.2 Regulatory Framework

Local

City of Perris

General Plan, Open Space Element

The City of Perris General Plan, Open Space Element includes an inventory of existing land reserved for recreational needs, a projection of future land requirements needs, and policy actions necessary to see that recreational land is provided. While “open space” includes wildlife habitats and natural resource preserves, the element focuses on parkland needs, specifically, while also recognizing areas of scenic value. The General Plan identifies natural resources such as hills, valleys, and slopes as being important for future open space uses. The Open Space Element does not contain any goals or policies that are relevant to the Proposed Project.

General Plan Environmental Impact Report, Aesthetics

The City of Perris General Plan EIR Aesthetics Section does not provide methodology for analyzing potential impacts to aesthetics and the visual character/quality of the city. However, the City of Perris EIR Aesthetics Section more specifically identifies those natural resources that

embody the visual character of the city. The visual character of the city consists of flat, broad basins for planning and development with rolling foothills to the east and west of the Perris Basin. Natural resources such as large rocks, the San Jacinto River, and rolling topography are described to be an obvious presence in the visual landscape of the city. The City of Perris identifies the northern views of the San Bernardino Mountains as scenic vistas.

City of Perris Zoning Ordinance 1051

Section 19.02.110 A of the City of Perris Zoning Ordinance requires lighting requirements for industrial uses, including that lighting shall be directed away from adjoining properties and the public right-of-way, and lighting fixtures should be energy efficient and in scale with the height and use of structures onsite. This requirement minimizes the amount of light cast on adjoining properties, the public right-of-way, and into the night sky.

City of Menifee

General Plan, Open Space Element

The City of Menifee Open Space Element sets forth policies and programs to preserve open space for park and recreation purposes, as well as addresses the comprehensive and long-range preservation of mountains, deserts, floodplains, and other open space areas. The Open Space element also focuses on providing direction to conserve and utilize the city's natural resources, which are considered aesthetically valuable. The following goals and policies are applicable to the Proposed Project.

OSC-3: Undisturbed slopes, hillsides, rock outcroppings, and other natural landforms that enhance the City's environmental setting and rich cultural and historical past and present.

OCS-3.1: Identify and preserve the view corridors and outstanding scenic vistas within the city.

OCS-3.4: Support the preservation of natural vegetation and rock outcroppings during and after the construction process

General Plan Environmental Impact Report, Aesthetics

According to the City of Menifee General Plan EIR, Aesthetics Section, the evaluation of aesthetics and aesthetic impacts is highly subjective. It requires the application of a process that objectively identifies the visual features of the existing environment and their importance. The characterization of aesthetics involves establishing the existing visual characteristics—including visual resources and scenic vistas—unique to the City. Visual resources are determined by identifying existing landforms (e.g., topography and grading), views (e.g., scenic resources such as natural features or urban characteristics) viewing points/locations, and existing light and glare (e.g., nighttime illumination). Changes to the existing aesthetic environment should be identified and qualitatively evaluated based on the proposed modifications to the existing setting and the viewers' sensitivity. The Aesthetics Section notes that there are no locally designated or defined standards or methodologies for the assessment of aesthetic impacts.

The EIR, Aesthetics Section identifies the visual character of the City by its natural landforms such as brush-covered hills, mountains, and flat-bottomed valleys interspersed with residential and commercial development. Scenic vistas within the city include the San Jacinto Mountains to the northeast and east, the San Bernardino Mountains to the north, the San Gabriel Mountains to the northwest, and the Santa Ana Mountains to the west and southwest.

City of Menifee Municipal Code

The City of Menifee Municipal Code identifies land use categories, development standards, and other general provisions that ensure consistency between the City's new General Plan and proposed development projects. The following provisions from the City's Municipal Code help minimize visual and light and glare impacts associated with new development projects and are relevant to the Proposed Project.

Dark Sky; Light Pollution (Chapter 6.01)

The City's ordinance establishes lighting standards for specific types of lamps, shielding, hours of operation, and outdoor advertising displays. Low-pressure sodium lamps are preferred. All outdoor lights, with certain exceptions, must be shielded. Security lighting may remain on all night; decorative lighting must be off between 11:00 PM and sunrise; and advertising lighting may remain on until midnight.

3.1.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to aesthetics based on the *CEQA Guidelines* Appendix G and adapted to the Project by EMWD as lead agency if it would do the following:

- Have a substantial adverse effect on a scenic vista.
- Substantially degrade the existing visual character or quality of public views of the site and its surroundings or other natural resources. (Public views are those that are experienced from publicly accessible vantage point).
- Create a new source of substantial light or glare that would adversely affect sensitive receptors and day/ or nighttime views in the area.
- Create a new source of shade or shadow that would adversely affect public rights-of-way or sensitive receptors in the area.
- Result in cumulatively considerable impacts to aesthetics.

Additionally, the comments EMWD received on the Initial Study and Notice of Preparation were taken into consideration when preparing this Draft EIR. A summary of those comments is provided in **Table 3.1-2** below.

**TABLE 3.1-2
SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Aesthetics	<ul style="list-style-type: none">• Formal landscaping plans should be submitted for Planning review to the City of Perris. Drought- tolerant, attractive, multi-level landscaping is requested to buffer views of the tank from the public right-of way (Goetz Road, Sotelo Lane, and Our Lane) and neighboring residential properties. Screening the site by the planting of large trees is encouraged.• Right of way improvements should include 24-inch box street trees spaced at intervals not more than 30 feet apart.• Based on discussions between the City and EMWD, the tank will be bermed and inset into the natural and augmented landscape• The color of the tank is encouraged to be a light tan to blend into the surrounding landscape.• The City of Perris requests its City logo be displayed on the tank, and any associated signage, as the location is the southernmost boundary of the City of Perris.• The Initial Study did not include substantiation to support whether developing a landscaping plan is sufficient to reduce the imposing structure in a rural area or whether the mere notification of adjacent property owners that for 325 days construction is occurring is adequate.• In order to adequately analyze the impact to adjacent properties, the District needs to prepare a light, shadow and shade analysis for the tank site. The following items should be evaluated: Summer and Winter Solstices, Spring and Fall Equinoxes, Shadow-Sensitive Land Uses, Existing Shadow Patterns for Summer, Winter, Spring and Fall. The Initial Study needs to quantify the impact.• The tank will be the taller structure in this rural area of Perris. It will be a permanent adverse aesthetic impact for the rural area. It was not addressed in the Initial Study.• The location of a tank could not reasonably been envisioned by adjacent home owners. The permanent adverse aesthetic impact was not properly evaluated and the proposed mitigation is not strong enough for the determination that impacts have been reduced to a level of insignificance.

Methodology

Visual Quality

Impacts to visual quality in non-urbanized areas such as the Proposed Project area are generally assessed by estimating the amount of visual change introduced by Project components, the degree to which visual changes may be visible to surrounding viewer groups, and the general sensitivity of viewer groups to landscape alterations. Visual changes are usually measured by three factors: (1) the amount of visual contrast that Project components create (changes to form, line, color, texture, and scale in the landscape), (2) the amount of view obstruction that occurs (loss of view, duration/timing), and (3) the degradation of specific natural resources (e.g., removal of scenic trees):

- (1) Visual contrast could be significant if Project activities involve regraded landforms, alteration or elimination of ridgelines, and changes introduced by the Project that result in landscape colors, textures, and scale of visual components that are inconsistent with a Project site's surroundings.

- (2) View obstruction could be considered significant if the Project would obstruct foreground (0 to 0.25 mile) or middleground (0.25 to 3 miles) views of the viewed area seen from sensitive public viewpoints³. View obstruction is contextualized in the temporal framework, for instance how long the view of the water storage tank would be visible by motorists, pedestrians and bicyclists traveling on the surrounding public roadways.
- (3) The Project's impacts could be considered significant if the Project severely alters or displaces specific natural resources composed of striking landform features, aesthetic water bodies, mature stands of native/cultural trees (e.g., historic hedgerows), or historic structures.

Visual impacts would be considered significant overall if any one of the three measures of significance is identified. These criteria were used to assist in estimating the extent and scale of landscape alterations due to Project implementation.

Visual Assessment

This visual assessment is based on field observations of the Project site and surroundings in addition to a review of topographic maps, aerial, and ground-level photographs of the Project area. Additionally, visual simulations were prepared for the Proposed Project which document the "before and after" visual conditions of implementing the Proposed Project, as well as a Shade and Shadow Analysis (**Appendix AES**). The visual assessment included in this section is based on these two technical components.

Impact Analysis

Scenic Vistas

Impact 3.1-1: The Proposed Project could have a substantial adverse effect on a scenic vista.

As described above in the *Existing Setting* and *Regulatory Framework* sections above, City-designated scenic vistas in the Project area include long-distance, expansive views of the San Jacinto, San Bernardino, San Gabriel and Santa Ana Mountains surrounding the cities of Perris and Menifee (City of Perris 2005; City of Menifee 2013). However, in the immediate Project site vicinity, only the San Jacinto Mountains can be seen from various viewpoints. Other mountain ranges considered to be scenic vistas are blocked by existing topography of the regional area. For the Project site specifically, views of the San Jacinto Mountains are provided from motorists traveling Goetz Road and Sotelo Road.

Construction

The construction of the proposed facilities would require temporary construction activities within the Project site. Construction equipment could include cranes that could be as high as 50 feet tall. Construction of the proposed water storage tank would take approximately 325 working days and the proposed transmission pipeline would take approximately 110 working days. Many of these construction days would overlap for each Proposed Project component; however, the maximum

³ Public views are those that are experienced from publicly accessible vantage points.

amount of days possible that construction would take place for all Project components would be 435 days.

While construction equipment and materials would be visible from the immediate vicinity of the water storage tank site from Sotelo Road and Our Way, the equipment would not have the scale or massing to significantly obstruct or provide contrast of views of the San Jacinto Mountains, which is the only scenic vista that can be seen from the Project site. Additionally, the water storage tank site is set back from Goetz Road and partially shielded by surrounding residences and foliage (Viewpoints C and D) from motorists, pedestrians or bicyclists traveling north and south along Goetz Road east of the water storage tank site. The equipment associated with construction of the proposed transmission pipeline would be less obscured by existing trees than the storage tank site, and could be experienced by motorists, pedestrians or bicyclists traveling going north along Goetz Road as shown on Figure 3.1-3 (Viewpoint C and D), and those traveling south along Goetz Road as shown in Figure 3.1-2 (Viewpoint B) if looking east. Nevertheless, construction of the transmission pipeline would move along a linear route and would not be in the same location each day, further reducing the temporal scenic impact from one particular vantage point. Construction equipment would not permanently affect expansive views of the San Jacinto Mountains. Additionally, construction of the Project facilities would not alter or displace any natural resources. Given the short-term and temporary presence of construction equipment and materials coupled with the low levels of visual contrast and view obstruction compared with existing conditions, impacts to the scenic vista of the San Jacinto Mountains would be less than significant.

Operation

The proposed transmission pipeline would be installed completely underground and would not have any aboveground component that could obstruct views of the San Jacinto Mountains. As a result, no impact to the scenic vista of the San Jacinto Mountains would occur as a result of operation of the transmission pipeline.

However, implementation of the proposed water storage tank and associated buildings would create permanent aboveground facilities within the Project area. The proposed water storage tank would be installed in an undeveloped rural area surrounded by several residential homes. The proposed water storage tank would be approximately 42 feet in height and have a diameter of 190 feet. While the tank foundation would extend approximately 6 to 20 feet bgs, the tank could stand as tall as approximately 42 feet above ground. In addition to the tank, an antenna tower would be located at the south side of the tank, approximately 40 feet in height. The proposed water storage tank associated facilities, such as the stormwater drainage facilities would not exceed 42 feet in height. Additionally, an electrical and disinfection building would be located to the southeast of the storage tank, and would not be visible from surrounding areas in relationship to the water storage tank.

Visual simulations of the water storage tank and antenna tower from key viewpoints (illustrated in Figure 3.1-1) are included in **Figure 3.1-5** through **Figure 3.1-9**. These figures compare existing views with simulated views after Project implementation. The visual simulation from the Key Viewpoints A through E show that the proposed water storage tank and antenna tower would

be partially to fully visible once operational from surrounding public viewpoints. Existing vegetation partially screens the water storage tank from most of the key public vantage points. A description of the simulated views in relation to scenic vistas is provided below:

- **Figure 3.1-5** shows that while the water storage tank would be visible in the middleground looking southeast down Sotelo Road, it would not obstruct expansive views of the San Jacinto Mountains in the distance given the upslope viewing angle and vegetation that partially obstructs the tank from this elevated vantage point. As the motorist travels southeast on Sotelo Road towards Goetz Road, the water storage tank may briefly obstruct distant views of the San Jacinto Mountains.
- **Figure 3.1-6** does not show views of designated scenic vistas identified by the cities of Perris or Menifee. While the water storage tank would be visible in the middleground looking south traveling along Goetz Road, it would not obstruct a view of a scenic vista from this location.
- **Figure 3.1-7** shows that while the water storage tank would be visible in the middleground to motorists traveling northeast over the pass along Goetz Road, the tank would not obstruct expansive views of the San Jacinto Mountains in the distance given the upslope viewing angle and vegetation and residences that partially obstruct the tank from this higher vantage point.
- **Figure 3.1-8** does not show views of designated scenic vistas identified by the cities of Perris or Menifee. While the water storage tank would be visible in the foreground looking north traveling along Goetz Road, it would not obstruct a view of a scenic vista from this location.
- **Figure 3.1-9** does not show views of designated scenic vistas identified by the cities of Perris or Menifee. While the water storage tank would be visible and obstruct most of the visible environment in the immediate foreground looking southeast traveling along Our Way, it would not obstruct a view of a scenic vista from this location.

Views of the San Jacinto Mountains, which is the only scenic vista visible from the Project site and surrounding hillsides, could be partially obstructed from public viewpoints that are immediately adjacent to the proposed water storage tank along Sotelo Road. While the visual simulations do not show obstruction of the San Jacinto Mountains from Goetz Road or Our Way, it is possible other viewpoints not selected may experience obstructions from these public rights-of-way. However, motorists, bicyclists, or pedestrians would only experience temporary view obstruction for brief moments of time while passing by the proposed water storage tank site. Overall, the proposed water storage tank and associated facilities would not have the scale or massing (height, length, width) to completely obstruct views of the distant San Jacinto Mountains. Impacts to scenic vistas would be less than significant.

Mitigation Measures

None required

Significance Determination

Less than Significant



Existing



Proposed

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SOURCE: ESA, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-5
Existing View and Visual Simulation from Viewpoint A





Existing



Proposed

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SOURCE: ESA, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-6
Existing View and Visual Simulation from Viewpoint B





Existing



Proposed

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SOURCE: ESA, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-7
Existing View and Visual Simulation from Viewpoint C





Existing



Proposed

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SOURCE: ESA, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-8
Existing View and Visual Simulation from Viewpoint D





Existing



Proposed

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SOURCE: ESA, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-9
Existing View and Visual Simulation from Viewpoint E



Visual Character and Quality

Impact 3.1-2: The Proposed Project could substantially degrade the existing visual character or quality of public views of the site and its surroundings or other natural resources. (Public views are those that are experienced from publicly accessible vantage point).

As described above in the *Existing Setting* (Table 3.1-1) section above, the site where the proposed water storage tank would be installed has moderate to high visual quality, but is not considered highly visually sensitive when affected viewers and viewer exposure conditions are taken into account. An assessment of impacts to the visual character and quality of the site due to operation of the water storage tank is summarized using the three screening criteria discussed above under *Methodology*.

Construction

Construction activities associated with the Proposed Project facilities would result in short-term impacts to the visual character and quality of the Project area. Construction activities would require the use of construction equipment and materials such as excavators, haul trucks, cranes, and stockpiles within the water storage tank site and along the transmission pipeline route. The proposed water storage tank site is currently partially obstructed by existing vegetation and trees, while the transmission pipeline route is completely undeveloped and would not be obstructed.

Excavated areas, stockpiled soils, other materials, and equipment generated and used during construction could present contrasting visual elements to the existing landscape. Further, as described above, the construction equipment, materials, and disturbed areas could be visible at public vantage points. Public vantage points in the immediate area of the Project include motorists traveling north and south along Goetz Road, and residents traveling along Sotelo Road and Our Way. However, these contrasting visual elements of construction would be temporary and would not permanently affect the existing visual character and quality of the surrounding area. All impacts from construction-related activities would be less than significant and no mitigation measures would be required.

Operation

Following construction, the proposed transmission pipeline would be located underground. After the pipeline is installed, each site/area would be restored to pre-construction conditions; thus, no permanent impacts to the existing visual quality of the Project site or surrounding area would occur.

However, implementation of the proposed water storage tank and associated buildings would create permanent aboveground facilities as high as 42 feet above the ground surface within a rural residential area of the City of Perris. Visual simulations of the water storage tank and antenna tower from key viewpoints (illustrated in Figure 3.1-1) are included in Figure 3.1-5 through Figure 3.1-9, which compare existing views with simulated views after Project implementation. A description of the simulated views in relation to visual character and quality is provided below per the screening criteria of visual obstruction and contrast. Implementation of the proposed water

storage tank would not result in the degradation of natural resources such as existing trees; therefore, this visual screening criterion would result in no significant impact and is not discussed below.

For Viewpoint A (Figure 3.1-5) as explained in Table 3.1-1, the existing visual sensitivity is considered low due to moderate visual quality and low viewer exposure. With the addition of the proposed water storage tank as shown in the simulation, the visual obstruction in the foreground would be at the same scale as the surrounding vegetation and nearby residences and would not be significantly impacted. Views of local hillsides, which are considered to have natural landform and open space value to local cities and contribute to the area's visual character and quality, would not be obstructed from this vantage point given the viewing angle and vegetation screening. The visual contrast in terms of altered landscape colors and textures would be noticeable given the shape and massing of the proposed storage tank. As the viewer travels southeast on Sotelo Road, the scale of the water storage tank would become more prominent based on an increasingly level viewer angle. Impacts to established visual character and quality from this view and elsewhere along Sotelo Road as a result of Project operation would be potentially significant.

For Viewpoint B (Figure 3.1-6) as explained in Table 3.1-1, the existing visual sensitivity is considered low due to moderate visual quality and low viewer exposure. With the addition of the proposed water storage tank as shown in the simulation, the visual obstruction would be mostly obscured by existing vegetation around the Project site. The water storage tank would not obstruct expansive views of the local hillsides which are considered to have natural landform and open space value and helps define the area's visual character and quality. The visual contrast in terms of altered landscape colors and textures would be barely noticeable, and would be comparable in scale to existing utility poles and roadways. Additionally, no existing landforms or ridgelines would be altered from this viewpoint. Impacts to established visual character and quality from this view as a result of Project operation would be less than significant.

For Viewpoint C (Figure 3.1-7) as explained in Table 3.1-1, the existing visual sensitivity is considered moderate due to high visual quality and low viewer exposure. With the addition of the proposed water storage tank as shown in the simulation, the visual obstruction would be partially obscured by existing vegetation around the Project site. Nevertheless, the addition of the water storage tank would not be consistent with the site and its surroundings. The visual contrast in terms of altered landscape colors and textures would be noticeable to approximately 3,760 daily motorists traveling north on Goetz Road. However, the addition of the water storage tank would not obstruct expansive views of the local hillsides which are considered to have natural landform and open space value to local cities. Additionally, no existing landforms or ridgelines would be altered from this viewpoint. Impacts to established visual character and quality from this view as a result of Project operation would be less than significant.

For Viewpoint D (Figure 3.1-8) as explained in Table 3.1-1, the existing visual sensitivity is considered moderate due to moderate visual quality and moderate viewer exposure. With the addition of the proposed water storage tank as shown in the simulation, the visual obstruction would be clearly visible to motorists, bicyclists, and pedestrians traveling along Goetz Road.

While temporary views of the local hillsides may be obstructed as travelers navigate north, these hillsides are taller than the proposed water storage tank and complete obstruction of existing landforms or ridgelines would not occur. The addition of the water storage tank at this location would not be consistent with the site and its surroundings. The visual contrast in terms of altered landscape colors and textures would be noticeable to approximately 3,760 daily motorists traveling north on Goetz Road. As a result, impacts to established visual character and quality from this view as a result of Project operation would be potentially significant.

For Viewpoint E (Figure 3.1-9) as explained in Table 3.1-1, the existing visual sensitivity is considered low due to moderate visual quality and low viewer exposure. Even though Our Way does not currently provide access to any existing residence or other land uses, the simulation shows that the water storage tank would completely obstruct views of local hillsides across Menifee Valley. To the few users of this roadway, the addition of the water storage tank would be inconsistent with the surroundings, and would contrast with landscape colors, textures, and scale. Impacts to established visual character and quality from this view as a result of Project operation would be potentially significant.

As explained above and shown in the simulations, background views would not be significantly impacted because the proposed water storage would not obstruct or eliminate long-range views of surrounding hillsides or ridgelines. The simulations of the proposed water storage tank show a significant degree of obstruction and contrast in the foreground and middleground views from adjacent public vantage points on Goetz Road, Sotelo Road, and Our Way. The proposed water storage tank would be the tallest structure in the immediate area. Due to the size of the proposed storage tank, Project implementation would introduce features into the largely undeveloped landscape that would contrast with the rural residential land uses in the immediate vicinity of the water storage tank. While views of the constructed water storage tank from adjacent public vantage points would be brief while motorists, bicyclists or pedestrians pass by the Project site, the loss of view, amount of view obstruction, and duration/timing of view obstruction from adjacent public viewpoints is considered a potentially significant impact to the visual character and quality of the area.

EMWD would implement **Mitigation Measure AES-1**, which would include an enhanced landscape plan for the proposed water storage tank, to assist in screening and buffering the proposed facilities from adjacent public vantage points. The landscape plan would ensure that trees are planted between the storage tank and Goetz Road, Sotelo Road, and Our Way, in a manner that will grow to soften the view and impact to the local character in the immediate vicinity of the water storage tank. Although the landscaping will take time to mature, over time, the proposed water storage tank would be obscured and the visual impacts minimized. Additionally, the implementation of **Mitigation Measure AES-2** would design the proposed water storage tank and associated facilities to have color palettes that blend in with the surrounding character of the Project site to minimize contrasting features in the visual landscape. The implementation of landscape plan and design of the proposed water storage tank required under Mitigation Measures AES-1 and AES-2 would minimize contrasting features within the immediate Project area that alter the visual character and quality from adjacent public vantage points. As a result, impacts would be reduced to less than significant levels.

Mitigation Measures

Mitigation Measure AES-1: During Project design, EMWD shall prepare a landscape plan that includes measures to provide vegetation screening to assist in shielding the proposed water storage tank and other on-site facilities from surrounding views. The landscaping plan would provide for tall growth trees and multi-level vegetation in between the storage tank and Goetz Road, Sotelo Road, and Our Way to buffer the water storage tank from adjacent public vantage points. The landscape plan shall also include restoration of disturbed areas by replanting trees and/or reseeding with a native seed mix typical of the surrounding area.

Mitigation Measure AES-2: Aboveground buildings/structures shall be finished with a non-reflective material and painted with an earth-tone color to blend in with the surrounding landscape and vegetation.

Significance Determination

Less than Significant with Mitigation

Light and Glare

Impact 3.1-3: The Proposed Project could create a new source of substantial light or glare that would adversely affect sensitive receptors, and/or daytime/nighttime views in the area.

Construction

Construction of the proposed water storage tank and transmission pipeline would not require lighting for day-time or nighttime construction activities, therefore construction activities would not introduce new sources of substantial light or glare in the Project area. No impacts related to light and glare would occur.

Operation

The proposed transmission pipeline would not require nighttime lighting for operation as the pipeline would be placed underground and therefore would not be visible. As a result, there would be no new sources of lighting to the Project area. No impacts related to light and glare would occur.

The proposed water storage tank would be located within undeveloped land in between residential areas at the base of a local foothill in the Project area. The proposed water storage tank design would require new exterior nighttime lighting for operational and security purposes that would be motion-activated. The increase in lighting could result in spill over lighting onto neighboring parcels. Due to the topography of the surrounding areas and largely rural land, the proposed water storage tank lighting could be visible by the nearest sensitive receptors (residences), which would be considered a significant impact. **Mitigation Measure AES-3** would require new permeant exterior lighting to be shielded and directed downward to minimize light cast on neighboring residences. Although not required, this mitigation measure would comply

with the City of Perris Zoning Ordinance 1051, which is an outdoor nighttime lighting ordinance to manage and preserve the natural darkness of night skies for residents.

Further, building materials of the storage tank and associated facilities once constructed could create sources of glare during various times of the day. However, the implementation of **Mitigation Measure AES-4** would ensure that the proposed water storage tank is designed to minimize glare or reflection, including non-glare exterior materials or coatings. With implementation of Mitigation Measures AES-3 and AES-4, potential impacts associated with light or glare would be reduced to a less than significant level.

Mitigation Measures

Mitigation Measure AES-3: All new permanent exterior lighting associated with the proposed water storage tank shall be shielded and directed downward to avoid light spill onto neighboring parcels and visibility from surrounding public vantage points.

Mitigation Measure AES-4: The proposed water storage tank aboveground facilities shall be designed to include non-glare exterior materials and coatings to minimize glare or reflection. The paint used for this purpose should be low-luster (low reflectivity) so as to reduce glare.

Significance Determination

Less than Significant with Mitigation

Shade and Shadow

Impact 3.1-4: The Proposed Project could create a new source of shade or shadow that would adversely affect public rights-of-way or sensitive receptors in the area.

Construction

Construction equipment within the Project sites could provide shadows within the Project footprints; however, any shadows would be temporary throughout the day and would not extend outside of the Project site boundaries. No impact would occur.

Operation

The proposed transmission pipeline would be installed underground and therefore would not contribute to any shade or shadow within the Project Area. No impact would occur.

A Shade and Shadow Analysis (refer to Appendix AES) was conducted for the proposed water storage tank site. New structures/buildings on an undeveloped site have the potential to produce shade or shadow, which could negatively impact the visual character or use of the specific area. While CEQA does not require an analysis of potential impacts from private residential views, the Shade and Shadow Analyses prepared for the Proposed Project included potential impacts of shade and shadow onto surrounding properties. The analysis was prepared for the summer solstice, fall equinox, spring equinox, and winter solstice. **Figure 3.1-10** through **Figure 3.1-13** illustrate shadows cast by the Proposed Project facilities at these seasonal intervals.

The summer months present the least amount of shade/shadow generated from the proposed water storage tank. During that time, the shadows are either entirely contained on-site or extend just beyond the property boundary to the west, but do not fall onto public rights-of-ways or adjacent properties. During the spring and fall seasons, shadows cast by the proposed water storage tank would extend to the west at the 9:00 a.m. timeframe onto the right-of-way, Our Way, but would not impede visibility on the alignment or otherwise negatively impact existing character or use of the site. The proposed water storage tank projected shadow/shade impacts would be greatest in the winter months. During this time, the proposed water storage tank shadows extend to the northwest at the 9:00 a.m. hour onto the right-of-way, Our Way, and extend northeast at the 3:00 p.m. hour onto the adjacent residential property. However, even during the winter months, none of the shadow projections would be cast onto nearby residential structures, specifically, or would impede visibility on neighboring rights-of-way. Therefore, impacts related to shade/shadow impacts resulting from operation of the Proposed Project would be considered less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant



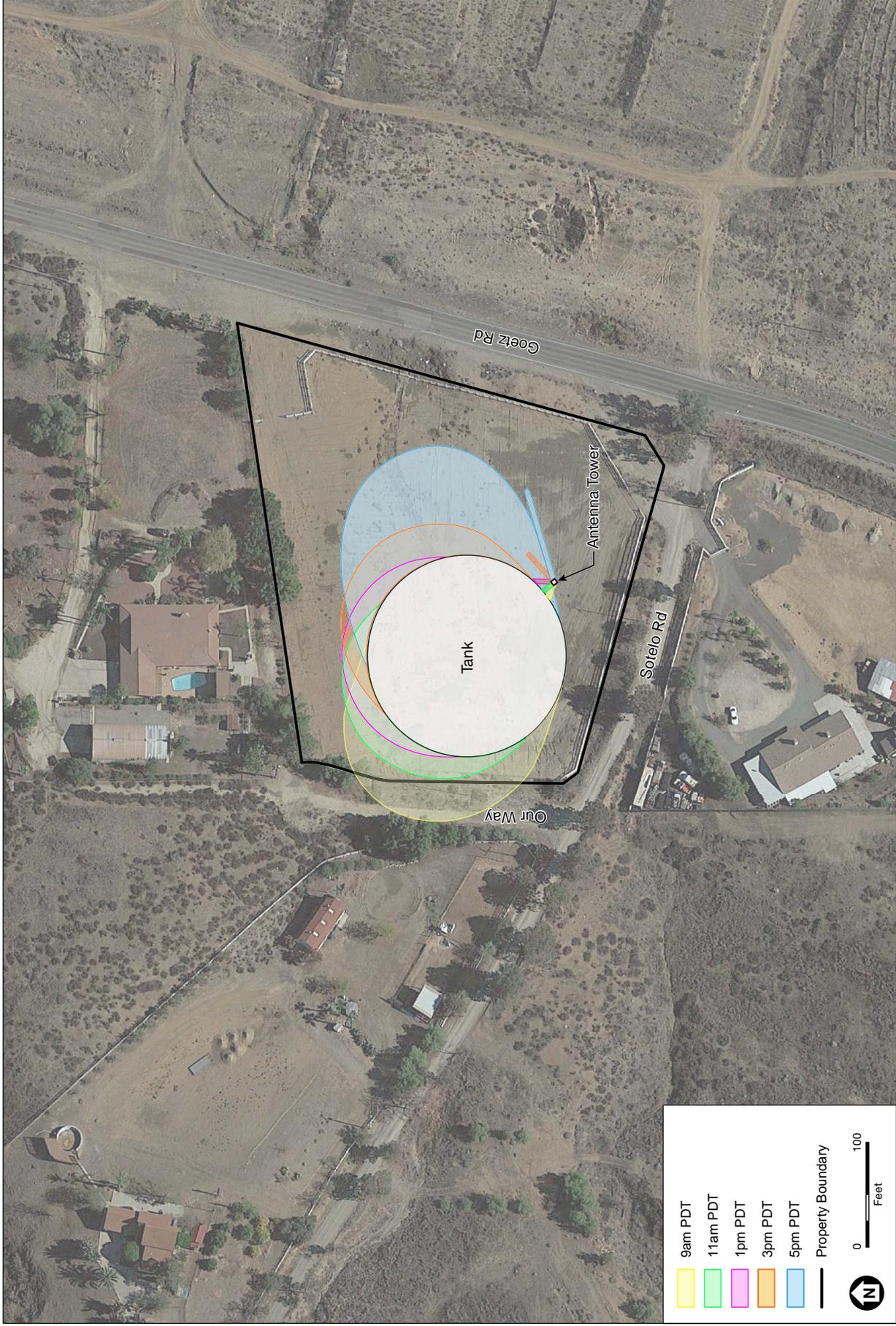
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SOURCE: ESA, 2019; Basemap Google Earth, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-10
Summer Solstice (June 21) Shadows





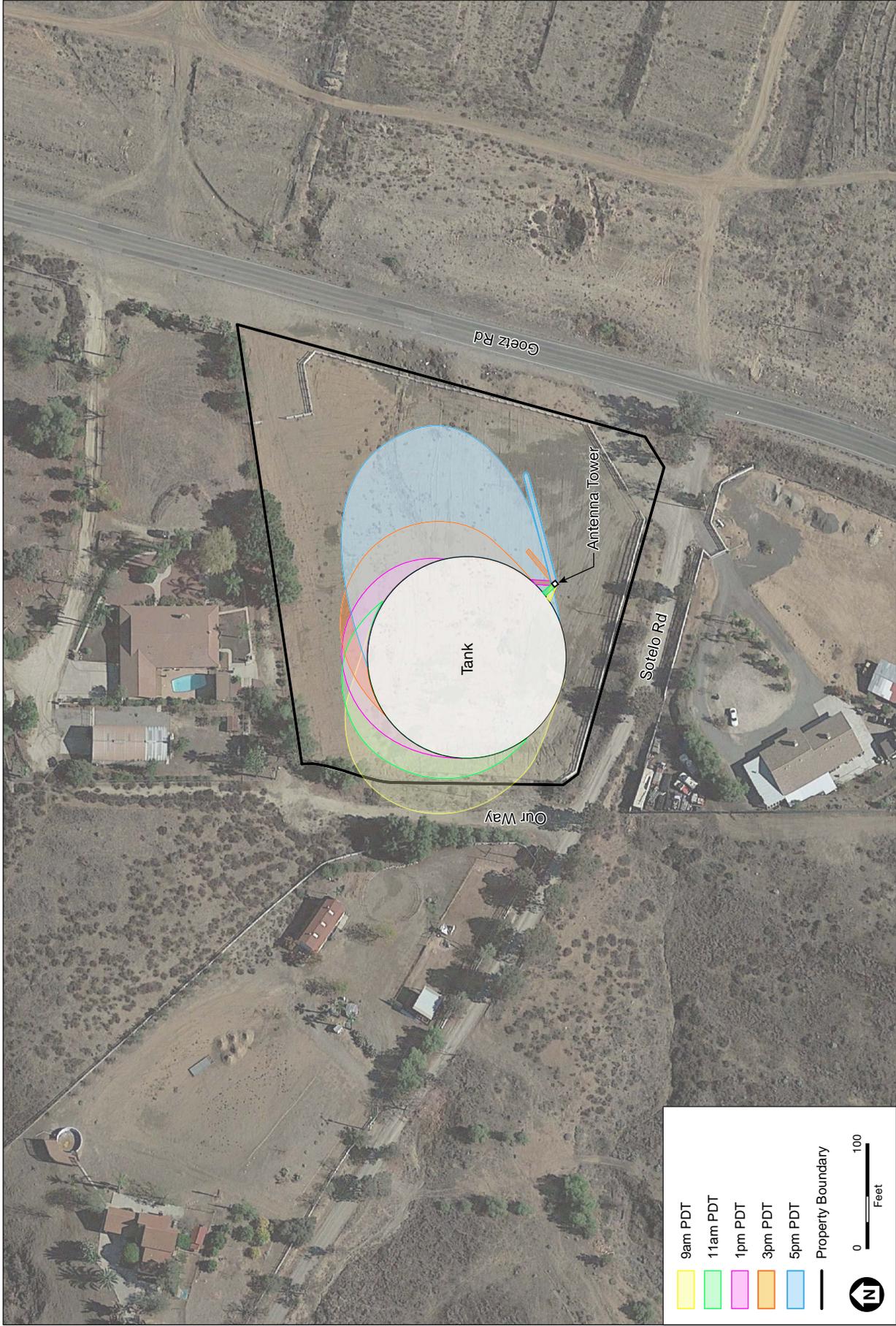
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SOURCE: ESA, 2019; Basemap Google Earth, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-11
Spring Equinox (March 20) Shadows





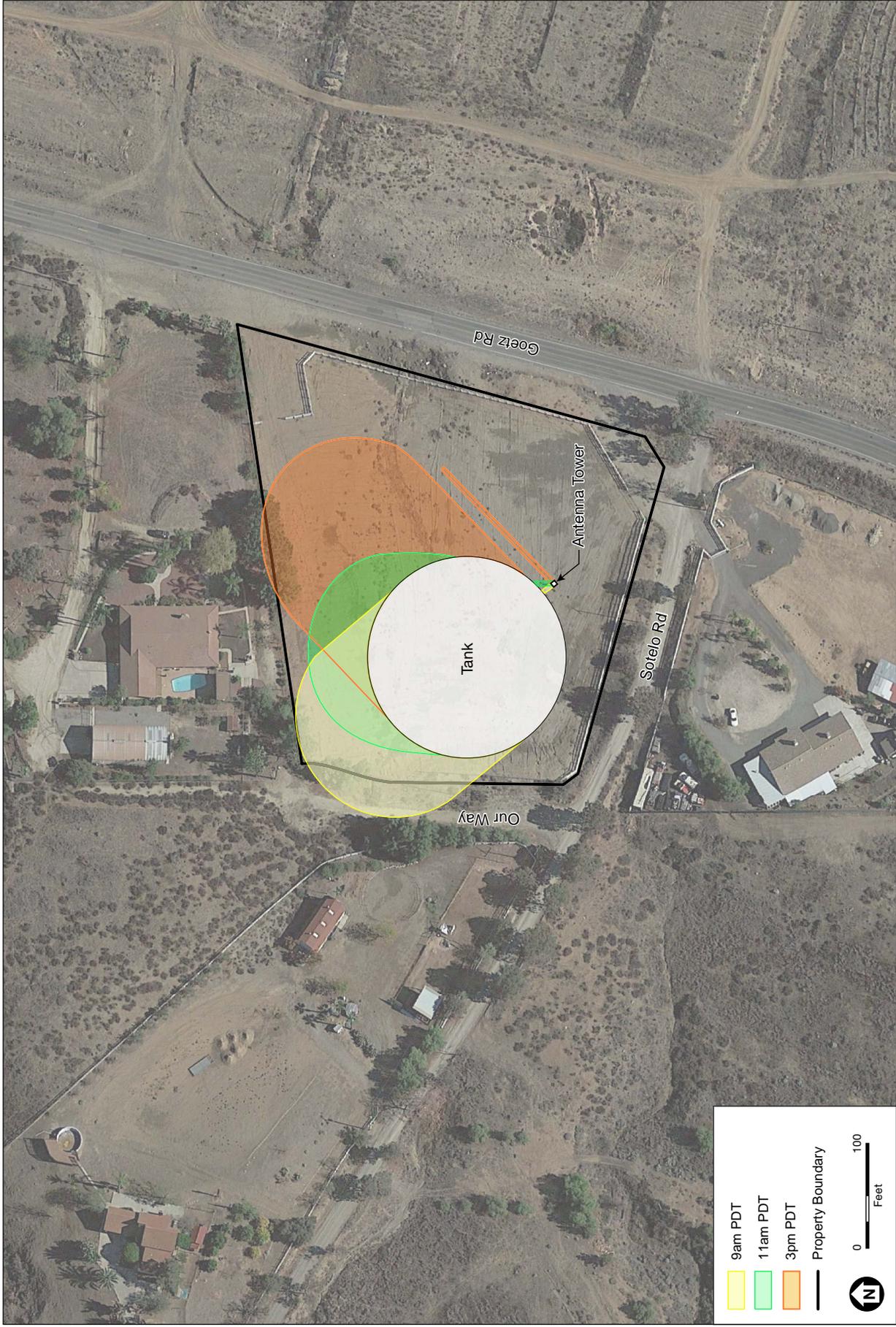
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SOURCE: ESA, 2019; Basemap Google Earth, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-12
Fall Equinox (September 23) Shadows





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SOURCE: ESA, 2019; Basemap Google Earth, 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.1-13
Winter Solstice (December 21) Shadows



Cumulative Impacts

Impact 3.1-5: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to aesthetics.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. The only cumulative project that could have impacts regarding aesthetics when combined with the Proposed Project, and that could result in cumulatively considerable impacts, is Cumulative Project 1, the Cimarron Ridge Development Project. All other projects are located too far away to result in cumulatively considerable impacts. The construction of the Cimarron Ridge Development Project to the east of Goetz Road is anticipated to begin construction in 2020. The 240+/- acre site will be home to approximately 756 residential units when fully built out. The development of the subdivision will transform the area from a currently rural character to more of a suburban residential character.

Construction

Construction equipment associated with the Cimarron Ridge Development Project would be similar to the equipment onsite at the Proposed Project sites, however the construction duration would be longer given the 756 homes that would be built. Construction equipment would not permanently affect a City-designated scenic vista or the visual character and/or quality of the area. The short-term and temporary presence of construction equipment and materials, impacts to scenic vistas and visual quality and character would be less than significant, and would not combine together with impacts of the Proposed Project to result in cumulatively considerable impacts.

Operation

While the introduction of 756 new homes to the area would significantly alter the visual character and quality of the area based, residential development has been envisioned in this location by the City of Menifee, and therefore a comparison of aesthetic impacts is based on the intended land uses. The Cimarron Ridge Specific Plan EIR, which evaluated impacts of installation of the Cimarron Ridge Development Project, found that all aesthetic impacts would be less than significant without the need for mitigation measures (Albert A. Webb Associates 2015, page 4-1). This includes impacts to scenic vistas, visual character, light and glare and shade and shadow. As a result, the cumulative scenario is less than significant.

The effects of the Proposed Project would represent a permanent incremental change that would alter the composition and character of existing landscape views of the foothills within southern Perris and visible to the Menifee Valley. Mitigation Measures AES-1 through AES-4 would include a landscape plan, lighting requirements, and design parameters to reduce the Project's contribution to significant cumulative aesthetic impacts to a less than significant level. When considered in addition to the Cimarron Ridge Development Project's less than significant aesthetic impact, the Project's incremental contribution to aesthetic impacts would not be cumulatively considerable.

Mitigation Measures

Implement Mitigation Measures AES-1 through AES-4

Significance Determination

Less than Significant with Mitigation

3.1.4 References

Albert A. Webb Associates, 2015. Final Environmental Impact Report Cimarron Ridge Specific Plan #2013-247.

City of Menifee, 2013. City of Menifee General Plan, Environmental Impact Report, Aesthetics. Available online at: <https://cityofmenifee.us/262/Draft-Environmental-Impact-Report>, accessed November 2019.

City of Perris, 2005. Environmental Impact Report, City of Perris General Plan, 2030. Available online at: http://www.cityofperris.org/city-hall/general-plan/General_Plan_2030.pdf, accessed November 2019.

City of Perris, 2008. General Plan Circulation Element, City of Perris General Plan, 2030. City Council Adoption June 14, 2005; City Council Amendment August 26, 2008. Available online at: http://www.cityofperris.org/city-hall/general-plan/Circulation_Element.pdf, accessed February 12, 2020.

City of Perris, 2014. City of Perris Speed Study Traffic Conditions Form for 2014. Counts taken on August 18, 2014.

County of Riverside, 2015. General Plan, Multipurpose Open Space Element. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833, accessed November 2019.

3.2 Air Quality

This section evaluates the potential for impacts related to air emissions generated by construction and operation of the Proposed Project. This section includes: a description of the existing air quality conditions regionally and in and around the Proposed Project site; a summary of applicable regulations related to air quality; and an evaluation of the potential impacts of the Proposed Project related to air quality in and around the Project site, including cumulative impacts. The analysis also addresses consistency of the project with air quality policies set forth within the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP), the County of Riverside, and the cities of Perris and Menifee. The analysis of project-generated air emissions focuses on whether the project would cause an exceedance of an ambient air quality standard or a SCAQMD significance threshold. Details regarding the air quality assumptions and calculations are provided in **Appendix AQ/GHG/Energy** of this Draft EIR.

3.2.1 Environmental Setting

Regional Climate and Meteorological Conditions

The Proposed Project site is located in Riverside County, within the cities of Perris and Menifee, and lies within the South Coast Air Basin (Air Basin). The Air Basin is an approximately 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. The Air Basin consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Air Basin, as it is a coastal plain with connecting broad valleys and low hills.

The Air Basin lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean. The usually mild climatological pattern is interrupted by periods of hot weather, winter storms, or Santa Ana winds. The extent and severity of criteria pollutant concentrations in the Air Basin is a function of the area's natural physical characteristics (weather and topography) and man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Air Basin, making it an area of high pollution potential. The Air Basin's meteorological conditions, in combination with regional topography, are particularly conducive to the formation and retention of ozone (O₃), which is a secondary pollutant that forms through photochemical reactions in the atmosphere. Thus, the greatest air pollution impacts throughout the Air Basin typically occur from June through September. This condition is generally attributed to the emissions occurring in the Air Basin, light winds, and shallow vertical atmospheric mixing. These factors reduce the potential for pollutant dispersion causing elevated air pollutant levels. Pollutant concentrations in the Air Basin vary with location, season, and time of day. Concentrations of ozone, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert (SCAQMD 2012).

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in air quality. The following pollutants are regulated by the United States Environmental Protection Agency (USEPA) and are subject to emissions control requirements adopted by Federal, State and local regulatory agencies. These pollutants are referred to as “criteria air pollutants” as a result of the specific standards, or criteria, which have been adopted for them based on scientific information regarding their effects on health and welfare and their prevalence in the environment. The National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for each of the monitored pollutants and their effects on health are summarized in **Table 3.2-1**. The NAAQS and CAAQS have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. A brief description of the health effects of these criteria air pollutants are provided below.

**TABLE 3.2-1
 AMBIENT AIR QUALITY STANDARDS**

Pollutant	Average Time	California Standards ^a		National Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
O ₃ ^h	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
NO ₂ ⁱ	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemi- luminescence	100 ppb (188 µg/m ³)	None	Gas Phase Chemi- luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		53 ppb (100 µg/m ³)	Same as Primary Standard	
CO	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m ³)		9 ppm (10 mg/m ³)		
SO ₂ ^j	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometr y (Pararosaniline Method) ⁹
	3 Hour	—		—	0.5 ppm (1,300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ^j	—	

Pollutant	Average Time	California Standards ^a		National Standards ^b		
		Concentration ^c	Method ^d	Primary ^{e,e}	Secondary ^{e,f}	Method ^g
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ⁱ	—	
PM10 ^k	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
PM2.5 ^k	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ^{3 k}	15 µg/m ³	
Lead ^{l,m}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ^m		
	Rolling 3-Month Average ⁿ	--		0.15 µg/m ³		
Visibility Reducing Particles ⁿ	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates (SO ₄)	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ^l	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

- a California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- b National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms/per cubic meter (µg/m³) is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
- c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon 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 Any equivalent procedure which can be shown to the satisfaction of the California Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.
- e National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- f National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- g Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.
- h On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

Pollutant	Average Time	California Standards ^a		National Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
i		To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb.				
j		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 1-hour national 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 one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.				
k		On December 14, 2012, the national annual PM _{2.5} primary standard was lowered from 15 µg/m ³ to 12.0 µg/m ³ .				
l		The California Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.				
m		The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m ³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.				
n		In 1989, the California Air Resources Board converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.				
SOURCE: CARB 2016a.						

Criteria Air Pollutants

The California Air Resources Board (CARB) and the USEPA focus on the following criteria air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM₁₀), fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less (PM_{2.5}), and lead. Standards have been established for each criteria pollutant to meet specific public health and welfare criteria set forth in the federal Clean Air Act (CAA). California has adopted more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard.

Ozone

Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in the presence of sunlight under favorable meteorological conditions, such as high temperature and stagnation episodes. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. According to the USEPA, ozone can cause the muscles in the airways to constrict, and can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have disappeared; and cause chronic obstructive pulmonary disease (USEPA 2018a). Long-term exposure to ozone is linked to aggravation of asthma, and is likely to be one of many causes of asthma development and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children (USEPA 2018a). According to CARB, inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and

worsening a variety of symptoms and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath (CARB 2018). The USEPA states that people most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers (USEPA 2018a). Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure (USEPA 2018a).

Carbon Monoxide

CO is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel, such as natural gas, gasoline, or wood, with the majority of outdoor CO emissions from mobile sources (CARB 2019a). According to the USEPA, breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain and at very high levels, which are possible indoors or in other enclosed environments, CO can cause dizziness, confusion, unconsciousness, and death (USEPA 2016a). Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, it can be of particular concern for people with some types of heart disease when exercising or under increased stress (USEPA 2016a). In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (USEPA 2016a).

According to CARB, the most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain (CARB 2019a). 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 2019a).

Nitrogen Dioxide

NO_x is a term that refers to a group of compounds containing nitrogen and oxygen. The primary compounds of air quality concern include NO₂ and nitric oxide (NO). Major sources of NO_x include emissions from cars, trucks and buses, power plants, and off-road equipment (USEPA 2016b). The terms NO_x and NO₂ are sometimes used interchangeably. However, the term NO_x is typically used when discussing emissions, usually from combustion-related activities, and the term NO₂ is typically used when discussing ambient air quality standards.

According to the USEPA, short-term exposures to NO₂ can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms while longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections (USEPA 2016b). In addition, a number of epidemiological studies have demonstrated associations between NO₂ exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses (CARB 2019b). Infants and children are particularly at risk from exposure to NO₂ because they have

disproportionately higher exposure to NO₂ than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2019b).

CARB states that much of the information on distribution in air, human exposure and dose, and health effects is specifically for NO₂ and there is only limited information for NO and NO_x, as well as large uncertainty in relating health effects to NO or NO_x exposure (CARB 2019b).

Sulfur Dioxide

According to the USEPA, the largest source of SO₂ emissions in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities while smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content (USEPA 2018b). In 2006, California phased-in the ultra-low-sulfur diesel regulation limiting vehicle diesel fuel to a sulfur content not exceeding 15 ppm, down from the previous requirement of 500 parts per million, substantially reducing emissions of sulfur from diesel combustion (CARB 2004). According to the USEPA, short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult (USEPA 2018b). According to CARB, health effects at levels near the State 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 and exposure at elevated levels of SO₂ (above 1 ppm) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality (CARB 2019c). Children, the elderly, and those with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most likely to experience the adverse effects of SO₂ (CARB 2019c; USEPA 2018b).

Particulate Matter

Particulate matter air pollution is a mixture of solid particles and liquid droplets found in the air (USEPA 2018c). Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye while other particles are so small they can only be detected using an electron microscope (USEPA 2018c). Particles are defined by their diameter for air quality regulatory purposes: inhalable particles with diameters that are generally 10 micrometers and smaller (PM₁₀); and fine inhalable particles with diameters that are generally 2.5 micrometers and smaller (PM_{2.5}) (USEPA 2018c). Thus, PM_{2.5} comprises a portion or a subset of PM₁₀. Sources of PM₁₀ emissions include dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, and wind-blown dust from open lands (CARB 2017a). Sources of PM_{2.5} emissions include combustion of gasoline, oil, diesel fuel, or wood (CARB, 2017a). PM₁₀ and PM_{2.5} may be either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO₂, NO_x, and certain organic compounds (CARB 2017a).

According to CARB, both PM10 and PM2.5 can be inhaled, with some depositing throughout the airways; PM10 is more likely to deposit on the surfaces of the larger airways of the upper region of the lung while PM2.5 is more likely to travel into and deposit on the surface of the deeper parts of the lung, which can induce tissue damage, and lung inflammation (CARB 2017a). Short-term (up to 24 hours duration) exposure to PM10 has been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2017a).

The effects of long-term (months or years) exposure to PM10 are less clear, although studies suggest a link between long-term PM10 exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2017a). Short-term exposure to PM2.5 has 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. Long-term exposure to PM2.5 has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children (CARB 2017a). According to CARB, populations most likely to experience adverse health effects with exposure to PM10 and PM2.5 include older adults with chronic heart or lung disease, children, and asthmatics. Children and infants are more susceptible to harm from inhaling pollutants such as PM10 and PM2.5 compared to healthy adults because they inhale more air per pound of body weight than do adults, spend more time outdoors, and have developing immune systems (CARB 2017a).

Lead

Major sources of lead emissions include ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers (USEPA 2017a). In the past, leaded gasoline was a major source of lead emissions; however, the removal of lead from gasoline has resulted in a decrease of lead in the air by 98 percent between 1980 and 2014 (USEPA 2017a). Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system, and affects the oxygen carrying capacity of blood (USEPA 2017a). The lead effects most commonly encountered in current populations are neurological effects in children, such as behavioral problems and reduced intelligence, anemia, and liver or kidney damage (CARB 2019d). Excessive lead exposure in adults can cause reproductive problems in men and women, high blood pressure, kidney disease, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain (CARB 2019d).

Non-Criteria Air Pollutants

Toxic Air Contaminants

Toxic air contaminants (TACs) are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical, its toxicity, how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust, and may exist as PM10 and PM2.5 or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

The public's exposure to TACs is a significant public health issue in California. The Air Toxics "Hotspots" Information and Assessment Act is a State law requiring facilities to report emissions of TACs to air districts. The program is designated to quantify the amounts of potentially hazardous air pollutants released, the location of the release, the concentrations to which the public is exposed, and the resulting health risks. The State Air Toxics Program (Assembly Bill 2588) identified over 200 TACs, including the 188 TACs identified in the CAA. The USEPA has assessed this expansive list of toxics and identified 21 TACs as Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. USEPA also extracted a subset of these 21 MSAT compounds that it now labels as the six priority MSATs: benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, and 1,3-butadiene. While these six MSATs are considered the priority transportation toxics, USEPA stresses that the lists are subject to change and may be adjusted in future rules.

Diesel Particulate Matter

According to the 2006 California Almanac of Emissions and Air Quality, the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from the exhaust of diesel-fueled engines, i.e., diesel particulate matter (DPM). DPM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances.

Diesel exhaust is composed of two phases, gas and particle, and both phases contribute to the health risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultra-fine diesel particulates are of the greatest health concern, and may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines; the on road diesel engines of trucks, buses and cars and the off-road diesel engines that include locomotives, marine vessels and heavy duty equipment. Although DPM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

The most common exposure to DPM is breathing the air that contains diesel exhaust. The fine and ultra-fine particles are respirable (similar to PM_{2.5}), which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. Exposure to DPM comes from both on-road and off-road engine exhaust that is either directly emitted from the engines or lingering in the atmosphere.

Diesel exhaust causes health effects from both short-term or acute exposures, and long-term chronic exposures. The type and severity of health effects depends upon several factors including the amount of chemical exposure and the duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to just DPM but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

Volatile Organic Compounds

VOCs are organic chemical compounds of carbon and are not “criteria” pollutants themselves; however, they contribute with NO_x to form ozone, and are regulated to prevent the formation of ozone (USEPA 2017b). According to CARB, some VOCs are highly reactive and play a critical role in the formation of ozone, other VOCs have adverse health effects, and in some cases, VOCs can be both highly reactive and have adverse health effects. VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.).

Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person’s reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headaches). Offensive odors are unpleasant and can lead to public distress, generating citizen complaints to local governments. Although unpleasant, offensive odors rarely cause physical harm. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source, wind speed, direction, and the sensitivity of receptors.

Existing Pollutant Levels

Criteria Air Pollutants

SCAQMD maintains monitoring stations within district boundaries that monitor air quality and compliance with associated ambient standards. The Proposed Project site is located in the Perris Valley Subregion. Currently, the only monitoring station located in the Perris Valley area is the Perris monitoring station located at 237 1/2 North D Street, which is approximately 4.5 miles north of the Proposed Project site. Air quality in the Proposed Project area can be characterized by ambient air quality data collected at this station. The station monitors ambient concentrations of ozone and PM₁₀, but does not monitor CO, NO₂, SO₂, or PM_{2.5}. The nearest monitoring station that monitors ambient concentrations of CO and NO₂ is the Lake Elsinore monitoring station located at 506 W Flint Street in Lake Elsinore, which is approximately 7 miles southwest of the Proposed Project site. The nearest monitoring station that monitors ambient concentrations of lead, SO₂ and PM_{2.5} is the Metropolitan Riverside County 1 (Rubidoux) station located at 5888 Mission Blvd in Riverside, which is approximately 22 miles northwest of the Proposed Project site. The pollutant concentration data at these monitoring stations from 2016 to 2018 are summarized in **Table 3.2-2**.

**TABLE 3.2-2
AIR QUALITY DATA SUMMARY (2016–2018)**

Pollutant	Monitoring Data by Year			
	Standard ^a	2016	2017	2018
Ozone – Perris Monitoring Station				
Highest 1 Hour Average (ppm)		0.131	0.120	0.117
Days over State Standard	0.09 ppm	23	33	31
Highest 8 Hour Average (ppm)		0.098	0.105	0.103
Days over National Standard	0.070 ppm	55	80	67
Days over State Standard	0.070 ppm	56	80	67
Carbon Monoxide – Lake Elsinore Monitoring Station				
Highest 1 Hour Average (ppm)		1.2	1.2	1.1
Days over National Standard	35 ppm	0	0	0
Days over State Standard	20 ppm	0	0	0
Highest 8 Hour Average (ppm)		0.6	0.8	0.8
Days over National Standard	9.0 ppm	0	0	0
Days over State Standard	9.0 ppm	0	0	0
Nitrogen Dioxide – Lake Elsinore Monitoring Station				
Highest 1 Hour Average (ppm)		0.051	0.049	0.041
Days over National Standard	0.10 ppm	0	0	0
Days over State Standard	0.18 ppm	0	0	0
Annual Average (ppm)		0.008	0.008	0.009
Days over National Standard	0.053 ppm	0	0	0
Days over State Standard	0.03 ppm	0	0	0
Sulfur Dioxide – Rubidoux Monitoring Station				
Highest 1-hour Average (ppm)		0.07	0.03	0.02
Days over National Standard	0.075 ppm	0	0	0
Days over State Standard	0.25 ppm	0	0	0
Particulate Matter (PM10) – Perris Monitoring Station				
Highest 24 Hour Average ($\mu\text{g}/\text{m}^3$) ^b		76	75	64
Days over National Standard (measured)	150 $\mu\text{g}/\text{m}^3$	0	0	0
Days over State Standard (measured)	50 $\mu\text{g}/\text{m}^3$	5	11	2
Annual Average ($\mu\text{g}/\text{m}^3$)	20 $\mu\text{g}/\text{m}^3$	32.2	32.2	29.7
Particulate Matter (PM2.5) – Rubidoux Monitoring Station				
Highest 24 Hour Average ($\mu\text{g}/\text{m}^3$) ^c		39.12	50.30	50.70
Days over National Standard (measured)	35 $\mu\text{g}/\text{m}^3$	4	6	2
Annual Average ($\mu\text{g}/\text{m}^3$)	12 $\mu\text{g}/\text{m}^3$	12.54	12.18	12.41

Pollutant	Monitoring Data by Year		
	Standard ^a	2016	2017

ppm = parts per million; µg/m³ = micrograms per cubic meter.
 – = No data available.
 * = Insufficient data available to determine value.
 a Generally, state standards and national standards are not to be exceeded more than once per year.
 b Concentrations and averages represent federal statistics. State and federal statistics may differ because of different sampling methods.
 c Concentrations and averages represent state statistics. State and federal statistics may differ because of different sampling methods.

SOURCE: SCAQMD 2015b, 2016a, 2017.

Both CARB and USEPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment.

The Air Basin is currently classified as a federal nonattainment area for ozone (extreme) and PM_{2.5}, and a federal attainment area for CO, NO₂, SO₂, and PM₁₀ (USEPA 2020). The Air Basin is classified as a state nonattainment area for ozone (extreme), PM₁₀, and PM_{2.5}, and an attainment area for CO, NO₂, and SO₂ (CARB 2017b). While the Los Angeles County portion of the Air Basin is classified as both a federal and state nonattainment area for lead based on air quality data measured near a large lead-acid battery recycling facility, the Riverside County portion of the Air Basin is classified as a federal unclassifiable/attainment area and state attainment area for lead. The Proposed Project, which involves the construction and operation of an 8-million-gallon storage tank and appurtenant facilities and a 5,490-foot pipeline, would not include any uses or facilities that involve emissions of lead. **Table 3.2-3** provides a summary of the attainment status of the Riverside County portion of the Air Basin with respect to the State and Federal standards.

**TABLE 3.2-3
 SOUTH COAST AIR BASIN ATTAINMENT STATUS**

Pollutant	Attainment Status	
	California Standards	Federal Standards
Ozone	Extreme Nonattainment	Extreme Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
PM ₁₀	Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment
Lead	Attainment	Attainment

Pollutant	Attainment Status	
	California Standards	Federal Standards
Visibility Reducing Particles	Unclassified	N/A
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Vinyl Chloride	N/A ^a	N/A

N/A = Not applicable

^a In 1990 the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

Source: CARB 2017b, USEPA 2020

Toxic Air Contaminants

To date, the most comprehensive study on air toxics in the Air Basin is the Multiple Air Toxics Exposure Study (MATES-IV), conducted by the SCAQMD. The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-IV found that the average background cancer risk from carcinogenic air pollutants is approximately 428 in 1 million at the Project site and ranges from 428 to 465 in 1 million along the length of the pipeline alignment (SCAQMD 2015a), compared to an average Air Basin-wide risk of approximately 1,023 in 1 million. Approximately 90 percent of the risk is from DPM. The risk levels determined in the MATES-IV is approximately 65 percent lower than the risk levels in the previous MATES-III study, with DPM showing a reduction of approximately 70 percent (SCAQMD 2015a). The reductions were attributed to air quality control regulations and improved emission control technologies.

Sensitive Land Uses

Land uses such as schools, children’s daycare centers, hospitals, and convalescent homes are considered to be more sensitive to poor air quality than the general public because the population groups associated with these uses have increased susceptibility to respiratory distress. In addition, residential uses are considered more sensitive to air quality conditions than commercial and industrial uses because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation.

Sensitive receptors in the Proposed Project vicinity include residential properties within the City of Perris and residential neighborhoods within the City of Menifee. Existing single family residences are located directly to the north and south of the proposed pipeline along Thornton Avenue. Existing single family properties are also located directly to the north, northwest and south of the proposed potable water storage tank site. The nearest sensitive receptors are adjacent

to the pipeline alignments that traverse the residential developments along Thornton Avenue and McLaughlin Road. There is also a park, Sun Ranch Community Park, located adjacent to the proposed transmission pipeline route on Thornton Avenue. No other sensitive uses are within 1,000 feet of the tank site or pipeline route.

3.2.2 Regulatory Framework

A number of statutes, regulations, plans, and policies have been adopted that address air quality issues. The Proposed Project is subject to air quality regulations developed and implemented at the Federal, State, and local levels. This section provides a summary of pertinent air quality regulations affecting the Proposed Project at the Federal, State, and local levels.

Federal

The 1963 CAA was the first Federal legislation regarding air pollution control and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990. At the Federal level, USEPA is responsible for implementation of certain portions of the CAA including mobile source requirements. Other portions of the CAA, such as stationary source requirements, are implemented by State and local agencies.

The CAA establishes Federal air quality standards and specifies future dates for achieving compliance. The CAA also mandates that the State submit and implement a State Implementation Plan (SIP) for areas not meeting these standards. SIPs must include pollution control measures that demonstrate how the NAAQS will be met. The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA that are most applicable to the Proposed Project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).

Title I requirements are implemented for the purpose of attaining NAAQS for the following criteria pollutants: O₃; NO₂; CO; SO₂; PM₁₀; and lead. The NAAQS were amended in July 1997 to include an 8-hour standard for O₃ and to adopt a NAAQS for PM_{2.5}. The NAAQS were also amended in September 2006 to include an established methodology for calculating PM_{2.5} as well as revoking the annual PM₁₀ threshold.

Table 3.2-1 shows the NAAQS currently in effect for each criteria pollutant. The Air Basin is an area designated as nonattainment as it does not currently meet NAAQS for certain pollutants regulated under the CAA. On June 11, 2007, USEPA reclassified the Air Basin as a Federal “attainment” area for CO and approved the CO maintenance plan for the Air Basin (USEPA 2007). The Air Basin previously exceeded the NAAQS for PM₁₀, but as of July 26, 2013 has effectively met the NAAQS for this pollutant (USEPA 2013). The Air Basin does not meet the NAAQS for O₃ and PM_{2.5}, and is classified as nonattainment for these pollutants. In addition to criteria pollutants, Title I also includes air toxics provisions which require the USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112, the USEPA establishes

National Emission Standards for Hazardous Air Pollutants (NESHAPs). The list of hazardous air pollutants (HAPs), or air toxics, includes specific compounds that are known or suspected to cause cancer or other serious health effects.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have strengthened in recent years to improve air quality. For example, the standards for NO_x emissions have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

State

California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the State to achieve and maintain the CAAQS by the earliest practical date. The CAAQS apply to the same criteria pollutants as the CAA but also include State-identified criteria pollutants, which include sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. CARB has primary responsibility for ensuring the implementation of the CCAA,¹ responding to the CAA planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state. Table 3.2-1 shows the CAAQS currently in effect for each of the criteria pollutants as well as the other pollutants recognized by the state. As shown in Table 3.2-1, the CAAQS include more stringent standards than the NAAQS for most of the criteria air pollutants. Currently CO, NO₂, SO₂, and PM₁₀ are in attainment for NAAQS. However, PM₁₀ is designated at nonattainment for CAAQS. Ozone and PM_{2.5} are designated as nonattainment for NAAQS and CAAQS. Lead is designated as attainment for CAAQS. However, all other ambient air monitoring stations beyond these facilities have levels lower than the 2008 standard.

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. Table 3.2-3 provides a summary of the attainment status of the Riverside County portion of the Air Basin with respect to the State standards. The Air Basin is designated as attainment for the California standards for sulfates and unclassified for hydrogen sulfide and visibility-reducing particles. Because vinyl chloride is a carcinogenic toxic air contaminant, CARB does not classify attainment status for this pollutant.

California Air Resources Board On-Road and Off-Road Vehicle Rules

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are

¹ Chapter 1568 of the Statutes of 1988.

registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In 2008 CARB approved the Truck and Bus regulation to reduce NO_x, PM₁₀, and PM_{2.5} emissions from existing diesel vehicles operating in California. The requirements were amended in December 2010 and apply to nearly all diesel fueled trucks and busses with a gross vehicle weight rating greater than 14,000 pounds. For the largest trucks in the fleet, i.e., those with a gross vehicle weight rating greater than 26,000 pounds, there are two methods to comply with the requirements. The first method is for the fleet owner to retrofit or replace engines, starting with the oldest engine model year, to meet 2010 engine standards, or better. This is phased over eight years, starting in 2015 and would be fully implemented by 2023, meaning that all trucks operating in the State subject to this option would meet or exceed the 2010 engine emission standards for NO_x and PM by 2023. The second option, if chosen, requires fleet owners, starting in 2012, to retrofit a portion of their fleet with diesel particulate filters achieving at least 85 percent removal efficiency, so that by January 1, 2016 their entire fleet was required to be equipped with diesel particulate filters. However, diesel particulate filters do not typically lower NO_x emissions. Thus, fleet owners choosing the second method must still comply with the 2010 engine emission standards for their trucks and busses by 2020.

In addition to limiting exhaust from idling trucks, CARB promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models. Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with the largest fleets required to begin compliance by January 1, 2014. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the BACT requirements by turning over or installing Verified Diesel Emission Control Strategies (e.g., engine retrofits) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turn overs or retrofits be fully implemented by 2023 in all equipment in large and medium fleets and across 100 percent of small fleets by 2028.

Regional

South Coast Air Quality Management District

The SCAQMD has jurisdiction over air quality planning for all of Orange County, Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Air Basin is a subregion within SCAQMD jurisdiction. While air quality in the Air Basin has improved, the Air Basin requires continued diligence to meet the air quality standards.

Air Quality Management Plan

The SCAQMD has adopted a series of AQMPs to meet the CAAQS and NAAQS. In December 2012, the SCAQMD adopted the 2012 Air Quality Management Plan, which incorporates scientific and technological information and planning assumptions, including growth projections (SCAQMD 2012). The 2012 AQMP incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, and on-road and off-road mobile sources. The 2012 AQMP builds upon improvements in previous plans, and includes new and changing Federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. In addition, it highlights the significant amount of emission reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all Federal criteria pollutant standards within the timeframes allowed under the Federal Clean Air Act.

The key undertaking of the 2012 AQMP is to bring the Air Basin into attainment with the NAAQS for the 24-hour PM_{2.5} standard. It also intensifies the scope and pace of continued air quality improvement efforts toward meeting the 2024 8-hour ozone standard deadline with new measures designed to reduce reliance on the Federal CAA Section 182(e)(5) long-term measures for NO_x and VOC reductions. The SCAQMD expects exposure reductions to be achieved through implementation of new and advanced control technologies as well as improvement of existing technologies.

The SCAQMD Governing Board adopted the 2016 AQMP on March 3, 2017 (SCAQMD 2016). CARB approved the 2016 AQMP on March 23, 2017. Key elements of the 2016 AQMP include implementing fair-share emissions reductions strategies at the Federal, state, and local levels; establishing partnerships, funding, and incentives to accelerate deployment of zero and near-zero-emissions technologies; and taking credit from co-benefits from greenhouse gas, energy, transportation and other planning efforts (SCAQMD 2016). The strategies included in the 2016 AQMP are intended to demonstrate attainment of the NAAQS for the Federal nonattainment pollutants ozone and PM_{2.5}. While the 2016 AQMP was adopted by the SCAQMD and CARB, it has not yet received USEPA approval for inclusion in the SIP. Therefore, until such time as the 2016 AQMP is approved by the USEPA, the 2012 AQMP remains the applicable AQMP.

SCAQMD Rules and Regulations

Several SCAQMD rules adopted to implement portions of the AQMP may apply to the Proposed Project. For example, SCAQMD Rule 403 requires implementation of best available fugitive dust control measures during active construction periods capable of generating fugitive dust emissions from earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads. The Proposed Project may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which may apply to the project:

- Rule 401 – Visible Emissions: This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view.
- Rule 402 – Nuisance: This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- Rule 403 – Fugitive Dust: This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM10 emissions to less than 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities. Finally, a contingency plan may be required if so determined by the USEPA.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for different specific sources. The following is a list of rules which may apply to the Proposed Project:

- Rule 1186 – PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations: This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM10 emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).²

Regulation XIV – Toxics and Other Non-Criteria Pollutants: Regulation XIV sets requirements for new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants or other non-criteria pollutants. The following is a list of rules which may apply to the project:

- Rule 1470 - Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines: This rule was implemented to control particulate matter emissions in accordance with CARB's Air Toxics Control Measures for Stationary Compression Ignition Engines. For diesel engines greater than 50 horsepower, the rule requires owners or operators to comply with requirements for fuel use, operating parameters, emissions standards, and reporting requirements.

Southern California Association of Governments (SCAG)

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated

² SCAQMD 1186 provides an exemption for public services that are in compliance with District Rule 403, therefore Rule 1186 would not apply to the project as long as it is in compliance with District Rule 403.

Metropolitan Planning Organization for the majority of the Southern California region and is the largest Metropolitan Planning Organization in the nation. With regard to air quality planning, SCAG adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy in April 2016, which addresses regional development and growth forecasts and forms the basis for the land use and transportation control portions of the AQMP. The growth forecasts are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. The Regional Transportation Plan/Sustainable Communities Strategy and AQMP are based on projections originating within local jurisdictions.

SCAG's Sustainable Communities Strategy provides specific strategies for successful implementation. These strategies include supporting projects that encourage diverse job opportunities for a variety of skills and education, recreation and culture and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles.

Local

City of Perris General Plan

The Conservation Element of the City of Perris General Plan contains goals, policies, and implementation measures related to creating a sustainable community, which extends to air quality in the City. Air quality goals, policies, and implementation measures in the General Plan that are relevant to the Proposed Project include:

- Policy VIII.B** Adopt and maintain development regulations that encourage recycling and reduced waste generation by construction projects.
- Measure VII.B.1** Initiate and maintain incentive programs to encourage and reward developments that employ energy and resource conservation and green building practices similar to the City's current recycling program.
- Measure VIII.B.6** Include text within all demolition permits that encourages recycling of demolition and construction waste within new and refurbished commercial and industrial development projects.
- Policy VIII.C** Adopt and maintain development regulations which encourage increased energy efficiency in buildings, and the design of durable buildings that are efficient and economical to own and operate. Encourage green building development by establishing density bonuses, expedited permitting, and possible tax deduction incentives to be made available for developers who meet LEED building standards for new and refurbished developments (U.S. Green Building Council's Leadership in Energy and Environmental Design green building programs).
- Measure VIII.C.1** Create a green building ordinance that promotes the use of green building technology and design.

Measure VIII.C.4 Review new development projects for compliance with the design guidelines contained within the Sustainable Community section through Conditions of Approval and a finding that the project conforms to the General Plan.

City of Menifee General Plan

The Open Space & Conservation Element of the City of Menifee General Plan contains goals and policies related to air quality in the city. Air quality goals, policies, and implementation measures in the General Plan that are relevant to the Proposed Project include:

- Goal OSC-9** Reduced impacts to air quality at the local level by minimizing pollution and particulate matter.
- Policy OCS-9.1** Meet state and federal clean air standards by minimizing particulate matter emissions from construction activities.
- Policy OCS-9.3** Comply with regional, state, and federal standards and programs for control of all airborne pollutants and noxious odors, regardless of source.
- Policy OCS-9.4** Support the Riverside County Regional Air Quality Task Force, the Southern California Association of Government’s Regional Transportation Plan/Sustainable Communities Strategy, and the South Coast Air Quality Management District’s Air Quality Management Plan to reduce air pollution at the regional level.
- Policy OSC-9.5** Comply with the mandatory requirements of Title 24 Part 1 of the California Building Standards Code (CALGreen) and Title 24 Part 6 Building and Energy Efficiency Standards.

3.2.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to air quality according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- 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.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
- Result in cumulatively considerable impacts to air quality.

Additionally, the analysis presented below takes into consideration the comments EMWD received on the Initial Study and Notice of Preparation. A summary of those comments is provided in **Table 3.2-4** below.

**TABLE 3.2-4
 SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Air Quality	<ul style="list-style-type: none"> • Use the most current version of CalEEMod for quantifying emissions • The analysis should analyze impacts to sensitive receptors, including rural residential uses.

In determining whether an effect is significant, State CEQA Guidelines (Section 15064.7) state that a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, provided that the decision to use such thresholds is supported by substantial evidence. Furthermore, with regard to air quality, Appendix G checklist’s air quality section preamble reads “*Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make ... determinations.*”

In a February 2018 CEQA Guidance document released by SCAQMD, the SCAQMD states that: “*Air districts’ thresholds provide a clear quantitative benchmark to determine the significance of project and project alternative air quality impacts. They also help identify the magnitude of the impacts, facilitate the identification of feasible mitigation measures, and evaluate the level of impacts before and after mitigation measures. Since one of the basic purposes of CEQA is to inform government decision makers and the public about the potential, significant environmental effects of any proposed activities (CEQA Guidelines § 15002(a)(1)), use of air district thresholds is a best practice for CEQA impact determinations.*” (SCAQMD 2018).

In compliance with State CEQA guidelines and SCAQMD guidance, EMWD, and cities of Perris and Menifee, use the SCAQMD’s established thresholds for evaluating air quality impacts of proposed projects and assessing the significance of quantifiable impacts as applicable under each Appendix G question. The potential air quality impacts of the Project are, therefore, evaluated in consideration of the thresholds adopted by SCAQMD in connection with its CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent SCAQMD guidance as discussed previously.³

Cumulatively Considerable Net Increase in Criteria Pollutants

Construction

Given that construction impacts are temporary and limited to the construction phase, SCAQMD has established numerical thresholds of significance for construction air pollutant emissions

³ The screening criteria for NO_x were developed based on the 1-hour NO₂ CAAQS of 0.18 ppm. However, since the publication of the SCAQMD’s guidance, the USEPA has promulgated a 1-hour NO₂ NAAQS of 0.100 ppm based on a 98th percentile value, which is more stringent than the CAAQS. In order to determine if Project emissions would result in an exceedance of the 1-hour NO₂ NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO₂ standard, as the SCAQMD significance threshold has not been updated to reflect this standard. Calculated by scaling the NO₂ LST for by the ratio of 1-hour NO₂ standards (federal/state) (i.e., 221 lb/day * (0.10/0.18) =123 lb/day).

specific to construction activity. The numerical thresholds are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health (SCAQMD 1993). Based on the thresholds in the SCAQMD CEQA Air Quality Handbook, the Proposed Project would potentially cause or contribute to an exceedance of an ambient air quality standard if the following would occur:

- Regional construction emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed daily emissions thresholds (SCAQMD 2015b):
 - 75 pounds per day for VOC
 - 100 pounds per day for NOX
 - 550 pounds per day for CO
 - 150 pounds per day for SO2
 - 150 pounds per day for PM10
 - 55 pounds per day for PM2.5

Operational

The SCAQMD has established numerical thresholds of significance for operation air pollutant emissions. The numerical significance thresholds are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health (SCAQMD 1993). The SCAQMD has established numeric thresholds of significance in part based on Section 182(e) of the Clean Air Act which identifies 10 tons per year of VOC as a significance level for stationary source emissions in extreme nonattainment areas for ozone (SCAQMD 1993). As shown in Table 3.2-3, the Air Basin is designated as extreme nonattainment for ozone. The SCAQMD converted this significance level to pounds per day for ozone precursor emissions (10 tons per year \times 2,000 pounds per ton \div 365 days per year = 55 pounds per day). The numeric thresholds for other pollutants are also based on federal stationary source significance levels. Based on the thresholds in the SCAQMD CEQA Air Quality Handbook, the Proposed Project would potentially cause or contribute to an exceedance of an ambient air quality standard if the following would occur:

- Operational emissions exceed any of the following SCAQMD prescribed daily regional numeric thresholds (SCAQMD 2015b):
 - 55 pounds a day for VOC
 - 55 pounds per day for NOX
 - 550 pounds per day for CO
 - 150 pounds per day for SOX
 - 150 pounds per day for PM10
 - 55 pounds per day for PM2.5

Sensitive Receptors

Localized Significance Thresholds (LSTs)

The SCAQMD published its Final Localized Significance Threshold (LST) Methodology and Final Methodology to Calculate PM10 and PM2.5 Significance Thresholds, recommending that all air quality analyses include a localized assessment of both construction and operational impacts of a project on nearby sensitive receptors (SCAQMD 2003; SCAQMD 2008). LSTs are only applicable to the following criteria pollutants: NO_x, CO, PM10 and PM2.5. LSTs represent the maximum emissions from a project site that are not expected to result in an exceedance of Federal or State AAQS. LSTs are based on the ambient concentrations of that pollutant within the Source Receptor Area where a project is located and the distance to the nearest sensitive receptor. The Proposed Project site is located in the northern portion of Source Receptor Area 24 (Perris Valley).

In the case of CO and NO₂, if ambient levels are below the air standards for these pollutants, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or Federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM10 and PM2.5, both of which are nonattainment pollutants in the Air Basin. For these latter two pollutants, the significance criteria are the pollutant concentration thresholds presented in SCAQMD Rules 403 and 1301. The Rule 403 threshold of 10.4 µg/m³ applies to construction emissions (and may apply to operational emissions at aggregate handling facilities). The Rule 1301 threshold of 2.5 µg/m³ applies to non-aggregate handling operational activities.

The SCAQMD has established screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards or ambient concentration limits without project-specific dispersion modeling. This analysis uses the screening criteria to evaluate impacts from localized emissions. The SCAQMD has established thresholds for project areas that are either 1, 2, or 5 acres in size and for distances of 25, 50, 100, 200, and 500 meters from the nearest receptor. When determining the appropriate threshold, the closest lower value is used. For example, if a project site is 3 acres with the closest receptor at 75 meters then the thresholds for a 2-acre site at 50 meters would be used. Additionally, the SCAQMD has stated that if a project is less than 1-acre or less than 25 meters from the site, then these minimum thresholds are the appropriate to use. So for a project that has receptors closer than 25 meters, the 25-meter threshold is still the most appropriate threshold to use.

SCAQMD LST construction screening criteria applicable to a 2-acre site in Source Receptor Area 24 with sensitive receptors distance of 25 meters was used for comparison with the tank installation due to the size of the site and the close proximity of the existing residential structure to the north. Because the pipeline is a linear project and does not impact the same receptors for the entire construction process, LST thresholds for a 1-acre site at 25 meters was used to address impacts from the pipeline. Because there is potential for the pipeline and the tank site to be constructed at the same time, impacts from this overlap in construction are analyzed against the

thresholds for a 2-acre site at 50 meters (a conservative estimate of distance from both the pipeline and the residence south of the site. If the Project would result in exceedance of the following screening criteria LSTs for the above pollutants, this would constitute a significant impact, unless dispersion modeling demonstrates no exceedance of the concentration based standards.

- Construction:
 - Tank Site: (2-acre site within 25 meters of sensitive receptors in Source Receptor Area 24) (SCAQMD 2009):
 - 94 pounds per day⁴ for NO_x
 - 833 pounds per day for CO
 - 7 pounds per day for PM10
 - 4 pounds per day for PM2.5
 - Pipeline: (1-acre site within 25 meters of sensitive receptors in Source Receptor Area 24) (SCAQMD 2009):
 - 66 pounds per day for NO_x
 - 602 pounds per day for CO
 - 4 pounds per day for PM10
 - 2 pounds per day for PM2.5
 - Combined: (2-acre site within 50 meters of sensitive receptors in Source Receptor Area 24) (SCAQMD 2009):
 - 111 pounds per day for NO_x
 - 1,262 pounds per day for CO
 - 20 pounds per day for PM10
 - 4 pounds per day for PM2.5
- Operation (2-acre site within 25 meters of sensitive receptors in Source Receptor Area 24) (SCAQMD 2009). Note the pipeline will be operated belowground and would not result in localized emissions:
 - 94 pounds per day for NO_x
 - 833 pounds per day for CO
 - 2 pounds per day for PM10
 - 1 pounds per day for PM2.5

⁴ The screening criteria for NO_x were developed based on the 1-hour NO₂ CAAQS of 0.18 ppm. However, since the publication of the SCAQMD's guidance, the USEPA has promulgated a 1-hour NO₂ NAAQS of 0.100 ppm based on a 98th percentile value, which is more stringent than the CAAQS. In order to determine if Project emissions would result in an exceedance of the 1-hour NO₂ NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO₂ standard, as the SCAQMD significance threshold has not been updated to reflect this standard. Calculated by scaling the NO₂ LST for by the ratio of 1-hour NO₂ standards (federal/state) (i.e., 221 lb/day * (0.10/0.18) =123 lb/day).

Carbon Monoxide Hotspots

With respect to the formation of CO hotspots, the Proposed Project would be considered significant if the following conditions would occur at an intersection or roadway within one-quarter mile of a sensitive receptor:

- The Project would cause or contribute to an exceedance of the CAAQS 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively (SCAQMD 2015b).

Toxic Air Contaminants

Based on the criteria set forth by the SCAQMD, the Proposed Project would expose sensitive receptors to substantial concentrations of toxic air contaminants if any of the following would occur: (SCAQMD 2015b).

- The Project emits carcinogenic materials or TACs that exceed the maximum incremental cancer risk of ten in one million or a cancer burden greater than 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million) or an acute or chronic hazard index of 1.0.

Other Emissions

With respect to other emissions such as those leading to odors, the threshold is qualitative. The Project's impact would be considered significant if:

- The Project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Methodology

The evaluation of potential impacts to regional and local air quality that may result from the construction and operation of the Proposed Project is conducted as follows. Additional details are provided in the emission modeling worksheets in Appendix AQ/GHG/Energy.

Construction Impacts

The Proposed Project would involve construction of a potable water storage tank, chlorination disinfection facility, and appurtenant facilities as shown on Figure 2-2, along with a 5,490-foot transmission pipeline to connect the new tank to the existing water distribution system. The Proposed Project would be constructed in two phases: water storage tank construction and transmission pipeline installation. The water storage tank construction is anticipated to occur over 325 working days and the pipeline installation would take 110 working days. As a conservative, worst case modeling scenario, it was anticipated that the water storage tank and transmission pipeline construction would occur at the same time and would begin in 2021. Regardless of the eventual timing of construction, the construction phases would still require the same number of days to complete.

Construction of the Proposed Project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators, and through vehicle trips generated from workers and haul trucks traveling to and from the Project site. Mobile source emissions, primarily NO_x, would result from the use of construction equipment

such as bulldozers and loaders. In addition, fugitive dust emissions would result from demolition of existing hardscape and various soil-handling activities. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date and the greatest overlap of construction activities) and applying the mobile source and fugitive dust emissions factors. The emissions are estimated using California Emissions Estimator Model version 2016.3.2 (CalEEMod) software, an emissions inventory software program recommended by the SCAQMD. CalEEMod is based on outputs from OFFROAD and the Emission Factors (EMFAC) model, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including heavy-duty off-road equipment, and on-road vehicles. Construction worker, haul and vendor truck emissions were evaluated using regional heavy-duty truck emission factors from EMFAC. The current version of CalEEMod uses EMFAC2014; however, EMFAC2017 has been approved by CARB and the EPA for use in quantification of on-road vehicle emissions. Therefore, emissions from worker trips, haul trucks, vendor trucks, and water trucks were quantified outside of CalEEMod using emission factors from EMFAC2017. Daily truck trips and default trip length data were used to assess roadway emissions from truck exhaust, as well as typical CARB idling times of local emissions on-site. The input values used in this analysis were adjusted to be project-specific based on equipment types and the construction schedule. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in the emission modeling worksheets in Appendix AQ/GHG/Energy.

In addition to off-road construction equipment, the Proposed Project may result in the need for blasting to remove bedrock. Emissions from blasting were calculated following the methodology in EPA's AP-42 for fugitive dust from blasting and criteria pollutant emissions from explosive use.

The localized effects from the portion of the construction emissions are evaluated at nearby receptor locations potentially impacted by the Proposed Project according to the SCAQMD's Localized Significance Threshold Methodology (June 2003, revised July 2008). As stated above, the SCAQMD has established screening criteria to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards without project-specific dispersion modeling. The localized analysis is based on this SCAQMD screening criteria as detailed under the thresholds section above. If both unmitigated and mitigated project emissions exceeds the LSTs, project-specific dispersion modeling would need to be performed to determine potential significance and need for additional mitigation. If the project exceeds the appropriate LSTs with mitigation, the analysis would provide dispersion modeling to refine the analysis and determine significance. The additional analysis would incorporate the estimated

construction and operational emissions and dispersion modeling using the USEPA AMS/EPA Regulatory Model (AERMOD) model with meteorological data from the closest SCAQMD monitoring station, as applicable.

Operational Impacts

The analysis includes quantification of emissions from the following operational sources: vehicle trips traveling to and from the Project site for maintenance activities and chemical deliveries; electrical consumption used for operating the storage tank and disinfection facility, and operation of the diesel emergency back-up generator. Operational impacts were conservatively assessed for the project buildout year of 2023.

The operational emissions were estimated using the CalEEMod software to forecast the Proposed Project's daily regional emissions from mobile and area sources that would occur during long-term project operation and maintenance. Mobile source emissions are based on two service truck trips per week (1/2 ton pickup), two truck trips per month for chemical delivery, and three trips per day associated with the quarterly tank cleaning. The tank cleaning assumes up to a week of activity per cleaning, so 4 weeks of cleaning per year. While it is unlikely that all of these trips would occur on the same day, as a conservative analysis it was assumed that 6 round trips would occur in a single day. This worst case scenario assumes that maintenance, tank cleaning, and chemical deliveries (1, 3 and 2 round trips, respectively) would occur on the same day. In calculating mobile-source emissions, the trip length values for maintenance and tank cleaning were based on 10 miles and the chemical deliveries were based on default haul distances provided in CalEEMod. EMFAC2017 emission factors were uploaded into CalEEMod to determine emission from operational mobile sources.

The localized effects from the operational emissions were evaluated at nearby sensitive receptor locations potentially impacted by the Proposed Project according to the SCAQMD's LST Methodology, which relies on mass emission rate screening tables. Similar to construction, the SCAQMD LST operational screening criteria applicable to a 2-acre site in Source Receptor Area 24, with sensitive receptors distance of 25 meters was used with respect to the operation of the Tank Site. The proposed transmission pipeline would not result in operational emissions.

The potential for the Proposed Project to cause or contribute to the formation of CO hotspots was evaluated based on prior dispersion modeling of the four busiest intersections in the Air Basin that the SCAQMD conducted for its CO Attainment Demonstration Plan in the AQMP. The analysis compares the intersections with the greatest peak-hour traffic volumes that would be impacted by the Project to the intersections modeled by the SCAQMD. Project-impacted intersections with peak-hour traffic volumes that would be lower than the intersections modeled by the SCAQMD, in conjunction with lower background CO levels, would result in lower overall CO concentrations as compared to the SCAQMD-modeled values to maintain attainment status in its AQMP.

Toxic Air Contaminants Impacts

Construction

To assess the risk of potential negative health outcomes (cancer, or other acute or chronic conditions) related to TACs exposure from airborne emissions during the Proposed Project's construction activities, a quantitative HRA was prepared. The HRA evaluated the potential for increased health risks for off-site sensitive receptors due to the project-related construction activities. Detailed parameters and calculations for HRA are provided in Appendix AQ/GHG/Energy.

The greatest potential for TAC emissions during project construction is related to DPM emissions associated with heavy-duty equipment usage. Construction activities associated with the Project would be transitory and short term in nature. The construction HRA was performed in accordance with the revised Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA Guidance) (OEHHA 2015). The analysis incorporates the estimated construction emissions and dispersion modeling using AERMOD with meteorological data from the closest SCAQMD meteorological monitoring station. Health impacts from construction were evaluated quantitatively. The analysis of health risk is based on a 30-year total exposure to pollutants. Use of the maximum daily emissions (as quantified for the regional and localized emissions estimates) overestimates the risk associated with the construction activities because it assumes peak daily conditions will occur on every day. Therefore, the average daily construction fleet was analyzed for the health risk analysis. EMWD supplied construction equipment usage levels representative of average conditions, but still provides a reasonably conservative analysis and health protective analysis because construction equipment are assumed to be used every day throughout each phase of construction.

For this risk assessment, AERMOD dispersion model output was converted into specific cancer risks and non-cancer chronic health hazard impacts. Health impacts addressed construction DPM emissions and the effects on nearby sensitive uses (residential). Additionally, while risk assessments typically include risk to a fetus within the 3rd trimester, because the construction activities are less than 2 years and the risk to children between birth and 2 years of age are greater than risk to a fetus in the 3rd trimester or to children and adults over 2 years of age, the risk assessment focused on risk to children between birth and 2 years of age. The Detailed AERMOD dispersion modeling and HRA calculations are included in Appendix AQ/GHG/Energy.

Operation

With respect to operations, CARB identifies land uses with more than 100 daily truck trips as having a potential to result in health risk to nearby receptors (CARB 2005).

The annual maintenance activities associated with the Proposed Project would not result in the emissions of significant amounts of TACs (chemicals are consumed in the treatment process and are not vented to the atmosphere), nor would it in excessive truck trips of more than 100 trucks per day. While there would be an emergency back-up generator located on-site, the generator would be permitted under the SCAQMD and therefore would necessarily meet emissions criteria

and would not result in a potentially significant health risk. Therefore, the maintenance of the water tank and daily operations of the chlorination facility would not result in significant risk to warrant an operational health risk assessment.

Impact Analysis

Criteria Pollutants

Impact 3.2-1: The Proposed Project could 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.

Because neither the City of Perris nor the City of Menifee have adopted specific citywide significance thresholds for air quality impacts, it is appropriate to rely on thresholds established by the SCAQMD (refer to CEQA Guidelines Section 15064.7). While it may be possible to add emissions from the list of cumulative projects and the Project, it would not provide meaningful data for evaluating cumulative impacts under CEQA because neither the cities nor the SCAQMD have established numerical thresholds applicable to the summation of multiple project emissions for comparison purposes. Additionally, regional emissions from a project have the potential to affect the Air Basin as a whole and it is not possible to establish a geographical radius from a specific project site where potential cumulative impacts from regional emissions would be limited. Meteorological factors, such as wind, can disperse pollutants, often times tens of miles downwind from a project site. Therefore, consistent with accepted and established SCAQMD cumulative impact evaluation methodologies, the potential for the Project to result in cumulative impacts from regional emissions is assessed based on the SCAQMD thresholds.

Regional Construction Emissions

The Proposed Project would result in emissions of criteria air pollutants for which the region is in nonattainment during both construction and operation. The Riverside County portion of the Air Basin fails to meet the NAAQS for ozone and PM_{2.5}, and therefore is considered a federal “nonattainment” area for these pollutants. Further, the Riverside County portion of the Air Basin does not meet the CAAQS for ozone, PM₁₀, and PM_{2.5}, and therefore is considered a state “nonattainment” area for these pollutants. The SCAQMD has designed significance thresholds to assist the region in attaining the applicable CAAQS and NAAQS, and apply to both primary (criteria and precursor) and secondary pollutants (ozone).

The maximum daily construction emissions were estimated for construction of the proposed water storage tank site and the transmission pipeline⁵, including where construction activities of the two may overlap. The maximum daily emissions are predicted values for the worst-case day and do not represent the emissions that would occur for every day of construction. The emissions calculations include dust control measures required to be implemented during each phase of development, as required by SCAQMD Rule 403 (Control of Fugitive Dust). A summary of the maximum daily unmitigated construction emissions of the criteria pollutant calculations for each

⁵ Construction of the pipeline could include simultaneous activities such as site preparation, excavation, pipeline installation, backfill paving, etc., depending on the segment under construction.

construction year are presented in **Table 3.2-5**. Detailed emissions calculations are provided in Appendix AQ/GHG/Energy of this EIR.

**TABLE 3.2-5
 UNMITIGATED REGIONAL MAXIMUM DAILY CONSTRUCTION EMISSIONS (POUNDS PER DAY) ^A**

	VOC	NO _x	CO	SO ₂	PM10 b	PM2.5 b
Water Storage Tank Site	5	46	40	<1	4	2
Transmission Pipeline	10	85	76	<1	9	4
Regional Maximum Daily Emissions	15	131	116	<1	12	6
SCAQMD Regional Construction Thresholds	75	100	550	150	150	55
Exceeds Threshold?	No	Yes	No	No	No	No

NOTES:

- a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix AQ/GHG/Energy.
- b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

SOURCE: ESA 2020 (see Appendix AQ/GHG/Energy)

As shown in Table 3.2-5, regional maximum daily construction emissions of constructing the water storage tank site concurrently with the transmission pipeline would exceed the SCAQMD regional threshold for construction activities for NO_x but not for any other criteria pollutants that is in nonattainment within the Air Basin (VOC as an ozone precursor, PM10, and PM2.5). Therefore, impacts would be potentially significant for NO_x and mitigation is required.

Implementation of **Mitigation Measure AQ-1** would require the use of a mix of Tier 3 and Tier 4 rated engines for all equipment greater than 50 hp for construction of the water storage tank and the transmission pipeline. As shown in **Table 3.2-6**, with the implementation of Mitigation Measure AQ-1, NO_x emissions would be reduced to below significance thresholds.

**TABLE 3.2-6
 MITIGATED REGIONAL MAXIMUM DAILY CONSTRUCTION EMISSIONS (POUNDS PER DAY) ^A**

	VOC	NO _x	CO	SO ₂	PM10 b	PM2.5 b
Water Storage Tank Site	1	19	46	<1	3	<1
Transmission Pipeline	4	21	104	<1	6	1
Regional Maximum Daily Emissions	5	40	150	<1	9	2
SCAQMD Regional Construction Thresholds	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

NOTES:

- a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix AQ/GHG/Energy.
- b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

SOURCE: ESA 2020 (see Appendix AQ/GHG/Energy)

With respect to the Project's short-term construction-related air quality emissions and cumulative conditions, SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to the federal CAA mandates. Construction of the Project would comply with SCAQMD Rule 403 fugitive dust control requirements and the ATCM to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any location. These measures would also be imposed on other construction projects in the Air Basin, which would include the cumulative projects listed in Table 3-2. Since the mitigated Project's construction does not exceed the SCAQMD's regional significance thresholds, cumulative construction impacts are less than significant.

Regional Operational Emissions

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the Project's incremental contribution to cumulative air quality impacts is determined based on compliance with the SCAQMD's adopted AQMP. As determined in the Initial Study, the Project would not conflict with or obstruct implementation of AQMP and would be consistent with the growth projections in the AQMP.

Nonetheless, SCAQMD no longer recommends relying solely upon consistency with the AQMP as an appropriate methodology for assessing cumulative air quality impacts. The SCAQMD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality.

Operational emissions were assessed for area, energy, mobile, and stationary sources. Operational criteria pollutant emissions were calculated for the Proposed Project's buildout year of operation in 2023. Results of the criteria pollutant calculations are presented in **Table 3.2-7**. The net increase in operational-related daily emissions (Project emissions minus existing emissions) for the criteria and precursor pollutants (VOC, NO_x, CO, SO_x, PM10, and PM2.5) would not exceed the SCAQMD threshold of significance for any nonattainment pollutants and impacts would be less than significant.

**TABLE 3.2-7
UNMITIGATED REGIONAL MAXIMUM DAILY OPERATIONAL EMISSIONS (POUNDS PER DAY) ^A**

Source	VOC	NO_x	CO	SO₂	PM10	PM2.5
Area (Consumer Products)	<1	<1	<1	<1	<1	<1
Energy (Natural Gas)	<1	<1	<1	<1	<1	<1
Submersible Pump	<1	3	5	<1	<1	<1
Stationary Sources (Generator)	1	2	2	0	4	3
Mobile	<1	<1	<1	<1	<1	<1
Total Emissions	1	5	7	<1	<1	<1
SCAQMD Regional Operational Thresholds	55	55	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

NOTES:

a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix AQ/GHG/Energy.

SOURCE: ESA 2020 (see Appendix AQ/GHG/Energy)

Mitigation Measures

Mitigation Measure AQ-1: Prior to ground disturbing activities, EMWD shall require all diesel-fueled scrapers, graders, and pavers greater than 50 horsepower (hp) to meet USEPA Tier 3 off-road emission standards or equivalent. All other equipment greater than 50 hp shall meet the USEPA Tier 4 final off-road emission standards or equivalent. All equipment greater than 50 hp shall be outfitted with Best Available Control Technology (BACT) devices including a California Air Resources Board certified Level 3 Diesel Particulate Filter (DPF) or equivalent. Certification for all equipment, including certification of DPF installation for any Tier 3 equipment used, shall be maintained onsite. Additionally, the contractor may also limit the concurrent use of off-road construction vehicles used to install the pipeline and the tank and re-calculate the emissions to demonstrate the combined fleet would emit less than 100 pounds per day of NO_x.

Significance Determination

Less than Significant with Mitigation

Sensitive Receptors

Impact 3.2-2: The Proposed Project could expose sensitive receptors to substantial pollutant concentrations.

Localized Construction Emissions

The localized impacts for the short-term construction activities were quantified using CalEEMod and compared to the applicable LST thresholds for a 2-acre site (for the water storage tank site) and a 1-acre site (for the transmission pipeline) located at 25 meters from sensitive receptors in Source Receptor Area 24. As previously discussed, SCAQMD recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the Project. The results of the analysis are presented in **Table 3.2-8**.

As shown in Table 3.2-8, localized maximum daily Project construction emissions for construction of the potable water storage tank would not exceed SCAQMD thresholds and impacts would be less than significant. However, localized maximum daily Project construction emissions would exceed SCAQMD localized construction emissions thresholds for PM₁₀ with respect to construction of the transmission pipeline. Therefore, impacts would be potentially significant for construction of the transmission pipeline.

Implementation of Mitigation Measure AQ-1 would be required for construction of the transmission pipeline to reduce exhaust emissions from the majority of off-road construction equipment and therefore would reduce PM₁₀ emissions from exhaust as shown in **Table 3.2-9**. As shown, emissions of PM₁₀ are reduced to below regulatory threshold and therefore impacts would be less than significant.

**TABLE 3.2-8
UNMITIGATED LOCALIZED CONSTRUCTION EMISSIONS**

Construction Year	Estimated Maximum Daily On-Site Emissions (lbs/day) ^a			
	NO _x	CO	PM10 ^b	PM2.5 ^b
Water Storage Tank Site	46	39	4	2
<i>Localized Significance Threshold</i>	94	883	7	4
Significant Impact?	No	No	No	No
Transmission Pipeline	38	37	5	2
<i>Localized Significance Threshold</i>	66	602	4	3
Significant Impact?	No	No	Yes	No
Max Combined Tank and Pipeline	83	76	8	3
<i>Localized Significance Threshold</i>	111	1,262	20	6
Significant Impact?	No	No	No	No

a LST values for a 2-acre site (Tank site and Max) and a 1-acre site (Pipeline) in Source Receptor Area 24 at 25 meters (Tank Site and Pipeline) and 50 meters (Max)

b Emissions account for implementation of dust control measures as required by SCAQMD Rule 403—Fugitive Dust.

SOURCE: ESA 2020 (see Appendix AQ/GHG/Energy)

**TABLE 3.2-9
MITIGATED LOCALIZED CONSTRUCTION EMISSIONS**

Construction Year	Estimated Maximum Daily On-Site Emissions (lbs/day) ^a			
	NO _x	CO	PM10 ^b	PM2.5 ^b
Water Storage Tank Site	13	45	3	<1
<i>Localized Significance Threshold</i>	94	883	7	4
Significant Impact?	No	No	No	No
Transmission Pipeline	5	51	3	1
<i>Localized Significance Threshold</i>	66	602	4	3
Significant Impact?	No	No	No	No
Max Combined Tank and Pipeline	19	96	6	1
<i>Localized Significance Threshold</i>	111	1,262	20	6
Significant Impact?	No	No	No	No

a LST values for a 2-acre site (Tank site and Max) and a 1-acre site (Pipeline) in Source Receptor Area 24 at 25 meters (Tank Site and Pipeline) and 50 meters (Max)

b Emissions account for implementation of dust control measures as required by SCAQMD Rule 403—Fugitive Dust.

SOURCE: ESA 2020 (see Appendix AQ/GHG/Energy)

The health-based ambient air quality standards for ozone are measured as concentrations of ozone and not as tonnages of their precursor pollutants (i.e., NO_x and VOCs). It is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or particulate matter. Because of the complexity of ozone formation and the non-linear relationship of ozone concentration with its precursor gases, and given the state of

environmental science modeling in use at this time, it is infeasible to convert specific emission levels of NO_x or VOCs emitted in a particular area to a particular concentration of ozone in that area. Meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone (SCAQMD 2014).

As expressed in the *amicus curiae* brief submitted for the *Sierra Club v. County of Fresno* case (*Friant Ranch Case*), since the CEQA criteria pollutants significance thresholds from the air district were set at emission levels tied to the region's attainment status, they are emission levels at which stationary pollution sources permitted by the air district must offset their emissions and CEQA projects must use feasible mitigations, and they are not intended to be indicative of any localized human health impact that a project may have (SCAQMD 2014). Therefore, just because a project exceeds the mass regional emissions threshold (i.e., pounds per day PM₁₀ thresholds) from project-related activities does not necessarily indicate that a project will cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

The primary health concern with exposure to VOC emissions is the secondary formation of ozone. Based on discussions with air quality management district staff, and as the *amicus curiae* briefs submitted for the *Friant Ranch Case* suggested, because of the complexity of ozone formation and given the state of environmental science modeling in use at this time, it is infeasible to determine whether, or the extent to which, a single project's precursor (i.e., NO_x and VOCs) emissions would potentially result in the formation of secondary ground-level ozone and the geographic and temporal distribution of such secondary formed emissions (SCAQMD 2016b).⁶ As previously stated, meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone. Furthermore, available models are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by NO_x or VOCs emissions from local level (project-level). Notwithstanding these scientific constraints, the disconnect between project-level VOC emissions and ozone-related health impact cannot be bridged at this time. However, since mitigated construction of the Project would not exceed the localized significance thresholds, the Project is not anticipated to contribute to localized health impacts related to these pollutants.

Localized Operational Emissions

The localized impacts for the operation activities were quantified using CalEEMod and compared to the applicable LST thresholds for a 2-acre site, 25 meters from sensitive receptors in Source Receptor Area 24 (the water storage tank site). The results of the analysis are presented in **Table 3.2-10**. As shown, the increase in maximum localized operational emissions for sensitive receptors would not exceed the localized thresholds for NO_x, CO, PM₁₀, and PM_{2.5}. Therefore, impacts related to localized operational emissions would be less than significant. Additionally, as

⁶ Models available today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from a project level.

operation of the Project would not exceed the localized significance thresholds, the Project is not anticipated to contribute to localized health impacts related to these pollutants.

**TABLE 3.2-10
 UNMITIGATED LOCALIZED OPERATIONAL EMISSIONS**

	Estimated Emissions (lbs/day)			
	NO _x	CO	PM10	PM2.5
Area	<1	<1	<1	<1
Energy (Natural Gas)	<1	<1	<1	<1
Submersible Pump	3	5	<1	<1
Emergency Generator	2	2	<1	<1
Total	5	7	<1	<1
<i>Localized Significance Threshold</i>	94	883	2	1
Significant Impact?	No	No	No	No

SOURCE: ESA 2020 (see Appendix AQ/GHG/Energy)

Carbon Monoxide Hotspots

The potential for the Project to cause or contribute to CO hotspots is evaluated by comparing Project traffic intersections (both intersection geometry and traffic volumes) with prior studies conducted by the SCAQMD in support of their AQMPs and considering existing background CO concentrations. As discussed below, this comparison demonstrates that the Project would not cause or contribute considerably to the formation of CO hotspots, that CO concentrations at Project impacted intersections would remain well below the ambient air quality standards, and that no further CO analysis is warranted or required.

As shown in Table 3.2-2, CO levels in the Project area are substantially below the federal and State standards. Maximum CO levels in recent years are 1.2 ppm (one-hour average) and 0.8 ppm (eight-hour average) compared to the CAAQS of 20 ppm (one-hour average) and 9.0 ppm (eight-hour average). CO levels decreased dramatically in the Air Basin with the introduction of the catalytic converter in 1975. No exceedances of CO have been recorded at monitoring stations in the Air Basin for some time, and the Air Basin is currently designated as a CO attainment area for both the CAAQS and NAAQS. Thus, it is not expected that CO levels at Project-impacted intersections would rise to the level of an exceedance of these standards.

Operation of the Project is anticipated to have a maximum daily round trip rate of 6 vehicles. Given the minimal localized trip increase, based on the suburban nature of the Project area, the Project would not increase traffic at any intersection to 100,000 vehicles per day or more. Therefore, the Project would result in less than significant impacts with respect to CO hotspots.

Toxic Air Contaminants

Construction Impacts

The resulting health risk calculations were performed using a spreadsheet tool consistent with the OEHHA guidance. Assumptions, modeling and calculations associated with the health risk analysis are included as part of Appendix AQ/GHG/Energy. The spreadsheet tool incorporates the algorithms, equations, and a variable described above as well as in the OEHHA Guidance, and incorporates the results of the AERMOD dispersion model. Based on the risk calculations and as shown in **Table 3.2-11**, unmitigated impacts would result in a maximum risk of approximately 83 in one million which exceeds the regulatory threshold of 10 in one million. Potential non-cancer effects of chronic (i.e., long term) DPM exposures were evaluated using the Hazard Index approach as described in the OEHHA Guidance. A hazard index equal to or greater than 1.0 represents a significant chronic health hazard. Chronic, non-cancer risk associated with unmitigated construction activities would result in a hazard index of 0.24 which is below the regulatory threshold of 1. Therefore, because the cancer risk exceeds the regulatory threshold, Project impacts are potentially significant.

**TABLE 3.2-11
 UNMITIGATED CONSTRUCTION HEALTH RISK**

	Risk	
	Cancer Risk (per million)	Hazard Index
Tank Site Construction	42.45	0.17
Pipeline Construction	3.72	0.15
Total Combined Risk*	82.95	0.24
<i>Localized Significance Threshold</i>	<i>10</i>	<i>1</i>
Significant Impact?	Yes	No

*Note: Total Combined risk may not add directly as the maximum impacted receptor for the tank site is not the same receptor as from the pipeline construction. Therefore, the total combined risk is the maximum risk when the specific risk from the pipeline and the tank site at each receptor is added together.

SOURCE: ESA 2020 (see Appendix AQ/GHG/Energy)

Mitigation Measures AQ-1 and AQ-2 would reduce DPM emissions from the construction equipment. With implementation of Mitigation Measure AQ-1 and AQ-2, construction activities would result in a mitigated cancer risk of approximately 8 in one million, below the 10 in one million threshold. Mitigated emissions would result in a hazard index of 0.03. Risk associated with the mitigation is shown in **Table 3.2-12**.

TABLE 3.2-12
MITIGATED CONSTRUCTION HEALTH RISK

	MM-AQ-1		MM-AQ-1 & MM-AQ-2	
	Cancer Risk (per million)	Hazard Index	Cancer Risk (per million)	Hazard Index
Tank Site Construction	11.23	0.03	7.95	0.03
Pipeline Construction	0.38	0.01	0.36	0.01
Total Combined Risk*	11.29	0.03	8.00	0.03
<i>Localized Significance Threshold</i>	10	1	10	1
Significant Impact?	Yes	No	No	No

*Note: Total Combined risk may not add directly as the maximum impacted receptor for the tank site is not the same receptor as from the pipeline construction. Therefore, the total combined risk is the maximum risk when the specific risk from the pipeline and the tank site at each receptor is added together.

SOURCE: ESA, 2019; Appendix AQ/GHG/Energy.

For carcinogenic exposures, the cancer risk from DPM emissions from construction is estimated to result in a maximum carcinogenic risk in the immediate vicinity of the of the water storage tank site. As discussed previously, the lifetime exposure under the OEHHA Guidance takes into account early life (infant and children) exposure. The calculated cancer risk is estimated for outdoor exposure and assumes that sensitive receptors (residential uses) would not have any reductions such as mechanical filtration and that residential uses would have continuously open windows. However, with the implementation of the Mitigation Measure AQ-2, requiring the use of electric equipment when feasible would reduce the maximum risk to less than the risk threshold of 10 in one million. As a result, impacts would be less than significant with implementation of mitigation measures. The Project does not exceed the hazard index threshold of 1.0 and therefore the Project's chronic risk impact would be less than significant.

Operational Impacts

The SCAQMD recommends that operational health risk assessments be conducted for substantial sources of operational DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units) and has provided guidance for analyzing mobile source diesel emissions (SCAQMD 2002).⁷ Project operations would generate only minor amounts of diesel emissions from mobile sources, such as the two delivery trucks per month and occasional maintenance activities that would result in up to 6 round trips per day and therefore would not exceed 100 trucks per day or more than 40 trucks with operating transport refrigeration units (TRUs). Furthermore, Project trucks are required to comply with the applicable provisions of the CARB Truck and Bus regulation to minimize and reduce PM and NO_x emissions from existing diesel trucks. Therefore, the Project operations would not be considered a substantial source of diesel particulates.

⁷ SCAQMD, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, 2002. <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis>. Accessed September 2018.

In addition, Project operations would only result in minimal emissions of air toxics from maintenance or other ongoing activities, such as from the use of architectural coatings and the maintenance and testing of the diesel-fueled emergency generator. Area sources that would generate TAC emissions include consumer products associated with cleaning building surfaces. The emergency generator would be subject to SCAQMD's Rule 1470. Each emergency generator would have a maximum of 50 operational hours per year for maintenance and testing activities, thus resulting in minimal DPM emissions that are emitted under permit by the SCAQMD.

The Project's land uses would not include installation of industrial-sized paint booths or require extensive use of commercial cleaning products. As a result, toxic or carcinogenic air pollutants are not expected to occur in any substantial amounts in conjunction with Project operation. Based on the expected uses on the Project site, potential long-term operational impacts associated with the release of TACs would be minimal, regulated, and controlled, and would not be expected to exceed the SCAQMD significance threshold. Therefore, impacts would be less than significant. Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes and automotive repair facilities. The Project would not include any of these potential sources, although minimal emissions may result from the use of consumer products (e.g., aerosol sprays). Therefore, the Project is not expected to release substantial amounts of TACs, and less than significant impacts on human health would occur.

Mitigation Measures

Implementation of Mitigation Measure AQ-1

Mitigation Measure AQ-2: Prior to ground disturbance, EMWD shall require certain types of off-road equipment to be electrified. Equipment that is to be electrified should, at a minimum, include all air compressors, all cranes, all plate compactors, and welders. Electricity or temporary electricity from SCE shall be used to provide electricity where feasible. If infeasible to connect to SCE for electricity during construction activities, a non-diesel powered generator shall be used. In addition, for sweepers and scrubbers, in lieu of meeting the Tier 3 or Tier 4 Final emissions standards requirements in Mitigation Measure AQ-1, such equipment may be alternative-fueled, such as CNG or other non-diesel fuel such as electricity, if Tier 3 or Tier 4 Final sweepers and scrubbers cannot be readily obtained.

Significance Determination

Less than Significant with Mitigation

Other Emissions

Impact 3.2-3: The Proposed Project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Construction

Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents. SCAQMD Rule 1113 (Architectural Coatings) limits the amount of VOCs from architectural coatings and solvents. According to the SCAQMD CEQA Air Quality Handbook, construction equipment is not a typical source of odors. Odors from the combustion of diesel fuel would be minimized by complying with the CARB ATCM that limits diesel-fueled commercial vehicle idling to 5 minutes at any given location, which was adopted in 2004. The Proposed Project would also comply with SCAQMD Rule 402 (Nuisance), which prohibits the emissions of nuisance air contaminants or odorous compounds. Through adherence with mandatory compliance with SCAQMD Rules and State measures, construction activities and materials would not create objectionable odors. Construction of the Proposed Project's uses would not be expected to generate nuisance odors at nearby air quality sensitive receptors. Impacts with respect to odors would be less than significant. While blasting activities have the potential to result in additional construction odors, the minimal length of blasting activities, wind direction, and the dissipation of VOCs would limit the exposure of off-site sensitive receptors. While off-site receptors may get an occasional odor from the activities it would not be potent enough to affect a substantial number of people.

Table 3.2-5, under Impact 3.2-1, details the Proposed Project's emissions with attainment pollutants CO and SO_x. As shown, construction-related daily emissions would not exceed the SCAQMD significance thresholds for these attainment pollutants. Therefore, health impacts from short-term regional construction emissions would be less than significant.

Operational

The Proposed Project's land uses are related to infrastructure improvement and the operation of a water storage tank. According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Proposed Project would not involve elements related to these types of uses. The Proposed Project would include chlorine treatment, but that would be only in amounts necessary for water treatment and injected into the water which would minimize or eliminate odor release. Therefore, no adverse odor impacts are anticipated from the operation of the site and impacts with respect to odors would be less than significant.

As identified in Table 3.2-7, operational emissions for the Proposed Project would not exceed regulatory thresholds for CO or SO_x. Therefore, health impacts from short-term regional construction emissions would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Cumulative Impacts

Impact 3.2-4: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to air quality.

Cumulative impacts with respect to air quality are discussed under Impacts 3.2-1 and 3.2-2 above.

Mitigation Measures

Implementation of Mitigation Measure AQ-1 and AQ-2

Significance Determination

Less than Significant with Mitigation

3.2.4 References

- California Air Resources Control Board (CARB), 2004. Proposed List of Measures to Reduce Particulate Matter – PM10 and PM2.5 (Implementation of Senate Bill 656, Sheer 2003). October 18.
- CARB, 2017a. Inhalable Particulate Matter and Health (PM2.5 and PM10), <https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm>, last reviewed August 10, 2017. Accessed September 2019.
- CARB, 2017b. Air Quality Standards and Area Designations. <https://www.arb.ca.gov/desig/desig.htm>. Accessed September 2019.
- CARB, 2018. Ozone & Health, Health Effects of Ozone, <https://ww2.arb.ca.gov/resources/ozone-and-health>. Accessed September 2019.
- CARB, 2019a. Carbon Monoxide & Health, <https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health>. Accessed September 2019.
- CARB, 2019b. Nitrogen Dioxide & Health, <https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health>. Accessed September 2019.
- CARB, 2019c. Sulfur Dioxide & Health, <https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health>. Accessed September 2019.
- CARB, 2019d. Lead & Health, <https://ww2.arb.ca.gov/resources/lead-and-health>. Accessed September 2019.
- Office of Environmental Health Hazard Assessment (OEHHA), 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines - Guidance Manual for Preparation of Health Risk Assessments, February 2015. Available online at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>. Accessed June 2020.
- South Coast Air Quality Management District (SCAQMD), 1993. South Coast Air Quality Management District, CEQA Air Quality Handbook

- SCAQMD, 2012. Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, 2002. <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis>. Accessed September 2019.
- SCAQMD, 2008. Final Localized Significance Threshold Methodology. Available: <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>. Accessed September 2019.
- SCAQMD, 2003 Air Quality Management Plan, Appendix V: Modeling and Attainment Demonstrations, (2003) V-4-24, <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2003-air-quality-management-plan/2003-aqmp-appendix-v.pdf>. Accessed September 2019.
- SCAQMD, 2009. Appendix C - Mass Rate LST Look-up Table, <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>. Accessed October 2019.
- SCAQMD, 2012. South Coast Air Quality Management District, 2012 Air Quality Management Plan, <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>. Accessed September 2019.
- SCAQMD, 2014. Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.
- SCAQMD, 2015a. Final Report – Multiple Air Toxics Exposure Study in the South Coast SCAB, ES-2, 2-11, 6-1. Available at: <http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iv>.
- SCAQMD, 2015b. SCAQMD Air Quality Significance Thresholds. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>.
- SCAQMD, 2016. 2016 Final Air Quality Management Plan. Available at: <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>. Accessed June 3, 2020.
- SCAQMD, 2018. “Guidance on Frequently Questioned Topics in Roadway Analysis for the California Environmental Quality Act”
- United States Environmental Protection Agency (USEPA), 2007. Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes: California, Final Rule. *Federal Register* 72 (11 May 2007):26718-26721
- USEPA, 2013. Approval and Promulgation of Implementation Plans; Designation of Areas for Air Quality Planning Purposes; California; South Coast Air Basin; Approval of PM10. *Federal Register*, Vol. 78, No. 123, June 26, 2013, 38223-38226.

USEPA, 2016a. Carbon Monoxide (CO) Pollution in Outdoor Air, <https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution>. Accessed September 2019.

USEPA, 2016b. Nitrogen Dioxide (NO₂) Pollution, <https://www.epa.gov/no2-pollution/basic-information-about-no2>, last updated September 8, 2016. Accessed September 2019

USEPA, 2017a. Lead Air Pollution, <https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution>, last updated November 29, 2017. Accessed September 2019.

USEPA, 2017b. Technical Overview of Volatile Organic Compounds, <https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds>, last updated April 12, 2017. Accessed September 2019.

USEPA, 2018a. Health Effects of Ozone Pollution, <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>, last updated October 10, 2018. Accessed September 2019.

USEPA, 2018b, Sulfur Dioxide (SO₂) Pollution, <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics>, last updated June 28, 2018. Accessed September 2019.

USEPA, 2018c, Particulate Matter (PM) Pollution, <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>, last updated November 14, 2018. Accessed September 2019.

USEPA, 2020. Nonattainment Areas for Criteria Pollutants (Green Book). December. <https://www.epa.gov/green-book>. Accessed June 2020.

3.3 Biological Resources

This section evaluates the potential for impacts related to biological resources resulting from construction and operation of the Proposed Project. This section includes: a description of the existing biological resources conditions in and around the Proposed Project site; a summary of applicable regulations related to biological resources; and an evaluation of the potential impacts of the Proposed Project related to biological resources in and around the Project site, including cumulative impacts. The biological resources described in this section are based on the findings provided in the Goetz Road Potable Water Storage Tank and Transmission Pipeline Biological Resources Assessment Update Report (2019 Habitat Assessment; ESA 2019; **Appendix BIO**) which provides an update to the habitat assessment conducted for the Project by Travis J. McGill on August 4, 2015 (2015 Habitat Assessment; McGill 2015). It should be noted that the majority of the study area was assessed; however, a substantial amount of the proposed transmission pipeline and segments of the 500-foot buffer area of the transmission pipeline alignment are located within private property that mostly includes the adjacent Cimarron Ridge Development Project. The portions of the Proposed Project that occur on private property that were not assessed are shown on Figure 3.3-1 as “Inaccessible Survey Area.”

The “study area” referenced in this section includes the Project site (2.85-acre potable water storage tank site and proposed pipeline alignment) and a 500-foot buffer in all directions.

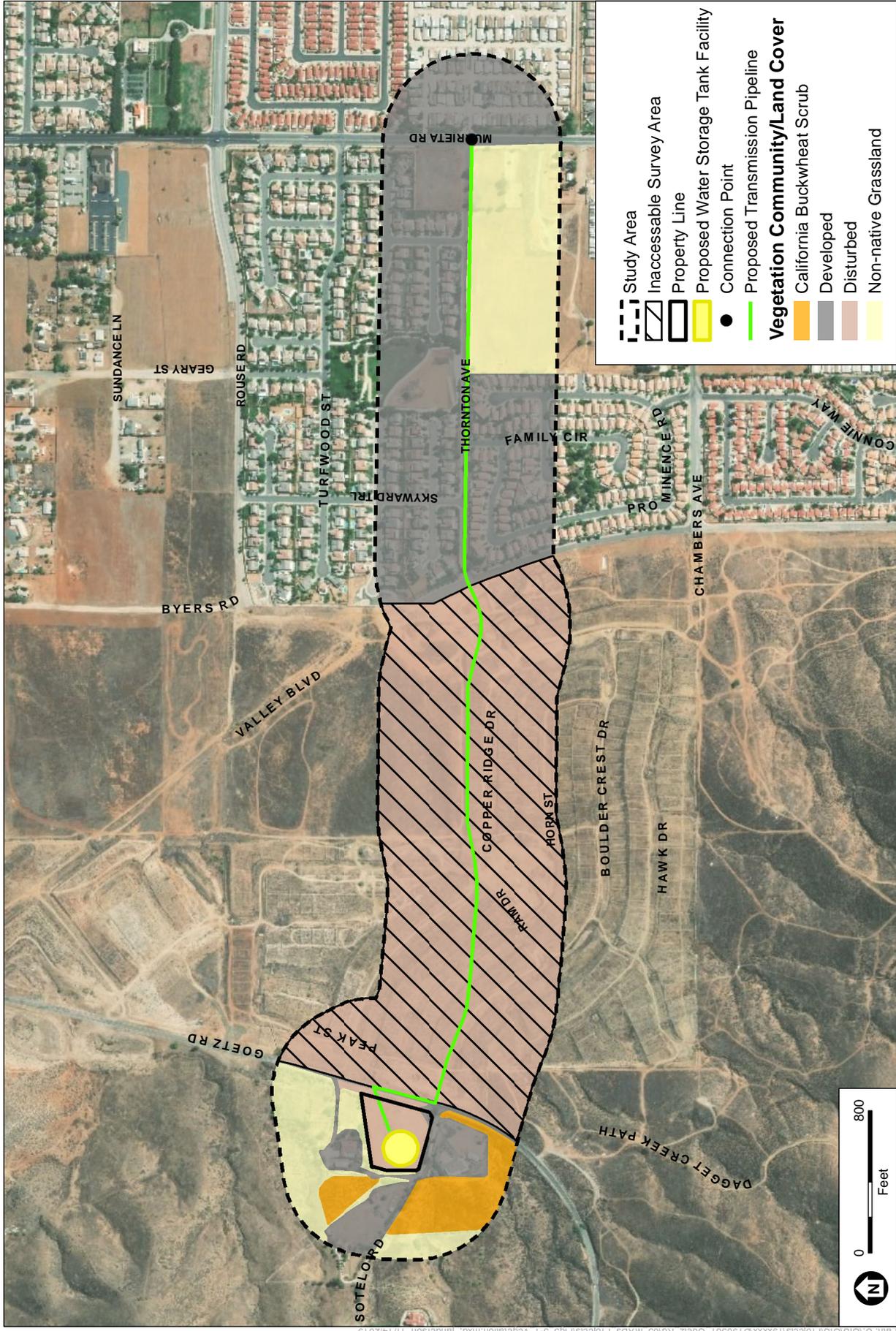
3.3.1 Environmental Setting

Climate

The climate in the southern Inland Empire region where the Project is located consists of hot summer temperatures (average daily maxima near or above 90 Fahrenheit [°F]) and low annual precipitation (approximately 11 inches). Daily temperature swings of 30 °F can occur, with lows in the winter near freezing. Precipitation generally occurs within the winter and spring seasons with very little occurring as a result of summer thunderstorms. The Project’s elevation ranges from approximately 1,440 to 1,600 feet AMSL, with an average high of 98 °F in August to an average low of 34.5 °F in December. Average rainfall is 11.22 inches annually (WRCC 2019).

Land Cover and Vegetation Communities

As shown in **Figure 3.3-1**, the study area is primarily comprised of non-native grassland, developed areas and disturbed areas that are devoid of vegetation, but also includes small amounts of native vegetation such as California buckwheat scrub. The 2015 Habitat Assessment conducted for the Project indicates that the portion of the Proposed Project that occurs within the Cimarron Ridge Development Project consists of heavily disturbed non-native grassland characterized as “ruderal” (Albert A. Webb Associates 2015). In addition, a review of aerial imagery from October 2005 to December 2018 depicts various levels of disturbance areas that appear to be devoid of vegetation and/or ruderal vegetation within the majority of the inaccessible areas (Google Earth Pro 2019).



SOURCE: DigitalGlobe 2018; ESA, 2019.

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.3-1
Vegetation Community / Land Cover Map



Activities as early as 2005 associated with the Cimarron Ridge Development Project included excavation and grading, and construction of roads and detention basins. These activities have disturbed the landscape and removed much of the vegetation, which likely accounts for the ruderal vegetation that was characterized and mapped for the Cimarron Ridge Development Project (McGill 2015).

The areas where vegetation was removed for the Cimarron Ridge Development Project appear to have partially regrown in some areas, but remain in a ruderal condition (i.e., disturbed). Due to access limitations, it is unknown if these previously disturbed areas have re-established with native vegetation. Nonetheless, as previously indicated, the vegetation in these areas is based on the 2015 Habitat Assessment (McGill 2015), the Cimarron Ridge Development Project EIR, and review of aerial imagery (Google Earth Pro 2019). In addition, the area within the “Property Line” as shown on Figure 3.3-1 where the proposed water storage tank would be constructed appears to have been graded in 2016, resulting in vegetation removal. As a result, this area is now in a disturbed condition.

California Buckwheat Scrub

California buckwheat scrub occurs in a few small patches located west of Goetz Road in the southwest corner of the study area. California buckwheat scrub is dominated by California buckwheat (*Eriogonum fasciculatum*) with low numbers of other native shrubs including California sagebrush (*Artemisia californica*) and brittlebush (*Encelia farinosa*). Additional species observed within this community include: deerweed (*Acmispon glaber*), wild oats (*Avena fatua*) and red brome (*Bromus madritensis ssp. rubens*) and red stemmed filaree (*Erodium cicutarium*). Bare ground is present within approximately 0 to 10 percent of the California buckwheat scrub. California buckwheat scrub that occurs in the study area is dominated by short native shrubs with little to no understory.

Due to the prevalence of native plant species, California buckwheat scrub provides suitable habitat value for many special-status plant and wildlife species (Tables 3.3-1 and 3.3-2). Birds that prefer to nest near the ground, such as California towhee (*Melospiza crissalis*) and dove species, may nest within the California buckwheat scrub.

Non-Native Grassland

Non-native grassland is the most abundant vegetation community in the study area, specifically along portions of Goetz Road and Thornton Road. Non-native grassland areas are generally dominated by wild oats and red brome; however other non-natives, as well as native species, were also observed sporadically within this community that include: deerweed, common fiddleneck (*Amsinckia menziesii*), tocalote (*Centaurea melitensis*), dove weed (*Croton setiger*), common cryptantha (*Cryptantha intermedia*), jimson weed (*Datura wrightii*), clustered tarweed (*Deinandra fasciculata*), red stemmed filaree, rattlesnake sandmat (*Euphorbia albomarginata*), common sunflower (*Helianthus annuus*), short-podded mustard (*Hirschfeldia incana*), pineapple weed (*Matricaria discoidea*), stinknet (*Oncosiphon piluliferum*), Jerusalem thorn (*Parkinsonia aculeate*), branching phacelia (*Phacelia ramosissima*), Russian thistle (*Salsola tragus*) and common Mediterranean grass (*Schismus barbatus*). Individual California sagebrush, brittlebush,

and California buckwheat also occur intermittently within the non-native grassland. Bare ground exists within approximately 10 to 20 percent of the non-native grassland (in certain areas) due to off-road vehicle use and vegetation management. Non-native grasslands that occur along Thornton Road are regularly maintained by private landowners and are highly disturbed.

Due to the prevalence of low-growing annuals, non-native plant species, ongoing vegetation management and previous development, the non-native grasslands areas provide limited habitat value for many plant and wildlife species. However, this community does provide suitable habitat for burrowing owl, as well as other special-status wildlife and plant species, including nesting birds, as discussed further below in the special-status biological resources section.

Disturbed

Disturbed areas are characterized by signs of recent or past disturbances, typically in the form of heavily compacted soils and areas devoid of vegetation. Disturbed areas primarily consist of unpaved dirt roads, previously graded areas, such as around the proposed water storage tank site, as well as disturbed areas associated with the Cimarron Ridge Development Project. Disturbed areas generally have minimal vegetation present, and that which are present include mostly non-native ruderal species. Disturbed areas provide little to no habitat value for plants and animals, including nesting birds.

Developed

Developed areas include areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer present. Developed areas include paved roads, residential areas and landscaped areas in the study area. These areas include major roads such as Thornton Road and Goetz Road. Residential development occurs along the eastern portions of the proposed transmission pipeline and immediately surrounding the location of the proposed water storage tank site. Developed areas lack habitat value for most native wildlife species with the exception of resident and migratory birds that have become accustomed to urbanized areas.

Common Wildlife

Common birds observed during the assessment included red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), common raven, American kestrel (*Falco sparverius*), house finch (*Haemorrhous mexicanus*), northern mockingbird (*Mimus polyglottos*), lesser goldfinch (*Spinus psaltria*), California horned lark (*Eremophila alpestris actia*), Eurasian collard-dove (*Streptopelia decaocto*). Other wildlife species observed included the California ground squirrel (*Otospermophilus beecheyi*). Other common species expected to occur that were not observed include, but not limited to, western fence lizard (*Sceloporus occidentalis*), mourning dove (*Zenaida macroura*), rock pigeon, European starling and house sparrow (*Passer domesticus*).

Special-Status Biological Resources

Database searches of the CDFW California Natural Diversity Data Base (CNDDDB) (CDFW 2019), United States Fish and Wildlife's (USFWS) Critical Habitat Mapper (USFWS 2019a) and the California Native Plant Society (CNPS) Rare Plant Inventory (CNPS 2019) were conducted to query special-status biological resources that have been recorded in the region. The results of the database searches were used to develop a list of species that could potentially occur in the study area. The query included the Romoland United States Geological Survey (USGS) Quadrangle 7.5-minute map for which the study area is located, as well as the surrounding eight USGS quadrangles: Steele Peak, Perris, Lakeview, Lake Elsinore, Winchester, Wildomar, Murrieta and Bachelor Mountain. The USFWS' National Wetlands Inventory (NWI) was reviewed (USFWS 2019b).

According to the CNDDDB, CNPS and USFWS database queries, a total of 68 special-status plant species, 59 special-status wildlife species, and six (6) sensitive natural communities have been previously recorded within the database search area (i.e., within the region). However, 87 of these special-status species do not have the potential to occur in the study area because the habitat is not suitable due to its condition and surrounding urbanization, there are improper vegetation and soil requirements, and/or the study area is outside the known range for the species. The results of the database searches are provided in Appendix C of the 2019 Habitat Assessment (Appendix BIO).

Sensitive Natural Communities

Sensitive natural communities are of limited distribution statewide or within a county or region. These communities may or may not contain special-status species or their habitat, and are independently considered sensitive by CDFW. For purposes of this EIR, sensitive natural communities include vegetation communities identified in the List of Natural Communities with Holland Types (CDFW 2018a) with a CNDDDB state rank of S1, S2, or S3. There are no sensitive natural communities within the Proposed Project, which includes portions of the Project that occur within the Cimarron Ridge Development Project. The California buckwheat scrub, non-native grassland, disturbed and developed areas that have been identified are not considered sensitive natural communities as they are either not ranked or have a rank of S4 or higher.

Special-Status Plants

Special-status plants are legally protected under the California Endangered Species Act (CESA) (Fish and Game Code Sections 2050 et seq.), the Native Plant Protection Act (Fish and Game Code Sections 1900 et seq.), the federal Endangered Species Act (FESA), other regulations, or considered sufficiently rare by the scientific community to qualify for such a listing. For purposes of this EIR, special-status plant species include the following categories:

1. Officially listed by California or the federal government as endangered, threatened, or rare;
2. A candidate for state or federal listing as endangered, threatened, or rare;
3. Taxa that meet the criteria for listing, even if not currently included on any list, as described in *CEQA Guidelines* 15380; and

4. Taxa listed in the CNPS Inventory of Rare and Endangered Plants of California with a California Rare Plant Rank (CRPR) of 1, 2, or 4 which are defined below.
 - a. 1A – Plants presumed extirpated in California and either rare or extinct elsewhere;
 - b. 1B – Plants rare, threatened, or endangered in California and elsewhere;
 - c. 2A - Plants presumed extirpated in California but common elsewhere;
 - d. 2B – Plants rare, threatened or endangered in California, but more common elsewhere;
 - e. 4 – Plants of limited distribution;
 - i. 0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);
 - ii. 0.2 – Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat); and
 - iii. 0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known.

Table 3.3-Error! Reference source not found.**1** provides a summary of the special-status plants evaluated for the Proposed Project that have potential to occur based on the results of the CNDDDB (2019) and CNPS (2019) queries and the habitat that was characterized and mapped within the study area. A description of the species having a potential to occur is included following Table 3.3-1. The results of the database searches are provided in Appendix C of the 2019 Habitat Assessment (Appendix BIO).

The potential for special-status species to occur is ranked as low, medium or high. The “Potential to Occur” category indicated in Table 3.3-1 is defined as follows:

- **Low Potential:** The study area and/or immediate vicinity provides low-quality habitat for a particular species, such as improper substrate, disturbed or otherwise degraded habitat, or improper assemblage of desired vegetation, and/or the site is outside of the known range of the species.
- **Moderate Potential:** The study area and/or immediate vicinity provides marginal habitat for a particular species. For example, proper substrate may be present, but the desired vegetation assemblage or density is less than ideal, or substrate and vegetation are suitable, but the site is outside of the known elevation range of the species.
- **High Potential:** The study area and/or immediate vicinity provides high-quality or ideal habitat (i.e., soils, vegetation assemblage, and topography) for a particular species and/or there are known occurrences in the general vicinity of the Project area.
- **Present.** Species observed on the site during focused surveys or other site visits.

**TABLE 3.3-1
SPECIAL-STATUS PLANTS**

Common Name	Scientific Name	Status1 (Federal/State/Other)	Habitat	Potential to Occur Within the Study Area
Plants				
Munz's onion	<i>Allium munzii</i>	FE/ST/1B.1	Chaparral, coastal scrub, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Heavy clay soils; grows in grasslands and openings within shrublands or woodlands. 375-1040 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 1897 and is located approximately 2.5 miles east of the study area.
San Diego ambrosia	<i>Ambrosia pumila</i>	FE/None/1B.1	Chaparral, coastal scrub, valley and foothill grassland. Sandy loam or clay soil; sometimes alkaline. In valleys; persists where disturbance has been superficial. Sometimes on margins or near vernal pools. 3-580 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2005 and is located approximately 4.8 miles west of the study area.
Jaeger's milk-vetch	<i>Astragalus pachypus</i> var. <i>jaegeri</i>	None/None/1B.1	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland. Dry ridges and valleys and open sandy slopes; often in grassland and oak-chaparral. 365-1040 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 1922 and is located approximately 14 miles northeast of the study area.
San Jacinto Valley crownscale	<i>Atriplex coronata</i> var. <i>notatior</i>	FE/None/1B.1	Playas, valley and foothill grassland, vernal pools. Alkaline areas in the San Jacinto River Valley. 35-460 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2000 and is located approximately 1.8 miles north of the study area.

Common Name	Scientific Name	Status1 (Federal/State/Other)	Habitat	Potential to Occur Within the Study Area
thread-leaved brodiaea	<i>Brodiaea filifolia</i>	FT/SE/1B.1	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Occurs in openings on clay soils. 15-1030 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 1930 and is located approximately 1.1 miles north of the study area.
Santa Rosa Basalt brodiaea	<i>Brodiaea santarosae</i>	None/None/1B.2	Valley and foothill grassland. Santa Rosa Basalt. 585-1045 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2012 and is located approximately 10 miles southwest of the study area.
Plummer's mariposa-lily	<i>Calochortus plummerae</i>	None/None/4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2008 and is located approximately 14.5 miles northeast of the study area.
intermediate mariposa-lily	<i>Calochortus weedii</i> var. <i>intermedius</i>	None/None/1B.2	Coastal scrub, chaparral, valley and foothill grassland. Dry, rocky calcareous slopes and rock outcrops. 60-1575 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2003 and is located approximately 8.9 miles south of the study area.
smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	None/None/1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m AMSL.	Low. This species is known to occur within disturbed areas; however, this species is typically associated with riparian and (wet) meadow habitats, and playas. Closest CNDDDB record is from 2000 and is located approximately 1.7 miles north of the study area.

Common Name	Scientific Name	Status1 (Federal/State/Other)	Habitat	Potential to Occur Within the Study Area
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	None/None/1B.1	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. One CNDDDB occurrence from 2001 occurs within the study area.
long-spined spineflower	<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	None/None/1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Gabbroic clay. 30-1630 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2008 and is located approximately 3 miles northwest of the study area.
San Miguel savory	<i>Clinopodium chandleri</i>	None/None/1B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Ultramafic, Valley and foothill grassland, Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Rocky, gabbroic or metavolcanic substrate. 120-975 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 1965 and is located approximately 10.7 miles south of the study area.
many-stemmed dudleya	<i>Dudleya multicaulis</i>	None/None/1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 1-910 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2010 and is located approximately 11.2 miles west of the study area.
San Diego button-celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE/SE/1B.1	Vernal pools, coastal scrub, valley and foothill grassland. San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools; usually surrounded by scrub. 15-880 m AMSL.	Low. The Proposed Project supports marginal vegetation habitat, such as buckwheat scrub and non-native grassland; however, no vernal pool habitat has been documented in the area. Closest CNDDDB record is from 2009 and is located approximately 12.8 miles south of the study area.

Common Name	Scientific Name	Status1 (Federal/State/Other)	Habitat	Potential to Occur Within the Study Area
Palmer's grapplinghook	<i>Harpagonella palmeri</i>	None/None/4.2	Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. 20-955 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 1981 and is located approximately 7.2 miles southeast of the study area.
little mouseltail	<i>Myosurus minimus ssp. apus</i>	None/None/3.1	Vernal pools, valley and foothill grassland. Alkaline soils. 20-640 m AMSL.	Low. The Proposed Project supports marginal vegetation habitat, such as non-native grassland; however, no vernal pool habitat has been documented in the area. Closest CNDDDB record is from 1993 and is located approximately 5.8 miles east of the study area.
prostrate vernal pool navarretia	<i>Navarretia prostrata</i>	None/None/1B.1	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. 3-1235 m AMSL.	Low. The Proposed Project supports marginal vegetation habitat, such as buckwheat scrub and non-native grassland; however, no vernal pool habitat, including alkaline soils, has been documented in the area. Closest CNDDDB record is from 2009 and is located approximately 13.3 miles south of the study area.
Hammitt's clay-cress	<i>Sibaropsis hammittii</i>	None/None/1B.2	Valley and foothill grassland, chaparral. Mesic microsites in open areas on clay soils in Stipa grassland. Often surrounded by Adenostoma chaparral. 715-1040 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2016 and is located approximately 10.1 miles southwest of the study area.
San Bernardino aster	<i>Symphotrichum defoliatum</i>	None/None/1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernal mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m AMSL.	Low. The Proposed Project supports marginal vegetation habitat, such as buckwheat scrub and non-native grassland; however, no riparian habitat, has been documented in the area. Closest CNDDDB record is from 1923 and is located approximately 11.7 miles south of the study area.

Common Name	Scientific Name	Status1 (Federal/State/Other)	Habitat	Potential to Occur Within the Study Area
California screw moss	<i>Tortula californica</i>	None/None/1B.2	Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. 10-1460 m AMSL.	Low. The Proposed Project supports marginal habitat due to previous disturbances. The limited areas within the Proposed Project that have been disturbed by the Cimarron Ridge Development Project that were not accessible during the 2019 habitat assessment may support suitable habitat, such as buckwheat scrub and non-native grassland, since activities have remained dormant for over four years. Closest CNDDDB record is from 2012 and is located approximately 10.5 miles northeast of the study area.

1 Federal/State/Other Status: FE – Federally Endangered; FT – Federally Threatened; FC – Federal Candidate; SE – State Endangered; ST – State Threatened, SSC – State Special Status Species, SWL – State Watch List, FP –State Fully Protected; 1B;

CRPR, 1A – Plants presumed extirpated in California and either rare or extinct elsewhere, 1B – Plants rare, threatened, or endangered in California and elsewhere, 2A - Plants presumed extirpated in California but common elsewhere, 2B – Plants rare, threatened or endangered in California, but more common elsewhere, 3 - Plants about which more information is needed, and 4 – Plants of limited distribution; CNPS Threat Ranks 0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat, 0.2 – Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat), and 0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Special-Status Wildlife Species

Special-status wildlife species are legally protected under CESA, FESA, or other regulations, or are considered sufficiently rare by the scientific community to qualify for such a listing. For purposes of this EIR, special-status wildlife species include:

1. Officially listed by the state or the federal government as endangered, threatened, or rare;
2. A candidate for state or federal listing as endangered, threatened, or rare;
3. Taxa designated by the Legislature as Fully Protected under Fish and Game Code Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians);
4. Taxa designated by the CDFW as California Species of Special Concern;
5. Taxa that meet the criteria for listing, even if not currently included on any list, as described in *CEQA Guidelines* Section 15380; and
6. Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation (includes species with a CNDDDB state rank of S1, S2, or S3).

Table 3.3-2 provides a summary of special-status wildlife species with a potential to occur within the study area based on documented occurrences according to the CNDDDB (CNDDDB 2019), or presence of marginal-to-suitable habitat conditions within the study area, including vegetation communities, geographic range and soils.

**TABLE 3.3-2
 SENSITIVE WILDLIFE SPECIES WITH POTENTIAL TO OCCUR AT THE STUDY AREA**

Common Name	Scientific Name	Status ¹ (Federal/State/Other)	Habitat	Potential to Occur at Study Area
Mammals				
Dulzura pocket mouse	<i>Chaetodipus californicus femoralis</i>	None/SSC/None	Variety of habitats including coastal scrub, chaparral and grassland in San Diego County. Attracted to grass-chaparral edges.	Low. The California buckwheat scrub adjacent to the proposed water storage tank site provides marginal habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Buckwheat scrub or grassland habitat may occur within the inaccessible areas of the Proposed Project; however, such areas have either been previously disturbed by the Cimarron Ridge Development Project and/or are fragmented from undisturbed native habitats. Closest CNDDDB record is from 1993 and is located approximately 3.4 miles east of the study area.
northwestern San Diego pocket mouse	<i>Chaetodipus fallax</i>	None/SSC/None	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Low. The California buckwheat scrub adjacent to the proposed water storage tank site provides marginal habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Buckwheat scrub or grassland habitat may occur within the inaccessible areas of the Proposed Project; however, such areas have either been previously disturbed by the Cimarron Ridge Development Project and/or are fragmented from undisturbed native habitats. Closest CNDDDB record is from 1992 and is located approximately 3.8 miles southeast of the study area.
Stephens's kangaroo rat	<i>Dipodomys stephensi</i>	FE/ST/None	Coastal scrub, Valley and foothill grassland. Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	Low. The California buckwheat scrub adjacent to the proposed water storage tank site provides marginal habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Buckwheat scrub or grassland habitat may occur within the inaccessible areas of the Proposed Project; however, such areas have either been previously disturbed by the Cimarron Ridge Development Project and/or are fragmented from undisturbed native habitats. One CNDDDB occurrence from 1999 is present in the study area.

Common Name	Scientific Name	Status ¹ (Federal/State/Other)	Habitat	Potential to Occur at Study Area
Western mastiff bat	<i>Eumops perotis californicus</i>	None/SSC/None	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland. Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Low. The California buckwheat scrub and non-native grasslands within and adjacent to the proposed water storage tank site and pipeline provide suitable foraging habitat. No suitable roosting sites were observed during the 2019 habitat assessment conducted by ESA. Suitable coastal scrub or grassland habitat may occur within the inaccessible areas of the Proposed Project if these habitats have re-established since being disturbed over four years ago. Closest CNDDDB record is from 1990 and is located approximately 0.1 mile south of the study area.
San Diego black-tailed jackrabbit	<i>Lepus californicus bennettii</i>	None/SSC/None	Intermediate canopy stages of shrub habitats and open shrub, herbaceous and tree, herbaceous edges. Coastal sage scrub habitats in Southern California.	Present. The California buckwheat scrub adjacent to the proposed water storage tank site provides suitable habitat. This species was observed in 2014 during surveys conducted in offsite areas for the Cimarron Ridge Development Project according to the Cimarron Ridge Development EIR; however, the species was not observed during surveys conducted for the Project in 2015 or 2019. Aside from the 2014 observation, the closest CNDDDB record is from 1998 and is located approximately 0.4 mile south of the study area.
Los Angeles pocket mouse	<i>Perognathus longimembris brevinasus</i>	None/SSC/None	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	Low. The California buckwheat scrub adjacent to the proposed water storage tank site provides marginal habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Buckwheat scrub or grassland habitat may occur within the inaccessible areas of the Proposed Project; however, such areas have either been previously disturbed by the Cimarron Ridge Development Project and/or are fragmented from undisturbed native habitats. Closest CNDDDB record is from 1993 and is located approximately 3.8 miles east of the study area.
American badger	<i>Taxidea taxus</i>	None/SSC/None	Numerous habitat types. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Low. The California buckwheat scrub adjacent to the proposed water storage tank site provides marginal habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Buckwheat scrub or grassland habitat may occur within the inaccessible areas of the Proposed Project; however, such areas have either been previously disturbed by the Cimarron Ridge Development Project and/or are fragmented from undisturbed native habitats. No badgers or suitable burrows were observed during surveys conducted for the Project in 2015 or 2019. Closest CNDDDB record is from 1893 and is located approximately 13.5 miles northeast of the study area.

Common Name	Scientific Name	Status ¹ (Federal/State/Other)	Habitat	Potential to Occur at Study Area
Birds				
Golden eagle	<i>Aquila chrysaetos</i>	None/FP/None	Broadleaved upland forest, Cismontane woodland, Coastal prairie, Great Basin grassland, Great Basin scrub, Lower montane coniferous forest, Pinon and juniper woodlands and Upper montane coniferous forest. Valley and foothill grassland. Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Low. The non-native grasslands adjacent to the proposed water storage tank site and pipeline provide suitable foraging habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable coastal scrub or grasslands may occur within the inaccessible areas of the Proposed Project if these habitats have regrown. Potential nesting habitat is limited to power poles. Species is sensitive to some forms of human disturbance and will occasional nest near areas with low housing density. Not observed during assessments conducted for the Project in 2015 or 2019 for areas that were able to be accessed; however, no focused surveys were conducted. Closest CNDDB record is from 1974 and is located approximately 0.7 mile southeast of the study area.
burrowing owl	<i>Athene cunicularia</i>	None/SSC/None	Coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley and foothill grassland.	Moderate. The California buckwheat scrub adjacent to the proposed water storage tank site provides marginal foraging, overwintering and nesting habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable coastal scrub or grasslands may occur within the inaccessible areas of the Proposed Project if these habitats have regrown. No burrowing owls or suitable burrows were observed during assessments conducted for the Project in 2015 or 2019; however, no focused surveys were conducted. CNDDB occurrences from 1999, 2001 and 2002 occur in the study area.
ferruginous hawk	<i>Buteo regalis</i>	None/SWL/None	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	Low. The California buckwheat scrub adjacent to the proposed water storage tank site provides marginal habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Buckwheat scrub or grassland habitat may occur within the inaccessible areas of the Proposed Project; however, such areas have either been previously disturbed by the Cimarron Ridge Development Project and/or are fragmented from undisturbed native habitats. Closest CNDDB record is from 1008 and is located approximately 4.1 miles southeast of the study area.

Common Name	Scientific Name	Status ¹ (Federal/State/Other)	Habitat	Potential to Occur at Study Area
Swainson's hawk	<i>Buteo swainsoni</i>	None/ST/None	Great Basin grassland, Riparian forest, Riparian woodland, Valley and foothill grasslands. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Low. The non-native grasslands adjacent to the proposed water storage tank site and pipeline provide suitable foraging habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable grasslands may occur within the inaccessible areas of the Proposed Project if this habitat has regrown. Suitable nesting habitat is absent. Closest CNDDDB record is from 1933 and is located approximately 15.6 miles south of the study area.
mountain plover	<i>Charadrius montanus</i>	None/SSC/None	Chenopod scrub, Valley and foothill grassland. Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	Low. The non-native grasslands adjacent to the proposed water storage tank site and pipeline provide suitable foraging and nesting habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable grasslands may occur within the inaccessible areas of the Proposed Project if this habitat has regrown. Closest CNDDDB record is from 2008 and is located approximately 81.3 miles southeast of the study area.
northern harrier	<i>Circus cyaneus</i>	None/SSC/None	Coastal scrub, Great Basin grassland, Marsh and swamp, Riparian scrub, Valley and foothill grassland and Wetland. Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Low. The California buckwheat scrub and non-native grasslands within and adjacent to the proposed water storage tank and pipeline provide suitable foraging habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable coastal scrub or grasslands may occur within the inaccessible areas of the Proposed Project if these habitats have regrown. Suitable nesting habitat is absent. Closest CNDDDB record is from 2006 and is located approximately 8 miles east of the study area.
white-tailed kite	<i>Elanus leucurus</i>	None/FP/None	Cismontane woodland, Marsh and swamp, Riparian woodland, Valley and foothill grassland, Wetland. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low. The non-native grasslands adjacent to the proposed water storage tank site and pipeline provide suitable foraging habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable grasslands may occur within the inaccessible areas of the Proposed Project if this habitat has regrown. Suitable nesting habitat is absent. Closest CNDDDB record is from 2006 and is located approximately 9.5 miles east of the study area.

Common Name	Scientific Name	Status ¹ (Federal/State/Other)	Habitat	Potential to Occur at Study Area
California horned lark	<i>Eremophila alpestris actia</i>	None/SWL/None	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Present. The non-native grasslands adjacent to the proposed water storage tank site and pipeline provide suitable foraging and nesting habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable grasslands may occur within the inaccessible areas of the Proposed Project if this habitat has regrown. Observed onsite during the 2015 and 2019 assessments for the Project. Closest CNDDDB record is from 2000 and is located approximately 1.4 miles south of the study area.
merlin	<i>Falco columbarius</i>	None/SWL/None	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country.	Low. The non-native grasslands adjacent to the proposed water storage tank site and pipeline provide suitable foraging habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable grasslands may occur within the inaccessible areas of the Proposed Project if this habitat has regrown. Suitable nesting habitat is absent. Closest CNDDDB record is from 1993 and is located approximately 39.7 miles northwest of the study area.
coastal California gnatcatcher	<i>Poliophtila californica</i>	FT/SSC/None	Coastal bluff scrub, Coastal scrub. Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Low. Scrub communities present lack the density and height associated with nesting and are adjacent to roads and/or residences. Critical habitat occurs just north of the study area west of Goetz Road (see Figure 3.3-2) but outside of the work area for the Project. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable foraging or nesting habitat. Suitable coastal scrub may occur within the inaccessible areas of the Proposed Project if this habitat has regrown. Closest CNDDDB record is from 2003 and is located approximately 0.4 mile south of the study area.

Reptiles

orange-throated whiptail	<i>Aspidoscelis hyperythra</i>	None/SSC/None	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	Moderate. The California buckwheat scrub adjacent to the proposed water storage tank and pipeline provides suitable habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Suitable coastal scrub or grasslands may occur within the inaccessible areas of the Proposed Project if these habitats have regrown. Closest CNDDDB record is from 1999 and is located approximately 0.2 miles north of the study area.
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Common Name	Scientific Name	Status ¹ (Federal/State/Other)	Habitat	Potential to Occur at Study Area
red-diamond rattlesnake	<i>Crotalus ruber</i>	None/SSC/None	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Moderate. The California buckwheat scrub and non-native grasslands within and adjacent to the proposed water storage tank and pipeline provide suitable habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Suitable coastal scrub or grasslands may occur within the inaccessible areas of the Proposed Project if these habitats have regrown. Closest CNDDDB record is from 2001 and is located approximately 2 miles south of the study area.
coastal horned lizard	<i>Phrynosoma blainvillii</i>	None/SSC/None	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon and juniper woodlands, Riparian scrub, Riparian woodland, Valley and foothill grassland. Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Moderate. The California buckwheat scrub and non-native grasslands within and adjacent to the proposed water storage tank and pipelines provide suitable habitat. Accessible portions of the Proposed Project, which are limited to disturbed and developed areas, do not provide suitable habitat. Suitable coastal scrub or grasslands may occur within the inaccessible areas of the Proposed Project if these habitats have regrown. Closest CNDDDB record is from 2005 and is located approximately 3.6 miles west of the study area.

¹ Federal/State/Other Status: FE – Federally Endangered; FT – Federally Threatened; FC – Federal Candidate; SE – State Endangered; ST – State Threatened, SSC – State Special Status Species, SWL – State Watch List, FP –State Fully Protected; 1B;

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*)

The San Diego black-tailed jackrabbit is a California Species of Special Concern. San Diego black-tailed jackrabbit is an uncommon resident in southwestern California from Los Padres National Forest southward into Baja California, Mexico. San Diego black-tailed jackrabbit occurs in open, semi-arid to arid habitats, including coastal scrub where it feeds primarily on grasses and forbs.

This species was observed in 2014 during biological resources surveys conducted for the Cimarron Ridge Development Project’s offsite improvements, although the exact location wasn’t given. The nearest CNDDDB record for the species occurs less than 5 miles from the study area. Suitable habitat for the species occurs within the California buckwheat scrub habitat located in the study area. Although the inaccessible portions of the Proposed Project have been previously disturbed by the Cimarron Ridge Development Project, it appears that these areas have since lied dormant and the native habitat may be recovering, providing foraging and refuse for this species to inhabit.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is a California Species of Special Concern. Burrowing owl is an uncommon resident throughout much of the state with the exception of northwest coastal forests and high elevation mountains. Habitat for the burrowing owl is varied, including short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas where they feed on insects, small mammals, reptiles and other small wildlife. Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows that are approximately 4-8-inches in diameter, such as from ground squirrels. Typically nesting and wintering habitat includes ground squirrel burrows. Burrowing owls can also occupy man-made structures such as irrigation pipes for roosting and nesting.

This species was not documented during assessments conducted for the Project in 2015 or 2019. Multiple CNDDDB records occur within the study area. Suitable foraging and nesting habitat for burrowing owl occurs within the California buckwheat scrub and non-native grassland habitat located in the study area. Although the inaccessible portions of the Proposed Project have been previously disturbed by the Cimarron Ridge Development Project, it appears that these areas have since lied dormant and the native habitat may be recovering, providing foraging and refuse for this species to inhabit for overwintering and breeding.

California Horned Lark (*Eremophila alpestris actia*)

The California horned lark is a state watch list species. California horned lark is a common to abundant resident in coastal regions from Sonoma County to San Diego County as well as the main part of the San Joaquin Valley east of the foothills. California horned lark occurs in short-grass prairie, mountain meadows, open coastal plains, fallow grain fields and alkali flats where it feeds on insects, snails, spiders and seeds and other plant matter.

California horned lark was observed during the assessments conducted for the Project in 2015 and 2019 and is considered present in the study area. The nearest CNDDDB record for the species occurs less than 5 miles from the study area. Open areas containing non-native grasslands provide varying quality suitable foraging and nesting habitat for California horned lark. Although the inaccessible portions of the Proposed Project have been previously disturbed by the Cimarron Ridge Development Project, it appears that these areas have since lied dormant and the native habitat may be recovering, providing foraging and refuse for this species to inhabit.

Orange-Throated Whiptail (*Aspidoscelis hyperythra*)

The orange-throated whiptail is a California Species of Special Concern. The orange-throated whiptail occurs in the coastal zone west of the crest of Peninsular Ranges from Orange and southern San Bernardino Counties to San Diego County and in northern Baja California in open areas within coastal scrub, chaparral, and valley-foothill hardwood habitats. Orange-throated whiptail forages primarily on small arthropods.

This species has not been documented in the study area. The nearest CNDDDB record for the species occurs less than 5 miles from the study area. Suitable habitat for the species occurs within

the California buckwheat scrub habitat located in the study area. Although the inaccessible portions of the Proposed Project have been previously disturbed by the Cimarron Ridge Development Project, it appears that these areas have since lied dormant and the native habitat may be recovering, providing foraging and refuse for this species to inhabit.

Red-Diamond Rattlesnake (*Crotalus ruber ruber*)

The red diamond rattlesnake is a California Species of Special Concern. The red-diamond rattlesnake occurs throughout much San Diego and Orange Counties as well as western Riverside County and southwestern San Bernardino County in chaparral, woodland, grassland and desert habitats. Red diamond rattlesnakes forage primarily on small mammals but will consume lizards, birds and other snakes.

This species has not been documented in the study area. The nearest CNDDDB record for the species occurs less than 5 miles from the study area. Suitable habitat for the species occurs within the California buckwheat scrub habitat located in the study area. Although the inaccessible portions of the Proposed Project have been previously disturbed by the Cimarron Ridge Development Project, it appears that these areas have since lied dormant and the native habitat may be recovering, providing foraging and refuse for this species to inhabit.

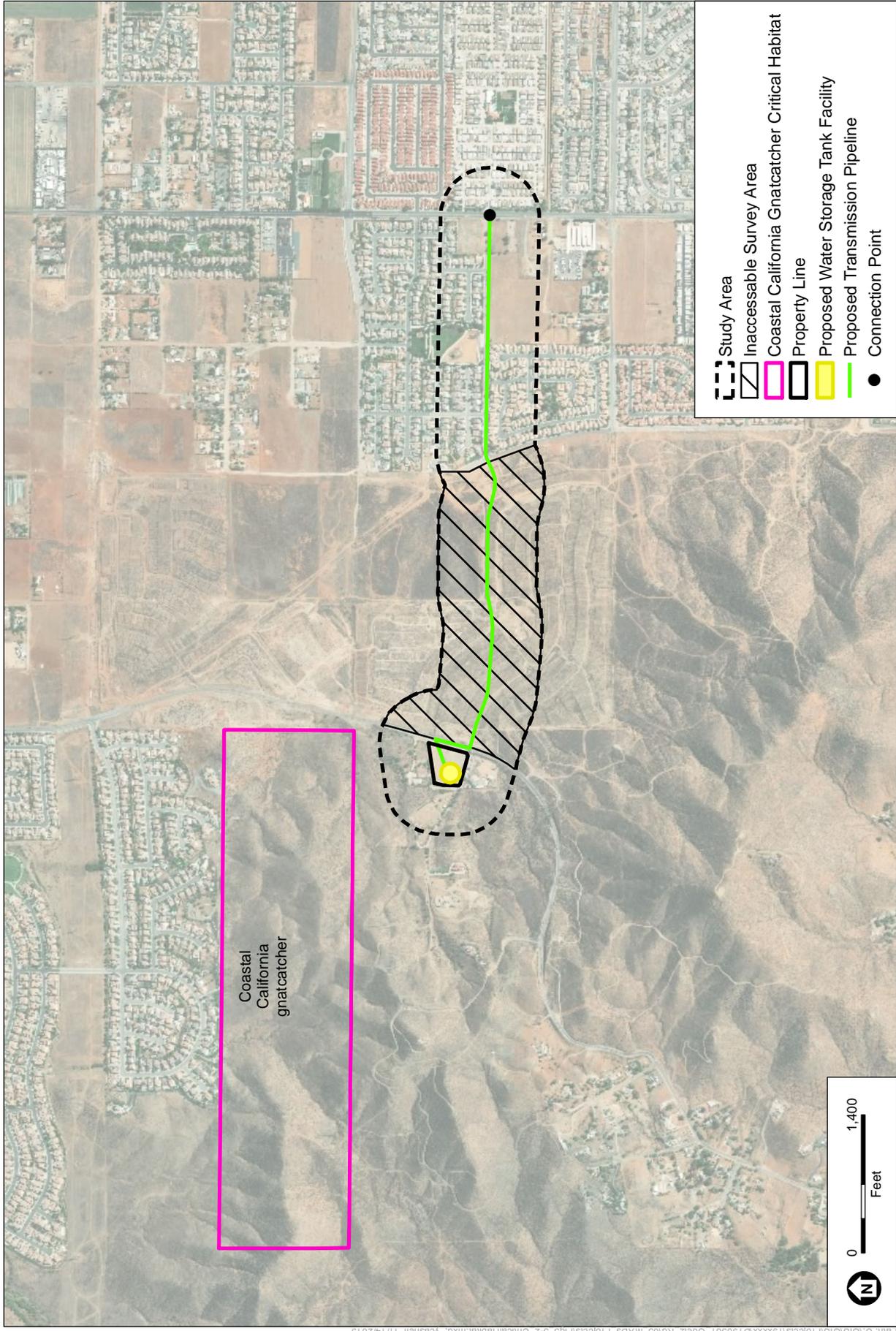
Coastal Horned Lizard (*Phrynosoma blainvilli*)

The coast horned lizard is a California Species of Special Concern. The coast horned lizard occurs throughout much of the state in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress, juniper and annual grassland habitats. Coast horned lizard forage primarily on ants but will consume other small insects.

This species has not been documented in the study area. The nearest CNDDDB record for the species occurs less than 5 miles from the study area. Suitable habitat for the species occurs within the California buckwheat scrub and non-native grassland habitat located in the study area. Although the inaccessible portions of the Proposed Project have been previously disturbed by the Cimarron Ridge Development Project, it appears that these areas have since lied dormant and the native habitat may be recovering, providing foraging and refuse for this species to inhabit.

Critical Habitat

Critical habitat, which USFWS determines is required for the survival and recovery of listed species, is present for the coastal California gnatcatcher (*Polioptila californica*) just north of the 500-foot study area that is located west of Goetz Road (see **Figure 3.3-2**). This critical habitat is located outside of all work areas associated with the proposed water storage tank site and transmission pipeline. In addition, critical habitat for thread-leaved brodiaea and spreading navarretia (*Navarretia fossalis*) occurs approximately 1.5 miles north of the study area along the San Jacinto River.



SOURCE: DigitalGlobe 2018; USFWS 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.3-2
Critical Habitat Map



Nesting Birds

The habitat within the study area is generally considered low quality for supporting nesting birds due to the developed and disturbed condition and dominance of non-native grass species that do not typically provide suitable nesting habitat to a variety of species. However, some species may nest within the California buckwheat scrub in the study area and there are birds that will nest on the bare ground, such as killdeer and a few species that will nest in areas of low-growing vegetation such as mourning dove and burrowing owl.

Jurisdictional Waters

Based on the 2015 and 2019 habitat assessments (McGill 2015 and ESA 2019) and the Cimarron Ridge Development Project EIR, there are no jurisdictional waters present, which includes “waters of the United States” regulated by the U.S. Army Corps of Engineers (USACE) and “waters of the State” regulated by the Regional Water Quality Control Board (RWQCB). A Streambed Alteration Agreement (CDFW 2004, 2018b [amended]) was issued for Cimarron Ridge Development Project. The location of these jurisdictional waters were not detailed in the Cimarron Ridge Development Project EIR or Streambed Alteration Agreement other than being located north of Chambers Avenue, south of McLaughlin Road, east of Goetz Road and west of Geary Street. According to the Romoland USGS Quadrangle 7.5-minute map, there are two blue-line streams in the study area; one located within a residential development located south of the proposed transmission pipeline and a second located just north of the proposed water storage tank site (see **Figure 3.3-3**). Both of these historic blue-line streams have been substantially disturbed by the Cimarron Ridge Development Project and construction of Goetz Road. Currently, there is no evidence of a natural stream courses at the location of the blue-line streams identified on the USGS map, including associated riparian habitat, due to existing developments that have previously impacted these areas.

Protected Trees

The study area is located within the cities of Menifee and Perris, which both have public and private tree planting and removal ordinances that prohibit the removal of trees or shrubs within public parks, public grounds, public streets, and other public and private areas without prior permission. Trees protected under these respective ordinances, such as southern magnolia and eucalyptus species, occur in the study area; none are present within the construction footprint of the Proposed Project.

Western Riverside MSHCP

The study area is located within Roughstep 3 of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and within the MSHCP's burrowing owl survey area and the MSHCP's Narrow Endemic Plant Species survey area (see **Figure 3.3-4**). Narrow endemic plant species within the survey area include Munz's onion, San Diego ambrosia, many-stemmed dudleya, spreading navarretia, California Orcutt grass and Wrights's trichocoronis. The 2015 Habitat Assessment prepared for the Project did not document observations of narrow endemic species; however, a focused survey for these species was not conducted. The Cimarron Ridge Development Project indicates that no narrow endemic species are present within the portion of the Proposed Project that occurs within the Cimarron Ridge Development Project. No narrow endemic species are expected to occur within that Proposed Project due to the level of existing disturbances and development that has removed suitable habitat for narrow endemic plants, such as housing pads, dirt roads and similar development associated with the Cimarron Ridge Development Project. It is important to note that some of the inaccessible portions of the Proposed Project that occur on the Cimarron Ridge Development Project may consist of conditions that are suitable for narrow endemic plants, as well as wintering and/or breeding habitat for burrowing owl.

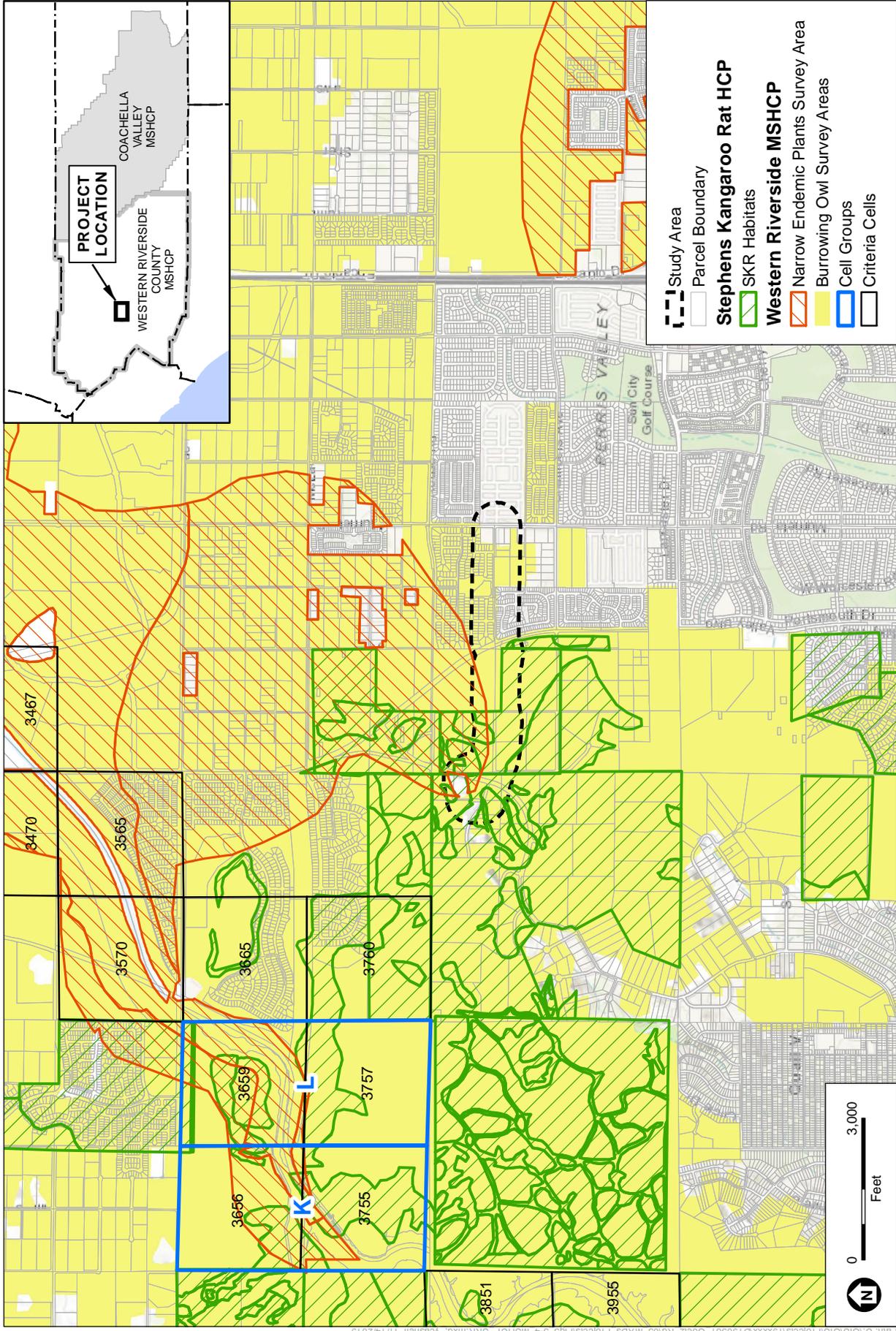
Stephens's Kangaroo Rat Habitat Conservation Plan

The Proposed Project is located within the SKR HCP. The majority of the non-native grassland that occurs in the study area is comprised of poor quality habitat for Stephens's kangaroo rat (*Dipodomys stephensi*) due to existing disturbances and development associated with the Cimarron Ridge Development Project, an SCE easement along Goetz Road, as well as disturbances associates with other private properties. There are some small patches of non-native grassland and California buckwheat scrub in the study area that provide marginal habitat for Stephens's kangaroo rat; however, these isolated areas are fragmented and surrounded by disturbed and/or developed lands.

Wildlife Movement Corridors

A wildlife movement corridor is an area connecting fragmented habitats and wildlife populations, often separated by human activities or structures (such as roads, development, or logging). Wildlife movement corridors allow an exchange of individuals between populations, which may help prevent the negative effects of inbreeding and reduced genetic diversity (via genetic drift) that often occur within isolated populations. Corridors may also help facilitate the re-establishment of populations that have been reduced or eliminated due to random events, such as fires or disease.

The study area is located within partially urbanized areas of the cities of Menifee and Perris and is surrounded by both developed and undeveloped lands. Undeveloped lands include areas west and east of Goetz Road and south of the proposed transmission pipeline. Residential areas to the east of the study area, including the Cimarron Ridge Development Project, limit wildlife movement through the study area. A new residential development that is located 1.15-mile north of the study area will further restrict wildlife movement in the vicinity.



SOURCE: County of Riverside June 2019

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.3-4
Habitat Conservation Plans



There are no corridors in the immediate vicinity of the project connecting large areas of habitat. However, undeveloped open space occurs to the west of the study area along the San Jacinto River and the riverbed may be used as a corridor for wildlife movement. The nearest extent of the Santa Jacinto River to the Proposed Project is over one-mile to the northwest.

3.3.2 Regulatory Framework

Federal

Endangered Species Act (USC, Title 16, § 1531 through 1543)

The FESA and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in CCR Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing “take” (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of “harm” includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. “Harass” is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at 50 CFR 13 and 17 for species under the jurisdiction of USFWS and 50 CFR 217, 220, and 222 for species under the jurisdiction of NMFS.

Migratory Bird Treaty Act (16 USC 703 through 711)

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms, or implements, a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful at

any time, by any means, or in any manner to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA makes it unlawful to take, pursue, molest, or disturb these species, their nests, or their eggs anywhere in the United States.

Federal Clean Water Act (33 USC 1251 through 1376)

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 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.

2015 Clean Water Rule

USACE and the USEPA have issued a set of guidance documents detailing the process for determining CWA jurisdiction over waters of the United States (waters of the U.S.) following the 2008 Rapanos decision. The USEPA and USACE issued a summary memorandum of the guidance for implementing the Supreme Court's decision in Rapanos that addresses the jurisdiction over waters of the U.S. under the CWA. The complete set of guidance documents, summarized as key points below, were used to collect relevant data for evaluation by the USEPA and the USACE to determine CWA jurisdiction over the project and to complete the "significant nexus test" as detailed in the guidelines.

Section 401 of the CWA gives the state authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the U.S. The State Water Resources Control Board (SWRCB) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The RWQCB regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State or appropriate interstate water pollution control agency in/where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.

The significant nexus test includes consideration of hydrologic and ecologic factors. For circumstances such as those described in Rapanos Guidance Key Points Category B below, the

significant nexus test would take into account physical indicators of flow (evidence of an ordinary high water mark [OHWM]), if a hydrologic connection to a Traditionally Navigable Water (TNW) exists, and if the aquatic functions of the water body have a significant effect (more than speculative or insubstantial) on the chemical, physical, and biological integrity of a TNW. The USACE and USEPA will apply the significant nexus standard to assess the flow characteristics and functions of a potential waters of the U.S. to determine if it significantly affects the chemical, physical, and biological integrity of the downstream TNW.

Wetlands (including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas) are also considered waters of the U.S., and 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 (Environmental Laboratory 1987).

Rapanos Guidance Key Points Summary

- (A) The USACE and USEPA will assert jurisdiction over the following waters:
- TNWs
 - Wetlands adjacent to TNWs
 - Non-navigable tributaries of TNWs that are relatively permanent (flows three months or longer)
 - Wetlands that abut such tributaries
- (B) The USACE and USEPA will decide jurisdiction over the following waters based on whether they have a significant nexus with a TNW:
- Non-navigable tributaries that are not relatively permanent
 - Wetlands adjacent to non-navigable tributaries that are not relatively permanent
 - Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary
- (C) The USACE and USEPA will not assert jurisdiction over the following waters:
- Swales or erosional features (gullies, small washes characterized by low volume, infrequent, or short-duration flow)
 - Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

State

California Endangered Species Act (California Fish and Game Code § 2050 et seq.)

The CESA establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no State agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is “consistent” with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for a take permit under Section 2081(b).

California State Fish and Game Code § 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, which may include ditches, that are 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 Fully Protected Species

California fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

California State Fish and Game Code §§ 2080 and 2081

Section 2080 of the California Fish and Game Code states that “No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except

as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.” Pursuant to Section 2081 of the code, CDFW may authorize individuals or public agencies to import, export, take, or possess State-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or Memoranda of Understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

California State Fish and Game Code §§ 3503, 3503.5, 3513, and 3800

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including its nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction. This statute does not provide for the issuance of any type of incidental take permit.

Section 3800 of the California Fish and Game Code affords protection to all nongame birds, which are all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. Section 3513 of the California Fish and Game Code upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA.

California Environmental Quality Act Guidelines, § 15380

Although threatened and endangered species are protected by specific federal and State statutes, *CEQA Guidelines* § 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected, and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDDB as sensitive are considered by CDFW to be significant resources and fall under the

CEQA Guidelines for addressing impacts. Local planning documents such as general plans often identify these resources as well.

***Native Plant Protection Act
(California Fish and Game Code §§ 1900 through 1913)***

California's NPPA requires all State agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project operator is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

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 percent 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 Solid Waste Agency of Northern Cook County (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.

Local

Western Riverside County Multiple Species Habitat Conservation Plan

The MSHCP is a comprehensive, multi-jurisdictional habitat conservation plan (HCP) focused on the conservation of species and their associated habitats in western Riverside County. The MSHCP currently provides conservation for 146 species which are referred to as covered species. The primary goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region. The MSHCP involves the assembly and management of a 500,000-acre Conservation Area for the conservation of natural habitats and their constituent wildlife populations. The MSHCP was developed to serve as a HCP pursuant to the Natural Communities Conservation Planning (NCCP) Act and Section 10(a)(1)(B) of the FESA. The MSHCP encompasses 1.26 million acres and includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line as well as jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. The overarching purpose of the plan is to balance development and economic interests with species and lands conservation goals. The MSHCP permits development of lands and take of species “in exchange for the assembly and management of a coordinated MSHCP Conservation Area” (Western Riverside County Regional Conservation Authority 2003).

The City of Menifee and the City of Perris have adopted ordinances to implement the MSHCP, which addresses habitat protection issues throughout the County and establishes “criteria areas,” which require high levels of habitat protection. All development projects within criteria areas are first required to undergo an extensive habitat assessment and if necessary, undergo an acquisition process from the Western Riverside County Regional Conservation Authority’s (RCA). EMWD is not a Participating Entity in the MSHCP and is not required to demonstrate project consistency with the goals and provisions of the MSHCP as they pertain to biological resources on EWMD-owned lands. EWMD is required to demonstrate consistency with the MSHCP on non-EWMD-owned lands.

Protective Tree Ordinances

The cities of Menifee and Perris have ordinances which protect both public and private trees within their respective city limits. Each ordinance prohibits the removal of trees or shrubs within public parks, public grounds, public streets, and other public and private areas without prior permission. A tree removal permit is required prior to the trimming or removal of a public or private tree.

3.3.3 Impact Analysis and Mitigation Measures

Significant Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to biological resources according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- 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.
- 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.
- 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.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
- Result in cumulatively considerable impacts to biological resources.

Additionally, the comments EMWD received on the Initial Study and Notice of Preparation were taken into consideration when preparing this Draft EIR. A summary of those comments is provided in **Table 3.3-3** below.

**TABLE 3.3-3
 SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Biological Resources	<ul style="list-style-type: none"> • The CEQA document should include a MSHCP Consistency report and provide mitigation, as needed, in accordance with all MSHCP requirements (at a minimum Sections 6.1.1, 6.1.3, 6.1.4, 6.3.2, 7.3.7, 7.5.3 and Appendix C).

Methodology

Project-related impacts can be direct or indirect and can occur during construction or operation of the Project. This includes impacts associated with construction of the transmission pipeline such as excavation as described in the Project description.

Direct impacts are considered to be those that involve the loss, modification, or disturbance of plant communities, which in turn directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or wildlife, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Other impacts, such as loss of foraging habitat, can occur although these areas or habitats are not directly removed by Project activity (i.e., indirect impacts). Indirect impacts can also involve the effects of increases in ambient levels of noise or light, competition with exotic plants and animals, and increased human disturbance. Indirect impacts may be associated with the subsequent day-to-day activities associated with the Project, such as increased traffic use, exotic ornamental plantings that provide a local source of seed, which may be both short-term and long-term in their duration. These impacts are commonly referred to as “edge effects” and may result in a slow replacement of native plants by exotics, and changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the Project.

Impact Analysis

Candidate, Sensitive, or Special Status Species

Impact 3.3-1: The Proposed Project could 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.

Special-Status Plants

Construction

Marginal habitat is present in the Project area for the special-status plant species identified as having a low potential to occur within the study area (see Table 3.3-1). These species have not been documented in the study area, and the majority of the Proposed Project where construction and operation would occur is already disturbed, supporting ruderal vegetation such as non-native grasses, as well as patches of California buckwheat near the proposed water storage tank site. Portions of the Proposed Project that are within the Cimarron Ridge Development Project have been previously disturbed by vegetation clearing and site preparation activities for the development, which were not accessible during the 2019 habitat assessment conducted by ESA. It appears that these areas have lied dormant since the disturbances occurred and successional regrowth of native species may be occurring. Because these areas were not assessed in 2019, their current condition cannot be confirmed; therefore, it is determined that there is a low potential for the special-status species listed in Table 3.3-1 to occur.

To ensure that impacts to special-status plants are minimized and/or avoided, **Mitigation Measures BIO-1** and **BIO-2** shall be implemented to determine presence or absence of special-status plant species prior to construction activities by conducting appropriately timed surveys, avoiding areas where special-status plants are observed, implementing restoration if avoidance is not feasible, and obtainment of federal and/or State take permit from USFWS and/or CDFW prior to initiating construction activities if any federally- or State-listed species may be impacted. Additionally, **Mitigation Measure BIO-3** would require preparation of a Worker Environmental Awareness Program (WEAP) and monitoring during construction activities by a qualified monitoring biologist to ensure impacts to special-status plants are avoided. With implementation of these mitigation measures, impacts to special-status plants would be less than significant.

Operation

Operation of the Project would not impact special-status plants. Anticipated maintenance activities would be limited to disturbed areas around the water storage tank. The pipeline would be installed underground and would not require regular maintenance. Anticipated maintenance associated with the water storage tank would include chemical applications and possibly infrequent maintenance of the tank itself. No impacts to special-status species would occur during the operation phase of the Project.

Special-Status Mammals

Dulzura Pocket Mouse, Northwestern San Diego Pocket Mouse, Stephens's Kangaroo Rat and Los Angeles pocket mouse

Construction

The California buckwheat scrub surrounding the storage tank site and non-native grassland adjacent to the proposed transmission pipeline provides marginal habitat for Dulzura pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax*), Stephens's kangaroo rat and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*). The storage tank site is already disturbed and does not provide suitable habitat for special-status species. Additionally, the previously disturbed areas associated with the Cimarron Ridge Development Project that were not assessed during the 2019 habitat assessment (ESA 2019) may provide habitat for these species, since these disturbed areas have lied dormant for more than four years; therefore, the native habitat in these areas may be naturally recovering. Construction activities have the potential to result in direct mortality if any of these species are present.

To ensure avoidance of Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens's kangaroo rat and Los Angeles pocket mouse, **Mitigation Measure BIO-4** shall be implemented, requiring a habitat assessment in the areas that were not assessed during the 2019 habitat assessment to determine if suitable habitat for these species is present. Should it be determined that suitable habitat for these species is present, **Mitigation Measure BIO-5** shall be implemented to conduct focused surveys to determine presence or absence. If any of these species are found to be present, **Mitigation Measure BIO-6** shall be implemented to relocate the species, including obtainment of a federal and State "take" permit if Stephens's kangaroo rat is present and impacts cannot be avoided. Additionally, if these species or their habitat are found to be present, Mitigation Measure BIO-3 would require preparation of a WEAP and monitoring during construction activities by a qualified to ensure impacts are avoided. Impacts to Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens's kangaroo rat and Los Angeles pocket mouse would be less than significant with mitigation.

Operation

Operation of the Project would not impact special-status wildlife. Anticipated maintenance activities would be limited to disturbed areas around the water storage tank, which do not contain suitable habitat for special-status species. The pipeline would be installed underground and would not require regular maintenance. Anticipated maintenance associated with the water storage tank

would include chemical applications and possibly infrequent maintenance of the tank itself. No impacts to special-status species would occur during the operation phase of the Project.

Western Mastiff Bat

Construction

The western mastiff bat (*Eumops perotis californicus*) has not been documented in the study area and no suitable (tree) roosts are present within, or immediately adjacent to, the Project site. There is a low potential that Western mastiff bat would forage over the Project site due to its generally disturbed condition; however, the California buckwheat scrub located near the proposed water storage tank provides marginal habitat (for foraging). No California buckwheat scrub would be impacted during construction; therefore, Project construction would have little effect on foraging bats, if any. Construction activities of the Project would not impact suitable foraging habitat. Impacts to western mastiff bat from construction activities would be less than significant and no mitigation is required.

Operation

Anticipated operational activities include maintenance within disturbed areas around the water storage tank, such as chemical applications in the water storage tank and possibly infrequent maintenance of the tank itself. The pipeline would be installed underground and would not require regular maintenance. Operation of the Project would not impact any bat roosts or areas where bats may forage.

San Diego Black-Tailed Jackrabbit and American Badger

Construction

According to the Cimarron Ridge Development Project EIR, a San Diego black-tailed jackrabbit was observed on the Project site in 2014; however, no American badgers (*Taxidea taxus*) or suitable burrows been documented. Construction activities would be confined to previously disturbed areas, where neither San Diego black-tailed jackrabbit nor American badger would be expected to occur. It is feasible that an American badger and/or San Diego black-tailed jackrabbit could inhabit the undisturbed areas to the west of the transmission pipeline and water storage tank, and possibly areas of the Cimarron Ridge Development Project that may be recovering from being impacted during initial site preparation over four years ago. Construction activities are not expected to result in mortality of any individuals since activities would be concentrated on previously disturbed areas; however, incidental impacts could occur if an individual were to wander onto the construction site.

Mitigation Measure BIO-4 would require a habitat assessment to verify if any suitable burrows are present. If suitable burrows are determined to be present, Mitigation Measure BIO-5 shall be implemented to determine presence or absence of the species. If these species are found to be present, Mitigation Measure BIO-6 shall be implemented to relocate the species to a nearby area containing suitable habitat if the individual does not vacate the work area on its own accord. Additionally, to further minimize impacts to American badger and San Diego black-tailed jackrabbit, Mitigation Measure BIO-3 shall be required that entails implementation of a WEAP and supervision of all construction activities by a qualified monitoring biologist to ensure impacts

to special-status wildlife are avoided. Implementation of these mitigation measures would ensure that impacts are less than significant.

Operation

Operation of the Project would not impact special-status wildlife. Anticipated maintenance activities would be limited to disturbed areas around the water storage tank, which do not contain suitable habitat for special-status species. The pipeline would be installed underground and would not require regular maintenance. Anticipated maintenance associated with the water storage tank would include chemical applications and possibly infrequent maintenance of the tank itself. No impacts to special-status species would occur during the operation phase of the Project.

Special-Status Reptile Species

Coast Horned Lizard, Orange-Throated Whiptail and Red Diamond Rattlesnake

Construction

No Coast horned lizard, orange-throated whiptail and red diamond rattlesnake have been documented within the Project site; however, these species could inhabit the undisturbed areas to the west of the water storage tank, non-native grassland areas, and possibly areas of the Cimarron Ridge Development Project that may be recovering from being impacted during initial site preparation over four years ago. Construction activities are not expected to result in mortality of any individuals since activities would be concentrated in previously disturbed areas; however, incidental impacts could occur if an individual were to wander onto the construction site. Mitigation Measure BIO-3 shall be required that entails implementation of a WEAP to educate construction personnel on species identification and avoidance measures should an individual be observed on or near the construction site or under equipment. Implementation of this mitigation measures would minimize the potential for individuals to be inadvertently effected during construction activities; therefore, impacts are less than significant.

Operation

Operation of the Project would not impact special-status wildlife. Anticipated maintenance activities would be limited to disturbed areas around the water storage tank, which do not contain suitable habitat for special-status species. The pipeline would be installed underground and would not require regular maintenance. Anticipated maintenance associated with the water storage tank would include chemical applications and possibly infrequent maintenance of the tank itself. No impacts to special-status species would occur during the operation phase of the Project.

Special-Status Avian Species

Burrowing Owl

Construction

Burrowing owl has not been documented in the study area during any general biological surveys. However, the California buckwheat scrub surrounding the water storage tank site, the non-native grassland areas adjacent to the transmission pipeline, and possibly areas of the Cimarron Ridge Development Project that may be recovering from being impacted during initial site preparation

over four years ago, provides suitable habitat for this species. Indirect impacts from noises and vibrations during construction activities could occur if a burrowing owl is breeding or wintering within areas of suitable habitat, and direct impacts could occur during the construction of the transmission pipeline that may contain suitable habitat.

Construction activities are not expected to result in mortality of any individuals since activities would be concentrated on previously disturbed areas. To ensure that no burrowing owls are directly or indirectly impacted, **Mitigation Measure BIO-7** shall be implemented, which requires protocol surveys for burrowing owl in areas that contain suitable habitat for the species. As required in accordance with this mitigation measure, if a burrowing owl is observed during focused surveys and found to be potentially impacted by the Project, construction activities shall be limited to outside of the breeding season (February 1 to August 31), or a suitable buffer shall be established around active burrow, or owls shall be excluded and relocated in accordance with a Burrow Exclusion Plan approved by CDFW and/or RCA. Permanent impacts to land that supports burrowing owls may require conservation of mitigation lands to offset the impact to burrowing owl and loss of occupied habitat. The conservation of mitigation lands will be determined through consultation with CDFW and/or the RCA depending on the ownership of the occupied land prior to initiation of construction activities. Implementation of Mitigation Measure BIO-7 would ensure that impacts to burrowing owl are less than significant.

Operation

Operation of the Project would not impact special-status wildlife. Anticipated maintenance activities would be limited to disturbed areas around the water storage tank, which do not contain suitable habitat for special-status species. The pipeline would be installed underground and would not require regular maintenance. Anticipated maintenance associated with the water storage tank would include chemical applications and possibly infrequent maintenance of the tank itself. No impacts to special-status species would occur during the operation phase of the Project.

Coastal California Gnatcatcher, Mountain Plover, California Horned Lark, Golden Eagle, Ferruginous Hawk, Swainson's Hawk, Northern Harrier, White-tailed Kite and Merlin

Construction

Coastal California gnatcatcher, mountain plover (*Charadrius montanus*), golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*) and merlin (*Falco columbarius*) have not been documented in the study area during any general biological surveys. California horned lark was documented during the biological assessments conducted in 2015 (McGill 2015) and 2019 (ESA 2019). No nesting habitat is present within the disturbed portions of the Project site; however, these species could forage within the undisturbed habitats located to the west of the water storage tank site and as well as the non-native grassland areas west of the transmission pipeline.

To ensure that these species are not impacted during construction activities, pre-construction nesting avian surveys and avoidance measures identified in **Mitigation Measure BIO-8** shall be implemented prior to initiation of construction activities. Additionally, Mitigation Measure BIO-3

shall be required that entails implementation of a WEAP to educate construction personnel on species identification and avoidance measures should an individual or nest be observed on or near the construction site or under equipment. Implementation of these mitigation measures would minimize the potential for individuals to be inadvertently effected during construction activities; therefore, impacts are less than significant.

Operation

Operation of the Project would not impact special-status wildlife. Anticipated maintenance activities would be limited to disturbed areas around the water storage tank, which do not contain suitable habitat for special-status species. The pipeline would be installed underground and would not require regular maintenance. Anticipated maintenance associated with the water storage tank would include chemical applications and possibly infrequent maintenance of the tank itself. No impacts to special-status species would occur during the operation phase of the Project.

Nesting Birds

Construction

The California buckwheat scrub and non-native grasslands located adjacent to the water storage tank site and transmission pipeline, respectively, have the potential to support a variety of nesting birds. Impacts to migratory and resident nesting birds are prohibited in accordance with the MBTA, as well as, provisions of the California Fish and Game Code. Construction activities associated with the Project could result in potential impacts to nesting birds and raptors. Indirect impacts in the form of increased noise, dust and vibration levels may occur should nesting individuals be adjacent to the construction area. To ensure that bird nests are not impacted during construction activities, pre-construction nesting bird surveys and avoidance measures identified in Mitigation Measure BIO-8 shall be implemented prior to initiation of construction activities. Additionally, Mitigation Measure BIO-3 shall be required that entails implementation of a WEAP to educate construction personnel on bird nest avoidance measures should a nest be observed on or near the construction site. Implementation of these mitigation measures would minimize the potential for bird nests to be inadvertently effected during construction activities; therefore, impacts are less than significant.

Operation

Operation of the Project would not impact special-status wildlife. Anticipated maintenance activities would be limited to disturbed areas around the water storage tank, which do not contain suitable habitat for special-status species. The pipeline would be installed underground and would not require regular maintenance. Anticipated maintenance associated with the water storage tank would include chemical applications and possibly infrequent maintenance of the tank itself. No impacts to special-status species would occur during the operation phase of the Project.

Mitigation Measures

Mitigation Measure BIO-1: Special-Status and Narrow Endemic Plant Surveys.

Prior to initiation of construction activities, focused surveys for special-status and MSHCP narrow endemic plant species shall be conducted within area that contain

suitable habitat that will be directly disturbed. This includes the portion of the Proposed project that traverses through the Cimarron Ridge Development Project that were disturbed over four years ago that may now contain suitable habitat. The focused surveys must be conducted by a qualified botanist in accordance with the MCHCP requirements for conducting surveys for narrow and endemic plants, the 2001 CNPS Botanical Survey Guidelines (CNPS 2001), 2002 USFWS General Rare Plant Survey Guidelines (USFWS 2002) and *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, March 20, 2018).

Mitigation Measure BIO-2: Avoidance of Special-Status Plants. If narrow endemic species are observed during the focused surveys and found to be potentially impacted by the Project, the locations of special-status plants and/or MSHCP narrow endemic species within 25-feet of construction areas shall be identified and mapped. Individual plants shall be flagged for avoidance and an avoidance buffer of at least 10-feet comprised of temporary fence material shall be established around the plant(s). If avoidance is not feasible, no impacts may occur to the plants until avoidance or mitigation strategies are determined through consultation with the CDFW and/or RCA, such as relocation or restoration based on an approved Restoration Plan. If take of a federal- or State-listed species is unavoidable, take authorization shall be obtained from USFWS and/or CDFW prior to impacting the plant(s).

Mitigation Measure BIO-3: Environmental Awareness Training. Prior to commencement of construction activities, a qualified biologist shall prepare a WEAP that provides a description of potentially-occurring special-status species that could be affected. The WEAP shall include information on identifying special-status species, and measures to avoid special-status species during construction activities, such as establishing an onsite speed limit of 15 miles per hour, covering trenches and open pits at the end of each workday, installing wildlife escape ramps in open trenches or pits, and daily trash and debris disposal from the Project site. The WEAP training shall be provided to all construction personnel by a qualified biologist. Completion of the WEAP training shall be documented for all construction personnel on a sign-in sheet that shall be onsite at all time during construction activities.

Mitigation Measure BIO-4: Preconstruction Habitat Assessment. Prior to initiating construction activities, a habitat assessment shall be conducted within the portions of the Project site that are located within the Cimarron Ridge Development Project that have not been assessed in over four years. The assessment shall be focused on identifying presence of suitable habitat for special-status plant and animal species identified in Tables 3.3-1 and 3.3-2. If suitable habitat is determined to present within areas that will be disturbed during construction activities, Mitigation Measure BIO-5 shall be implemented.

Mitigation Measure BIO-5: Pre-Construction Wildlife Surveys: If suitable habitat for special-status species is determined to be present within areas that will be disturbed during construction activities, preconstruction surveys for special-status wildlife shall be conducted by a qualified biologist prior to the start of ground-disturbing activities. The

pre-construction survey shall focus on those species having potential to occur, including American badger, San Diego black-tailed jackrabbit, coast horned lizard, orange-throated whiptail and red diamond rattlesnake, Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens's kangaroo rat and Los Angeles pocket mouse. For listed species, including Stephens's kangaroo rat, surveys shall be conducted by a USFWS-permitted (10(a)(1)(A)) biologist in accordance with USFWS survey protocols. If a special-status species is identified to be present during the preconstruction survey, and impacts cannot be avoided, consultation with CDFW and/or USFWS shall be conducted to determine avoidance or mitigation measures. Construction activities shall not commence until take authorization by CDFW and/or USFWS is provided.

Mitigation Measure BIO-6: Wildlife Avoidance Plan: If a special-status species is determined to be present within areas that will be directly impacted by Project-related construction activities, a Wildlife Avoidance Plan shall be prepared by a qualified biologist that identifies measures to avoid species-status wildlife, such as establishment of avoidance buffers, exclusionary fencing, monitoring, and relocation. The Plan shall be approved by CDFW prior to initiation of construction activities. The Plan shall identify biologist qualifications, handling methods, and identification of relocation sites.

Mitigation Measure BIO-7: Habitat Assessment and Protocol Surveys for Burrowing Owl. Prior to commencement of construction activities, focused surveys for burrowing owl shall be conducted in areas that contain suitable habitat for the species that would be directly impacted, such as portions of the Project that occur with the Cimarron Ridge Development Project that have not been assessed since 2015. If suitable habitat is determined to be present in such areas, a protocol survey shall be conducted by a qualified biologist following the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) on EMWD-owned parcels, and following the Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area (RCA 2016) on all other properties containing suitable habitat that are not owned by EMWD.

If a burrowing owl is observed during the focused surveys where construction activities would occur, avoidance and mitigation measures shall be established and approved by CDFW and/or RCA, respectively, prior to commencement of construction activities. Avoidance of burrowing owls can be achieved by avoiding construction activities during the breeding season (February 1 to August 31), establishing a minimum 300-foot buffer around an active burrow comprised of orange mesh drift fencing or temporary chain-link fencing, or excluding and relocating owls based on coordination with CDFW. If a burrowing owl may be impacted during construction activities, a Burrow Exclusion Plan approved by CDFW and/or RCA shall be prepared by a qualified biologist that identifies methods for excluding burrowing owls from the site, relocation methods, and identification of recipient sites. Permanent impacts to land that supports burrowing owls may require conservation of mitigation lands to offset the impact to burrowing owl and its habitat. The conservation of mitigation lands will be determined through consultation

with CDFW and/or the RCA depending on the ownership of the occupied land, which shall be established and approved prior to commencement of construction activities.

Mitigation Measure BIO-8: Nesting Bird and Raptor Avoidance. To avoid potential impacts to nesting birds, including California horned lark, vegetation removal and/or ground disturbance shall be timed to occur between September 1 and January 31, which is outside of the typical nesting season for birds in the region. If vegetation removal and/or ground disturbances must occur during the typical nesting season (February 1 – August 31), a qualified biologist shall conduct a preconstruction survey for active nests within areas that will be subject to vegetation removal and/or ground disturbances, including an approximate 300-foot buffer to identify active nests that could be indirectly impacted during construction by noises and vibrations generated from construction equipment. Buffer distances may be adjusted at the discretion of a qualified biologist based on the location of the nest, species, surrounding land uses, and the type of construction that will be occurring in the area.

Construction activities shall be avoided within the buffer, unless otherwise approved by a qualified biologist. The buffer shall be delineated with exclusionary fencing or flagging to prevent the nest from being inadvertently impacted, and shall remain in place until the nest is no longer active as determined by the biologist.

Significance Determination

Less than Significant with Mitigation

Riparian Habitat or Other Sensitive Natural Community

Impact 3.3-2: The Proposed Project could 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.

Construction

Based on the 2015 habitat assessment (McGill 2015) and the 2019 habitat assessment (ESA 2019), no riparian habitat or CDFW sensitive natural communities occur within or immediately adjacent to the Project site; therefore, no impacts would occur during construction activities.

Operation

No riparian habitat or CDFW sensitive natural communities occur within or immediately adjacent to the Project site; therefore, no impacts would occur during the operation phase of the Project.

Mitigation Measures

None Required

Significance Determination

No Impact

State or Federally Protected Wetlands

Impact 3.3-3: The Proposed Project could 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.

Construction

Based on the 2015 habitat assessment (McGill 2015) and the 2019 habitat assessment (ESA 2019), no state or federally regulated waters or wetlands occur within, or adjacent to, the Project site. Therefore, Project construction would not have an effect on state or federally protected wetlands or waters.

Operation

No state or federally regulated waters or wetlands occur within, or adjacent to, the Project site. Therefore, the Project would not have an effect on state or federally protected wetlands or waters during the operation phase of the Project.

Mitigation Measures

None Required

Significance Determination

No Impact

Wildlife Corridors

Impact 3.3-4: The Proposed Project could 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.

There are no terrestrial or aquatic wildlife movement corridors within or adjacent to the Project area. Terrestrial wildlife movement within the Project area is limited to the undisturbed open space to the west; otherwise wildlife movement is primarily localized due to the surrounding urban landscape that includes Thornton Road, Goetz Road, residential neighborhoods and the disturbed areas associated with the Cimarron Ridge Development Project. The nearest wildlife movement corridor is the San Jacinto River that is over one-mile to the northwest of the Project; however, construction and operation of the Project would not have a direct or indirect effect on the San Jacinto River or its associated habitats. Due to the absence of wildlife movement corridors, no impacts would occur.

Mitigation Measures

None Required

Significance Determination

No Impact

County Policies or Ordinances

Impact 3.3-5: The Proposed Project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

No impacts to city-protected trees are anticipated to occur during the construction or operation phase of the project. Should street tree removal or trimming be required, it would be conducted in accordance with the City of Menifee's Park Design, Landscaping and Tree Preservation Ordinance and the City of Perris' Protective Tree Ordinance. Therefore, impacts to protected trees would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Habitat Conservation Plan

Impact 3.3-6: The Proposed Project could conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Western Riverside MSHCP

The Project occurs within both the Western Riverside MSHCP and the SKRHCP. EMWD is not a Participating Entity in the MSCHP and is not required to demonstrate project consistency with the goals and provisions of the MSHCP as they pertain to biological resources on EWMD-owned lands (such as the water storage tank site) (RCA 2003). EWMD is, however, required to demonstrate consistency with the MSHCP on non-EWMD-owned lands (such as the disturbed area between the water storage tank site and Goetz Road, and the Cimarron Ridge Development Project site through which the transmission pipeline would be installed) (RCA 2003). Should burrowing owls be found to occur in the areas that would be disturbed during construction activities, **Mitigation Measure BIO-9** requires that a consistency analysis report and a Determination of Biologically Equivalent or Superior Preservation (DBESP) Report shall be prepared, to ensure the Project would not conflict with the provisions of the Western Riverside MSHCP. In addition, construction guidelines listed under Section 7.5.3 and standard best management practices (BMPs) listed under Appendix C of the MSHCP shall be implemented during construction and operations activities. With the incorporation of Mitigation Measure BIO-9, the Project would not conflict with the Western Riverside MSHCP and impacts would be reduced to a less than significant level.

A preliminary consistency analysis with all relevant sections of the MSCHP is provided below.

MSHCP Covered Roads and Public Access Activities

The Project would cross or intersect three covered roads as identified on the RCA MSHCP Information Map (RCA 2019). These include one secondary (Murrieta Road), one arterial (Valley Boulevard) and one mountain arterial (Goetz Road). Impacts to these covered roads would be temporary and would not cause the roads to be relocated or change the amounts or locations of covered roads. Project impacts to MSHCP covered roads would be less than significant.

One adopted planned regional trail occurs within the Project site along the portion of pipeline alignment located within the Cimarron Ridge Development Project's footprint. However, there is no currently active trail that intersects the Project. Impacts to the adopted planned regional trail would be temporary and would occur in areas previously impacted by the Cimarron Ridge Development Project. Project impacts to MSHCP covered roads would be less than significant.

MSHCP Section 6.1.1 – Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Strategy (HANS)

The Project does not occur within an MSHCP criteria cell or public/quasi-public lands and does not require a Habitat Evaluation Acquisition Negotiation Strategy (HANS). Reserve assembly under the MSHCP is not required for the Project. The Project is in compliance with the MSHCP HANS analysis. No impact would occur.

MSHCP Section 6.1.2 – Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

Biological resources assessments conducted in 2015 and 2019 did not identify vernal pools, or suitable habitat for fairy shrimp (Riverside [*Streptocephalus woottoni*], vernal pool [*Branchinecta lynchi*] and Santa Rosa Plateau fairy shrimp [*Linderiella santarosae*]), riparian birds (least Bell's vireo [*Vireo bellii pusillus*], southwestern willow flycatcher [*Empidonax traillii extimus*], or yellow-billed cuckoo [*Coccyzus americanus*]), in the study area. According to the Cimarron Ridge Development Project EIR, no riparian/riverine areas, vernal pools, fairy shrimp or suitable habitat for species listed under Section 6.1.2 are present, which includes the portion of the Project that traverses through the Cimarron Ridge Development Project. No impacts to species associated with riparian/riverine areas and vernal pools would occur, since such resources are not present in the vicinity of the Project.

MSHCP Section 6.1.3 – Protection of Narrow Endemic Plant Species

The Project occurs within the MSHCP's Narrow Endemic Plant Species survey area and marginal habitat occurs within the undeveloped areas adjacent to the Project containing non-native grassland and California buckwheat scrub. Implementation of Mitigation Measures BIO-1 and BIO-2 that requires narrow endemic plant surveys to be conducted and implementation of avoidance and mitigation methods, would minimize impacts to narrow endemic plants and ensure compliance with Section 6.1.3 of the MSHCP. Therefore, impacts associated with narrow endemic plants in accordance with Section 6.1.3 of the MSHCP would be less than significant.

MSHCP Section 6.1.4 – Guidelines Pertaining to the Urban/Wildlands Interface

The Project does not occur near or adjacent to conservation areas. Therefore, analysis of urban/wildlands interface pursuant to Section 6.1.4 of the MSHCP, is not required. No impact would occur and the Project would be in compliance with Section 6.1.4 of the MSHCP.

MSHCP Section 6.3.2- Additional Survey Needs and Procedures

Criteria Area Plants

The Project is not located within a Criteria Area and suitable habitat is limited to areas outside the Project within the undeveloped areas containing non-native grassland and California buckwheat scrub. Implementation of Mitigation Measures BIO-1 and BIO-2, which requires narrow endemic plant surveys and avoidance measures, respectively, would effectively mitigate impacts to criteria area plants and ensure compliance with Section 6.3.2 of the MSHCP. Therefore, impacts associated with criteria area plants in accordance with Section 6.3.2 of the MSHCP would be less than significant.

Amphibians

The Project is not located within the survey area for amphibians. In addition, the Project lacks suitable habitat for MSHCP amphibian species. Impacts to amphibian species are not anticipated for the Project; therefore, the Project is in compliance with Section 6.3.2 of the MSHCP.

Burrowing owl

The Project occurs within the MSHCP's burrowing owl survey area and suitable habitat is limited to areas outside the Project within the undeveloped areas containing non-native grassland and California buckwheat scrub, none of which would be impacted during construction or operation of the Project. Implementation of Mitigation Measure BIO-7, which requires focused burrowing owl surveys, relocation and mitigation should burrowing owls be determined to be present, would effectively mitigate impacts to burrowing owl and ensure compliance with Section 6.3.2 of the MSHCP. Therefore, impacts associated with burrowing owl would be less than significant.

Mammals

To ensure avoidance of Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens's kangaroo rat, Los Angeles pocket mouse, American badger and San Diego black-tailed jackrabbit, Mitigation Measure BIO-4 shall be implemented, requiring a habitat assessment in the areas that were not assessed during the 2019 habitat assessment to determine if suitable habitat for these species is present. Should it be determined that suitable habitat for these species is present, Mitigation Measure BIO-5 shall be implemented to conduct focused surveys to determine presence or absence. If any of these species are found to be present, Mitigation Measure BIO-6 shall be implemented to relocate the species, including obtainment of a federal and State "take" permit if Stephens's kangaroo rat is present and impacts cannot be avoided. Implementation of these mitigation measures would ensure compliance with Section 6.3.2 of the MSHCP; therefore, impacts to mammals would be less than significant.

Delhi Sands Flower Loving Fly

Suitable habitat for Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) does not occur within the study area or Project site, and there are no CNDDDB records on the Project

site or surrounding area. Impacts are not anticipated to Delhi sands flower loving fly; therefore, the Project would be in compliance with Section 6.3.2 of the MSHCP.

Species Not Adequately Covered

None of the 28 species identified by the MSHCP as species not adequately covered (MSHCP Table 9-3) have the potential to occur on the Project site due primarily to the disturbed condition. Although not identified as species not adequately conserved, take for the following species would not occur, because there is no suitable habitat for these species where Project construction would occur: Santa Rosa Plateau fairy shrimp, bald eagle (*Haliaeetus leucocephalus*), golden eagle, peregrine falcon (*Falco peregrinus*) and white-tailed kite. Santa Rosa Plateau fairy shrimp is not expected to occur due the lack of suitable vernal pool habitat. Bald eagle, golden eagle, white-tailed kite and peregrine falcon are not expected to occur due to the presence of low-quality habitat for foraging, whereas no suitable nesting habitat is present. The Project would not impact Species Not Adequately Covered in accordance with Section 6.3.2 of the MSHCP, since such species are not expected to occur.

MSHCP Section 7.3.7 – Covered Activities to Flood Control Facilities

The Project involves altering stormwater drainage on the site. However, it does not involve making improvements to or developing new flood control facilities and does not require analysis of such facilities. As described below, the Project would implement guidelines described under Section 7.5.3 of the MSHCP as well as BMPs identified under Appendix C of the MSHCP. Therefore, the Project would be in compliance with Section 7.3.7 of the MSHCP and impacts would be less than significant.

Section 7.5.3 Construction Guidelines

The Project would implement all guidelines described under Section 7.5.3 of the MSHCP. In addition, the Project would implement all BMPs as identified in Appendix C of the MSHCP. This would ensure compliance with Section 7.5.3 of the MSHCP, and ultimately reduce potential impacts to a less than significant level.

Stephens Kangaroo Rat Habitat Conservation Plan

The Project occurs within the SKR HCP fee area. However, all suitable non-native grassland and California buckwheat scrub able to support Stephens's kangaroo rat within the study area would be avoided by the Project. The portions of the Project that are within the Cimarron Ridge Development Project that were impacted over four years ago may contain suitable habitat for Stephens's kangaroo rat. Because this portion of the Project is not owned by EMWD, EMWD must demonstrate consistency with the SKR HCP (Riverside County Habitat Conservation Agency 1996). The SKR HCP requires that direct and indirect impacts to the Stephens's kangaroo rat, including habitat destruction of occupied land be mitigated either via onsite preservation of land, or the payment of the mitigation fee set out by the County ordinance. Mitigation fees are used to finance the implementation of the SKR HCP.

On non-EMWD-owned lands where suitable habitat for Stephens's kangaroo rat is present, EMWD would comply with all requirements of the SKR HCP and would consult with the

RCHCA accordingly. Implementation of **Mitigation Measure BIO-10** would ensure compliance with the SKR HCP and coordination with the RCHCA; therefore, the Project would not be in conflict with the SKR HCP and impacts would be less than significant.

Mitigation Measures

Mitigation Measure BIO-9: Western Riverside MSHCP. Focused rare plant and burrowing owl surveys shall be conducted to verify if any narrow endemic plant species and burrowing owl are present that may be effected by construction activities. In accordance with the MSHCP, the Project shall demonstrate consistency on non-EMWD owned properties through the preparation of a MSHCP Consistency Analysis Report. A DBESP Report will be required if rare plants or burrowing owls are detected and impacts are unavoidable. The DBESP will need to include a discussion of why avoidance is not feasible, including minimization measures for addressing potential indirect impacts, mitigation that will offset the Project's impacts, and a determination that mitigation proposed is biologically equivalent or superior. A DBESP, should it be required, must be prepared when the project is finalized and any replacement land required shall be determined prior to the issuance of a grading permit. Both the Consistency Analysis and DBESP will be reviewed and approved by the RCA and/or wildlife agencies prior to issuance of a grading permit.

In addition, the Project shall follow guidelines listed under Section 7.5.3 of the MSHCP as well as standard BMPs listed under Appendix C of the MSHCP during construction and operations activities. The following guidelines and BMPs shall be implemented in accordance with MSCHP Section 7.5.3.

- Timing of construction activities will consider seasonal requirements for breeding birds and migratory non-resident species. Habitat clearing will be avoided during species active breeding season defined as March 1 to June 30.
- The footprint of disturbance will be minimized to the maximum extent Feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
- Equipment storage, fueling and staging areas will be sited on non-sensitive upland Habitat types with minimal risk of direct discharge into riparian areas or other sensitive Habitat types.
- Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
- Training of construction personnel will be provided.
- Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.
- When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities.

Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.

- Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
- Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.

The following BMPs that are applicable to the Project shall be implemented in accordance with Appendix C of the MSHCP:

- A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.
- The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.
- Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7.
- Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, USFWS, and CDFW, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
- The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
- The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
- Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
- To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).

- Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
- The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

Mitigation Measure BIO-10: SKR HCP. A USFWS-permitted biologist shall conduct preconstruction surveys for the Stephens's kangaroo rat in areas determined to provide suitable habitat that would be disturbed during construction activities. Burrows determined to be occupied by Stephens's kangaroo rat presents shall be avoided with the establishment of a minimum 50-foot buffer zone approved by USFWS and CDFW. The buffer zone shall be enclosed with orange drift fencing material or temporary chain-link fence to limit access where occupied burrows occur. Where avoidance of Stephens's kangaroo rat is infeasible, prior to construction-related activities, EMWD shall consult with the RCA, CDFW and/or USFWS to determine adequate compensatory mitigation, such as purchasing credits at an approved mitigation bank or restoration.

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.3-7: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to biological resources.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. The majority of the Proposed Project site is in a disturbed condition and provides low-quality habitat to sensitive biological resources, including special-status species and nesting birds. Other projects that could have impacts to biological resources when combined with the Proposed Project, and that could result in cumulatively considerable impacts, are limited to Cumulative Project 1 (the Cimarron Ridge Development Project), which is in a disturbed condition from initial site preparation activities that have occurred.

Construction and Operation

Development in the Inland Empire has substantially altered native habitats and adversely affected native plant and wildlife. Historic agricultural use, the expansion of urban areas in the region has resulted in the loss of open space and the degradation of natural areas that historically supported populations of unique or rare species and habitats. The majority of projects listed in Table 3-2 are located in areas that are already substantially developed, or the sites have previously been altered due to grading or agricultural practices, and would not contribute significantly to direct impacts to biological resources. Project 1, which is a residential subdivision that includes parks, functional

open space areas, a multi-purpose trail system and road improvements, respectively, and occurs along the partially developed Menifee-Perris area. Implementation of this project could result in the potential loss of natural habitat and could directly and indirectly impact plant and wildlife species.

However, the effects of the Proposed Project would not contribute incrementally to the cumulative impacts on biological resources, since few sensitive biological resource are expected to occur, and because the majority of the Proposed Project site has already been disturbed. Impacts to sensitive species within the Project area would be avoided through implementation of Mitigation Measures BIO-1 through BIO-10. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to biological resources impacts would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures BIO-1 through BIO-10

Significance Determination

Less than Significant with Mitigation

3.3.4 References

- Albert A. Webb Associates, 2015. Final Environmental Impact Report Cimarron Ridge Specific Plan #2013-247.
- California Department of Fish and Wildlife (CDFW), 2004. Streambed Alteration Agreement No. 1600-2003-5014-R6 (Revision 1).
- CDFW, 2012. Staff Report on Burrowing Owl Mitigation.
- CDFW, 2018a. California Natural Community List.
- CDFW, 2018b. Streambed Alteration Agreement No. 1600-2018-0126-R6 Revision 1.
- CDFW, 2019. California Natural Diversity Database (CNDDDB) Commercial version, Information dated February 8, 2018. Rarefind 5 query results for Romoland and surrounding USGS 7.5-minute quadrangles. Accessed June 11, 2019
- California Native Plant Society (CNPS). 2001. Botanical Survey Guidelines.
- CNPS, 2019. Inventory of Rare and Endangered Plants of California. Accessed June 11, 2019.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31.
- Environmental Laboratory, 1987. *U.S. Army Corps of Engineers Wetland Delineation Manual*. Prepared for the U.S. Army Corps of Engineers.

- Environmental Science Associates (ESA), 2019. Goetz Road Potable Water Storage Tank and Transmission Pipeline Biological Resources Assessment Update Report (Appendix BIO).
- Google Earth Pro, 2019. Google Earth Pro - Aerial imagery. Accessed June 2019-January 2020.
- McGill, Travis J. 2015, Goetz Road Potable Water Storage Tank and Transmission Pipeline Habitat Assessment.
- Riverside County Habitat Conservation Agency, 1996. Habitat Conservation Plan for the Stephens's Kangaroo Rat in Western Riverside County California.
- Western Regional Climate Center (WRCC), 2019. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca8655>. Accessed June 2019.
- U.S. Fish and Wildlife Service (USFWS), 2002. General Rare Plant Survey Guidelines.
- USFWS, 2019a. Critical Habitat Portal. Available at: <http://ecos.fws.gov/crithab>. Accessed on June 11, 2019.
- USFWS, 2019b. National Wetlands Inventory. Accessed June 12, 2019.
- Western Riverside County Regional Conservation Authority (RCA), 2003. Western Riverside County Multiple Species Habitat Conservation Plan. Available at: <https://www.wrc-rca.org/about-rca/multiple-species-habitat-conservation-plan/>. Accessed on June 12, 2019.
- RCA, 2006. Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area.
- RCA, 2019. RCA MSHCP Information Map. Accessed in November and December 2019 at <http://wrcra.maps.arcgis.com/apps/webappviewer/index.html?id=a73e69d2a64d41c29ebd3acd67467abd>.

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3.4 Cultural Resources

This section describes and evaluates potential impacts related to cultural resources that could result from construction and operation of the Proposed Project. The section contains: a description of the existing setting as it pertains to cultural resources; a summary of the state, and local regulations related to cultural resources; and an evaluation of the potential impacts related to cultural resources associated with the implementation of the Proposed Project, including cumulative impacts. The cultural resources described in this section are based on the findings provided in the Goetz Road Potable Water Storage Tank and Transmission Pipeline Cultural Resources Assessment (ESA 2019; **Appendix CUL**). This assessment is an update of a 2015 Cultural Resources Study prepared by Rincon Consultants in support of the Project (see Appendix CUL).

3.4.1 Environmental Setting

Natural Setting

The Project site is located within the cities of Perris and Menifee in Riverside County, California. The Project site is located at an elevation of approximately 430 to 490 meters (1420 to 1600 feet) AMSL. The Menifee and Perris areas encompass hills, low mountains, and valleys. The proposed water storage tank site is located on a vacant parcel in the southeastern Perris foothills. The proposed transmission pipeline would extend eastward from the tank site into the City of Menifee on the Perris Valley floor. The transmission pipeline would be installed in disturbed vacant areas as well as within paved roadway rights-of-way.

The climate in the southern Inland Empire region where the Project is located consists of hot summer temperatures (average daily maxima near or above 90 Fahrenheit [°F]) and low annual precipitation (approximately 11 inches). Daily temperature swings of 30 °F can occur, with lows in the winter near freezing. Precipitation generally occurs within the winter and spring seasons with very little occurring as a result of summer thunderstorms. The Project's elevation ranges from approximately 1,440 to 1,600 feet AMSL, with an average high of 98 °F in August to an average low of 34.5 °F in December. Average rainfall is 11.22 inches annually.

Prehistoric Setting

Based on recent research in the region, the following prehistoric chronology has been divided into four general time periods: the Early Man Horizon (10,000 to 6,000 before present [B.C.]), the Milling stone Horizon (6,000 to 3,000 B.C.), the Intermediate Horizon (3,000 B.C. to 500 A.D.), and the Late Prehistoric Horizon (A.D. 500-Historic Contact).

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

Numerous pre-8000 B.C. sites have been identified along the mainland coast and Channel Islands of southern California (c.f., Erlandson 1991; Johnson et al. 2002; Jones and Klar 2007; Moratto 1984; Rick et al. 2001:609). The Arlington Springs site on Santa Rosa Island produced human

femurs dated to approximately 13,000 years ago (Arnold et al. 2004; Johnson et al. 2002). On nearby San Miguel Island, human occupation at Daisy Cave (SMI-261) has been dated to nearly 13,000 years ago and included basketry greater than 12,000 years old, the earliest on the Pacific Coast (Arnold et al. 2004).

Although few Clovis or Folsom style fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987), Early Man Horizon sites are generally associated with a greater emphasis on hunting than later horizons. Recent data indicate that the Early Man economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources in coastal areas (e.g., Jones et al. 2002) and on inland Pleistocene lakeshores (Moratto 1984). A warm and dry 3,000-year period called the Altithermal began around 6000 B.C. The conditions of the Altithermal are likely responsible for the change in human subsistence patterns at this time, including a greater emphasis on plant foods and small game.

Milling Stone Horizon (6,000-3,000 B.C.)

Wallace (1955:219) defined the Milling Stone Horizon as “marked by extensive use of milling stones and mullers, a general lack of well-made projectile points, and burials with rock cairns.” The dominance of such artifact types indicate a subsistence strategy oriented around collecting plant foods and small animals. A broad spectrum of food resources were consumed including small and large terrestrial mammals, sea mammals, birds, shellfish and other littoral and estuarine species, near-shore fishes, yucca, agave, and seeds and other plant products (Kowta 1969; Reinman 1964). Variability in artifact collections over time and from the coast to inland sites indicates that Milling Stone Horizon subsistence strategies adapted to environmental conditions (Byrd and Raab 2007:220). Lithic artifacts associated with Milling Stone Horizon sites are dominated by locally available tool stone and in addition to ground stone tools, such as manos and metates, chopping, scraping, and cutting tools, are very common. Kowta (1969) attributes the presence of numerous scraper-plane tools in Milling Stone Horizon collections to the processing of agave or yucca for food or fiber. The mortar and pestle, associated with acorns or other foods processed through pounding, were first used during the Milling Stone Horizon and increased dramatically in later periods (Wallace 1955, 1978; Warren 1968).

Intermediate Horizon (3,000 B.C. – A.D. 500)

Wallace’s Intermediate Horizon dates from approximately 3,000 B.C.-A.D. 500 and is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred toward greater adaptation to local resources including a broad variety of fish, land mammal, and sea mammal remains along the coast. Tool kits for hunting, fishing, and processing food and materials reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured.

Mortars and pestles became more common during this transitional period, gradually replacing manos and metates as the dominant milling equipment. Many archaeologists believe this change in milling stones signals a change from the processing and consuming of hard seed resources to the increasing reliance on acorn (e.g., Glassow et al. 1988; True 1993). Mortuary practices during

the Intermediate typically included fully flexed burials oriented toward the north or west (Warren 1968:2-3).

Late Prehistoric Horizon (A.D. 500 – Historic Contact)

During Wallace's (1955, 1978) Late Prehistoric Horizon the diversity of plant food resources and land and sea mammal hunting increased even further than during the Intermediate Horizon. More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small finely worked projectile points associated with the bow and arrow. Steatite containers were made for cooking and storage and an increased use of asphalt for waterproofing is noted. More artistic artifacts were recovered from Late Prehistoric sites and cremation became a common mortuary custom. Larger, more permanent villages supported an increased population size and social structure (Wallace 1955:223).

Warren (1968) attributes this dramatic change in material culture, burial practices, and subsistence focus to the westward migration of desert people he called the Takic, or Numic, Tradition in Los Angeles, Orange, and western Riverside counties. This Takic Tradition was formerly referred to as the "Shoshonean wedge" (Warren 1968), but this nomenclature is no longer used to avoid confusion with ethnohistoric and modern Shoshonean groups (Heizer 1978:5; Shipley 1978:88, 90). Modern Luiseño are generally considered by archaeologists to be descendants of these prehistoric Uto-Aztec, Takic-speaking populations that settled in western Riverside County and along the California coast during the Late Prehistoric Horizon.

Ethnographic Overview

The Project site is situated within a region historically occupied by a Native American group known as the Cahuilla near the boundary with the Juaneño and Luiseño (Bean 1978, Kroeber 1925). The term Cahuilla likely derived from the native word *káwiya*, meaning "master" or "boss" (Bean 1978:575). Traditional Cahuilla ethnographic territory extended west to east from the present-day City of Riverside to the central portion of the Salton Sea in the Colorado Desert, and south to north from the San Jacinto Valley to the San Bernardino Mountains. The Cahuilla, like their neighbors to west, the Luiseño and Juaneño, and the Cupeño to the south, are speakers of a Cupan language. Cupan languages are part of the Takic linguistic subfamily of the Uto-Aztec language family. It is thought that the Cahuilla migrated to southern California approximately 2,000 to 3,000 years ago, most likely from the southern Sierra Nevada mountain ranges of east-central California with other Takic speaking social groups (Moratto 1984:559).

Cahuilla villages were usually located in canyons or on alluvial fans near a source of accessible water. Each lineage group maintained their own houses (*kish*) and granaries, and constructed ramadas for work and cooking. Sweat houses and song houses (for non-religious music) were also often present. Each community also had a separate house for the lineage or clan leader. A ceremonial house, associated with the clan leader was where major religious ceremonies were held. Houses and ancillary structures were often spaced apart, and a "village" could extend over a mile or two. Each lineage had ownership rights to various resource collecting locations, "including food collecting, hunting, and other areas. Individuals also owned specific areas or

resources, e.g., plant foods, hunting areas, mineral collecting places, or sacred spots used only by shamans, healers and the like” (Bean 1990:2).

The Cahuilla hunted a variety of game, including mountain sheep, cottontail, jackrabbit, mice, and wood rats, as well as predators such as mountain lion, coyote, wolf, bobcat, and fox. Various birds were also consumed, including quail, duck, and dove, plus various types of reptiles, amphibians, and insects. A wide variety of tools and implements were employed by the Cahuilla to gather and collect food resources. For the hunt, these included the bow and arrow, traps, nets, slings and blinds for hunting land mammals and birds, and nets for fishing. Rabbits and hares were commonly brought down by the throwing stick; however, when communal hunts were organized for these animals, the Cahuilla often utilized clubs and very large nets.

The Cahuilla had adopted limited agricultural practices by the time Euro-Americans traveled into their territory. Bean (1978:578) has suggested that their “proto-agricultural techniques and a marginal agriculture” consisting of beans, squash and corn may have been adopted from the Colorado River groups to the east. Certainly by the time of the first Romero Expedition in 1823-24, they were observed growing corn, pumpkins, and beans in small gardens localized around springs in the Thermal area of the Coachella Valley (Bean and Mason 1962:104). The introduction of European plants such as barley and other grain crops suggest an interaction with the missions or local Mexican rancheros. Despite the increasing use and diversity of crops, no evidence indicates that this small-scale agriculture was anything more than a supplement to Cahuilla subsistence, and it apparently did not alter social organization.

By 1819, several Spanish mission outposts, known as *assistencias*, were established near Cahuilla territory at San Bernardino and San Jacinto. Cahuilla interaction with Europeans at this time was not as intense as it was for native groups living along the coast. This was likely due to the local topography and lack of water, which made the area less attractive to colonists. By the 1820s, however, European interaction increased as mission ranchos were established in the region and local Cahuilla were employed to work on them.

The Bradshaw Trail was established in 1862 and was the first major east-west stage and freight route through the Coachella Valley. Traversing the San Gorgonio Pass, the trail connected gold mines on the Colorado River with the coast. Bradshaw based his trail on the Cocomicopa Trail, with maps and guidance provided by local Native Americans. Journals by early travelers along the Bradshaw Trail told of encountering Cahuilla villages and walk-in wells during their journey through the Coachella Valley. The continued influx of immigrants into the region introduced the Cahuilla to European diseases. The single worst recorded event was a smallpox epidemic in 1862-63. By 1891, only 1,160 Cahuilla remained within what was left of their territory, down from an aboriginal population of 6,000–10,000 (Bean 1978:583-584). By 1974, approximately 900 people claimed Cahuilla descent, most of who resided on reservations.

Between 1875 and 1891, the United States established ten reservations for the Cahuilla within their traditional territory. These reservations include: Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, Soboba, and Torres-Martinez (Bean 1978:585). Four of the reservations are shared with other groups, including the Chemehuevi,

Cupeño, and Serrano. The Soboba Reservation, which includes people of both Luiseño and Cahuilla descent, is closest to the Project site.

Historic Overview

Post-European contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present).

Spanish Period (1769-1822)

Spanish exploration of what was then known as Alta (upper) California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after his initial expedition, Spanish, Portuguese, British, and Russian explorers sailed the Alta California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). Spanish entry into what was to become Riverside County did not occur until 1774 when Juan Bautista de Anza led an expedition from Sonora, Mexico to Monterey in northern California (Lech 1998).

In 1769, Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement at Mission San Diego de Alcalá. This was the first of 21 missions erected by the Spanish between 1769 and 1823. The establishment of the missions marks the first sustained occupation of Alta California by the Spanish. In addition to the missions four presidios and three pueblos (towns) were established throughout the state (State Lands Commission 1982).

During this period, Spain also deeded ranchos to prominent citizens and soldiers, though very few in comparison to the subsequent Mexican Period. To manage and expand their herds of cattle on these large ranchos, colonists enlisted the labor of the surrounding Native American population (Engelhardt 1927a). The missions were responsible for administrating to the local Indians as well as converting the population to Christianity (Engelhardt 1927b). The influx of European settlers brought the local Native American population in contact with European diseases which they had no immunity against, resulting in catastrophic reduction in native populations throughout the state (McCawley 1996).

Mexican Period (1822-1848)

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810-1821) reached California in 1822. This period saw the federalization of mission lands in California with the passage of the Secularization Act of 1833. This Act enabled Mexican governors in California to distribute former mission lands to individuals in the form land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time (Shumway 2007). About 15 land grants (ranchos) were located in Riverside County. Rancho San Jacinto Nuevo y Potrero, granted to Miguel Pedrorena in 1846, included the majority of the project site (Shumway 2007).

American Period (1848-Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for ceded territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming, and pay an additional \$3.25 million to settle American citizen's claims against Mexico. Settlement of southern California continued dramatically in the early American Period. Many ranchos in the county were sold or otherwise acquired by Americans, and most were subdivided into agricultural parcels or towns.

The discovery of gold in northern California in 1848 led to the California Gold Rush, despite the first California gold being previously discovered in southern California at Placerita Canyon in 1842 (Guinn 1977; Workman 1935:26). Southern California remained dominated by cattle ranches in the early American period, though droughts and increasing population resulted in farming and more urban professions supplanting ranching through the late nineteenth century. In 1850, California was admitted into the United States and by 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to move into the state, particularly after completion of the transcontinental railroad in 1869. Riverside County was formed in 1893 from portions of San Bernardino and San Diego Counties (Lech 2004).

City of Perris

Prior to the 1880s, the Perris Valley was used as grazing land for sheep and by miners digging for tin, coal, and clay. In 1882, the California Southern Railroad completed its tracks through the valley, encouraging settlement of the area. The Perris town site was laid out in the late 1880s after it was officially named a station by the Transcontinental Route of the Santa Fe Railway. By 1911, Perris had a sizeable population and was incorporated as a city. Early inhabitants of Perris were focused on agriculture and mining. Today, Perris is popular as a recreational area for hot-air ballooning and sky diving activities (City of Perris 2015). The City encompasses a 31.5-square miles and is known for Lake Perris which has a large variety of flora and fauna. The population during the 2010 census of Perris was 68,368.

City of Menifee

The City of Menifee was incorporated on October 1, 2008, making it one of the newest cities in Riverside County. The city encompasses a 50 square mile area and comprises the communities of Sun City, Quail Valley, and portions of Romoland. It has a population of 82,292 and is bordered by the cities of Perris, Canyon Lake, Lake Elsinore, Murrieta, and Wildomar. Early development of Menifee began with Sun City in the early 1960s, conceptually as an active retirement community that was envisioned by Del Webb, a major building contractor from Phoenix, Arizona. Sun City is centrally located within the City of Menifee with a mix of residential and commercial activity. The Menifee area began to grow further in 1989 with the master-planned community of Menifee Lakes and continues to be one of the fastest growing communities in California. Quail Valley is a semi-rural residential community in the northwestern section of the City, and Romoland is a residential and commercial community located in the northeastern section of the City (City of Menifee 2013).

Soboba Reservation

Today the Soboba Indian Reservation lies in the lower reaches of the San Jacinto Mountains, across the San Jacinto River from the city of San Jacinto. The Soboba people have traditionally occupied the area currently known as the cities of Jacinto, Hemet, Valle Vista and Winchester. Tribal members today have ancestry from both the Cahuilla and Luiseño tribes. Mission San Luis Rey established Ranch San Jacinto as their most outlying cattle ranch and the Luiseño Indians were brought as laborers on the ranch by the missionaries. At this time, they intermarried with the original inhabitants of the valley, the Cahuilla. The reservation today consists of 7,000 acres, 400 of which are used for residential purposes. The tribe currently has 1200 members enrolled who are governed by a tribal council of five members (Soboba Band of Luiseno Indians 2020).

3.4.2 Regulatory Framework

Numerous laws and regulations require state and local agencies to consider the effects a project may have on cultural resources. These laws and regulations define important cultural resources, stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (PRC Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 CCR section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of CEQA Section 21084.1 and *CEQA Guidelines* section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site

may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in PRC section 21083.2, a “unique” archaeological resource is 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:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Pursuant to PRC Section 21083.2, if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (PRC section 21083.1(a)). If preservation in place is not feasible, mitigation measures are required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* section 15064.5(a). Substantial adverse change is defined as “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired” (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

- A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the PRC or its identification in a historical resources survey meeting the requirements of PRC section 5024.1(g), 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
- C. 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.

In general, a project that complies with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and*

Reconstructing Historic Buildings (Standards)¹ is considered to have mitigated its impacts to historical resources to a less-than-significant level (*CEQA Guidelines* Section 15064.5(b)(3)).

California Register of Historical Resources

The California Register is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC section 5024.1(a)). The criteria for eligibility for the California Register are based upon National Register criteria (PRC section 5024.1(b)). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, State, and/or federal level under one or more of the following four 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; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and
- Those California Points of Historical Interest that have been evaluated by the State Office of Historic Preservation (OHP) and have been recommended to the State Historical Commission for inclusion on the California Register.

¹ Weeks, Kay D., and Anne E. Grimmer, 1995. *The Secretary for the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstruction Historic Buildings*. U.S. Department of the Interior. Washington, D.C.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

Public Resources Code Section 5097.98

PRC Section 5097.98, as amended by AB 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery until certain required steps have been taken, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. The MLD has 48 hours from the time of being granted access to the site by the landowner to inspect the discovery and provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

California Health and Safety Code Section 7050.5

California Health and Safety Code section 7050.5 requires that in the event human remains are discovered, the County Coroner is required to be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

Local

City of Perris

The City of Perris General Plan includes cultural resource regulations in its Conservation Element under the *Goal IV: Cultural Resources* section:

Policy:

Policy IV.A: Comply with state and federal regulations and ensure preservation of the significant historical, archaeological, and paleontological resources.

Implementation Measures:

IV.A.1: For all private and public projects involving new construction, substantial grading, or demolition, including infrastructure and other public service facilities, staff shall require appropriate surveys and necessary site investigations in conjunction with the earliest environmental document prepared for a project.

IV.A.2: For all projects subject to CEQA, applicants will be required to submit results of an archaeological records search request through the Eastern Information Center, at the University of California, Riverside.

IV.A.3: Require Phase I Surveys for all projects located in areas that have not previously been surveyed for archaeological or historic resources, or which lie near areas where archaeological and/or historic sites have been recorded.

IV.A.4: In Area 1 and Area 2 shown on the Paleontological Sensitivity Map, paleontologic monitoring of all projects requiring subsurface excavations will be required once any excavation begins. In Areas 4 and 5, paleontologic monitoring will be required once subsurface excavations reach five feet in depth, with monitoring levels reduced if appropriate, at the discretion of a certified Project Paleontologist.

City of Meniffee

The City of Meniffee General Plan 2030 includes cultural resource regulations in its Open Space and Conservation Element (OCS), as follows.

Goal

OCS-5: Archaeological, historical, and cultural resources that are protected and integrated into the City's built environment.

Policies

OCS-5.1: Preserve and protect significant archaeological, historic, and cultural sites, places, districts, structures, landforms, objects, and native burial sites, and other features, such as Ringing Rock and Grandmother Oak, consistent with state law.

OCS-5.2: Work with local schools, organizations, The Pechanga Band of Luiseño Indians, the Soboba Band of Luiseño Indians, and other agencies to educate the public about the rich archaeological, historic, and cultural resources found in the city.

OCS-5.3: Preserve sacred sites identified by the Pechanga Band of Luiseño Indians and Soboba Band of Luiseño Indians, such as tribal burial grounds, by avoiding activities that would negatively impact the sites.

OCS-5.4: Enhance local interest, pride and sense of place for City residents by making locally recovered artifacts more easily accessible to students, researchers, and the interested public.

OCS-5.5: Establish clear and responsible practices to identify, evaluate, and protect previously unknown archaeological, historic, and cultural sites, following CEQA and National Environmental Policy Act (NEPA) procedures.

OCS-5.6: Maintain active communication and coordination with the Pechanga Band of Luiseño Indians and Soboba Band of Luiseño Indians.

3.4.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to cultural resources according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside of dedicated cemeteries.
- Result in a cumulatively considerable impact to cultural resources.

Methodology

Records Search

A records search for the Project was conducted by ESA staff on May 21, 2019 at the California Historical Resources Information System's (CHRIS) Eastern Information Center (EIC) housed at the University of California, Riverside. The records search included a review of all previously documented archaeological resources and historic architectural resources within 0.5-mile radius of the Project area that were not documented in the 2015 Cultural Resources Study (see Appendix CUL). The records search also included a review of listings for the National Register, California Register, California Points of Historical Interest, California Historical Landmarks, and California State Historic Resources Inventory.

The records search results indicate that no cultural resources studies have been conducted within a 0.5-mile radius of the Project site since the 2015 Cultural Resources Study was prepared. As such, none of the studies overlap with the Project site. The records search results also indicate that no resources have been previously recorded within the 0.5-mile radius of the Project site since the 2015 Cultural Resources Study was prepared. As a result, none of the resources overlap with the Project site.

Sacred Lands File Search

The Native American Heritage Commission (NAHC) maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community.

A request was sent to the NAHC for a review of the SLF on May 30, 2019. The NAHC responded to the request in a letter dated June 18, 2019. The results of the SLF search conducted by the NAHC indicate that no Native American cultural resources are known to be located within the Project area. EMWD, as CEQA lead agency, conducted consultation with tribes who are traditionally and culturally affiliated with the geographic area associated with the Project area

pursuant to Assembly Bill 52 and its relevant implementing regulations. Please see Draft EIR Section 3.13, *Tribal Cultural Resources*, for more information.

Pedestrian Survey

A cultural resources survey of the Project site was conducted on June 13, 2019. The objective was to identify archaeological resources or historic-period built resources within the Project site, plus a 50-foot buffer. Areas with visible ground surface were subject to pedestrian survey using transect intervals spaced no more than 5 meters (approximately 15 feet) apart. The paved/developed areas of the Project area were subject to a reconnaissance-level survey (photographed and documented) and the unpaved surfaces were intensively inspected for the presence of archaeological or historic-period built materials where ground surface was visible. No subsurface investigation was performed as part of the survey.

The following Project components were the subject of the survey: the 2.85-acre water storage tank site and transmission pipeline. Sediments within the survey area consists of a light brown to orange coarse sand, intermixed with granite cobbles. The proposed water storage tank would be located at the northwest corner of Sotelo Road and Goetz Road in the City of Perris. This area was subject to systematic pedestrian survey. This area appears to have been subject to some level of previous disturbance and appears to have been grubbed and graded, although the depth of past ground disturbance in area is unknown.

The proposed transmission pipeline would extend east from the proposed water storage tank to the existing paved right-of-way within Thornton Avenue within the City of Menifee. The transmission pipeline was subject to systematic pedestrian survey where accessible. This area appears to have been subject to high level of previous disturbance as it lies within the right-of-way of Thornton Avenue. A large portion of the transmission pipeline was not surveyed due to restrictions on access to private property. This includes the area between the water storage tank east to Byers Road/Valley Boulevard. The un-surveyed area appears to have been graded for roads, although the depth of past ground disturbance in area is unknown.

The survey revealed that no surface evidence of archaeological resources or historic-period built resources were encountered during the survey. Given the amount of previous disturbances within the Project area, the area is considered to have a moderate to low sensitivity for subsurface archaeological resources.

Impact Analysis

Historic Resource

Impact 3.4-1: The Proposed Project could Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

The Proposed Project was analyzed to determine if it would result in a substantial adverse change to the integrity of adjacent or nearby historical resources. Currently, there are no National or California register-listed historic resources located within or adjacent to the Project site, nor are there any buildings, structures, or objects within or adjacent to the Project site that are 45-years

old or more, which meet the eligibility requirements for historical resources pursuant to CEQA Section 15064.5(a). Although the Project area is considered to have a moderate to low sensitivity for subsurface archaeological resources, the potential to encounter subsurface archaeological deposits exists. If a deposit is encountered and the resource is then listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources, then a historical resource would exist in the project area. Given that the SLF searches came back negative for resources, and that the pedestrian surveys revealed no cultural resources, the probability that construction or operation of the Project would encounter and adversely affect a historical resource pursuant to Section 15064.5 is low.

Installation of the proposed water storage tank would involve excavation between 6 feet and 20 feet bgs. Due to shallow bedrock at the proposed water storage tank site (1.5 to 7.5 feet bgs), earthmoving equipment would be required to rip up the bedrock up to 10 feet bgs. Blasting may be required at depths greater than 10 feet bgs. Construction of the proposed transmission pipeline would involve trenching using a conventional cut and cover technique. Typical depths of excavation are up to 10.5 feet below ground surface. Localized trench and pipeline dewatering may be required depending on location.

Although the likelihood of encountering prehistoric and/or historic-period archaeological deposits is low, there remains the possibility that Project-related ground disturbance could potentially encounter archaeological deposits, should they exist in the Project site, that qualify as historical resources. If such resources were encountered, the Proposed Project would have a potentially significant impact on those resources. With implementation of **Mitigation Measures CUL-1** through **CUL-4**, which include provisions for archaeological and Native American monitoring as a result of discussions with the Tribe regarding sensitivity of the Project site, impacts to historical resources would be reduced to a less than significant level.

Mitigation Measures

Mitigation Measure CUL-1: Prior to earth moving activities, a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior 2008) shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of cultural resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. EMWD shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Mitigation Measure CUL-2: Prior to the start of any ground-disturbing activities, EMWD shall retain an archaeological monitor and a Consulting Tribe (s) monitor to observe all ground-disturbing activities. Archaeological monitoring shall be conducted by a monitor familiar with the types of archaeological resources that could be encountered and shall work under the direct supervision of the qualified archaeologist. Monitoring may be reduced or discontinued by the qualified archaeologist, in coordination with EMWD, based on observations of subsurface soil stratigraphy. Both the archaeological and Tribal monitors shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the qualified archaeologist has evaluated the discovery and determined appropriate treatment in coordination with the Tribe. The

monitors shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to EMWD, EIC, and any Native American groups who request a copy.

Mitigation Measure CUL-3: Prior to the start of any ground-disturbing activities, EMWD shall retain a Native American monitor to observe all ground-disturbing activities. The monitor shall be obtained from a Tribe that is traditionally and culturally affiliated with the area, according to the NAHC list. The monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the qualified archaeologist has evaluated the discovery and determined appropriate treatment. Monitoring may be reduced or discontinued, in coordination with EMWD and the qualified archaeologist, based on observations of subsurface soil stratigraphy.

Mitigation Measure CUL-4: In the event of the discovery of archaeological materials, EMWD or its contractor shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by the qualified archaeologist. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Construction shall not resume until the qualified archaeologist has conferred with EMWD on the significance of the resource.

If it is determined that the discovered archaeological resource constitutes a historical resource under CEQA, avoidance and preservation in place shall be the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Treatment Plan that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource shall be prepared and implemented by the qualified archaeologist in consultation with EMWD. The appropriate Native American representatives shall be consulted in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered. In the event that on-site reburial is not feasible, EMWD will enter into a curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 Code of Federal Regulations 800 Part 79, if one will accept the collection, and therefore would be curated and made available to other archaeologists/researchers for further study. If the collection is not accepted by a curation center with federal standards the collection(s) may be curated at a local facility, donated to tribes, or local historical societies. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation. All reports, DPR 523 forms, and catalogs, shall be filed with the EIC.

Significance Determination

Less than Significant with Mitigation

Archaeological Resource

Impact 3.4-2: The Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

Archaeological resources not qualifying as historical resources under CEQA are considered for their potential to qualify as unique archaeological resources. Review of previous investigations undertaken in the vicinity of the Project site, as well as review of the prehistoric context for the area, provides an understanding of the potential for encountering prehistoric archaeological resources in the Project site during construction. When completing analysis of subsurface archaeological sensitivity, important factors to consider include elevation, soil conditions, proximity to water, proximity to raw materials, and ethnographic and historic information. It is also necessary to evaluate the historic land use and past development and disturbances on the Project site in determining the possibility for the preservation of subsurface prehistoric archaeological materials.

As a result of the assessment completed for this Project, no surface evidence of archaeological resources or historic-period built resources were identified. Nevertheless, although the likelihood of encountering prehistoric and/or historic-period archaeological deposits is low, there remains the possibility that Project-related ground disturbance could potentially encounter archaeological deposits, should they exist in the Project site, that qualify as historical resources or unique archaeological resources. If such resources were encountered, the Proposed Project would have a potentially significant impact on those resources. Implementation of Mitigation Measures CUL-1 through CUL-4, which includes provisions for archaeological and Native American monitoring as a result of discussions with the Tribe regarding sensitivity of the Project site, would reduce impacts to unique archaeological resources to a less than significant level.

Mitigation Measures

Implement Mitigation Measures CUL-1 through CUL-4

Significance Determination

Less than Significant with Mitigation

Human Remains

Impact 3.4-3: The Proposed Project could disturb human remains, including those interred outside of formal cemeteries.

No formal cemeteries are known to exist within the Project area. No human remains were identified during the pedestrian survey of the Project site and no known human remains have been recorded within the Project site or a 0.50-mile radius. The overall sensitivity of the Project site with respect to archaeological resources, including human remains, is moderate to low. Project-associated grading and excavation would extend into previously undisturbed subsurface

areas or other locations where there is some possibility to encounter buried human remains. As a result, although unlikely, construction may disturb human remains, including those interred outside of dedicated cemeteries, which would be a potentially significant impact. Implementation of **Mitigation Measure CUL-5**, which would ensure that any discovery of human remains are adequately protected per State and local regulations, would reduce the impact to a less than significant level.

Mitigation Measures

Mitigation Measure CUL-5: If Native American human remains are encountered, Public Resources Code Section 5097.98 and California Health and Safety Code Section 7050.5 will be followed. If human remains are encountered no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the coroner shall contact the NAHC within 24 hours. Subsequently, the NAHC shall identify the person or persons it believes to be the “most likely descendant.” The most likely descendant shall then make recommendations and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.4-4: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to cultural resources.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. The only cumulative project that could have impacts to cultural resources when combined with the Proposed Project, and that could result in cumulatively considerable impacts, is Cumulative Project 1, the Cimarron Ridge Development Project.

Construction and Operation

While the Project site is not known to contain cultural resources (historic, archaeological, or human remains), it is possible that the Project site could contain previously undiscovered cultural resources. The Proposed Project could have a cumulatively considerable contribution to the loss of cultural resources, and the impact would be potentially significant. The Cimarron Ridge Development Project is located adjacent to the Project site to the east of Goetz Road. That project includes construction of 756 residential units as well as parks, functional open space areas, a multi-purpose trail system and road improvements, all of which would include ground disturbing activities. Similar to the Project, unknown, subsurface, historic, archaeological resources, or human remains, some of which may be historical resources under CEQA, could be located under the surface of the Cimarron Ridge Development Project. As such, development in the vicinity of

the Project could combine with the Project to create a potentially significant cumulative impact to cultural resources. Similar to the Project, the Cimarron Ridge Development Project would be required to adhere to State and local laws requiring the preservation of resources, if discovered. As a result, implementation of Mitigation Measures CUL-1 through CUL-5, and similar measures for the Cimarron Ridge Development Project, would reduce potential cumulative impacts regarding cultural resources to a less than cumulatively considerable levels.

Mitigation Measures

Implement Mitigation Measures CUL-1 through CUL-5

Significance Determination

Less than Significant with Mitigation

3.4.4 References

- Arnold, Jeanne E., Michael R. Walsh, and Sandra E. Hollimon, 2004. The Archaeology of California. *Journal of Archaeological Research* Vol. 12, No. 1.
- Bean, Lowell J., 1978. Cahuilla. In *California*, edited by Robert F. Heizer, pp. 575–587. *Handbook of North American Indians*, Vol. 8, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Bean, Lowell J., 1990 *Ethnography of the Toro Canyon Cahuilla*. Prepared for George Berkey & Associates, Inc. Cultural Systems Research, Inc., Menlo Park, California.
- Bean, Lowell J., and William B. Mason, 1962. *The Romero Expeditions, 1823-1826*. Palm Springs Desert Museum, Palm Springs, CA.
- Byrd, Brian F., and L. Mark Raab, 2007. Prehistory of the Southern Bight: Models for a New Millennium. In *California Prehistory*, edited by T. L. Jones and K. A. Klar, pp. 215-228. Altimira Press, New York.
- Dillon, Brian D., 2002. California Paleo-Indians: Lack of Evidence, or Evidence of a Lack? In *Essays in California Archaeology: A Memorial to Franklin Fenenga*, edited by W. J. Wallace and F. A. Riddell, pp. 110–128. *Contributions of the University of California Archaeological Research Facility*, No. 60, Berkeley.
- Engelhardt, Zephyrin, O.F.M., 1927a. *San Fernando Rey, the Mission of the Valley*. Franciscan Herald Press, Chicago.
- Engelhardt, Zephyrin, O.F.M., 1927b. *San Gabriel Mission and the Beginning of Los Angeles*. Mission San Gabriel, San Gabriel, California.
- Environmental Science Associates (ESA), 2019. *Goetz Road Potable Water Storage Tank and Transmission Pipeline Cultural Resources Assessment (Appendix CUL)*.
- Erlandson, Jon M., 1991. Early Maritime Adaptations on the Northern Channel Islands. In *Hunter-Gatherers of Early Holocene Coastal California*, edited by J. M. Erlandson and R. Colten. *Perspectives in California Archaeology*, Vol. 1. Institute of Archaeology, University of California, Los Angeles.

- Erlandson, Jon M., Theodore Cooley, and Richard Carrico, 1987. A Fluted Projectile Point Fragment from the Southern California Coast: Chronology and Context at CA-SBA-1951. *Journal of California and Great Basin Anthropology* 9:120–128.
- Glassow, Michael A, L. Wilcoxon, and J. M. Erlandson, 1988. Cultural and Environmental Change during the Early Period of Santa Barbara Channel Prehistory. In *The Archaeology of Prehistoric Coastlines*, edited by G. Bailey and J. Parkington pp. 64–77. Cambridge University Press, Cambridge, England.
- Guinn, J.M., 1977. Gold! Gold! Gold! from San Francisquito! In *Los Angeles Biography of a City*, edited by John Caughey and LaRee Caughey. University of California Press, Berkeley.
- Heizer, Robert F., 1978. Introduction. In *California*, edited by R. F. Heizer, pp. 1–6. *Handbook of North American Indians*, Vol. 8, W.C. Sturtevant, general editor, Smithsonian Institution, Washington D.C.
- Johnson, J. R., T. W. Stafford, Jr., H. O. Ajie, and D. P. Morris, 2002. Arlington Springs Revisited. In *Proceedings of the Fifth California Islands Symposium*, edited by D. Browne, K. Mitchell, and H. Chaney, pp. 541–545. USDI Minerals Management Service and the Santa Barbara Museum of Natural History, Santa Barbara, California.
- Jones, Terry L., Richard T. Fitzgerald, Douglas J. Kennett, Charles Miksicek, John L. Fagan, John Sharp, and Jon M. Erlandson, 2002. The Cross Creek Site and Its Implications for New World Colonization. *American Antiquity* 67:213–230.
- Jones, Terry L. and Kathryn A. Klar, 2007. *California Prehistory: Colonization, Culture, and Complexity*. AltaMira Press, Berkeley, California.
- Kowta, Makoto, 1969. The Sayles Complex, A Late Milling Stone Assemblage from the Cajon Pass and the Ecological Implications of its Scraper Planes. University of California Publications in Anthropology 6:35–69. Berkeley, California.
- Kroeber, Alfred J., 1925. *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin 78. Originally published 1925, Smithsonian Printing Office, Washington, D.C. Unabridged reprint 1976, Dover Publications, Inc. New York.
- Lech, Steve, 1998. The History of Riverside County. Electronic document, <http://www.usgennet.org/usa/ca/county/riverside/>. Accessed April 10, 2013.
- Lech, Steve, 2004. *Along the Old Roads: A History of the Portion of Southern California that Became Riverside County 1772-1893*. Steve Lech, Riverside.
- McCawley, William, 1996. *The First Angelinos: The Gabrielino Indians of Los Angeles*. Malki Museum/Ballena Press Cooperative Publication, Banning or Novato, California.
- Menifee, City of, 2013. 5.5 Cultural Resources. City of Menifee General Plan Draft EIR (September 2013). Online at <https://www.cityofmenifee.us/262/Draft-Environmental-Impact-Report>.
- Moratto, Michael, 1984. *California Archaeology*. Academic Press, New York.
- Perris, City of, 2015. History. City of Perris. Online at, <http://www.cityofperris.org/about/history.html>.

- Reinman, Fred M., 1964. Maritime Adaptations on San Nicolas Island, California. University of California Archaeological Survey Annual Report 1963–1964:47–80.
- Rick, Torben C., Jon M. Erlandson, and René Vellanoweth, 2001. Paleocoastal Marine Fishing on the Pacific Coast of the Americas: Perspectives from Daisy Cave, California. *American Antiquity* 66:595–613.
- Rincon Consultants, 2015. Cultural Resources Study for the Goetz Road Potable Water Storage Tank & Transmission Pipeline Project. Prepared for K.S. Dunbar and Associates, Inc. Temecula, Ca.
- Rolle, Andrew, 2003. *California: A History*. Revised and expanded sixth edition. Harlan Davidson, Inc., Wheeling, Illinois.
- Shipley, William F., 1978. Native Languages of California. In *California*, edited by R. F. Heizer, pp. 80–90. *Handbook of North American Indians*, Vol. 8, W. C. Sturtevant, general editor, Smithsonian Institution, Washington D.C.
- Shumway, Burgess McK. 2007. *California Ranchos*. Second Edition. The Borgo Press.
- Soboba Band of Luiseno Indians, n.d. *History*. Electronic document accessed at <https://www.soboba-nsn.gov/about-us>, on January 22, 2020.
- State Lands Commission, 1982. *Grants of Land in California Made by Spanish or Mexican Authorities*. Office of the State Lands Commission, Sacramento.
- True, Delbert L., 1993. Bedrock Milling Elements as Indicators of Subsistence and Settlement Patterns in Northern San Diego County, California. *Pacific Coast Archaeological Society Quarterly* 29(2):1–26.
- Warren, Claude N., 1968. Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*, edited by C. Irwin-Williams, pp. 1–14. *Eastern New Mexico University Contributions in Anthropology* No. 1. Portales.
- Wallace, William. 1955 Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214–230.
- Wallace, William. 1978 Post-Pleistocene Archaeology, 9000 to 2000 B.C. In *California*, edited by R. F. Heizer, pp. 25–36. *Handbook of North American Indians*, Vol. 8, W. C. Sturtevant, general editor, Smithsonian Institution, Washington D.C.
- Workman, Boyle, 1935. *The City that Grew*. Southland Publication Co., Los Angeles.

3.5 Energy

This section evaluates the potential for impacts related to energy emitted by construction and operation of the Proposed Project. This section includes: a description of the existing electricity and energy conditions regionally and in and around the Proposed Project site; a summary of applicable regulations related to energy; and an evaluation of the potential impacts of the Proposed Project related to energy, including cumulative impacts.

3.5.1 Environmental Setting

Energy

Electricity

Electricity, as a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid.

Energy capacity, or electrical power, is generally measured in watts (W), while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

SCE is the electricity servicer for the cities of Perris and Menifee. SCE provides electricity to approximately 15 million people, 180 incorporated cities, 15 counties, 5,000 large businesses, and 280,000 small businesses throughout its 50,000-square-mile service area across central, coastal and southern California, an area bounded by Mono County to the North, Ventura County to the West, San Bernardino County to the East, and Orange County to the South (SCE 2019). SCE produces and purchases energy from a mix of conventional and renewable generating sources.

SCE generates power from a variety of energy sources, including large hydropower (greater than 30 MW), coal, gas, nuclear sources, and renewable resources, such as wind, solar, small hydropower (less than 30 MW), and geothermal sources. In 2018, SCE's power system experienced a peak demand of 23,766 MW (EI & SCE 2018). The annual electricity sale to customers in 2018 was approximately 87,143,000 MWh (87,143 GWh) (EI & SCE 2018).

SCE is required to commit to the use of renewable energy sources for compliance with the Renewables Portfolio Standard. SCE is required to meet the requirement to procure at least 33 percent of its energy portfolio from renewable sources by 2020 through the procurement of energy from eligible renewable resources, to be implemented as fiscal constraints, renewable energy pricing, system integration limits, and transmission constraints permit. SB 350 (Chapter

547, Statutes of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. Eligible renewable resources are defined in the Renewable Portfolio Standard to include biodiesel; biomass; hydroelectric and small hydro (30 Mega Watts [MW] or less); aqueduct hydro power plants; digester gas; fuel cells; geothermal; landfill gas; municipal solid waste; ocean thermal, ocean wave, and tidal current technologies; renewable derived biogas; multi-fuel facilities using renewable fuels; solar photovoltaic (PV); solar thermal electric; wind; and other renewables that may be defined later. Approximately 35 percent of SCE's 2018 electricity purchases were from renewable sources, which is similar to the 34 percent statewide percentage of electricity purchases from renewable sources, and have therefore met the states 2020 renewable goals (EI & SCE 2018; CEC 2019).

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs and delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the State's total energy requirements. Natural gas is measured in terms of both cubic feet (cf) or British thermal units (Btu).

The Project site is served by the Southern California Gas Company (SoCalGas), which is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas serves approximately 21.6 million customers in more than 500 communities encompassing approximately 20,000 square miles throughout central and southern California, from the City of Visalia to the US/Mexican border (SoCalGas 2019).

SoCalGas, along with five other California utility providers, released the *2018 California Gas Report*, presenting a forecast of natural gas supplies and requirements for California through the year 2035. This report predicts gas demand for all sectors (residential, commercial, industrial, energy generation and wholesale exports) and presents best estimates, as well as scenarios for hot and cold years. Overall, SoCalGas predicts a decrease in natural gas demand in future years due to a decrease in per capita usage, energy efficiency policies, and the State's transition to renewable energy displacing fossil fuels including natural gas (CGEU 2018).

SoCalGas receives gas supplies from several sedimentary basins in the western United States (US) and Canada, including supply basins located in New Mexico (San Juan Basin), west Texas (Permian Basin), the Rocky Mountains, and western Canada as well as local California supplies (CGEU 2018). Sources of natural gas in the southwestern US will continue to supply most of SoCalGas' natural gas demand. The Rocky Mountain supply is available but is used as an alternative supplementary supply source, and Canadian sources provide only a small share of SoCalGas supplies due to the high cost of transport (CGEU 2018). Gas supply available to SoCalGas from California sources averaged 2,350 million cf per day or 2,717 million Btu (MMBtu) in 2018, the most recent year for which data are available. This equates to an annual average of 857,750 million cf per year or 825 million MMBtu per year (CGEU 2018).

Transportation Energy

The annual transportation fuel consumption of diesel and gasoline in 2018 in California (the most recent year for which statewide data is available) is 1,602 million gallons and 13,475 million gallons respectively. Transportation fuel consumption of diesel and gasoline for Riverside County in 2018 is 119 million gallons and 916 million gallons respectively. The Riverside County and Statewide transportation fuel consumption is based on retail sale data from the California Energy Commission (CEC 2018).

The State is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gas emissions (GHGs) from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, gasoline consumption in California has declined. The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC 2018).

3.5.2 Regulatory Framework

Federal

Corporate Average Fuel Economy

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and the USEPA jointly administer the Corporate Average Fuel Economy standards. The U.S. Congress has specified that Corporate Average Fuel Economy standards must be set at the “maximum feasible level” with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy (NHTSA 2019).

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by the USEPA and the NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type (USEPA 2011). The USEPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (USEPA 2016).

State

California Energy Action Plan II

The California Energy Action Plan II is the state’s principal energy planning and policy document (CEC 2008). The plan identifies state-wide energy goals, describes a coordinated implementation plan for state energy policies, and identifies specific action areas to ensure that California’s

energy is adequate, affordable, technologically advanced, and environmentally sound. In accordance with this plan, the first priority actions to address California's increasing energy demands are energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure). Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy and capacity needs, clean and efficient fossil-fired generation is supported.

Senate Bill 1389

Senate Bill 1389 (SB), codified in Public Resources Code Sections 25300-25323, requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301[a]). The 2015 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California including energy efficiency, strategies related to data for improved decisions in the Existing Buildings Energy Efficiency Action Plan, building energy efficiency standards, the impact of drought on California's energy system, achieving 50 percent renewables by 2030, the California Energy Demand Forecast, the Natural Gas Outlook, the Transportation Energy Demand Forecast, Alternative and Renewable Fuel and Vehicle Technology Program benefits updates, update on electricity infrastructure in Southern California, an update on trends in California's sources of crude oil, an update on California's nuclear plants, and other energy issues.

Senate Bill 1078 (SB 1078, Sher) (Chapter 516, Statutes of 2002) and Senate Bill 107 (SB 107, Simitian) (Chapter 464, Statutes of 2006) and Executive Order S-14-08

The State of California has adopted standards to increase the percentage that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide from renewable sources. The standards are referred to as the Renewables Portfolio Standard¹ and require 33 percent by 2020 and 50 percent by 2040. On September 10, 2018, Governor Jerry Brown signed SB 100, which further increased California's RPS and requires retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045.

¹ The Renewable Portfolio Standard is a flexible, market-driven policy to ensure that the public benefits of wind, solar, biomass, and geothermal energy continue to be realized as electricity markets become more competitive. The policy ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state or country. By increasing the required minimum amount over time, the Renewable Portfolio Standard puts the electricity industry on a path toward increasing sustainability.

Title 24, Building Standards Code of California Green Building Standards Code

The CEC first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to “improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices.” Although the CALGreen Code was adopted as part of the State’s efforts to reduce GHG emissions, the standards have co-benefits of reducing energy consumption from residential and nonresidential buildings subject to the standard. Refer to Section 3.7, *Greenhouse Gas Emissions*, of this Draft EIR, for additional details regarding these standards.

California Assembly Bill No. 1493 (AB 1493, Pavley), (Chapter 200, Statutes of 2002)

In response to the transportation sector accounting for more than half of California’s CO₂ emissions, AB 1493 (Chapter 200, Statutes of 2002), enacted on July 22, 2002, required the CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. Refer to Section 3.7, *Greenhouse Gas Emissions*, for details regarding this regulation.

California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. Under HSC Division 25.5, CARB has the primary responsibility for reducing the State’s GHG emissions; however, it also tasked the CEC and the California Public Utilities Commission (CPUC) with providing information, analysis, and recommendations to CARB regarding strategies to reduce GHG emissions in the energy sector.

In 2016, the California State Legislature adopted SB 32 and its companion bill AB 197; both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure that the benefits of State climate policies reach into disadvantaged communities. Refer to Section 3.7, *Greenhouse Gas Emissions*, for details regarding these regulations.

CARB Heavy-Duty On-Road and Off-Road Vehicle Regulations

In 2004, the CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California CCR Section 2485). The measure applies to diesel-fueled

commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 hp, such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

3.5.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to energy according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.
- Result in cumulatively considerable impacts to energy.

Additionally, the analysis presented below takes into consideration the comments received on the Initial Study and NOP. A summary of those comments is provided in **Table 3.5-1**.

**TABLE 3.5-1
SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Energy Resources	<ul style="list-style-type: none">• Use the most current version of CalEEMod for quantifying emissions.

Methodology

The potential for adverse impacts on energy has been evaluated based on information concerning current service levels and the ability of the service providers to accommodate the construction and operation of the Proposed Project.

Construction

The Proposed Project includes the construction and operation an 8 MG potable water storage tank, a chlorination disinfection facility, and associated transmission pipeline to connect the storage tank to existing infrastructure. Construction energy consumption would result primarily from transportation fuels (e.g., diesel and gasoline) used for vendor trucks, heavy-duty construction equipment, and construction workers traveling to and from the Project site. Construction activities can vary substantially from day to day, depending on the specific type of construction activity and the number of workers and vendors traveling to the Project site. This analysis considers these factors and provides the estimated construction energy consumption over the duration of construction for the purposes of evaluating the associated impacts on energy resources. Total construction energy demand is based on EMWD supplied average construction equipment usage levels.

Energy use during construction is forecasted by assuming a conservative estimate of construction activities (i.e., maximum daily equipment usage levels). The energy usage required for Project construction has been estimated based on the number and type of construction equipment that would be used during project construction, the extent that various equipment is utilized in terms of equipment operating hours or miles driven, and the estimated duration of construction activities. Energy for construction worker commuting trips has been estimated based on the predicted number of workers for the various phases of construction and the estimated VMT. The assessment also includes a discussion of the Project's compliance with relevant energy-related regulatory measures that would minimize the amount of energy usage during construction.

The construction equipment would likely be diesel fueled (with the exception of construction worker commute vehicles, which would primarily be gasoline fueled). For the purposes of this assessment, it is conservatively assumed heavy-duty construction equipment would be diesel-fueled, unless otherwise determined through necessary mitigation. This represents a worst-case scenario intended to represent the maximum potential energy use during construction. The estimated fuel economy for heavy-duty construction equipment, haul trucks, and worker commute vehicles is based on fuel consumption factors from the U.S. Energy Information Administration (EIA). GHG emissions from equipment usage was obtained from CalEEMod, which is a State-approved emissions model used for the Project's air quality and GHG emissions assessment, and converted to gallons of fuel based on the EIA data. Therefore, this energy assessment is consistent with the modeling approach used for other environmental analyses in the EIR and consistent with general CEQA standards.

Electricity consumption is anticipated to be negligible and only used to operate a few pieces of equipment throughout construction activities. Due to the short-temporary duration of construction, the negligible consumption of electricity and natural gas is not quantified. Natural gas is not anticipated to be consumed during construction activities.

Operation

Operation of the Project would require energy in the form of electricity and natural gas for operating onsite equipment, and transportation fuels for maintenance vehicles traveling to and

from the Project site. The chlorination facility would require various pumps, equipment, lighting and air conditioning that would result in approximately 54,645 kWh/yr (0.05 GWh). Additionally, water would be required to be pumped from the existing Murrieta Road Booster Station to the proposed water storage tank. Activation of the pumps would be triggered by a drop in static water level of the tank below the required hydraulic grade level for the entire pressure zone. As a conservative estimate, the Proposed Project is anticipated to increase consumption from the pumps by approximately 25 percent, or 9,556 kWh/yr (0.01 GWh/yr). The energy usage required for Project operation and maintenance activities is estimated based on the energy demand from the equipment and totals 64,201 kWh/yr (0.06 GWh/yr). The Project's estimated energy demands were then analyzed relative to SCE's and SoCalGas' existing and planned energy supplies for the Project buildout year to determine if SCE would be able to meet the Project's energy demands.

Vehicle trips from maintenance vehicles accessing the Project site assume that water storage tank site maintenance requires 2 workers twice a week. The transmission pipeline is not anticipated to require regular maintenance. In addition, 2 chemical deliveries are scheduled per month. Tank cleaning is anticipated once every five years, and assumes 3 vehicles per day for 20 days (4 weeks at 5 days per week). An average trip length of 14 miles per trip was used to quantify VMT and assumes a 10-mile trip for maintenance and a 20-mile trip for chemical deliveries. The estimated fuel economy for vehicles is based on fuel consumption factors from the EIA. GHG emissions from equipment usage was obtained from CalEEMod and converted to gallons of fuel based on the EIA data. Therefore, this energy assessment is consistent with the modeling approach used for other environmental analyses in this Draft EIR and consistent with general CEQA standards. The Project's estimated transportation energy demands were analyzed relative to County fuel consumption data.

Impact Analysis

Energy Consumption

Impact 3.5-1: The Proposed Project could result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.

Construction of the Project would result in energy consumption from the use of heavy-duty construction equipment, on-road trucks, and construction workers commuting to and from the Project site.

Electricity would be consumed during construction activities to power for lighting, electronic equipment (e.g., computers, etc.), and certain construction equipment (e.g., hand tools or other electric equipment). Electricity consumption would not result in a substantial increase in onsite electricity use. Electricity use during construction would be variable depending on lighting needs and the use of electric-powered equipment and would be temporary for the duration of construction activities. It is expected that construction electricity use would generally be considered as temporary and negligible over the long-term.

Heavy-duty construction equipment would be primarily diesel-fueled. The assumption that diesel fuel would be used for most equipment represents the most conservative scenario for maximum potential energy use during construction. The estimated total diesel fuel that would be consumed by heavy-duty construction equipment is shown in **Table 3.5-2**. Calculation details are provided in Appendix AQ/GHG/Energy of this EIR.

**TABLE 3.5-2
PROJECT CONSTRUCTION FUEL USAGE**

Source	Total Gallons of Diesel Fuel	Total Gallons of Gasoline Fuel
Construction:		
On-site Construction Equipment	74,370	—
Haul Trucks	10,680	—
Vendor Trucks	944	—
Worker Trips	—	4,266
Total (over construction duration)	85,994	4,266

SOURCE: ESA 2020 (Appendix AQ/GHG/Energy)

It is estimated that a maximum of approximately 3,725 truck trips would be required during the construction period to haul material to offsite reuse and disposal facilities.² The Project is estimated to generate approximately 126 one-way vendor truck trips for the delivery of building materials and supplies to the Project site over the construction period.

The number of construction workers that would be required would vary based on the phase of construction and activity taking place. The transportation fuel required by construction workers to travel to and from the Project site would depend on the total number of worker trips estimated for the duration of construction activity. The total gasoline fuel was estimated for workers and is also shown in Table 5.2-2.

For comparison purposes, the Project's construction energy demand from transportation fuel is compared to the Riverside County transportation fuel sales. As shown in **Table 3.5-3**, the Project would represent a very small fraction of the County's total fuel consumption. Furthermore, construction of the Project would result in short-term and temporary energy demand lasting less than 2 years. As such, the Project would not increase the need for new energy infrastructure.

**TABLE 3.5-3
COMPARISON OF PROJECT CONSTRUCTION AND COUNTY FUEL USAGE**

Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Riverside County (in 2018) ^a	119,000,000	916,000,000
Annual Average Project Construction	76,204	3,780
Percent of County	0.05%	0.0003%

a CEC 2018

SOURCE: ESA 2020 (Appendix AQ/GHG/Energy)

² Materials include site clearing debris, soils removal, and pavement removal from pipeline construction.

Construction of the Project would require the consumption of energy for necessary onsite activities and to transport materials, soil, and debris to and from the Project site. The amount of energy used would not represent a substantial fraction of the available energy supply in terms of equipment and transportation fuels. Furthermore, compliance with the previously discussed anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful and unnecessary consumption of energy. Therefore, construction of the Project would not result in the wasteful, inefficient, and unnecessary consumption of energy and would not increase the need for new energy infrastructure. Construction energy impacts would be less than significant.

Operation

Operational energy consumption (electricity and natural gas) would occur as a result of the Project's energy needs and the use of transportation fuels (e.g., diesel and gasoline) associated with vehicles traveling to and from the Project site. This analysis estimates the maximum operational energy consumption to evaluate the Project's associated impacts on energy resources.

Operational Energy Consumption

Daily operation of the Project would consume energy in the form of electricity and natural gas. Additionally, energy would be consumed for the conveyance and treatment of water as well as outdoor lighting and equipment usage. The Project's estimated net operational electricity demand is provided in **Table 3.5-4**. The Project would be designed to meet the applicable standards of the California Building Code at the time of building permit issuance. These energy saving features are included in the electricity estimates in Table 3.5-4. Calculation details are provided in Appendix AQ/GHG/Energy of this EIR.

**TABLE 3.5-4
PROJECT OPERATIONAL ELECTRICITY USAGE**

Source	Electricity Per Year (GWh)
SCE Electricity Sales (2018)	87,143
Project Operations ^a :	0.06
Percent SCE	<0.001%

^a Project electricity usage includes the electricity from the 25% increase in existing pump usage.

SOURCE: ESA 2020 (Appendix AQ/GHG/Energy)

The Project's estimated net operational natural gas demand is provided in **Table 3.5-5**. As operation of the Project would be consistent with all state and local regulations with respect to energy use, the Project would not result in wasteful, inefficient, and unnecessary consumption of energy and would not increase the need for new energy infrastructure. Operational energy impacts would be less than significant.

**TABLE 3.5-5
PROJECT OPERATIONAL NATURAL GAS USAGE**

Source	Natural Gas Per Year (million kBtu)
SoCalGas Natural Gas Sales (2018)	515,607
Project Operations:	66
Percent of SoCalGas	<0.001%

SOURCE: ESA 2020 (Appendix AQ/GHG/Energy)

Operational Transportation Energy Consumption

Operation of the Project would result in transportation energy use. Transportation fuels, primarily gasoline and diesel, would be provided by local or regional suppliers and vendors. The Project’s estimated operational transportation fuel demand is provided in **Table 3.5-6**. Calculation details are provided in Appendix AQ/GHG/Energy of this EIR. With respect to operational transportation-related fuel usage, the Project would support statewide efforts to improve transportation energy efficiency and reduce transportation energy consumption with respect to private automobiles.

**TABLE 3.5-6
PROJECT OPERATIONAL FUEL USAGE**

Source	Gallons of Diesel Fuel Per Year	Gallons of Gasoline Fuel Per Year
Riverside County (2018)	119,000,000	916,000,000
Project Operations ^{a,b}	468	245
Percent of County	<0.001%	<0.001%

NOTES:

^a Includes diesel fuel required by the on-site emergency generators.

^b Project operational fuel calculations is based on CalEEMod output.

SOURCE: ESA 2020 (Appendix AQ/GHG/Energy)

Given that the Project site is located only 10 miles from where maintenance vehicles would be stationed and there is minimal maintenance and deliveries for site operations (up to 2 vehicles per week), and there are only two chemical deliveries a month, the Project would not conflict with the goals and benefits of the SCAG 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). As such, the Project would not result in wasteful, inefficient, or unnecessary use of energy.

Operation of the Project would result in energy usage from building, outdoor lighting, and equipment energy demand and transportation-related energy associated with vehicles traveling to and from the Project site. The amount of energy used would represent a substantial fraction of the available energy supply in terms of building energy or transportation fuels and would not result in the need for new energy infrastructure. The Project would not hinder the SCAG 2016 RTP/SCS. Furthermore, the Project would incorporate green building measures consistent with the energy efficiency standards in CALGreen. As the Project would meet or exceed required energy

efficiency, it would not result in the wasteful, inefficient, and unnecessary consumption of building energy or transportation energy usage. Therefore, operation of the Project would not result in the wasteful, inefficient, and unnecessary consumption of energy and would not increase the need for new energy infrastructure or preempt opportunities for future energy conservation. Therefore, operational energy impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Consistency with Energy Plans

Impact 3.5-2: The Proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

As discussed above, the Project would incorporate green building design features consistent with the CALGreen Code. The Project's location within 10 miles of the maintenance yard would minimize VMT traveled for monthly maintenance activities. Having the site monitored and operated remotely will eliminate the need for new workers and new worker trips. Overall the Project would support and promote energy efficiency, specifically with respect to transportation fuel consumption. Construction of the Project would comply with applicable regulations that would minimize necessary fuel usage such as the USEPA Phase 2 standards and CARB idling regulation, as discussed previously. Therefore, the Project's burden on energy demand would be minimal and would not result in a need for increased supply or distribution infrastructure capabilities and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Cumulative Impacts

Impact 3.5-3: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to energy.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. Cumulative development inclusive of the Project would also contribute to impacts on energy resources from the SCE and SoCalGas, as well as regional fuel consumption due to increased vehicle miles traveled.

Consumption of Energy (Construction and Operation)

Electricity

The geographic context for the cumulative analysis of electricity is SCE's service area. Growth within this service area is anticipated to increase the demand for electricity and the need for infrastructure, such as new or expanded facilities.

Buildout of the Project, cumulative projects, and additional growth forecasted to occur in the SCE's service area would increase electricity consumption during Project construction and operation, and may cumulatively increase the need for energy supplies. However, as discussed previously, the Project as well as cumulative projects would be required to comply with the California Energy Code. Based on this, the Project would not have a significant impact on nonrenewable energy resources or SCE's electric generation capacity or distribution capabilities. As shown in Table 3.5-4, Project electricity consumption would be minimal and would not result in a noticeable impact to SCE's resources. Accordingly, the impacts related to electricity consumption would not be cumulatively considerable, and thus would be less than significant.

Natural Gas

The geographic context for the cumulative analysis of natural gas is the SoCalGas service area. While growth within this geographic region is anticipated to increase the demand for new natural gas hookups and meters, efficiency upgrades and the transition away from natural gas as a source of energy generation is expected to decrease the overall natural gas demand in future years.

Though electricity usage is predicted to rise, natural gas demand is expected to decline overall from 2016-2035 accounting for population and economic growth as well as efficiency improvements and the State's transition away from fossil fuel-generated electricity to increased renewable energy. SoCalGas predicts a decline in every sector (residential, industrial, commercial, electricity generation, and vehicular), with the exception of wholesale and international gas sales to Mexico. The 2016 California Gas Report states, "SoCalGas projects total gas demand to decline at an annual rate of 0.6% from 2016 to 2035. The decline in throughput demand is due to modest economic growth, CPUC-mandated energy efficiency (EE) standards and programs, renewable electricity goals, the decline in commercial and industrial demand, and conservation savings linked to Advanced Metering Infrastructure (AMI)." (CGEU 2016).

Buildout of the Project and cumulative projects in the SoCalGas service area is expected to increase short term natural gas consumption and the need for natural gas supplies, but long-term energy efficiency upgrades are expected to reduce the energy impacts of both the Project and related projects over the next 20 years. Based on the Project's estimated natural gas consumption as shown in Table 3.5-5, the Project would account for less than 0.001 percent of SoCalGas demand for the Project's buildout year.

Although future development projects would result in use of nonrenewable natural gas resources which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with regional and local growth expectations for SoCalGas's service area. Further, other future development projects would be expected to incorporate energy

conservation features, comply with applicable regulations including CALGreen and State energy standards in Title 24, and incorporate mitigation measures, as necessary. While initially the Project and cumulative projects could result in increased natural gas demand compared to existing uses on each specific project site, the overall demand for natural gas over time is expected to decline due to increases in regional natural gas efficiencies and the transition to renewable energy on a statewide basis displacing fossil fuels including natural gas. Therefore, the Project would not have a cumulatively considerable impact related to natural gas consumption, and impacts would be less than significant.

Transportation Energy

Buildout of the Project and cumulative projects in the region would be expected to increase overall VMT; however, the effect on transportation fuel demand would be minimized by future improvements to vehicle fuel economy pursuant to federal and state regulations. By 2025, vehicles will be required to achieve 54.5 mpg (based on USEPA measurements), which is a 54 percent increase from the 35.5 mpg standard in the 2012-2016 standards. As discussed previously, the Project would support statewide efforts to improve transportation energy efficiency and would minimize VMT by operating the site remotely using existing employees. This is consistent with the State's overall goals to reduce VMT pursuant to SB 375, and as outline in the SCAG 2016 RTP/SCS for the region. Related projects that would also be consistent with these goals and would also contribute to transportation energy efficiency.

Furthermore, according to the USEIA's International Energy Outlook 2016, the global supply of crude oil, other liquid hydrocarbons, and biofuels is expected to be adequate to meet the world's demand for liquid fuels through 2040 (EIA 2016). Therefore, as the Project would be consistent with state goals for reducing VMT, the Project would not have a cumulatively considerable impact related to transportation energy, and impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

3.5.4 References

California Energy Commissions (CEC). et al. 2008. *2008 Update Energy Action Plan*. February. Available: <https://ww2.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF>. Accessed October 2019.

CEC, 2018. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting>. Accessed October 2019

CEC, 2019. Renewables Tracking Progress Highlights. https://www.energy.ca.gov/sites/default/files/2019-12/renewable_highlights_ADA_0.pdf. Accessed October 2019.

California Gas and Electric Utilities, 2016 (CGEU). 2016 California Gas Report. Available at <https://www.socalgas.com/regulatory/documents/cgr/2016-cgr.pdf>. Accessed October 2019.

CGEU, 2018. 2018 California Gas Report, https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf. Accessed October 2019.

United States Energy Information Administration (EIA), 2016. International Energy Outlook 2016. Available at: [https://www.eia.gov/outlooks/ieo/pdf/0484\(2016\).pdf](https://www.eia.gov/outlooks/ieo/pdf/0484(2016).pdf). Accessed October 2019.

Edison International and Southern California Edison (EI & SCE), 2018. 2018 Annual Report. Available: <https://www.edison.com/content/dam/eix/documents/investors/corporate-governance/eix-sce-2018-annual-report.pdf>. Accessed October, 2019

National Highway Traffic Safety Administration (NHTSA), 2019. *Corporate Average Fuel Economy*. Available online at: <https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy>. Accessed October 2019.

Southern California Edison (SCE), 2019. About Us >Who We Are, <https://www.sce.com/about-us/who-we-are>. Accessed October, 2019.

SoCalGas, 2019. Company Profile, <https://www.socalgas.com/about-us/company-profile>. Accessed October 2019.

United States Environmental Protection Agency (USEPA), 2011. *Fact Sheet: EPA and NHTSA Adopt First-Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles*. August. Available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100BOT1.PDF?Dockey=P100BOT1.PDF>. Accessed October 2019.

USEPA, 2016. *Federal Register/Vol. 81, No. 206/Tuesday, Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2*. October 25. Available online at: <https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf>. Accessed October 2019.

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3.6 Geology, Soils, and Paleontology

This section addresses the geology, soils, and paleontological resources impacts associated with construction and operation of the Proposed Project. This section includes: a description of the existing geology, soils, and paleontological resource conditions, based on the Paleontological Resources Assessment Report (2019) prepared for the Proposed Project by ESA (ESA 2019; **Appendix PALEO**) at the Proposed Project site; a summary of applicable regulations related to geology and soil hazards, and paleontological resources; and an evaluation of the potential impacts of the Proposed Project related to the geologic and soil conditions and the paleontological resources on the Proposed Project site and in the surrounding area, including cumulative impacts.

3.6.1 Environmental Setting

Regional Geology and Topography

The Proposed Project is located in Western Riverside County in the Romoland 7.5-Minute Quadrangle published by USGS in 2003 (USGS 2003). The Romoland Quadrangle is located in the northern part of the Peninsular Ranges geomorphic province within a geologically complex region of Southern California (California Geological Survey [CGS] 2002a). The Peninsular Ranges province lies in the southwestern most region of California and extends south 775 miles past the United States/Mexico border. It is bounded by the Transverse Ranges to the north, the Colorado Desert to the east, and the Pacific Ocean to the west. Included within the province is Orange County, as well as portions of Los Angeles, San Bernardino, Riverside, San Diego, and Imperial Counties. The topography of the province is similar to the Coast Ranges, with northwest-trending ranges and valleys, but the geology is more like that of the Sierra Nevada province, with granitic rock intruding the older metamorphic rocks (CGS 2002a).

The Romoland Quadrangle is located in the west-central part of the Perris block, which is a stable structural block bounded on the west by the Elsinore fault zone and on the east by the San Jacinto fault zone (USGS 1991). It is underlain by rocks of the Peninsular Ranges batholith of Cretaceous age and pre-batholithic metasedimentary and metavolcanic rocks of probable Mesozoic age. The Menifee and Paloma Valleys are floored with Holocene and Pleistocene alluvium at an elevation of 1,400 to 1,500 feet. The interconnected valley floor surface is called the Paloma surface.

Site Geology and Topography

The proposed water storage tank site is bound to the east by Goetz Road, to the south by Sotelo Road, to the west by Our Way, and to the north by a private single-family residence. A shallow slope descends approximately 10 feet from Our Way to the proposed water storage tank site along the western perimeter. It is not clear whether the slope is natural or the result of previous grading activity (Converse Consultants 2014). The remainder of the proposed water storage tank site slopes gently to the northeast with elevations ranging from approximately 1,614 feet AMSL in the southwestern corner to approximately 1,590 feet AMSL in the northeast corner (Converse Consultants 2014). The proposed water storage tank site is currently vacant except for a perimeter

fence and light vegetation. Vegetation onsite consists of annual grass and scattered scrub brush. Scattered outcrops of granitic rock exist adjacent to and onsite.

The proposed water storage tank site is situated on the northeast flank of a series of low hills at the southwest margin of the Perris Valley, near the north end of the Menifee Valley. The proposed water storage tank site is underlain by Triassic quartzite and quartz-rich meta-sandstone of Menifee Valley. The bedding within the metasandstone dips steeply to the northeast. The metamorphic rock is underlain by Cretaceous granitic bedrock (Converse Consultants 2014).

The proposed water storage tank site is overlain by surficial soils generally consisting of mixtures of silt, sand and gravel with numerous cobbles, and scattered boulders up to approximately 18 inches in size. The thickness of the surficial soils ranges from approximately 3 inches on the southern and western sides of the proposed water storage tank site to approximately 5 feet along the northwest side of the proposed water storage tank site (Converse Consultants 2014). The soil is absent in some areas along the western boundary. The surficial site soils are underlain by fine to coarse-grained meta-sandstone bedrock to the maximum depth explored of 7.5 feet bgs. The bedrock is intensely weathered near the surface and becomes less weathered with depth. The bedrock is exposed at the surface in the shallow slope along the western site boundary (Converse Consultants 2014). Granitic bedrock is expected to underlie the meta-sandstone at an unknown depth. Relatively unweathered rock is present at 35 to 60 feet bgs. This layer likely represents unweathered granitic bedrock (Converse Consultants 2014).

The proposed transmission pipeline area has elevations ranging from 1,600 feet AMSL near the proposed water storage tank site to 1,445 feet AMSL towards the east along Thornton Avenue where it would meet Murrieta Road. Soils within the proposed transmission pipeline area consist predominantly of Garretson very fine sandy loam, Escondido fine sandy loam, Lodo rocky loams that are eroded, and Friant fine sane loams that are eroded (USDA 2019). Similar to the proposed water storage tank site, surficial soils within the proposed transmission pipeline area are underlain by unweathered rock (USDA 2019). An undetermined thickness of imported fill or road base is present beneath the existing paved roads in the Project area.

Seismicity

Southern California is a region of high seismic activity with numerous active and potentially active faults. Earthquakes along the San Andreas Fault Zone, approximately 43 miles away, relieve convergent plate stress in the form of right lateral strike slip offsets. The Transverse Ranges work as a block causing the San Andreas Fault to bend, producing compressional stresses that are manifested as reverse, thrust, and right lateral faults. Faulting associated with the compressional forces creates earthquakes and is primarily responsible for the mountain building, basin development, and regional upwarping found in this area.

Major earthquakes have affected the region in the past and can be expected to occur again in the future on one of the principal active faults in the San Andreas Fault system. The principal active faults in the region include the San Andreas, San Jacinto and Elsinore Fault Zones, which are discussed further below (Southern California Earthquake Data Center [SCEDC] 2019). Over the

last 100 years, there have been approximately nine significant seismic events, or earthquakes, in the region according to the SCEDC (SCEDC 2019).

Earthquake Magnitude

When an earthquake occurs along a fault, its size can be determined by measuring the energy released during the event. A network of seismographs records the amplitude and frequency of the seismic waves that an earthquake generates. The Richter magnitude (ML) of an earthquake represents the highest amplitude measured by the seismograph at a distance of 100 kilometers from the epicenter. Richter magnitudes vary logarithmically with each whole-number step, representing a tenfold increase in the amplitude of the recorded seismic waves and 32 times the amount of energy released. While Richter magnitude was historically the primary measure of earthquake magnitude, seismologists now use Moment Magnitude (Mw) as the preferred way to express the size of an earthquake. The Mw scale is related to the physical characteristics of a fault, including the rigidity of the rock, the size of fault rupture, and the style of movement or displacement across the fault. Although the formulae of the scales are different, they both contain a similar continuum of magnitude values, except that Mw can reliably measure larger earthquakes and do so from greater distances. **Table 3.6-1** lists the correlation between magnitude and intensity and describes the character of ground shaking felt during earthquakes.

**TABLE 3.6-1
 MODIFIED MERCALLI INTENSITY SCALE**

Magnitude	Intensity	Description
1.0–3.0	I	I. Not felt except by a very few.
3.0–3.9	II–III	II. Felt only by a few persons at rest, especially on upper floors of buildings.
		III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Vibrations similar to the passing of a truck.
4.0–4.9	IV–V	IV. Felt indoors by many, outdoors by few during the day. Dishes, windows, doors disturbed. Sensation like heavy truck striking building.
		V. Felt by nearly everyone. Some windows broken. Pendulum clocks may stop.
5.0–5.9	VI–VII	VI. Felt by all, many frightened. Some heavy furniture moved. Damage slight.
		VII. Damage negligible in buildings of good design and construction; considerable damage in poorly built or badly designed structures.
6.0–6.9	VII–IX	VIII. Damage slight in specifically designed structures. Damage great in poorly built structures. Fall of chimneys and walls. Heavy furniture overturned.
		IX. Damage considerable in specifically designed structures; Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
7.0 and Higher	VIII and Higher	X. Most masonry and frame structures destroyed with foundations. Rails bent.
		XI. Few structures remain standing. Bridges destroyed. Rails bent greatly.
		XII. Damage total. Lines of sight and level are distorted. Objects airborne.

SOURCE: USGS 2019

Faults

A fault is a fracture or line of weakness in the earth's crust, along which rocks on one side of the fault are offset relative to the same rocks on the other side of the fault. Based on criteria established by the CGS, faults can be categorized as active, potentially active, or inactive (CGS 2002b). Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that show evidence of displacement within the last 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years are considered inactive.

Table 3.6-2 lists the location of regionally active faults and potentially active faults significant to the Project area due to proximity, activity status, date of most recent motion, and maximum Mw. The maximum Mw is the strongest earthquake that is likely to be generated along a fault and is based on empirical relationships of surface rupture length, rupture area, and fault type, which are all related to the physical size of fault rupture and displacement across a fault.

Seismic Hazards

Ground Shaking

Earthquakes in the Southern California region could produce strong ground shaking in the Project vicinity. Ground shaking intensity is partly related to the size of an earthquake, the distance to the site, and the response of the geologic materials that underlie a site. As a rule, the greater the earthquake magnitude and the closer the fault rupture to a site, the greater the intensity of ground shaking. Violent ground shaking is generally expected at and near the epicenter of a large earthquake; however, different types of geologic materials respond differently to earthquake waves. For instance, deep unconsolidated materials can amplify earthquake waves and cause longer periods of ground shaking.

A common measure of ground motion at any particular site during an earthquake is the peak ground acceleration (PGA). The PGA for a given component of motion is the largest value of horizontal acceleration obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared. In terms of automobile acceleration, one "g" of acceleration is equivalent to the motion of a car traveling 328 feet from rest in 4.5 seconds. For comparison purposes, the maximum PGA value recorded during the 1994 Northridge earthquake in the vicinity of the epicenter exceeded 1 g in several areas. Unlike measures of magnitude, which provide a single measure of earthquake energy, PGA varies from place to place and is dependent on the distance from the epicenter and the character of the underlying geology (e.g., hard bedrock, soft sediments, or artificial fills).

**TABLE 3.6-2
 ACTIVE FAULTS IN THE PROJECT VICINITY**

Fault Name and Section	Approximate Distance to Site (kilometers)	Max. Moment Magnitude (Mw)¹
Elsinore-Temecula	14.5	6.8
Elsinore-Glen Ivy	14.7	6.8
San Jacinto-San Jacinto Valley	21.7	6.9
San Jacinto-Anza	28.5	7.2
San Jacinto-San Bernardino	32.4	6.7
Chino-Central Ave. (Elsinore)	33.7	6.7
Whittier	40.7	6.8
San Andreas-San Bernardino	43.4	7.5
San Andreas-Southern	43.4	7.4
Elsinore-Julian	43.4	7.1
Cucamonga	54.5	6.9
Newport-Inglewood (Offshore)	56.0	7.1
North Frontal Fault Zone (West)	58.5	7.2
Pinto Mountain	59.3	7.2
San Jose	61.0	6.4
Cleghorn	61.1	6.5
Elysian Park Thrust	63.6	6.7
Sierra Madre	65.0	7.2
Newport-Inglewood (L.A. Basin)	66.1	7.1
North Frontal Fault Zone (East)	68.5	6.7
Rose Canyon	68.8	7.2
Compton Thrust	70.5	6.8
San Andreas-1857 Rupture	70.9	7.8
San Andreas-Mojave	70.9	7.4
San Jacinto-Coyote Creek	72.7	6.8
San Andreas-Coachella	73.2	7.2
Helendale-S. Lockhardt	78.9	7.3
Clamshell Sawpit	81.1	6.5
Palos Verdes	81.8	7.3
Burnt Mtn.	82.1	6.5
Coronado Bank	82.5	7.6

Notes: 1. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. The maximum moment magnitude (Mmax) is the strongest earthquake that is likely to be generated along a fault and is based on empirical relationships of surface rupture length, rupture area, and fault type.

Soil Erosion

Factors contributing to potential soil erosion include climate, the physical characteristics of soils, topography, land use, and the amount of soil disturbance. In general, the loss of ground cover caused by construction activities is a primary factor contributing to an increase in soil erosion potential. Erosion potential is also directly related to the terrain's steepness. Although the terrain is fairly flat along the proposed storage tank and transmission pipeline, its overall downhill slope creates the potential for erosion and soil loss during construction.

Paleontological Resources within the Project Area

Paleontological Setting

As discussed above, the Project area is located on the Perris Block, a fault-bounded tectonic block within the Peninsular Ranges province. The immediate area is low hills of Mesozoic gabbro and metamorphosed quartz-rich rocks separated by alluvium.

Geologic Map and Paleontological Literature Review

There is historic disagreement over the surficial geology of the Project area. Morton et al. (2003) map the surficial sediments of the Project area as very old alluvial fan (mid to early Pleistocene). Dibblee (2008) maps all the surrounding surficial sediment as Holocene Quaternary alluvium (Qa). Based on the geotechnical report (Converse Consultants 2014) and survey observation, which is further explained below, the Morton et al., 2003 map of the geology of the Project vicinity is the appropriate mapping.

The site is underlain by approximately 3 inches to 5 feet of loose surface soils (Converse Consultants 2014). The surficial soils generally consist of mixtures of silt, sand, and gravel. The surficial soils contain numerous cobbles, and scattered boulders up to approximately 18 inches in size. These thick surficial soil deposits were encountered along the northwest side of the site (Converse Consultants 2014). The soil thins to the west, and is absent in some areas along the western boundary of the proposed 2.85-acre water storage tank site.

The surficial site soils are underlain by a fine to coarse-grained meta-sandstone bedrock to the maximum depth explored of 7.5 feet bgs. The bedrock is intensely weathered near the surface and becomes less weathered with depth. The bedrock is exposed at the surface in the shallow slope along the western boundary of the proposed 2.85-acre water storage tank site.

The compendia of Pleistocene vertebrate fossil localities in California (Jefferson 1991a, 1991b) do not list any sites from the Perris/Menifee area. Diamond Valley Reservoir is located approximately six miles east of the Project area. Construction of that reservoir produced hundreds of vertebrate fossils (Anderson et al. 2002; Springer and Scott 1994; Springer et al. 1998, 1999, 2009)

Recent discoveries in Riverside County indicate that Pleistocene fossil soils (paleosols) contain vertebrate fossils in some locations in and near Riverside County (Stewart et al. 2012). There are no published findings of fossils from paleosols in the Perris area, however, Pleistocene paleosols

have been observed by the author in other locations within Riverside and San Bernardino Counties including Menifee, Grand Terrace (San Bernardino County), and Moreno Valley. No definite paleosols were seen in the pedestrian survey for this Project.

Natural History Museum of Los Angeles County Records Search

On May 30, 2019, a database search from the LACM for records of fossil localities in and around the Project area was requested. The purpose of the museum records search was to: (1) determine whether any previously recorded fossil localities occur in the Project area, (2) assess the potential for disturbance of these localities during construction, and (3) evaluate the paleontological sensitivity in the Project area. The records search returned no known localities within the Project area, however a number of vertebrate fossils are known from similar sedimentary deposits in the vicinity (McLeod 2019). The LACM has records of vertebrate fossil localities in late Pleistocene sediments (Older quaternary alluvium) near Railroad Canyon Reservoir and Lake Elsinore. These localities produced horse (*Equus* sp.) and camel (*Camelops hesternus*) fossils (McLeod 2019).

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its “Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources,” the SVP (2010:1-2) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rock units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcanoclastic formations (e. g., ashes or tephra), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.).
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.
- **Undetermined Potential.** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a

qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

- **No Potential.** Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources.

Paleontological Sensitivity Analysis

The review of the scientific literature and geologic mapping, as well as the records search from the LACM, was used to assign paleontological sensitivities following the guidelines of the SVP (1995, 2010) to the geologic units that are present at the surface or in the subsurface of the Project area as shown on **Figure 3.6-1**:

- **Very old alluvial fan deposits (Qvof)** – Surficial sediments, **high sensitivity**, increasing with depth. These potential fossils include a wide variety of Ice Age animals.
- **Quartz-rich rocks (Mesozoic) (Mzq)** – Surface and subsurface, **low sensitivity**. Morton et al. (2003) describe them as quartzite and quartz-rich metaquartzite. As these are altered sedimentary rocks, their potential for paleontological resources is low.
- **Gabbro (Cretaceous) (Kgb)** – Surface and subsurface, **no potential**. Gabbro is an igneous rock and has no potential to produce paleontological resources.

Pedestrian Survey

A paleontological resources survey of the Project area was conducted on June 13, 2019, by ESA. The survey included the proposed water storage tank site and the proposed pipeline alignment along Thornton Avenue. The survey did not include the inaccessible portions of the proposed pipeline alignment (see Figure 4 in Appendix PALEO). The objective was to identify paleontological resources within the Project area, plus a 50-foot buffer. Areas with visible ground surface were subject to pedestrian survey using transect intervals spaced no more than 5 meters (approximately 15 feet) apart. Areas not surveyed include private property/inaccessible areas where access was not obtained. No subsurface investigation was performed as part of the survey.

The Project area includes minor areas of artificial fill, and some disturbed areas. In general, the alluvium is a dark red, indicating intense weathering with consequent oxidation of iron in the sediments. No *in situ* pedogenic carbonates were detected; these would have indicated the presence of a paleosol. This heavily weathered state disproves the mapping of these sediments as Holocene alluvium (Dibblee 2008). Thus, the mapping of Morton et al. (2003) is the one adopted for this Project. No paleontological resources were observed in the alluvium.

3.6.2 Regulatory Framework

Federal

Federal regulations that apply directly to addressing the seismic and geotechnical aspects of the Project have been delegated to the State level.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code [PRC] Section 2621-2630) was signed into law in December of 1972 and requires the delineation of zones along active faults in California. The act was created to identify traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep and to prohibit the siting of most structures for human occupancy across these traces, thereby reducing structural damage and ensuring public safety. The Project area is not within an Alquist-Priolo Earthquake Fault Zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (PRC Chapter 7.8, Section 2690–2699.6) was adopted to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating ground failure caused by strong earthquakes, namely liquefaction and slope failure. The Seismic Hazards Mapping Act requires the State Geologist to delineate seismic hazard zones, also known as “zones of required investigation,” where regional (that is, not site-specific) information suggests that the probability of a hazard requiring mitigation is adequate to warrant a site-specific investigation. The fact that a site lies outside a zone of required investigation does not necessarily mean that the site is free from seismic or other geologic hazards. Where a project—defined by the act as any structures for human occupancy or any subdivision of land that contemplates the eventual construction of structures for human occupancy—is within a zone of required investigation, lead agencies must apply minimum criteria for project approval. The most basic criteria for project approval are that the owner/developer adequately demonstrates seismic hazards at the site have been evaluated in a geotechnical investigation, that appropriate mitigation measures have been proposed, and that the lead agency has independently reviewed the adequacy of the hazard evaluation and proposed mitigation measures. Both the geotechnical report and the independent review must be performed by a certified engineering geologist or registered civil engineer. As explained in Section 3.6.1, there are a number of active faults in the region that could subject the Project site to strong ground shaking.

California Building Code

The CBC, which is codified in Title 24 of the CCR Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building

Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2019 edition of the CBC is based on the 2015 International Building Code published by the International Code Council. The code is updated triennially, and the 2019 edition of the CBC was published by the California Building Standards Commission on July 1, 2019, and takes effect on January 1, 2020. The 2019 CBC contains California amendments based on the American Society of Civil Engineers Minimum Design Standard ASCE/SEI 7-16, *Minimum Design Loads for Buildings and Other Structures*, provides requirements for general structural design and includes means for determining earthquake loads¹ as well as other loads (such as wind loads) for inclusion into building codes. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

Seismic design specifications are determined according to the seismic design category (SDC) in accordance with Chapter 16 of the CBC. Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fills (Section 1804), load-bearing of soils (1806), as well as foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

National Pollutant Discharge Elimination System Construction General Permit

Construction associated with the Proposed Project may disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The Proposed Project would therefore be subject to the NPDES *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one

¹ A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure.

or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction of proposed program projects could be subject to the following requirements:

- Effluent standards
- Good site management “housekeeping”
- Non-stormwater management
- Erosion and sediment controls
- Run-on and runoff controls
- Inspection, maintenance, and repair
- Monitoring and reporting requirements

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices designed to prevent sediment and pollutants from contacting stormwater from moving offsite into receiving waters. Routine inspection of all best management practices is required under the provisions of the Construction General Permit.

The SWPPP must be prepared before the construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project area. The SWPPP must list best management practices and the placement of those best management practices that the project proponent would use to prevent erosion and topsoil loss. Examples of typical construction best management practices include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction.

In the Project area, the Construction General Permit is implemented and enforced by the Santa Ana RWQCB, which administers the stormwater permitting program. Dischargers are required to electronically submit a notice of intent and permit registration documents in order to obtain coverage under this Construction General Permit. Dischargers are responsible for notifying the RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner. A

Legally Responsible Person, who is legally authorized to sign and certify PRDs, is responsible for obtaining coverage under the permit.

Paleontological Resources

Appendix G (Part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources, stating that a project will normally result in a significant impact on the environment if it will "...disrupt or adversely affect a paleontologic resource or site or unique geologic feature, except as part of a scientific study." Section 5097.5 of the PRC specifies that any unauthorized removal of paleontological resources is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for the damage or removal of paleontological resources.

Local

County of Riverside – General Plan

The County of Riverside's General Plan recognizes the *CEQA Guidelines* Section 15064.5 as a threshold for the identification and protection of paleontological resources as well as the determination of significant impacts on those resources. In addition, the County's General Plan includes several Multipurpose Open Space policies to reduce or minimize the effects of development on historic, archaeological and paleontological resources (County of Riverside 2015). Among them are:

OS 19.8. "Whenever existing information indicates that a site proposed for development may contain biological, paleontological, or other scientific resources, a report shall be filed stating the extent and potential significance of the resource that may exist within the proposed development and appropriate measures through which the impacts of development may be mitigated."

OS 19.9. "This policy requires that when existing information indicates that a site proposed for development may contain paleontological resources, a paleontologist shall monitor grading activities with the authority to halt grading to collect uncovered paleontological resources, curate any resources collected with an appropriate repository, and file a report with the Planning Department documenting and paleontological resources that are found during the course of site grading."

The County of Riverside has provided a paleontological sensitivity map to assist in determining a property's sensitivity. It shows most of the Project area rated low with some High B paleontological sensitivity near the hills. A rating of High B indicates that there is a high likelihood that a project could disturb significant paleontological resources, but that they are a few feet beneath the ground surface.

Society of Vertebrate Paleontology

The SVP has established standard guidelines (SVP 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation,

identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological resource-specific laws, ordinances, regulations, and standards accept and use the professional standards set forth by the SVP.

As defined by the SVP, significant nonrenewable paleontological resources are: fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).

Based on the significance definitions of the SVP, all identifiable vertebrate fossils are considered to have significant scientific value because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

The SVP states that a geologic unit known to contain significant fossils is considered to be "sensitive" to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either directly or indirectly disturb or destroy fossil remains. Paleontological sites indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case. Since fossils are contained within surficial sediments or bedrock, and are therefore not observable or detectable unless exposed by erosion or human activity. In summary, paleontologists cannot know either the quality or quantity of fossils prior to natural erosion or human-caused exposure. As a result, even in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside of the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment that is known to be favorable for fossil preservation.

3.6.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to geology and soils according to the *CEQA Guidelines* Appendix G if it would do the following:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic shaking.
- Result in substantial soil erosion or the loss of topsoil.
- Result in cumulatively considerable impacts to geology and soils.

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important.² Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004). This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to paleontological resources if it would do the following:

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Result in cumulatively considerable impacts to paleontological resources.

Additionally, the comments EMWD received on the Initial Study and Notice of Preparation were taken into consideration when preparing this Draft EIR. A summary of those comments is provided in **Table 3.6-3**.

**TABLE 3.6-3
 SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Geology, Soils and Paleontology	<ul style="list-style-type: none"> • The Initial Study fails to address paleontological impacts for the tank site located within the City of Perris. The document cited the City of Menifee General Plan regarding the transmission pipeline alignments, but does not appropriately cite nor describe any potential impacts for the portions of the project with the City of Perris include the tank site itself. • There are no attached environmental impact reports or effects of disturbing the soil. • Evaluate impacts of the tank failure.

² Fossils are considered to be significant if one or more of the following criteria apply: The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct; The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein; The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas; The fossils demonstrate unusual or spectacular circumstances in the history of life; or The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

Methodology

Geologic and seismic information for the Project area was derived from various existing literature and compiled in this section to develop a comprehensive understanding of the potential constraints and hazards associated with construction and operation of the Proposed Project facilities. Information sources include geologic and soils maps and information prepared by the Department of Conservation, CGS, and the USGS, all of which reflect the most up-to-date understanding of the regional geology, soils, and paleontology.

In 2015, the California Supreme Court held that CEQA generally does not require a lead agency to consider the impacts of the existing environment on the future residents or users of a project. *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369. However, if a project exacerbates a condition in the existing environment, the lead agency is required to analyze the impact of that exacerbated condition on the environment, which may include future occupants of the project. As stated in *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473: “[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project.” While the potential for increased exposure of people or structures to risks associated with seismic occurrences and location of people or structures on unstable geologic units as a result of the location of the Proposed Project are discussed in this section for informational purposes, the effects of the preexisting hazards on users of the Proposed Project and structures are not environmental impacts under CEQA.

As described above, the Project area was the subject of thorough paleontological background research and analysis. The research included a paleontological records search from the Natural History Museum of Los Angeles County (LACM), as well as geologic map and literature reviews, a review of the geotechnical study (Converse Consultants 2014), and the Paleontological Resources Assessment Report (Appendix PALEO; ESA 2019).

The Project would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the Project with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and State agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Specific construction and seismic code requirements (i.e., CBC, Chapters 16 and 18) have been developed through years of study of earthquake response and the observed performance of structures during significant local earthquakes and others around the world. The Proposed Project would be required to comply with the CBC which provides guidance for evaluating and mitigating seismic hazards.

In addition, EMWD has established Engineering Standards, Specifications, and Drawings (available at <https://www.emwd.org/engineering-standards-specifications-and-drawings>) that are required to be incorporated into design and construction bidding documents. These Standards and Specifications establish requirements for the design of water systems, selection of materials, required information on design drawings, and system control equipment. As part of complying with contracts, design consultants and construction contractors are required to conduct all activities in accordance with EMWD’s Engineering Standards, Specifications, and Drawings

requirements. Note that compliance with regulations, standards, and specifications are conditions of permit approvals.

Impact Analysis

Seismic Groundshaking

Impact 3.6-1: The Proposed Project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic groundshaking.

Construction

The Project area is not located on an active earthquake fault. The nearest active fault is the Elsinore-Temecula Fault, located 14.5 miles to the southwest. Consequently, the Project activities would not intersect with an active fault and therefore could not activate movement along an active fault nor cause a seismic event (earthquake). Until the Project components have been installed, there would be no activities that would directly or indirectly cause potential substantial adverse effects relative to seismic shaking. No impact would occur. For a discussion of impacts associated with blasting, see Section 3.11, *Noise and Vibration*.

Operation

As previously discussed, the Project area is not located on an active earthquake fault. The nearest active fault is the Elsinore-Temecula Fault, located 14.5 miles to the southwest. The operation phase of the Project does not include the injection or extraction of groundwater or crude petroleum oil and therefore could not change subsurface pressure conditions nor move water or oil along a fault plane. Therefore, the Project could not activate movement along an active fault nor cause a seismic event (earthquake). No impact would occur.

The Project area lies within a region that is seismically active. In the event of an earthquake in Southern California, some seismic ground shaking would likely be experienced in the Project area during the operational life of the proposed facilities. As previously discussed, the Elsinore and San Jacinto Fault Zones are known active fault zones within the region and are capable of producing earthquakes at distances of approximately 14 to 18 miles away from the Project. Ground shaking could result in structural damage to new facilities, which in turn could damage the storage tank and release the water. Although a potential effect of the environment (i.e., an earthquake) on the Project is not subject to CEQA analysis, structural and mechanical failure of facilities onset by seismic ground shaking could threaten the safety of local residences, resulting in a potentially significant impact and are considered here for informational purposes. In the event of a seismic event, the water storage tank could be subjected to seismic shaking that could damage the tank and possibly result in a large scale-release of water from the water storage tank.

However, all structural components of the Project would undergo appropriate design-level geotechnical evaluations prior to final design and construction as required to comply with the CBC and EMWD's Engineering Standards, Specifications, and Drawings. The geotechnical engineer, as a registered professional with the State of California, is required to comply with the CBC and local codes, such as EMWD's Engineering Standards and Specifications, while

applying standard engineering practice and the appropriate standard of care required for projects in the Riverside County area. The California Professional Engineers Act (Building and Professions Code Sections 6700-6799), and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California. Adherence to the CBC and EMWD standards would ensure the strongest structure feasible at the proposed locations, with no increased risk to human life. These design standards consider proximity to potential seismic sources and the maximum anticipated groundshaking possible. Compliance with these building safety design standards would reduce the potential to threaten the safety of local residences. Therefore, with compliance with existing regulations, the impact relative to seismic shaking would be less than significant. See also Section 3.9, *Hydrology and Water Quality*, Impact 3.9-4 for more discussion on this topic.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Soil Erosion or Topsoil Loss

Impact 3.6-2: The Proposed Project could result in substantial soil erosion or the loss of topsoil.

Construction

Construction of the proposed water storage tank, associated facilities and the proposed transmission pipeline would include activities such as excavation, grading and backfilling that could result in soil erosion during rain or high wind events.

Construction activities would be required to comply with SCAQMD Rule 403 for dust control that would ensure the prevention and/or management of wind erosion and subsequent topsoil loss (see Section 3.2, *Air Quality*, for information about SCAQMD Rule 403). Compliance with SCAQMD Rule 403 would ensure that construction activities generating wind-induced soil erosion are below SCAQMD significance thresholds.

As described briefly above in Section 3.6.2, *Regulatory Framework*, to prevent erosion associated with runoff from the construction area for each individual facility, EMWD would be required to prepare and implement a SWPPP in accordance with the requirements of the statewide Construction General Permit (CGP) (see Section 3.9, *Hydrology and Water Quality*, for a detailed explanation of the CGP). The SWPPP would identify best management practices to control erosion, sedimentation, and hazardous materials potentially released from construction sites into surface waters. Compliance with the CGP, required SWPPP, and identified best management

practices would ensure soil erosion and loss of topsoil impacts would be reduced to less than significant.

Operation

Once the proposed facilities are constructed, activities that increase the likelihood of erosion or loss of top soil such as excavation and grading would not take place; therefore, operational impacts regarding significant soil erosion or top soil loss are not expected to occur, resulting in no impact.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Paleontological Resources

Impact 3.6-3: The Proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Construction

The surficial sediments underlying the Project area are identified as Qvof that have a high sensitivity. The features to be constructed within these sediments include portions of the proposed transmission pipeline. The trenching for the pipeline could occur up to depths of 10.5 feet and could encounter paleontological resources in the Qvof alluvial fan sediments. As a result, the Project's impacts on paleontological resources would be potentially significant. However, implementation of **Mitigation Measures GEO-1 through GEO-4**, which involve professional paleontological oversight of construction activities, monitoring, and curation of resources, would reduce impacts to a less than significant level.

The proposed water storage tank would be located within the Mesozoic sediment at depths up to 20 feet below ground surface, with blasting activities possible as well. The quartz-rich bedrock of Mesozoic age altered and have a low potential to produce paleontological resources. As a result, impacts would be less than significant and no mitigation measures would be required.

Operation

Operation of the Proposed Project does not have the capacity to affect paleontological resources as there will be no excavation, grading, or other earthmoving activities involved that could potentially encounter paleontological resources. As such, no impact to paleontological resources would occur.

Mitigation Measures

Mitigation Measure GEO-1: A qualified paleontologist meeting the SVP Standards (SVP 2010) (Qualified Paleontologist) shall be retained prior to the approval of demolition or grading permits to produce a Paleontological Resource Monitoring and Mitigation Plan for the Project. The Plan shall include monitoring specifications based on location and sediments within the Project Site and the type of ground disturbance planned for each portion of the alignment. The plan will also include mapping of the alignment to visually highlight the locations requiring monitoring. The plan will further identify locations for sediment sampling and procedures for communication and collection and recordation protocol of findings. The Qualified Paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources, shall attend the Project kick-off meeting and Project progress meetings on a regular basis, and shall report to the Project area in the event potential paleontological resources are encountered.

Mitigation Measure GEO-2: The Qualified Paleontologist shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project area and the procedures to be followed if they are found. Documentation shall be retained by the Qualified Paleontologist demonstrating that the appropriate construction personnel attended the training.

Mitigation Measure GEO-3: Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP 2010) under the direction of the Qualified Paleontologist within the Qvof alluvial fan sediments. Paleontological resources monitoring shall be conducted for all ground disturbing activities in previously undisturbed alluvial fan sediments as described and mapped in the monitoring and mitigation plan. Sediment samples shall be tested for the presence of microvertebrate fossils. However, depending on the conditions encountered, full-time monitoring within these sediments can be reduced to part-time inspections or ceased entirely if determined adequate by the Qualified Paleontologist. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils or potential fossils. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries.

Mitigation Measure GEO-4: Any significant fossils collected during project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. The Qualified Paleontologist shall prepare a final monitoring and mitigation report for submittal to EMWD in order to document the results of the monitoring effort and any discoveries. If there are significant discoveries, fossil locality information and final disposition will be included with the final report which will be submitted to the appropriate repository and EMWD.

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.6-4: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to geology, soils, and paleontological resources.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. The geographic scope of analysis for cumulative geologic impacts encompasses and is limited to the Project site and its immediately adjacent area. This is because impacts relative to geologic hazards are generally site-specific. For example, the effect of erosion would tend to be limited to the localized area of a project and could only be cumulative if erosion occurred as the result of two or more adjacent projects that spatially overlapped. The only cumulative project that could have impacts to geology, soils, and paleontological resources when combined with the Proposed Project, and that could result in cumulatively considerable impacts, is Cumulative Project 1, the Cimarron Ridge Development Project. All other projects are located too far away to result in cumulatively considerable impacts.

Construction

Relative to erosion, the Proposed Project would be required to prepare and implement a SWPPP under the state CGP that would reduce impacts relative to erosion to less than significant through the use of BMPs. Similarly, cumulative projects, such as the Cimarron Ridge Development Project, that also disturb more than one acre would also be required to comply with the CGP and implement a SWPPP and best management practices to control erosion and loss of topsoil in the project area. Therefore, cumulative development, including the Cimarron Ride Development Project immediately adjacent to the Project site, in conjunction with implementation of the Proposed Project, would result in less than cumulatively considerable impacts regarding erosion and loss of topsoil during construction. Therefore, the Proposed Project's impacts to geology and soils would be less than significant and not cumulatively considerable.

The Proposed Project has the potential to impact paleontological or unique geologic resources within the Project area during ground disturbing activities, particularly the transmission pipeline within the Qvof which have a high sensitivity. The Cimarron Ridge Development Project would also be located within the Qvof deposits. This project would involve construction of houses and underground utilities, which similarly to the proposed transmission pipeline, could result in the discovery of paleontological resources. As a result, it is possible that this development project would result in the demolition or destruction of significant paleontological resources. The Proposed Project's contribution, when taken in combination with the contributions from the Cimarron Ridge Development Project, could combine together to create a significant cumulative impact. However, implementation of Mitigation Measures GEO-1 through GEO-4 would reduce impacts to a less than significant level. The Cimarron Ridge Development Project would also be required to implement a similar suite of mitigation measures to avoid significant impacts to paleontological resources (City of Menifee 2015). Therefore, the Proposed Project's cumulative contribution to paleontological resources would be less than cumulatively considerable with implementation of mitigation measures.

Mitigation Measures

No mitigation measures are required for geology and soils.

Implement Mitigation Measures GEO-1 through GEO-4 for paleontological resources.

Significance Determination

Less than Significant for geology and soils.

Less than Significant with Mitigation for paleontological resources.

Operation

Once constructed, the Proposed Project would have a drainage system installed that would prevent erosion and loss of topsoil. See Section 3.9, *Hydrology and Water Quality*, that discusses the regulatory requirements relative controlling drainage and erosion. Similarly, the Cimarron Ridge Development Project would also be required to comply with the same regulatory requirements. Therefore, the Proposed Project's impacts to geology and soils regarding soil erosion would not be cumulatively considerable.

Once constructed, the Proposed Project could no longer have impacts relative to paleontological resources. Therefore, the Proposed Project could not combine with other projects such as the Cimarron Ridge Development Project during construction to adversely affect paleontological resources and would not be cumulatively considerable.

Mitigation Measures

None Required

Significance Determination

Less than Significant

3.6.4 References

Anderson, R. S., M. J. Power, S. J. Smith, K. B. Springer, and E. Scott. 2002. Paleocology of a Middle Wisconsin deposit from the southern California Quaternary Research 58:310-317.

California Geological Survey (CGS), 2002a. California Geomorphic Provinces, Note 36. Available online at: https://www.conservation.ca.gov/cgs/Documents/Note_36.pdf, accessed October 2019.

CGS, 2002b. Guidelines for Evaluating the Hazard of Surface Fault Rupture, CGS Note 49. Available online at: https://www.conservation.ca.gov/cgs/Documents/Note_49.pdf, accessed October 2019.

City of Menifee, 2015. Final EIR and Technical Appendices for the Cimarron Ridge Specific Plan. October 21, 2015.

- Converse Consultants. 2014. Geotechnical Investigations Report: 10 to 12.5 million Gallon Goetz Road Water Storage Tank 2.88 acre site Northwest of Goetz Road and Sotelo Road, City of Perris, Riverside, CA. Prepared for: Eastern Municipal Water District, 2270 Trumble Road, P.O. Box 8300, Perris, CA 92572. Prepared by: Converse Consultants, 1039 Corporate Drive, Redlands, CA 92374.
- Dibblee., T. W. 2008. Geologic map of the Murrieta 15 minute quadrangle, Riverside County, California. Dibblee Geological Foundation Map DF-417. Scale 1:62,500.
- Environmental Science Associates (ESA), 2019. Paleontological Resources Assessment Report (Appendix PALEO).
- Jefferson, G.T. 1991a. A catalogue of Late Quaternary Vertebrates from California: Part One, nonmarine lower vertebrate and avian taxa. Natural History Museum of Los Angeles County Technical Reports No. 5.
- Jefferson, G.T. 1991b. A catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. Natural History Museum of Los Angeles County Technical Reports No. 7.
- McLeod, S. 2019. Re: Vertebrate Paleontology Records Check for paleontological resources for the proposed Goetz Road Potable Water Storage Tank and Transmission Pipeline Project, in the City of Perris, Riverside County, project area. Letter response to Vanessa Ortiz. June 13, 2019.
- Morton, D. M., K. R. Bovard, and G. Morton. 2003. Geologic Map and digital database of the Romoland 7.5' quadrangle, Riverside County, California. U.S. Geological Survey Open-File Report 2003:102. Scale 1:24,000.
- SCEDC, 2019. Significant Earthquakes and Faults: Historical Earthquakes and Significant Faults in Southern CA. Accessed: <https://scedc.caltech.edu/significant/index.html>. Accessed on November 6, 2019.
- Scott, E. and K. Springer. 2003. CEQA and Fossil Preservation in California. The Environmental Monitor. Scott, E., K.
- Society of Vertebrate Paleontology, 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*.
- Springer, K. B., and E. Scott. 1994. F First record of late Pleistocene vertebrates from the Domenigoni Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 14:47A.
- Springer, K. B., E. Scott. L. Murray, and W. G. Spaulding. 1998. Partial skeleton of a large individual of *Mammut americanum* from the Domenigoni Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 18:78A.
- Springer, K. B., E. Scott. J. D. Sagebiel, and K. M. Scott. 1999. A late Pleistocene lake edge vertebrate assemblage from the Domenigoni Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 19:77A.

Springer, K. B., E. Scott, J. D. Sagebiel, and L. K. Murray. 2009. The Diamond Valley Lake Local Fauna: late Pleistocene vertebrates from inland southern California. Pp. 217-235 In: L. Albright III (ed.), Papers on Geology, Vertebrate Paleontology, and Biostratigraphy in Honor of Michael O. Woodburne. Museum of Northern Arizona Bulletin 66.

Stewart, J. D., M. Williams, M. Hakel, and S. Musick. 2012. Was it washed in? New evidence for the genesis of Pleistocene fossil vertebrate remains in the Mojave Desert of southern California. California State University Desert Symposium Proceedings 2012:140-143.

U.S. Department of Agriculture (USDA), 2019. Natural Resources Conservation Service. Web Soil Survey, Soil Map. Available online at: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>, accessed October 2019.

United States Geologic Survey (USGS), 1991. Geologic Map of the Romoland 7.5-minute Quadrangle, Riverside County, California. Available online at: <https://pubs.er.usgs.gov/publication/ofr90701>, accessed October 2019.

USGS, 2003. Geologic Map and Digital Database of the Romoland 7.5 Quadrangle, Riverside County, CA. Available online at: <https://pubs.usgs.gov/of/2003/0102/>, accessed October 2019.

USGS, 2019. U.S. “The Modified Mercalli Intensity Scale.” Available online at: <https://www.usgs.gov/natural-hazards/earthquake-hazards/education>, accessed October 2019.

3.7 Greenhouse Gas Emissions

This section provides a discussion of existing climate conditions and global climate change, existing regulations pertaining to global climate change, and potential greenhouse gas (GHG) emissions resulting from construction and operation of the Proposed Project, including cumulative impacts.

3.7.1 Environmental Setting

Climate Change Overview

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however, current data increasingly indicate that the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (i.e., caused or influenced by humans) GHG emissions is currently one of the most important and widely debated scientific, economic, and political issues in the United States and in the rest of the world. The extent to which increased concentrations of GHGs have caused or will cause climate change, and the appropriate actions to limit and/or respond to climate change, are the subject of significant and rapidly evolving regulatory efforts at the federal and state levels of United States government.

GHGs are a group of compounds in the Earth's atmosphere, which play a critical role in determining temperature near the Earth's surface. When sunlight reaches the Earth's surface, solar radiation is either reflected back into space, or absorbed by the Earth systems (oceans, land, and atmosphere) which is released as heat. GHGs in the atmosphere allow solar radiation to enter the Earth's atmosphere, but as low-frequency infrared radiation is reflected back from the Earth's surface towards space, GHGs in the atmosphere retain some of the reflected radiation, resulting in a warming of the atmosphere, known as the greenhouse effect.

Not all GHGs possess the same ability to induce climate change. GHGs differ in their ability to absorb energy (i.e., "radiative efficiency") and stay in the atmosphere (i.e., "lifetime"). The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different GHGs. The net effect of energy absorption and lifetime is reflected in the GWP of each GHG. Mass GHG emissions are calculated by converting the emissions of specific GHGs (e.g., CO₂) to units of equivalent mass of carbon dioxide (CO₂e) emissions, by applying the GWP value applicable to each GHG.¹ CO₂ is the primary GHG contributing to recent climate change; therefore, CO₂ is the reference gas for determining the GWPs of other GHGs and has a GWP of 1. While methane (another common GHG), for example, has a GWP of 21. By applying the GWP ratios, project-related CO₂e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO₂ over a 100-year period is used as a baseline. CO₂e emissions are calculated for construction years as well as existing and project build-out

¹ GWPs and associated CO₂e values were developed by the Intergovernmental Panel on Climate Change (IPCC), which updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). CARB reports GHG emission inventories for California using the GWP values from the IPCC AR4.

conditions to generate a net change in GHG emissions for construction and operation. Compounds that are regulated as GHGs are discussed below.

- **Carbon dioxide (CO₂):** the most abundant GHG in the atmosphere, primarily generated from fossil fuel combustion from stationary and mobile sources. CO₂ has a GWP of 1, and therefore, is the reference gas for determining the GWPs of all other GHGs.
- **Methane (CH₄):** emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. CH₄ has a GWP of 25.
- **Nitrous oxide (N₂O):** produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. N₂O has a GWP of 298.
- **High-GWP GHGs:** HFCs, PFCs, CFCs, HCFCs, and sulfur hexafluoride (SF₆) are fluorinated compounds, known as high-GWP GHGs, because, for a given amount of mass, they trap substantially more heat than CO₂. The GWPs for these GHGs can be in the thousands or tens of thousands.):
 - **Hydrofluorocarbons (HFCs):** fluorinated compounds consisting of hydrogen, carbon, and fluorine, typically used as refrigerants in both stationary refrigeration and mobile air conditioning systems. HFCs have GWPs ranging from 124 to 14,800.
 - **Perfluorocarbons (PFCs):** fluorinated compounds consisting of carbon and fluorine, primarily created as a byproduct of aluminum production and semiconductor manufacturing. PFCs have GWPs ranging from 7,390 to 127,200.
 - **Sulfur hexafluoride (SF₆):** fluorinated compound consisting of sulfur and fluoride, a colorless, odorless, nontoxic, nonflammable gas most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF₆ has a GWP of 22,800.

Existing Conditions

US Emissions

In 2017, the United States emitted about 6,457 MMT of CO₂e, 76.1 percent of which came from fossil fuel combustion. Of the major sectors nationwide, transportation accounts for the highest amount of GHG emissions (approximately 29 percent), followed by electricity (28 percent), industry (22 percent), agriculture (9 percent), commercial buildings (6 percent), and residential buildings (5 percent). Between 1990 and 2017, total US GHG emissions rose by 1.3 percent, but emissions have generally decreased since peaking in 2005. Since 1990, US emissions have increased at an average annual rate of 0.4 percent (USEPA 2019).

Greenhouse Gas Emissions Inventory

The CARB compiles GHG inventories for the State of California. Based on the 2017 GHG inventory data (i.e., the latest year for which data are available from CARB), California emitted 429.1 MMTCO₂e including emissions resulting from imported electrical power (CARB 2019b). Between 1990 and 2017, the population of California grew by approximately 9.7 million (from

29.8 to 39.5 million) (USCB 1995; CDOF 2018). This represents an increase of approximately 33 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from \$773 billion in 1990 to \$2.75 trillion in 2017 representing an increase of over three times the 1990 gross state product (CDOF 2019).² Despite the population and economic growth, California’s net GHG emissions were reduced to below 1990 levels in 2016. According to CARB, the declining trend coupled with the state’s GHG reduction programs (such as the Renewables Portfolio Standard, Low Carbon Fuel Standard (LCFS), vehicle efficiency standards, and declining caps under the Cap and Trade Program) demonstrate that California is on track to meet the 2020 GHG reduction target codified in HSC, Division 25.5, also known as AB 32 (CARB 2016). **Table 3.7-1** identifies and quantifies Statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2017. As shown in Table 3.7-1, the transportation sector is the largest contributor to Statewide GHG emissions at approximately 40 percent in 2017.

**TABLE 3.7-1
 STATE OF CALIFORNIA GREENHOUSE GAS EMISSIONS**

Category	Total 1990 Emissions using IPCC SAR (MMTCO₂e)	Percent of Total 1990 Emissions	Total 2017 Emissions using IPCC AR4 (MMTCO₂e)	Percent of Total 2017 Emissions
Transportation	150.7	35%	169.9	40%
Electric Power	110.6	26%	62.4	15%
Commercial	14.4	3%	15.1	4%
Residential	29.7	7%	26.0	6%
Industrial	103.0	24%	89.4	21%
Recycling and Waste ^a	–	–	8.9	2%
High-GWP/Non-Specified ^b	1.3	<1%	20.0	5%
Agriculture/Forestry	23.6	6%	32.4	8%
Forestry Sinks	-6.7		-- ^c	--
Net Total (IPCC AR4) ^d	431	100%	429.1	100%

^a Included in other categories for the 1990 emissions inventory.

^b High-GWP gases are not specifically called out in the 1990 emissions inventory.

^c Revised methodology under development (not reported for 2016).

^d CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.

Sources: CARB 2007; CARB 2019b.

² Amounts are based on values as of May 4, 2018.

Effects of Global Climate Change

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC *Fifth Assessment Report, Summary for Policy Makers* states that, "it is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forces [*sic*] together" (IPCC 2013). The National Academy of Sciences concluded that 97 to 98 percent of the climate researchers most actively publishing in the field support the tenets of the IPCC in that climate change is very likely caused by human (i.e., anthropogenic) activity (Anderegg 2010).

According to CARB, the potential impacts in California due to global climate change may include: loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; more frequent large forest fires; more drought years; increased erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation (CalEPA 2006). Below is a summary of some of the potential effects that could be experienced as a result of global warming and climate change.

In 2009, the CNRA published the *California Climate Adaptation Strategy* as a response to the Governor's Executive Order S-13-2008 (CNRA 2009). In 2014, CNRA rebranded the first update of the 2009 adaptation strategy as the *Safeguarding California Plan*. In 2016, the CNRA released *Safeguarding California: Implementation Action Plans* in accordance with Executive Order B-30-15 (CNRA 2014). *Safeguarding California* lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the 2009 *California Climate Adaptation Strategy*, in 2011, the CEC developed the Cal-Adapt website on potential future climate change scenarios and impacts that would be beneficial for local decision makers (CEC 2019). The data on the Cal-Adapt website are comprised of the average values (i.e., temperature, sea level rise, snowpack) from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the portion of the Riverside County, in which the Project site is located, could result in an average increase in temperature of approximately 9 to 12 percent (approximately 6.2 to 9.1°F) by 2070-2099, compared to the baseline 1961-1990 period.

Air Quality

Higher temperatures, conducive to air pollution formation, could worsen air quality in California and make it more difficult for the State to achieve air quality standards. Climate change may increase the concentration of ground-level ozone in particular, which can cause breathing problems, aggravate lung diseases such as asthma, emphysema, chronic bronchitis, and cause chronic obstructive pulmonary disease, but the magnitude of the effect, and therefore, its indirect effects, are uncertain. Emissions from wildfires can lead to excessive levels of particulate matter, ozone, and volatile organic compounds (Kenward 2013). Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CalEPA 2013).

Air quality in Riverside County is expected to worsen with increased climate change. Riverside County has been designated as a non-attainment area for ozone, PM10 and PM2.5 and increased climate change would exacerbate concentrations of these pollutants. In 2018, Riverside County only exceeded the federal ozone standard a few days, however, with increased climate changes, the number of non-attainment days is likely to trend upward.

Water Supply

Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, “Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change.” For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation. Warmer and wetter winters would increase the amount of runoff available for groundwater recharge; however, this additional runoff would occur at a time when some basins are either being recharged at their maximum capacity or are already full. Conversely, reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge (Pacific Institute 2003).

The DWR report on climate change and effects on the State Water Project, the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes that “climate change will likely have a significant effect on California’s future water resources...[and] future water demand.” The report also states that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain.” The report also states that the relationship between climate change and its potential effect on water demand is not well understood, but “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (DWR 2006). The IPCC states that “Changes in the global water cycle in response to the warming over the 21st century will not be uniform. The

contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions.” (IPCC 2013).

Duration and severity of droughts in California are likely to increase due to climate change. California most recently experienced increased drought conditions over 2011-2015. Based on data from the National Oceanic and Atmospheric Administration, historic precipitation levels have fluctuated over time, however, the overall trend indicates precipitation levels decreasing. Due to anticipated warmer temperatures, more precipitation will fall as rain instead of snow which would reduce Southern California’s window of time to capture stored water as snowpack.

Hydrology and Sea Level Rise

As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Sea level could potentially rise as much as two feet along most of the US coastline. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events (CNRA 2014).

Agriculture

California has a massive agricultural industry that represents 11.3 percent of total U.S agricultural revenue. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, a changing climate presents significant risks to agriculture due to “potential changes to water quality and availability; changing precipitation patterns; extreme weather events including drought, severe storms, and floods; heat stress; decreased chill hours; shifts in pollinator lifecycles; increased risks from weeds, pest and disease; and disruptions to the transportation and energy infrastructure supporting agricultural production” (CNRA 2014).

Ecosystems and Wildlife

Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2 to 11.5°F (1.1 to 6.4°C) by 2100, with significant regional variation (NRC 2010). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U. S. coastline. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species’ composition within communities; and (4) ecosystem processes such as carbon cycling and storage (Parmesan 2006).

3.7.2 Regulatory Framework

GHG statutes, regulations, plans, and policies have been developed, adopted, and implemented at the federal, State, and local levels. This section provides a summary of pertinent GHG regulations affecting the Project at the federal, State, and local levels.

Federal

The federal government administers a wide array of programs to address the GHG generated in the U.S. These programs focus on energy efficiency, renewable energy, methane and other non-CO₂ GHGs, agricultural practices, and implementation of technologies to achieve GHG reductions.

At the federal level, the USEPA is responsible for implementing federal policy to address GHGs. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary GHG reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the U.S. Supreme Court held in 2007 that USEPA has statutory authority under Section 202 of the CAA to regulate GHGs. The Court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare.

In 2009, a national policy was adopted for fuel efficiency and emissions standards in the U.S. auto industry, which applies to passenger cars and light-duty trucks for model years 2012 - 2016. The standards surpass the prior CAFE standards, and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO₂ per mile by model year 2016, based on USEPA calculation methods. In 2012, standards were adopted for model year 2017 - 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO₂ per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle (USEPA 2012).

In 2017, USEPA issued its Mid-Term Evaluation of the GHG emissions standards, finding that it would be practical and feasible for automakers to meet the model year 2022-2025 standards through a number of existing technologies. In 2018, the USEPA revised its 2017 determination, and issued a proposed rule that maintains the 2020 CAFE and CO₂ standards for model years 2021 through 2026.³ The estimated CAFE and CO₂ standards for model year 2020 are 43.7 mpg and 204 grams of CO₂ per mile for passenger cars and 31.3 mpg and 284 grams of CO₂ per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. In 2019, the state of California, joined by 16 other states and the District of Columbia, filed a petition challenging the USEPA's proposed rule to revise the vehicle

³ Federal Register, 2018. Vol. 83, No. 165. August 24. Proposed Rules.

emissions standards, arguing that the USEPA had reached erroneous conclusions about the feasibility of meeting the existing standards (Amicus brief 2019). In September 2019, the USEPA published the final rule in the federal register.⁴ The USEPA also published the final rule for the One National Program on Federal Preemption of State Fuel Economy Standards that finalizes critical parts of the SAFE Vehicles Rule and makes clear that federal law preempts state and local tailpipe GHG emissions standards as well as zero emission vehicle (ZEV) mandates.

State

California has promulgated a series of executive orders, laws, and regulations aimed at reducing both the level of GHGs in the atmosphere and emissions of GHGs from commercial and private activities within the State.

California Greenhouse Gas Reduction Targets

Executive Order B-55-18

Executive Order B-55-18 (September 2018) establishes a Statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The executive order demonstrates the State's continued commitment to address climate change.

Executive Order B-30-15 and Senate Bill 32/Assembly Bill 197

In 2015, Executive Order B-30-15 established the following new interim GHG emission reduction target:

- By 2030, California shall reduce GHG emissions to 40 percent below 1990 levels.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

SB 32 and its companion bill Assembly Bill (AB) 197, was passed in 2016. SB 32 expanded upon AB 32 (described below), amending the California HSC Division 25.5 to codify the GHG emissions target in Executive Order B-30-15 of 40 percent below 1990 levels by 2030. AB 197 provides the Legislature greater authority over CARB and requires CARB to provide GHG emissions inventory report at least once a year.

Executive Order S-3-05 and Assembly Bill 32

In 2005, Executive Order S-3-05 established the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels.

⁴ Federal Register, Vol. 84, No. 188, Friday, September 27, 2019, Rules and Regulations, 51310-51363.

- By 2020, California shall reduce GHG emissions to 1990 levels.
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In 2006, the California State Legislature adopted AB 32 (codified in HSC Division 25.5 – California Global Warming Solutions Act of 2006), to codify the targets in Executive Order S-3-05 of reducing GHG emissions in California to 1990 levels by 2020. The law further requires that reduction measures be technologically feasible and cost effective. Under AB 32, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing State actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

California Air Resources Board

CARB, a part of the CalEPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (CAAQS), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. CARB also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California’s SIP, for which it works closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the CAA. CARB also has primary responsibility for adopting regulations to meet the State’s goal of reducing GHG emissions to 1990 levels by 2020.

In 2004, CARB adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 CCR, Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower, such as, bulldozers, loaders, backhoes and forklifts, as well as, many other self-propelled off-road diesel vehicles. The regulation aims to reduce emissions by installation of diesel soot filters, and encouraging the retirement, replacement, or re-power of older, dirtier engines with newer emission controlled models. Refer to Section 3.2, *Air Quality*, for additional details regarding these regulations. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

2017 Climate Change Scoping Plan

In response to SB 32 and the required 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan in 2017 (CARB 2017a). In the 2017 Scoping Plan, CARB provides the estimated projected statewide 2030 emissions under BAU conditions (that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions) and the level of reductions necessary to achieve the 2030 target of 40 percent below 1990 levels. CARB’s projected statewide 2030 BAU emissions takes into account 2020 GHG reduction policies and programs. A summary of the GHG emissions reductions required under SB 32 (HSC Division 25.5) is provided in **Table 3.7-2**.

**TABLE 3.7-2
 2017 ESTIMATED GREENHOUSE GAS EMISSIONS REDUCTIONS REQUIRED BY HSC DIVISION 25.5**

Emissions Category	GHG Emissions (MMTCO ₂ e)
2017 Scoping Plan Update	
2030 BAU Forecast (“Reference Scenario” which includes 2020 GHG reduction policies and programs)	389
2030 Emissions Target Set by HSC Division 25.5 (i.e., 40% below 1990 Level)	260
Reduction below BAU Necessary to Achieve 40% below 1990 Level by 2030	129 (33.2%) ^a

^a 389 – 260 = 129 / 389 = 33.2%

SOURCE: CARB 2011; CARB 2017b; CARB 2017c.

The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target. The Scoping Plan includes the Scoping Plan Scenario, which CARB stated “is the best choice to achieve the State’s climate and clean air goals” (CARB 2017a). The Scoping Plan Scenario consists of ongoing and statutorily required programs and continuing the Cap-and-Trade Program, and was modified from the 2017 Scoping Plan to reflect AB 398, including removal of the 20 percent refinery measure. Under the Scoping Plan Scenario, the majority of the reductions would result from continuation of the Cap-and-Trade regulation. Additional reductions are achieved from increasing use of renewable resources for electricity sector (i.e., utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), improved vehicle, truck and freight movement emissions standards, and strategies to reduce methane emissions from agricultural and other wastes by using it to meet our energy needs. The 2017 Scoping Plan also comprehensively addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors.

The 2017 Scoping Plan also discusses the role of local governments in meeting the State’s GHG reductions goals because local governments have jurisdiction and land use authority related to: community-scale planning and permitting processes, local codes and actions, outreach and education programs, and municipal operations. Furthermore, local governments may have the ability to incentivize renewable energy, energy efficiency, and water efficiency measures (CARB

2017a). The 2017 Scoping Plan encourages local governments to adopt Climate Action Plans to address local GHG emission sources.

Transportation Sector

In response to the transportation sector accounting for a large percentage of California's CO₂ emissions, AB 1493 (HSC Section 42823 and 43018.5), enacted in 2002, required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost-effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The federal CAA ordinarily preempts state regulation of motor vehicle emission standards; however, California is allowed to set its own standards with a federal CAA waiver from the USEPA, which the USEPA granted in 2009.

However, as discussed previously, the USEPA and United States Department of Transportation (US DOT) adopted federal standards for model year 2012 through 2016 light-duty vehicles, which corresponds to the vehicle model years regulated under the State's Pavley Phase I standards. In August 2012, the USEPA and US DOT adopted GHG emission standards for model year 2017 through 2025 vehicles; however, these standards were rescinded and replaced under the SAFE Vehicles Rule as discussed above. Prior to the SAFE Vehicles Rule, the standards corresponded to the vehicle model years regulated under the State's Pavley Phase II standards but differed slightly from the State's model year 2017 through 2025 standards. The State of California agreed not to contest the prior standards, in part, due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater reductions nationally and is stringent enough to meet State GHG emission reduction goals. In 2012, CARB adopted regulations that allow manufacturers to comply with the prior 2017 through 2025 national standards to meet State law (i.e., the State's Pavley Phase II standards still apply by law; however, meeting the national standards for model year 2017 through 2025 also meets State law). In response to the SAFE Vehicles Rules and the One National Program on Federal Preemption of State Fuel Economy Standards, California and 22 other states and environmental groups in September 2019 in U.S. District Court in Washington, filed lawsuits to challenge the Federal determination in September that California cannot set vehicle emission standards and zero-emission vehicle mandates.

In 2007, Executive Order S-01-07 mandated the following: establish a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and adopt a LCFS for transportation fuels in California. CARB identified the LCFS as one of the nine discrete early actions in the Climate Change Scoping Plan. In 2009, the LCFS regulations were approved by CARB and established a reduction in the carbon intensity of transportation fuels by 10 percent by 2020. Beginning in 2011. In 2015, CARB approved the re-adoption of the LCFS, which became effective beginning January 2016, to address procedural deficiencies in the way the original regulation was adopted. In April 2017, the LCFS was brought before the Court of Appeal challenging the analysis of potential nitrogen dioxide impacts from biodiesel fuels. The Court directed CARB to conduct an analysis of nitrogen dioxide impacts from biodiesel fuels and froze the carbon intensity targets for diesel and biodiesel fuel provisions at 2017 levels until

CARB has completed this analysis. On March 6, 2018 CARB issued its *Draft Supplemental Disclosure Discussion of Oxides of Nitrogen Potentially Caused by the Low Carbon Fuel Standard Regulation* (CARB 2019a). CARB posted modifications to the amendments on August 13, 2018, with a public comment period through August 30, 2018. Final approval of regulatory changes from CARB's analysis of nitrogen dioxide impacts from biodiesel fuels was made on January 4, 2019 (CARB 2019a). The 2017 Climate Change Scoping Plan also calls for increasing the mandatory reduction in carbon intensity of transportation fuels from 10 percent to 18 percent by 2030.

Energy Sector

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2016 Title 24 standards, which became effective 2017. The 2016 Title 24 standards include efficiency improvements to the residential standards for attics, walls, water heating, and lighting; and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers (ASHRAE) 90.1-2013 national standards.

The California Green Building Standards Code CCR, Title 24, Part 11, commonly referred to as the CALGreen Code, became effective 2017. The 2016 CALGreen Code includes mandatory measures for non-residential development related to site development, energy efficiency, water efficiency and conservation; material conservation and resource efficiency; and environmental quality. Most mandatory measure changes, when compared to the previously applicable 2013 CALGreen Code, were related to the definitions and to the clarification or addition of referenced manuals, handbooks, and standards. For example, several definitions related to energy that were added or revised affect electric vehicle (EV) chargers and charging, and hot water recirculation systems. For new multi-family dwelling units, the residential mandatory measures were revised to provide additional EV charging requirements, including quantity, location, size, single EV space, multiple EV spaces, and identification. For non-residential mandatory measures, Table 5.106.5.3.3 of the CALGreen Code, identifying the number of required EV charging spaces has been revised in its entirety.

The State has adopted regulations to increase the proportion of electricity from renewable sources. In 2008, Executive Order S-14-08 expanded the state's Renewable Portfolio Standard (RPS) goal to 33 percent renewable power by 2020. In 2009, Executive Order S-21-09 directed CARB (under its AB 32 authority) to enact regulations to help the state meet the 2020 goal of 33 percent renewable energy. The 33 percent by 2020 RPS goal was codified with the passage of Senate Bill X1-2. This new RPS applied to all electricity retailers in the state, including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. SB 350 (Chapter 547, Statutes of 2015) further increased the RPS to 50 percent by 2030, including interim targets of 40 percent by 2024 and 45 percent by 2027. In 2018, SB 100 further increased California's RPS and requires retail sellers and local publicly-owned

electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and requires that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045.

The CPUC and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

Cap-and-Trade Program

The Climate Change Scoping Plan identifies a Cap-and-Trade Program as a key strategy CARB will employ to help California meet its goal of reducing GHG emissions to 1990 levels by the year 2020, 40 percent below 1990 level by the year 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Under Cap-and-Trade, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, and industrial facilities that emit more than 25,000 metric tons CO₂e per year) and declines over time, and facilities subject to the cap can trade permits to emit GHGs.

The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-State or imported. Since 2015, fuels, such as gasoline, diesel, and natural gas, have been covered under the Cap-and-Trade Program. Fuel suppliers are required to reduce GHG emissions by supplying low carbon fuels or purchasing pollution permits, called "allowances," to cover the GHGs produced when the conventional petroleum-based fuel they supply is combusted. While the Cap-and-Trade Program is not directly applicable to the Project, the Program is indirectly related as it is applicable to sources of emissions associated with the Project.

EMWD is a member of the California Climate Change Action Registry, a non-profit public/private partnership that is a voluntary greenhouse gas (GHG) registry in an attempt to protect, encourage and promote actions to reduce GHG emissions. EMWD has developed a two-pronged approach for project investment that address climate change. The first prong is investing in projects that adapt to climate change and the second is investing in projects that mitigate climate change including through the reduction of GHG emissions. EMWD has also invested in energy efficiency programs, including solar projects onsite at various facilities and micro turbines to supplement power usage.

Regional

South Coast Air Quality Management District

As discussed in Section 4.2, *Air Quality*, the South Coast Air Quality Management District (SCAQMD) is responsible for air quality planning in the South Coast Air Basin (where the Project site is located) and developing rules and regulations to bring the Air Basin into attainment

of the ambient air quality standards. As part of its efforts to reduce local air pollution, SCAQMD has promoted a number of programs to combat climate change. For instance, SCAQMD has promoted energy conservation, low-carbon fuel technologies (natural gas vehicles; electric-hybrids, hydraulic-hybrids, and battery-electric vehicles), renewable energy, vehicle miles traveled (VMT) reduction programs, and market incentive programs

SCAQMD's first formal action in addressing climate change was the adoption of the "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase-out the use and corresponding emissions of chlorofluorocarbons, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase-out the large quantity use and corresponding emissions of hydrochlorofluorocarbons by the year 2000;
- Develop recycling regulations for hydrochlorofluorocarbons (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and
- Support the adoption of a California GHG emission reduction goal.

Additionally, in September 2011, the SCAQMD Governing Board adopted the Air Quality-Related Energy Policy, which integrates air quality, energy, and climate change issues in a coordinated and consolidated manner. The policy promotes amongst other things, zero and near-zero emission technologies and demand side management programs to manage energy demand.

Local

City of Perris General Plan

The Conservation Element of the City of Perris General Plan contains goals, policies, and implementation measures related to creating a sustainable community. GHG goals, policies, and implementation measures in the General Plan that are relevant to the proposed project include:

Policy VIII.B: Adopt and maintain development regulations that encourage recycling and reduced waste generation by construction projects.

Measure VII.B.1: Initiate and maintain incentive programs to encourage and reward developments that employ energy and resource conservation and green building practices similar to the City's current recycling program.

Measure VIII.B.6: Include text within all demolition permits that encourages recycling of demolition and construction waste within new and refurbished commercial and industrial development projects.

Policy VIII.C: Adopt and maintain development regulations which encourage increased energy efficiency in buildings, and the design of durable buildings that are efficient and

economical to own and operate. Encourage green building development by establishing density bonuses, expedited permitting, and possible tax deduction incentives to be made available for developers who meet LEED building standards for new and refurbished developments (U.S. Green Building Council's Leadership in Energy and Environmental Design green building programs).

Measure VIII.C.1: Create a green building ordinance that promotes the use of green building technology and design.

Measure VIII.C.4: Review new development projects for compliance with the design guidelines contained within the Sustainable Community section through Conditions of Approval and a finding that the project conforms to the General Plan.

City of Perris Climate Action Plan (CAP)

The City of Perris adopted its Climate Action Plan on February 23, 2016. As part of AB 32 the CAP addresses global climate change by reducing GHG emissions at the community level. Reduction targets in the CAP set 2020 reductions to 15 percent below 2010 levels and 2035 reductions to 47.5 percent below 2010 levels. The CAP indicates that statewide and local measures will allow the City to meet these goals. The CAP does not address meeting the 2050 goals of 80 percent below 1990 levels as indicated by Executive Order S-03-05.

City of Menifee General Plan

The City of Menifee General Plan provides a path for growth within the community while maintaining the rural character, achieving balanced growth and preserving natural resources. The Open Space Element acknowledges the need for reducing GHG emissions in order to achieve goals set forth in the Sustainable Community section.

The Land Use and Open Space Elements of the City of Menifee General Plan contains policies related to GHG reductions in the city. Those relevant to the proposed project include:

Policy LU-3.2: Work with utility providers to increase service capacity as demand increases.

Policy LU-3.5: Facilitate the shared use of right-of-way, transmission corridors, and other appropriate measures to minimize the visual impact of utilities infrastructure throughout Menifee.

Goal OSC-9: Reduced impacts to air quality at the local level by minimizing pollution and particulate matter.

Policy OCS-9.4: Support the Riverside County Regional Air Quality Task Force, the Southern California Association of Government's Regional Transportation Plan/Sustainable Communities Strategy, and the South Coast Air Quality Management District's Air Quality Management Plan to reduce air pollution at the regional level.

Policy OSC-9.5: Comply with the mandatory requirements of Title 24 Part 1 of the California Building Standards Code (CALGreen) and Title 24 Part 6 Building and Energy Efficiency Standards.

Policy OCS-10.3: Participate in regional greenhouse gas emission reduction initiatives.

3.7.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to greenhouse gas emissions according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
- Result in cumulatively considerable impacts to greenhouse gas emissions.

The State *CEQA Guidelines* does not establish a threshold of significance; rather, lead agencies are granted discretion to establish significance thresholds for their respective jurisdictions, including by looking to thresholds developed by other public agencies, such as air districts, or suggested by other experts, such as CAPCOA, so long as any threshold chosen is supported by substantial evidence (see Section 15064.7(c)). A lead agency may also use thresholds on a case-by-case basis. (Id., subd. (b).) Each case must be analyzed in light of its own facts and circumstances.

Even in the absence of clearly defined thresholds for GHG emissions, the law requires that an agency makes a good faith effort to disclose the GHG emissions from a project and mitigate to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact. Regardless of which threshold(s) are used, the agency must support its analysis and significance determination with substantial evidence. (*CEQA Guidelines*, § 15064.7.) The *CEQA Guidelines* recommends considering certain factors, among others, when determining the significance of a project's GHG emissions, including the extent to which the project may increase or reduce GHG emissions as compared to the existing environment; whether the project exceeds an applicable significance threshold; and extent to which the project complies with regulations or requirements adopted to implement a reduction or mitigation of GHGs.

According to the CAPCOA, “GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective” (CAPCOA 2008). Due to the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that a single project's increase in annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. Section 15064.4(b) of the *CEQA Guidelines* states that “in determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonable foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions.”

In a recent document entitled Draft Discussion: CEQA and Climate Change paper, the Governor’s Office of Planning and Research (OPR) has described some of the methods that a lead agency may use in selecting the appropriate threshold below which the lead agency may find an impact is less than significant (OPR 2008). This includes:

- Efficiency Based Threshold – An efficiency metric (rather than an absolute number) would compare projects of various types, sizes, and locations equally, and determine whether a project is consistent with the State’s reduction goals. For example, an efficiency metric for a residential project can be expressed on a per capita basis, and a metric for an office project can be expressed on a per employee basis.
- Compliance with State Goals and Percentage Reduction from BAU Emissions
- Consistency with Relevant Regulations, Plans, Policies, and Regulatory Programs
- Absolute Numerical/Quantitative Threshold

Although the Project’s GHG emissions have been quantified as discussed under the Methodology section below, neither CARB, SCAQMD, EMWD, nor the cities of Menifee or Perris have adopted quantitative project-level significance thresholds for assessing impacts related to GHG emissions applicable to the Project. In the absence of any adopted quantitative threshold, the determination of whether or not the proposed project would result in a cumulatively considerable contribution to the cumulative impacts of global climate change is based on the following:

- If the Project would conflict with (and thereby be inconsistent with) the applicable regulatory plans and policies to reduce GHG emissions, which include the emissions reduction measures included within CARB’s Climate Change Scoping Plan; SCAG’s 2016-2040 RTP/SCS; and the County’s CAP, the City of Perris’ CAP, and Green Building and Energy Code.

Per *CEQA Guidelines* Section 15064(h)(3), a project’s incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project (CCR, Title 14, Section 15064(h)(3)). To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency (CCR, Title 14, Section 15064(h)(3)). Examples of such programs include a “water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions” (CCR, Title 14, Section 15064(h)(3)).

Thus, *CEQA Guidelines* Section 15064(h)(3) allows a lead agency to make a finding of non-significance for GHG emissions if a project complies with a program and/or other regulatory schemes to reduce GHG emissions.⁵

Additionally, the comments EMWD received on the Initial Study and Notice of Preparation were taken into consideration when preparing this Draft EIR. A summary of those comments is provided in **Table 3.7-3** below.

**TABLE 3.7-3
SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Greenhouse gas emissions	<ul style="list-style-type: none">Use the most current version of CalEEMod for quantifying emissions

Methodology

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 a lead agency shall have the discretion to “quantify the GHG emissions from a project, and/or rely on a qualitative analysis or other performance based standards” (14 CCR 15064.4(a)).

Consistent with existing CEQA practice, Section 15064.4 gives lead agencies the discretion to determine whether to assess the significance of GHG emissions quantitatively or qualitatively. Under either approach, the lead agency’s analysis must demonstrate a good-faith effort to disclose the amount and significance of greenhouse gas emissions resulting from a project, based to the extent possible on scientific and factual data (*CEQA Guidelines*, § 15064.4, subd. (a).) In its CEQA review of projects, EMWD has chosen to provide both a quantitative and qualitative GHG analysis for full disclosure. The methodology of analyzing the Project’s GHG emissions, that may result from the construction and operations of the Project, is conducted as follows.

Project GHG Emissions Estimates

The Climate Action Registry General Reporting Protocol provides procedures and guidelines for calculating and reporting GHG emissions from general and industry-specific activities. Although

⁵ See, for example, San Joaquin Valley Air Pollution Control District (SJVAPCD), CEQA Determinations of Significance for Projects Subject to ARB’s GHG Cap-and-Trade Regulation, APR-2025 (June 25, 2014), in which the SJVAPCD “determined that GHG emissions increases that are covered under ARB’s Cap-and-Trade regulation cannot constitute significant increases under CEQA...” Furthermore, the SCAQMD has taken this position in CEQA documents it has produced as a Lead Agency. The SCAQMD has prepared 3 Negative Declarations and one Draft Environmental Impact Report that demonstrate the SCAQMD has applied its 10,000 MT_{CO₂}/yr significance threshold in such a way that GHG emissions covered by the Cap-and-Trade Program do not constitute emissions that must be measured against the threshold. See SCAQMD, Final Negative Declaration for Ultramar Inc. Wilmington Refinery Cogeneration Project, SHC No. 2012041014 (October 2014); SCAQMD Final Negative Declaration for Phillips 99 Los Angeles Refinery Carson Plant—Crude Oil Storage Capacity Project, SCH No. 2013091029 (December 2014); SCAQMD Final Mitigated Negative Declaration for Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, CA, SCH No. 2014101040 (December 2014); and SCAQMD Final Environmental Impact Report for the Breitburn Santa Fe Springs Blocks 400/700 Upgrade Project, SCH No. 2014121014 (August 2015).

no numerical thresholds of significance have been adopted, and no specific protocols are available for land use projects, the General Reporting Protocol provides a framework for calculating and reporting GHG emissions from the Project. The GHG emissions provided in this report are consistent with the General Reporting Protocol framework. For the purposes of this EIR, total GHG emissions (i.e., construction and operation) from the Project were quantified to provide information to decision makers and the public regarding the level of the Project's annual GHG emissions. GHG emissions are typically separated into three categories that reflect different aspects of ownership or control over emissions:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).
- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam.
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy.⁶

The Project would generate Project-related GHG emissions from on-road mobile vehicles, electricity, and natural gas, resulting in GHG operational emissions, and indirect project GHG emissions from water conveyance, wastewater generation, and solid waste handling. In addition, Project construction activities such as demolition, hauling, and construction worker trips would generate GHG emissions. Since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions are calculated on an annual basis based on EMWD supplied average construction equipment usage levels for the construction duration.

GHG emissions are estimated using the CalEEMod, which is a Statewide land use emission computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California, and is recommended by SCAQMD. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California. While CalEEMod uses the EMFAC version 2014 to calculate mobile source emissions, the USEPA has approved EMFAC2017. Therefore, to accurately quantify emissions from mobile sources, EMFAC2017 emission factors were incorporated into CalEEMod for quantification of operational mobile source emissions. Quantification of construction related on-road mobile source emissions (worker, vendor and haul truck trips) were conducted outside of CalEEMod using EMFAC2017 as there is not a way to incorporate EMFAC2017 into CalEEMod for construction emissions.

The quantification of GHGs from any project involves many uncertainties. For example, it is reasonable to assume that the future employees and visitors of the Project Site currently engage in similar activities (working, recreating, and driving) that generate GHG emissions. Newer construction materials and practices, future energy efficiency requirements, future mobile source

⁶ Embodied energy includes energy required for water pumping and treatment for end-uses.

emission standards, and advances in technology would likely reduce future levels of air pollutant emissions, including GHGs. However, the net effect is difficult to quantify due to the difficulty in predicting future standards and requirements. As such, the estimated net increase in emissions resulting from implementation of the Project is likely to be an over-estimation. These same uncertainties and assumptions exist throughout the accepted analytical methodologies for quantifying GHG emissions.

Construction Emissions

For the purposes of the EIR, construction work is assumed to begin late 2021 and would end in the fourth quarter of 2023. The water storage tank and facilities portion of the development is estimated to occur over 325 days while the transmission pipeline portion is anticipated to take 110 days. For the purposes of the GHG analysis (and for consistency with the Air Quality and Energy analysis, Sections 3.2 and 3.5 respectively), the analysis assumes that the water storage tank and the transmission pipeline could be constructed concurrently, so while the number of days remains consistent, the analysis modeling varies from the 2021 to 2023 construction timeline to ensure a conservative analysis.⁷ Project construction activities would include site preparation, pavement removal, grading/excavation, installation, testing, and start-up activities. Demolition activities would generate demolition debris (asphalt debris), which would require transport by haul truck. Soil excavation and grading activities would generate soil for export, which would require transport by haul truck. Heavy-duty construction equipment, vendor supply trucks and concrete trucks would be used during construction of foundations, parking structures, and buildings.

Consistent with the applicable jurisdictions' municipal codes, construction would occur between the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday for the proposed water storage tank site located in the City of Perris. In the City of Menifee, construction of the proposed transmission pipeline would occur between the hours of 6:00 a.m. and 6:00 p.m. from June through September and between 7:00 a.m. and 6:00 p.m. from October through May Monday through Saturday. No construction activities would occur on Sunday or on holidays. Nighttime work would not be required.

Due to shallow bedrock at the proposed water storage tank site (1.5 to 7.5 feet bgs), earthmoving equipment would be required to rip up the bedrock up to 10 feet bgs. From 10 feet to 15 bgs, chemical fracturing, or blasting may be required. Chemical fracturing is the preferred method, however as blasting will result in greater pollutant emissions (specifically for air quality), blasting was analyzed.

Construction of the water storage tank and associated facilities would result in 22,500 cubic yards of soil and bedrock material that would need to be disposed of offsite. Additionally, approximately 8,500 cubic yards of fill would be required for the site. Construction of the transmission pipeline would result in 1,105 cubic yards of export to be disposed of offsite. This results in a total of approximately 3,100 truck trips for the tank site and 110 trips for the

⁷ Equipment in earlier years (i.e. 2021 vs 2022) have less efficient equipment which results in higher emissions. Additionally, it is unknown if the same equipment would be used on day one of the project as well as day 325, therefore by assuming that all equipment will have a 2021 fleet average, regardless of the equipment is used during construction, the analysis results in a conservative estimate of emissions.

transmission pipeline. Including site preparation and the removal of pavement cuttings for the pipeline, a total of 3,725 truck trips would be needed to export all materials from the site. The Project is estimated to generate approximately 126 one-way vendor truck trips for the delivery of building materials and supplies to the Project site over the construction period.

Construction emissions are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source emissions factors. The CalEEMod input values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule. The analysis of GHG emissions is based on total annual emissions. Therefore, the GHG analysis uses the average daily construction fleet to evaluate construction GHG emissions. SCAQMD guidance, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, recognizes that construction-related GHG emissions from projects “occur over a relatively short-term period of time” and that “they contribute a relatively small portion of the overall lifetime project GHG emissions” (SCAQMD 2008). The guidance recommends that construction project GHG emissions should be “amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies” (SCAQMD 2008). Therefore, GHG emissions from Project construction have been amortized over the 30-year lifetime of the Project.

Operational Emissions

Operation of the Project would generate GHG emissions from onsite operations such as natural gas combustion for tank cleaning purposes, the use of consumer products, electricity to power the facility and vehicle miles traveled for maintenance and chemical delivery. For quantification of GHG emissions by on-site operations, CalEEMod was used to estimate GHG emissions from natural gas, solid waste, water and wastewater, and landscaping equipment. The Project would also produce GHG emissions from the on-site diesel-fueled emergency generator. Operational impacts were assessed for the full Project buildout year of 2023. Building energy consumption rates were provided for electricity and quantified using a large submersible pump to quantify natural gas consumption. The submersible, natural gas pump is anticipated only to be operated during tank cleaning and therefore, is not anticipated to occur every day. As a conservative estimate, the pump is estimated to operate 8 hours per day for 64 days per year.

Additionally, water would be required to be pumped using existing pumps from the connection point along Murrieta Road to the proposed water storage tank. Activation of the pumps would be triggered by a drop in static water levels below those defined level in the entire pressure zone. As a conservative estimate, the proposed Project is anticipated to increase consumption from the pumps by approximately 25 percent, or 9,556 kWh/yr.

In calculating mobile-source GHG emissions, emissions are estimated based on the predicted number of trips to and from the Project site and the estimated vehicle miles traveled (VMT). It is estimated that two maintenance trips per week and two delivery trucks per month would occur. Maintenance trips would result in a 10-mile one-way trip and chemical deliveries are based on haul trip distances of 20 miles per one-way trip.

GHG emissions from solid waste disposal are also calculated using CalEEMod. Emissions for the Project are scaled from CalEEMod defaults to the number of days people are estimated to be on site, or about 31 percent of annual work days. The GHG emission factors, particularly for CH₄, depend on characteristics of the landfill, such as the presence of a landfill gas capture system and subsequent flaring or energy recovery. The default values, as provided in CalEEMod, for landfill gas capture (e.g., no capture, flaring, energy recovery) are statewide averages and are used in this assessment.

GHG emissions from water and wastewater are due to the required energy to supply, distribute and treat water. Wastewater also results in emissions of GHGs from wastewater treatment systems. Emissions are calculated using CalEEMod and, as a conservative estimate of wastewater generation, approximately 46,080 gallons of potable water is anticipated to be drained to the stormwater drainage system during tank cleaning and maintenance activities. Emissions estimates are based on the electrical intensity factors for water supply, treatment, and distribution and for wastewater treatment, the GHG emission factors for the electricity utility provider, and the emission factors for the wastewater treatment process.

Project Consistency with GHG Reduction Plans

OPR's *CEQA Guidelines* encourage lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. Section 15183.5 of the *CEQA Guidelines* states that a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted mitigation program, or plan for the reduction of GHG emissions that includes the following elements:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and
- Be adopted in a public process following environmental review.

CARB's Climate Change Scoping Plan (last updated in May 2014) provides strategies and recommendations for achieving the AB 32 target, and the California CAT Report provides recommendations for specific emission reduction strategies for reducing GHG emissions and reaching the targets established in AB 32 and Executive Order S-3-05

As previously stated, the City of Perris adopted a Climate Action Plan in 2016. The intent of the CAAP is to provide policy direction with respect to climate change through Citywide objectives to reduce GHG emissions. The CAP is not a regulatory plan to be applied directly to individual development projects. Rather, the City recognizes that GHG reduction goals cannot be achieved by individual projects alone, but instead requires a comprehensive Citywide approach that would include the enactment of future plans, changes to existing ordinances, and an integrated and sustainable approach to land use/transportation planning. For this EIR, the analysis is focused on whether the Proposed Project would support, and not hinder, the Citywide objectives and goals of the CAP.

The cities of Perris and Menifee also have adopted policies in the General Plans that have direct impacts on reducing GHG emissions. Thus, if the Project is consistent with these policies and regulations, it would result in a less than significant impact, because it would be consistent with the overarching State regulations on GHG reduction.

Impact Analysis

Greenhouse Gas Emissions

Impact 3.7-1: The Proposed Project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction

Emissions of GHGs associated with construction of the Project were calculated for both the water storage tank site and transmission pipeline development using CalEEMod and EMFAC2017. Results of the GHG emissions calculations are presented in **Table 3.7-4**. A complete listing of the equipment by phase, emission factors, and calculation parameters used in this analysis is included within the emissions calculation worksheets that are provided in Appendix AQ/GHG/Energy of this EIR.

**TABLE 3.7-4
 ESTIMATED CONSTRUCTION PHASING PLAN A GREENHOUSE GAS EMISSIONS**

Year	CO ₂ e (Metric Tons) ^{a, b, c}
Water Storage Tank Site	673
Transmission Pipeline	192
Total	866
Amortized Emissions (30 years)	29

^a Totals may not add up exactly due to rounding in the modeling calculations.

^b CO₂e emissions are calculated using the global warming potential values from the Intergovernmental Panel on Climate Change Fourth Assessment Report: 25 for CH₄ and 298 for N₂O (Intergovernmental Panel on Climate Change, Fourth Assessment Report: The Physical Science Basis, Summary for Policy Makers, (2007))

SOURCE: ESA 2020 (Appendix AQ/GHG/Energy)

As described above, SCAQMD recommends that construction-related GHG emissions be amortized over a project’s 30-year lifetime in order to include these emissions as part of a project’s

annualized lifetime total emissions. In accordance with SCAQMD methodology, the estimated construction GHG emissions have been amortized over a 30-year lifetime period, and included in the annualized operational GHG emissions in the following section below.

Operational

The long-term operational GHG emissions of the Project were also estimated using CalEEMod. Maximum annual GHG emissions resulting from motor vehicles, area, energy (i.e., electricity, natural gas), water conveyance, waste, and stationary sources, plus amortized construction emissions, were calculated for the expected opening year of the Project’s full buildout (2023), and shown in **Table 3.7-5**.

**TABLE 3.7-5
 ANNUAL PROJECT GREENHOUSE GAS EMISSIONS**

Emissions Sources (Opening Year 2041)	Project CO₂e (Metric Tons per Year) ^a
Area	<1
Electricity	13
Natural Gas (Building)	0
On Road Mobile Sources	3
Submersible Pump (Natural Gas)	3
Emergency Generator	4
Waste	<1
Water	<1
Construction (Amortized)	29
Total Project GHG Emissions (net)	52

NOTES:

^a Totals may not add up exactly due to rounding in the modeling calculations

SOURCE: ESA 2020 (Appendix AQ/GHG/Energy)

As shown, the Project’s greatest source of GHG emissions come from electricity consumption. Reductions in energy consumption and increase in renewables would occur over the next decade, and beyond, ensuring that the Project’s total GHG emissions would be reduced to below the levels presented. As there are no numerical thresholds for determining significance with respect to GHG emissions, Project emissions are provided for informational purposes and in accordance with *CEQA Guidelines*, as discussed in more detail in the introduction to Section 3.7.3, *Impact Analysis*. Significance is determined based on consistency with State, regional and local plans. As detailed under Impact 3.7-2 below, the Project would be consistent with all applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions and therefore the Project is less than significant with respect to generating GHG emissions that could have a significant impact on the environment.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Plan, Policy or Regulation

Impact 3.7-2: The Proposed Project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Consistency with GHG Emissions Reduction Plans or Policies

As described above, compliance with a GHG emissions reduction plan renders a less-than-significant impact. The analyses below demonstrate that the Project is consistent with the applicable GHG emission reduction plans and policies included within the 2017 Climate Change Scoping Plan, the City of Perris Climate Action Plan, the City of Perris General Plan and the City of Menifee General Plan.

Consistency with CARB Scoping Plan

As previously discussed, Executive Orders S-3-05 and B-30-15 were issued for the purpose of reducing GHG emissions. Executive Order S-3-05's goal to reduce GHG emissions to 1990 levels by 2020 was adopted as AB 32. Executive Order B-30-15's goal to reduce GHG emissions to 40 percent below 1990 levels by 2030 was adopted in SB 32.

In support of AB 32, the State has promulgated specific laws and strategies aimed at GHG reductions that are applicable to the Project. The primary focus of many of the Statewide and regional plans, policies, and regulations is to address worldwide climate change. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the Project's increase in annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. Newer construction materials and practices, energy efficiency requirements, and newer appliances tend to emit lower levels of air pollutant emissions, including GHGs, as compared to those built years ago; however, the net effect is difficult to quantify. Project GHG emissions alone would not likely cause a direct physical change in the environment. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008)." Global GHG emissions in their aggregate contribute to climate change, not any single source of GHG emissions alone.

There are several GHG reduction plans, programs, and regulations (previously introduced in Section 3.7.2, *Regulatory Setting*) that will be implemented at State and local levels, which will indirectly reduce Project GHG emissions. These plans, programs, and regulations are beyond control of the Project and will occur with or without the implementation of the Project, including:

- **SB 100 (California Renewables Portfolio Standard (RPS) Program):** SB 100 established that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by the end of 2045. The Project complies with SB 100 inasmuch as

the Project is served by SCE, which is required to obtain 33 percent renewable power by 2020.

- **AB 1109 (the California Lighting Efficiency and Toxics Reduction Act):** requires reductions in energy usage for lighting, encourages the use of more efficient lighting technologies, reduces hazardous waste in lighting, and increases recycling opportunities. According to the CEC, energy savings from AB 1109 are achieved through codes and standards. Energy savings from AB 1109 are calculated as part of codes and standards savings (CEC 2014). The Project complies with AB 1109 in that all lighting used in the construction and operation of the Project would need to conform to the applicable energy standards.
- **Cap-and-Trade Program:** Reduces GHG emissions from major sources (deemed “covered entities”) by setting a firm cap on Statewide GHG emissions and employing market mechanisms to achieve AB 32’s emission-reduction mandate of returning to 1990 levels of emissions by 2020. The Project would be consistent with the Cap-and-Trade Program as the Project’s GHG emissions associated with electricity usage are covered by the Cap-and-Trade Program, as the Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported.
- **AB 1493 (Pavley Regulations):** Reduces GHG emissions in new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II), and also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020. The Project would be consistent with this regulation and would not conflict with implementation of the vehicle emissions standards. Project GHG emissions related to vehicular travel would benefit from this regulation because vehicle trips associated with the Project would be affected by AB 1493. Mobile source emissions generated by the Project would be reduced with implementation of AB 1493 consistent with reduction of GHG emissions under AB 32.
- **Executive Order S-01-07, Low Carbon Fuel Standard:** Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels. This executive order establishes a Statewide goal to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020. The Project would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards. Project GHG emissions related to vehicular travel would benefit from this regulation, as Project mobile source emissions generated by the Project would be reduced with implementation of LCFS consistent with reduction of GHG emissions under AB 32.
- **Advanced Clean Cars Program:** In 2012, CARB adopted the Advanced Clean Cars (ACC) program to reduce criteria pollutants and GHG emissions for model year vehicles 2015 through 2025. ACC includes the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years. The standards would apply to all vehicles used by residents of the Project.
- **SB X7-7 (The Water Conservation Act of 2009):** SB X7-7 sets an overall goal of reducing per capita urban water use by 20 percent by the end of 2020. The Project would utilize energy efficiency appliances and equipment and would meet the applicable energy standards in the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code, or applicable version at the time of building permit issuance.

- **California Integrated Waste Management Act (IWMA) of 1989 and AB 341:** The IWMA mandated that State agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a Statewide goal for 75 percent disposal reduction by the year 2020. Project GHG emissions related to solid waste generation would benefit from this regulation as it would decrease the overall amount of solid waste disposed of at landfills. The decrease in solid waste would then in return decrease the amount of methane released from the decomposing solid waste.

Table 3.7-6 contains a list of GHG-reducing strategies applicable to the Project. The analysis describes the consistency of the Project with these laws and strategies outlined in the State's Climate Change Scoping Plan to reduce GHG emissions. The Climate Change Scoping Plan outlines a framework that relies on a broad array of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms such as the Cap-and-Trade Program. As a result, the Project would not conflict with applicable Climate Change Scoping Plan strategies and regulations to reduce GHG emissions.

As described above in Table 3.7-6, the Project is compliant with the applicable laws and regulations that serve to reduce GHG emissions. CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels, as mandated by SB 32. These potential strategies include renewable resources for half of the State's electricity by 2030, increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles, reducing the rate of growth in VMT, supporting other alternative transportation options, and use of high-efficiency appliances, water heaters, and HVAC systems (E&E 2015). The Project would benefit from Statewide and utility-provider efforts towards increasing the portion of electricity provided from renewable resources. The Project would use energy-efficient equipment, and water efficient fixtures as is appropriate to the Project design. The Project would also benefit from Statewide efforts towards increasing the fuel economy standards of vehicles. The Project would support reducing VMT given it is operated remotely using existing employees with maintenance occurring only a couple times per week.

Based on the analysis above, the Project would be consistent with CARB's Scoping Plans (i.e., 2008 Scoping Plan, 2014 Scoping Plan, and 2017 Scoping Plan) and given the reasonably anticipated decline in Project emissions once fully constructed and operational, the Project would be consistent with the State's GHG reduction targets for 2030 and 2050. Therefore, impacts are less than significant.

**TABLE 3.7-6
 CONSISTENCY WITH APPLICABLE CLIMATE CHANGE SCOPING PLAN GHG REDUCTION STRATEGIES**

Sector / Source	Category / Description	Consistency Analysis
Energy		
CCR, Title 24, Building Standards Code	Energy Efficiency Standards for Residential and Nonresidential Buildings	Compliant. The Project would meet or exceed the applicable requirements of the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code or applicable version at the time of building permit issuance.
California Green Building Standards Code Requirements	SWPPP required.	Compliant. The Project would meet this requirement as part of its compliance with the CALGreen Code.
	Indoor water usage must be reduced by 20 percent compared to current California Building Code Standards for maximum flow.	Compliant. The Project would meet this requirement as part of its compliance with the CALGreen Code.
	Requires a minimum of 50 percent recycle or reuse of nonhazardous construction and demolition debris.	Compliant. The Project would meet this requirement as part of its compliance with the CALGreen Code.
	Requires documentation of types of waste recycled, diverted or reused.	Compliant. The Project would meet this requirement as part of its compliance with the CALGreen Code.
Water		
CCR, Title 24	Title 24 includes water efficiency requirements for new residential and non-residential uses.	Compliant. The Project would utilize energy efficiency appliances and equipment as is applicable to project operations, and would meet the applicable energy standards in the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code, or applicable version at the time of building permit issuance.
Other Sources		
Climate Action Team (CAT) works to coordinate Statewide efforts to implement global warming emission reduction programs and the State's Climate Adaptation Strategy.	Reduce diesel-fueled commercial motor vehicle idling.	Consistent. The Project would be consistent with the CARB Air Toxics Control Measure to limit heavy-duty diesel motor vehicle idling to no more than 5 minutes at any given time, most specifically during construction since the underlying ATCM that limits heavy-duty diesel motor vehicle idling (Title 13 CCR, Section 2485) was adopted by CARB in 2004.
	Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.	Consistent. The Project would meet the energy standards in the Title 24 Building Energy Efficiency Standards, and the CALGreen Code.
	Reduce energy use in private buildings.	Consistent. The Project would meet or exceed the energy standards in the Title 24 Building Energy Efficiency Standards, and the CALGreen Code.

Consistency with the City of Perris Climate Action Plan

The City's CAP implements several measures to reduce GHG's and achieve the GHG reduction targets of AB 32 for target year 2020. Local measures included in the CAP consist of:

- The creation by the City of an energy action plan to reduce citywide consumption.
- Land use and transportation measure that:
 - Encourages the use of alternate modes of transportation including (walking, biking, and transit);
 - Allowing a reduction in parking supply to reduce motor vehicle use;
 - Voluntary transportation demand management;
 - Strategies to improve jobs-housing balance through increased density and mixed-use developments
- Reducing solid waste generation and disposal in landfills.

The proposed Project would not conflict with these local strategies. Additionally, the proposed Project is consistent with state and regional strategies identified in the CAP. Further, the Proposed Project is subject to California Building Code requirements. New buildings must achieve the 2016 Building and Energy Efficiency Standards and the 2016 California Green Building Standards requirements. Overall, the Proposed Project would not conflict with the City's CAP. Impacts are considered less than significant and no mitigation is required.

Consistency with the City of Perris General Plan

As stated above in the regulatory section, the City of Perris' General Plan acknowledges the need for the reduction of GHG emissions and sets forth goals and policies to achieve these reductions. All the policies in the Open Space and Conservation Element related to GHG emissions are actions to be taken at the City level. Therefore, while the Proposed Project does not directly implement any of the policies, the Project also does not hinder the City's ability to implement policies and initiatives to reduce citywide GHG emissions. Therefore, the Proposed Project would be less than significant.

Consistency with the City of Menifee General Plan

As stated above in the regulatory section, the City of Menifee's General Plan acknowledges the need for the reduction of GHG emissions and sets a path to achieve these reductions. The majority of the policies in the Land Use and Open Space Elements related to GHG emissions are actions to be taken at the City level. Therefore, while the Proposed Project does not directly implement any of the policies, the Project also does not hinder the City's ability to implement policies and initiatives to reduce citywide GHG emissions. Policy OSC-9.5 requires the compliance with Title 24 which the Project would do to the extent applicable to the type of operations. part of its design and construction. The Project would be in compliance with this policy and would not hinder the implementation of other policies to reduce GHG emissions. Therefore, the Project would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Cumulative Impacts

Impact 3.7-3: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts regarding greenhouse gas emissions.

Construction and Operation

The GHG emissions of the Project alone would not cause a direct physical change in the environment. According to CAPCOA, “GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective” (CAPCOA 2008). It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone. The impact analysis of the Project’s GHG emissions and consistency with existing plans and policies related to greenhouse gas emissions provided above for the Project serves as a cumulative impact analysis. Therefore, as discussed above, the Project would be consistent with all applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions and the Project would not generate GHG emissions that would have a significant impact on the environment. As such, the Project would result in a less than cumulatively considerable impact related to applicable GHG emissions and GHG reduction plans and policies.

Mitigation Measures

None Required

Significance Determination

Less than Significant

3.7.4 References

Amicus brief, 2019. USCA Case #18-1114, Doc#1772455_filed February 14, 2019. Available: <http://climatecasechart.com/case/california-v-epa-4/>. Accessed October 2019.

Anderegg, William R. L., J.W. Prall, J. Harold, S.H., Schneider, 2010. Expert Credibility in Climate Change, Proceedings of the National Academy of Sciences of the United States of America. 2010;107:12107-12109.

California Air Pollution Control Officers Association (CAPCOA), 2008. CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.

California Air Resources Board, 2007. Staff Report: California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit.

California Air Resources Board, 2011. Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D, August 19, 2011.

California Air Resources Board, 2016. Frequently Asked Questions for the 2016 Edition California Greenhouse Gas Emission Inventory, 2016, https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_faq_20160617.pdf. Accessed September 2019.

California Air Resources Board (CARB), 2017a. California's 2017 Climate Change Scoping Plan. Available: www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed March 10, 2019. November 2019.

California Air Resources Board, 2017b. 2020 Business-as-Usual (BAU) Emissions Projection, 2014 Edition, 2019.

California Air Resources Board, 2017c. California's 2017 Climate Change Scoping Plan, November 2017. Available at: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed September 2019.

California Air Resources Board, 2019a. Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation 2018, <https://www.arb.ca.gov/regact/2018/lcfs18/lcfs18.htm>. Accessed June 2020.

CARB, 2019b. California Greenhouse Gas Emissions for 2000 to 2017 Trends of Emissions and Other Indicators, https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf. Accessed February 2020.

California Department of Finance (CDOF), 2018. American Community Survey 2018, http://www.dof.ca.gov/Reports/Demographic_Reports/American_Community_Survey/documents/Web_ACS2017_Pop-Race.xlsx. Accessed September 2019.

CDOF, 2019. Gross State Product 2019, http://www.dof.ca.gov/Forecasting/Economics/Indicators/Gross_State_Product/documents/BBStateGDP_000.xls. Accessed September 2019.

California Department of Water Resources (DWR), 2006. Climate Change Report, Progress on Incorporating Climate Change into Planning and Management of California's Water Resources, July 2006. Available: https://water.ca.gov/LegacyFiles/climatechange/docs/CCprogress_nov06.pdf.

California Energy Commission (CEC), 2014. 2013 California Energy Efficiency Potential and Goals Study, Appendix Volume I, February 5, 2014, <http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=4021>.

CEC, 2019. Cal-adeapt. Available: <https://cal-adapt.org/tools/annual-averages/#climatevar=tasmax&scenario=rcp45&lat=38.59375&lng=-121.46875&boundary=locagrid&units=fahrenheit>

- California Environmental Protection Agency (CalEPA), 2006. Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature.
- CalEPA, 2013. Preparing California for Extreme Heat: Guidance and Recommendations. Available: <https://toolkit.climate.gov/reports/preparing-california-extreme-heat-guidance-and-recommendations>. Accessed October, 2019.
- California Natural Resources Agency (CNRA), 2009. Climate Action Team, 2009. California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, 2009.
- CNRA, 2014. Safeguarding California: Reducing Climate Risk, an Update to the 2009 California Climate Adaptation Strategy. Available: <http://resources.ca.gov/climate/safeguarding/>. Accessed October, 2019.
- Energy + Environmental Economics (E&E), 2015. Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios, April 6. https://www.arb.ca.gov/html/fact_sheets/e3_2030scenarios.pdf.
- Intergovernmental Panel on Climate Change (IPCC), 2007. Fourth Assessment Report: The Physical Science Basis, Summary for Policy Makers.
- Kenward, A, et al., 2013. Wildfires and Air Pollution: The Hidden Health Hazards of Climate Change. Climate Central. Available: <http://assets.climatecentral.org/pdfs/WildfiresAndAirPollution.pdf>. Accessed April 11, 2019.
- Governor's Office of Planning and Research (OPR), 2008. Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, 2008
- National Research Council of the National Academies (NRC), 2008. Ecological Impacts of Climate Change. Available at: <https://www.nap.edu/read/12491/chapter/1>.
- Parmesan, C., 2006. Ecological and Evolutionary Response to Recent Climate Change.
- Pacific Institute for Studies in Development, Environment and Security, Climate Change and California Water Resources: A Survey and Summary of the Literature, July 2003. Available: http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf. Accessed November 2019.
- South Coast Air Quality Management District (SCAQMD), 2008. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008. Available: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/ghgattachmente.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf). Accessed October 2019.
- U.S. Census Bureau (UCSB), 1995. National and State Population Estimates: 1990-1994, 1995, <https://www.census.gov/library/publications/1995/demo/p25-1127.html>. Accessed September 2019.

United States Environmental Protection Agency, 2012. 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards. Available: (August 2012). Available: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-model-year-2017-and-later-light-duty-vehicle>. Accessed October 2019.

United States Environmental Protection Agency, 2019. Inventory of U.S. Greenhouse Gas Emissions and Sinks Fast Facts. Available: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-fast-facts>. Accessed October, 2019.

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3.8 Hazards, Hazardous Materials, and Wildfire

This section evaluates the potential hazards and hazardous materials impacts associated with construction and operation of the Proposed Project as well as potential impacts associated with wildfire. This section includes: a description of the existing hazards, hazardous materials, and wildfire conditions at the Proposed Project site; a summary of applicable regulations related to hazards, hazardous materials, and wildfire; and an evaluation of the potential impacts of the Proposed Project related to the hazard and wildfire conditions on the Project site and in the surrounding area, including cumulative impacts.

Definition of Hazardous Materials

For the purposes of this analysis, the term “hazardous materials” refers to both hazardous substances and hazardous wastes. Under federal and state laws, materials, including wastes, may be considered hazardous if they are specifically listed by statute as such or if they exhibit one of the following four characteristics: toxicity (causes adverse human health effects), ignitability (has the ability to burn), corrosivity (causes severe burns or damage to materials), or reactivity (can react violently, explode, or generate vapors). The term “hazardous material” is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment (Health and Safety Code, Section 25501[p]).

In some cases, past industrial or commercial activities may have resulted in spills or leaks of hazardous materials, resulting in soil and/or groundwater contamination. Excavated soils having concentrations of certain contaminants, such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels must be managed, treated, transported, and/or disposed of as a hazardous waste. CCR Title 22, Sections 66261.10 through 66261.24, contains technical descriptions of characteristics that would cause a soil to be designated a hazardous waste.

Federal and state laws require that hazardous materials be specially managed. California regulations are compliant with federal regulations and are in most cases more stringent. Regulations also govern the management of potentially hazardous building materials, such as asbestos-containing materials, lead-based paint, and polychlorinated biphenyls (PCBs) during demolition activities that could potentially disturb existing building materials.

3.8.1 Environmental Setting

Existing Site Conditions

The proposed water storage tank site is located northwest of the intersection of Goetz Road and Sotelo Road, in the City of Perris in Riverside County, California, and comprises a parcel of land approximately 2.85 acres in size (Dudek 2015). The topography of the proposed water storage tank site gently slopes to the northeast and east. The site is undeveloped and primarily consists of non-native grassland and disturbed, unvegetated areas.

Similarly, the proposed transmission pipeline is located adjacent to the proposed water storage tank site and contains developed areas such as Goetz Road and Thornton Avenue, which are paved. Approximately half of the proposed transmission pipeline would travel through an undeveloped area that will later be a part of the Cimarron Ridge Development Project, located east of the proposed water storage tank site. The proposed transmission pipeline alignment is relatively flat sloping slightly from west to east starting from the proposed water storage tank site, through the undeveloped Cimarron Ridge Development Project, to Thornton Avenue, where it would connect with Murrieta Road (see Figure 2-1).

A Phase I Environmental Site Assessment (ESA) was conducted in 2012 to evaluate the proposed water storage tank site for potential hazardous materials (EnGEN Corporation 2012). The Phase I ESA for the proposed water storage tank came to the following conclusions:

- Air Emissions: There are no known past or current operations on the proposed water storage tank site that would require an AQMD permit. At the time of the site inspection, no unusual odors were encountered on the site and no other conditions were observed that would be a concern from an air emissions standpoint.
- Pesticides and Herbicides: There are no historical records that would indicate the proposed water storage tank site has any historical agricultural use.
- Wastewater: At the time of the site inspection, there was no observed evidence of stormwater facilities, or drains or drainage ditches on the water storage tank site. Natural drainage trends across the site from the southwest corner to the approximate northeast corner into a 24-inch corrugated metal pipe drainage culvert that passes under Goetz Road.
- Waste Generation, Storage and Disposal: At the time of the site inspection, there was no evidence observed on the water storage tank site that would indicate the site had past or current use for the generation, storage, treatment, or disposal of hazardous waste. There were no records uncovered during the Phase I ESA that would indicate the site had been used for the use and/or storage of hazardous materials in the past.
- Building Materials Presumed to Contain Friable and Non-Friable Asbestos: There was no evidence uncovered within the scope of the Phase I ESA that indicated the property had the potential for contamination from asbestos products.
- PCBs: There was no evidence uncovered that indicated the water storage tank site has any contamination related to PCBs (e.g., transformers on power poles).

As indicated in the Phase I ESA, a search of hazardous materials sites was performed using the SWRCBs GeoTracker and DTSCs EnviroStor databases to identify potential contaminated sites in and around the site. GeoTracker identifies leaking underground storage tank (LUST) sites, land disposal sites, military sites, DTSC cleanup sites, other cleanup sites, permitted underground storage tank facilities, and permitted hazardous waste generators. EnviroStor identifies federal Superfund sites, State response sites, voluntary cleanup sites, school cleanup sites, corrective action sites, and tiered permit sites.

At the time of the 2012 Phase I ESA, no hazardous materials sites were identified within the proposed water storage tank site. A more recent database search of hazardous materials sites was performed in 2019 to assess the potential for contamination in soil and groundwater within the

entire Project area. The database search of hazardous materials sites using the online DTSC EnviroStor and SWRCB GeoTracker databases indicated that the Project area does not contain any open/active cleanup sites or hazardous waste facilities (DTSC 2019; SWRCB 2019). Additionally, no evidence of aboveground dumping, staining or other hazardous material storage was observed in a 2019 site visit, which confirms the results of the 2012 Phase 1 ESA are still accurate.

Wildfires

All of California is subject to some degree of fire hazard, but specific features make some areas more hazardous. CALFIRE establishes fire hazard severity zones throughout the State that are determined based on factors that influence fire likelihood and fire behavior. Many factors are considered including fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather.

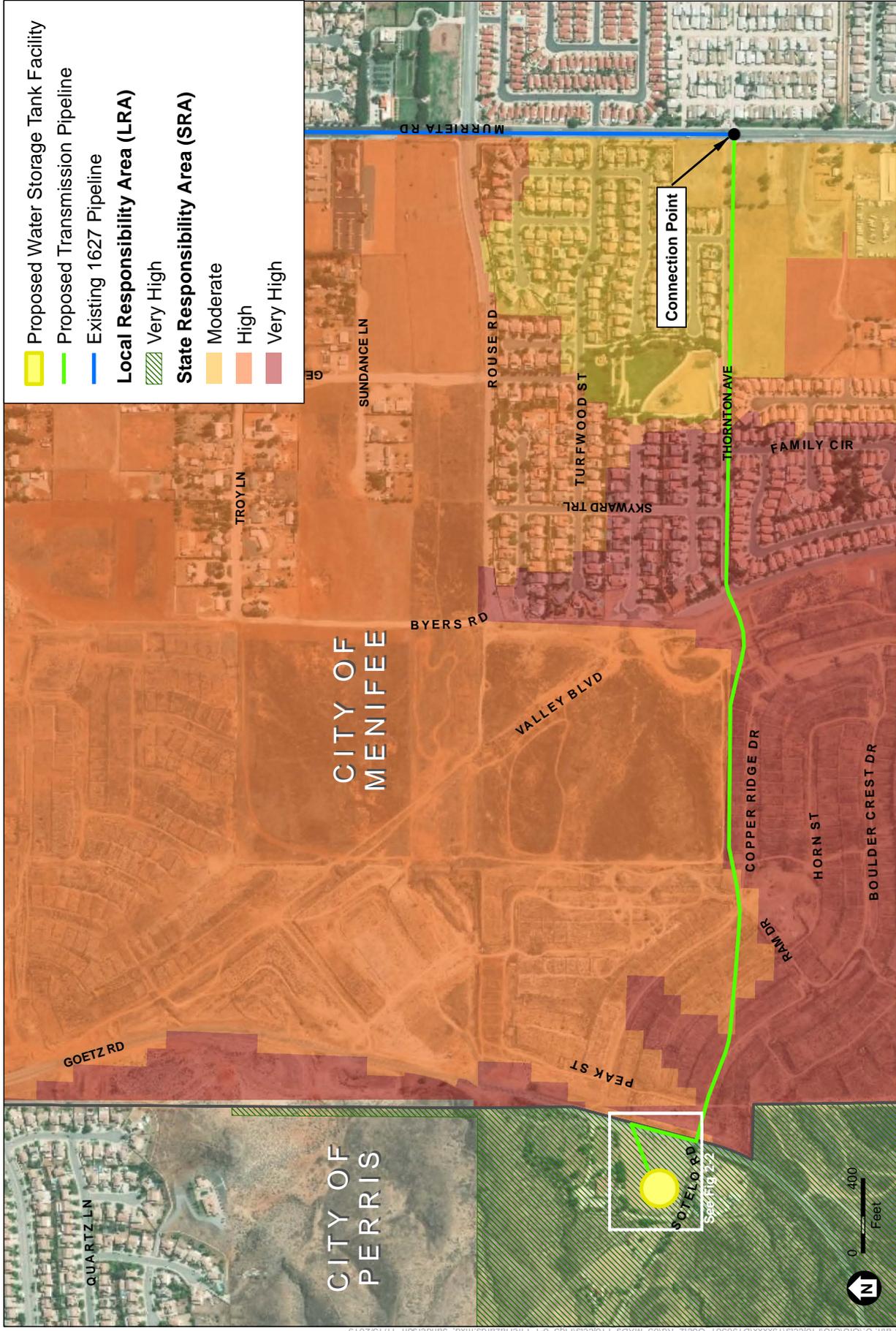
Wildland fire protection in California is the responsibility of either the State, local, or the federal government. State responsibility area (SRA) is a legal term defining the area where the State has financial responsibility for wildland fire protection. Local responsibility areas (LRAs) include incorporated cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by CALFIRE under contract to local government.

Figure 3.8-1 shows locations of fire hazard severity zones in and around the Proposed Project areas (CALFIRE 2019). The proposed water storage tank site is within a LRA under the City of Perris Fire Department, which has contracted with the County of Riverside Fire Department since 1983 (City of Perris 2019). The entire proposed water storage tank site is characterized as a LRA very high fire hazard severity zone (VHFHSZ) (CALFIRE 2019).

The proposed transmission pipeline alignment is located within a SRA, under both CALFIRE and the County of Riverside (City of Menifee 2019a). The proposed transmission pipeline is within a SRA high to very high fire FHSZ.

Fire History

Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources. The fire history data for the Project site, which is based on CALFIRE's Fire Resource Assessment Program (FRAP) database, shows that as of 2012, fire threat in the Project site and surrounding area ranged from moderate to very high (CALFIRE 2019). According to available data from CALFIRE's California Statewide Fire Map, 10 fires have occurred within 3 miles of the Project site from 1944 to 2012 (see **Figure 3.8-2**) (CALFIRE 2019). Of the 10 fires shown, a fire in 1979 called the "Sophie" fire occurred within the proposed water storage tank site. No fire history exists for the proposed transmission pipeline alignment.

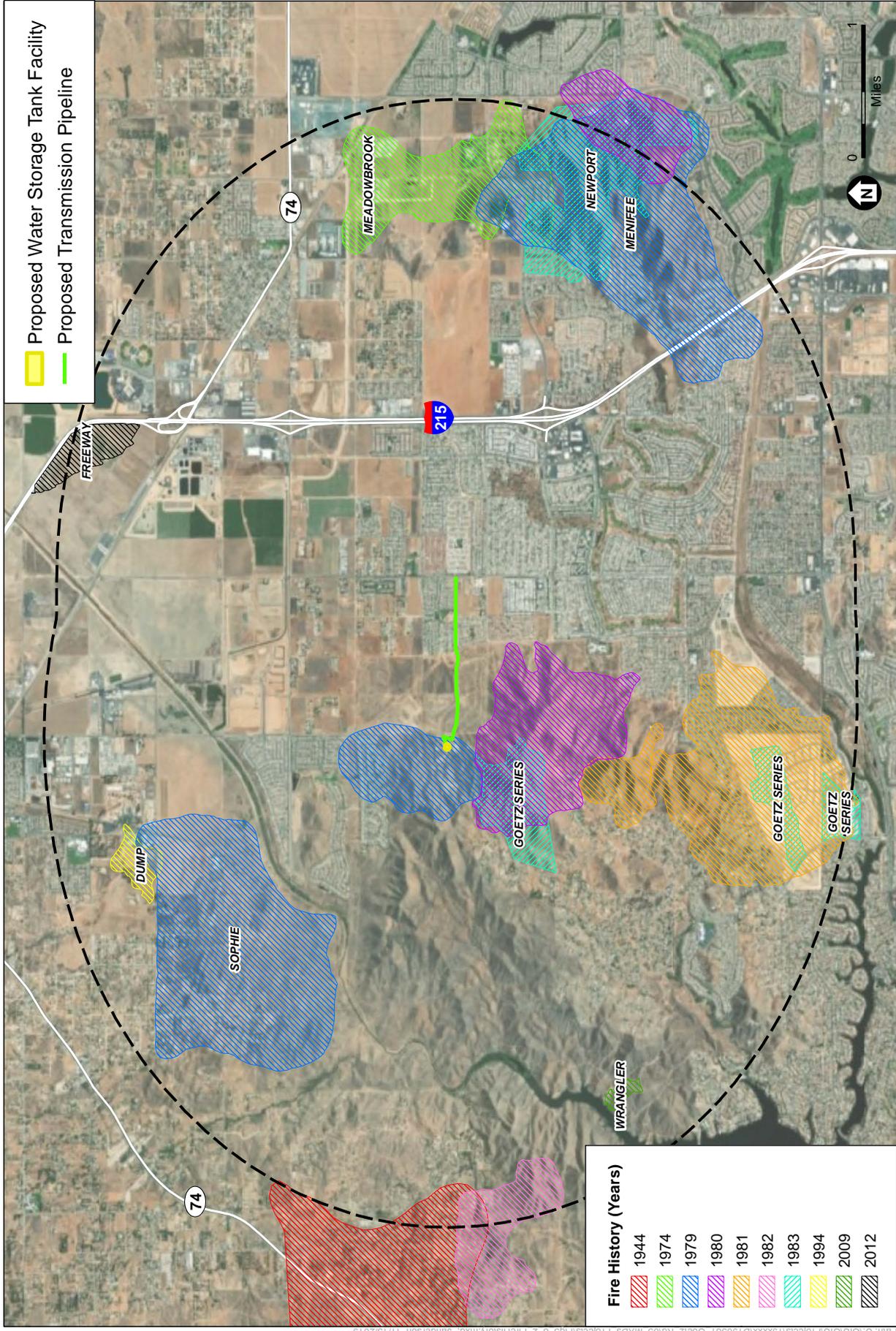


SOURCE: ESRI, 2019; ESA, 2019; Cal Fire, 2019; Riverside County, 2019.

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.8-1
Fire Hazard Zones





SOURCE: ESRI, 2019; ESA, 2019; Cal Fire, 2019.

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.8-2
Historical Fires



Emergency Plans

The Riverside County Fire Department has prepared the Riverside County EOP template for local cities, including Perris and Menifee. The EOP establishes an emergency management organization and assigns functions and tasks consistent with California's Standard Emergency Management System (SEMS) and the National Incident Management System (NIMS). The EOP meets all minimum requirements provided in both SEMS and NIMS. Riverside County is the lead agency for the Western Riverside Operational Area and is tasked to coordinate emergency activities between the county, cities, and special districts and to serve as a communications link focusing on the collection, processing and dissemination of vital disaster information. The specific cities' EOPs establish policies, procedures and an emergency management organization, and assigns roles and responsibilities to ensure the effective management of emergency operations within the Operational Area (OA). The EOP addresses the OA's planned response to disasters and supports the California Emergency Plan. Additionally, the plan identifies sources of external support which might be provided through mutual aid and specific statutory authorities by other jurisdictions, State and federal agencies, and the private sector (County of Riverside 2019).

The City of Perris EOP was prepared in 2013 (City of Perris 2013). The City of Menifee relies on the city's Safety Element of the General Plan (Disaster Preparedness, Response and Recovery), to identify and provide information on the areas that are susceptible to hazards including wildland fire, flooding, and severe weather (City of Menifee 2019b).

3.8.2 Regulatory Framework

Hazards and hazardous materials are subject to numerous federal, state, and local laws and regulations intended to protect health, safety, and the environment. The USEPA, DTSC, RWQCB, and County of Los Riverside are the primary agencies enforcing these regulations. Local regulatory agencies enforce many federal and State regulations through the Certified Unified Program Agency (CUPA) program.

Federal

Federal agencies with responsibility for hazardous materials management include the USEPA, Department of Labor (Federal Occupational Health and Safety Administration [OSHA]), US DOT). Major federal laws and issue areas include the following statutes and regulations:

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (42 U.S.C §6901-6987) was enacted in 1976 and gave the USEPA the authority to control hazardous waste from "cradle-to grave," which includes the generation, transportation, treatment, storage and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The Federal Hazardous and Solid Waste Amendments (HSWA) were added to RCRA in 1984 and focused on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for

releases. Some of the other mandates of this law include increased USEPA enforcement authority, more stringent hazardous waste management standards, and a comprehensive underground storage tank program. The storage and use of disinfectant chemicals is regulated under RCRA.

Emergency Planning and Community Right-to-Know Act (EPCRA from SARA Title III)

EPCRA improved community access to information regarding chemical hazards and facilitated the development of business chemical inventories and emergency response plans. EPCRA also established reporting obligations for facilities that store or manage specified chemicals. EPCRA applies to this Project because contractors use hazardous materials (e.g., fuels, paints and thinners, solvents, etc.) and would be required to prepare and implement written emergency response plans to properly manage hazardous materials and respond to accidental spills. The storage and use of disinfectant chemicals is regulated under SARA.

US DOT Hazardous Materials Transportation Act of 1975 (49 USC 5101)

US DOT, in conjunction with the USEPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to safe storage and transportation of hazardous materials. The Code of Federal Regulations (CFR) 49, 171–180, regulates the transportation of hazardous materials, types of material defined as hazardous, and the marking of vehicles transporting hazardous materials. The transportation of disinfectant chemicals is regulated under SARA.

The Federal Motor Carrier Safety Administration (49 CFR Part 383-397)

The Federal Motor Carrier Safety Administration, a part of the US DOT, issues regulations concerning highway transportation of hazardous materials, the hazardous materials endorsement for a commercial driver’s license, highway hazardous material safety permits, and financial responsibility requirements for motor carriers of hazardous materials. The transportation of disinfectant chemicals is regulated under SARA.

Occupational Safety and Health Administration (OSHA; 29 USC 15)

OSHA is the federal agency responsible for ensuring worker safety. These regulations provide standards for safe workplaces and work practices, including those relating to hazardous materials handling. The safety and health of construction and maintenance workers is regulated under OSHA.

Hazardous Materials Transport Act (49 USC 5101)

The US DOT, in conjunction with the USEPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 directs the US DOT to establish criteria and regulations regarding the safe storage and transportation of hazardous materials. Code of Federal Regulations (CFR) 49, 171–180, regulates the transportation of hazardous materials, types of material defined as hazardous, and the marking of vehicles transporting hazardous

materials. The transportation of disinfectant chemicals is regulated under the Hazardous Materials Transportation Act.

State

The primary state agencies with jurisdiction over hazardous chemical materials management are the DTSC and the Santa Ana RWQCB. Other state agencies involved in hazardous materials management are the Department of Industrial Relations (State OSHA implementation), State Office of Emergency Services (OES)—CalARP implementation, CARB, California Department of Transportation (Caltrans), OEHHA (Proposition 65 implementation) and CIWMB. Hazardous materials management laws in California include the following statutes and regulations promulgated thereunder:

Department of Toxic Substance Control

Under the California Hazardous Waste Control Act, California Health and Safety Code, Division 20, Chapter 6.5, Sections 25100, et seq., DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA, as long as USEPA has determined the State program is at least as stringent as Federal RCRA requirements. California's hazardous waste program has been federally approved. Thus, in California, DTSC enforces hazardous waste regulatory requirements. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

DTSC maintains a Hazardous Waste and Substances Site List for site cleanup. This list is commonly referred to as the Cortese List. Government Code Section 65962.5 requires the CalEPA to update the Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

Hazardous Waste Control Act (California Health and Safety Code, Section 25100 et seq.)

The Hazardous Waste Control Act (HWCA) is the state equivalent of RCRA and regulates the generation, treatment, storage, and disposal of hazardous waste. This act implements the RCRA “cradle-to-grave” waste management system in California but is more stringent in its regulation of non-RCRA wastes, spent lubricating oil, small-quantity generators, transportation and permitting requirements, as well as in its penalties for violations. The disposal of spent disinfection chemicals is covered under HWCA.

California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act)

The Business Plan Act requires preparation of hazardous materials business plans and disclosure of hazardous materials inventories, including an inventory of hazardous materials handled, plans

showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the state. Local agencies are responsible for administering these regulations.

Several state agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety, including the CalEPA and the California Emergency Management Agency. The California Highway Patrol and Caltrans enforce regulations specifically related to the transport of hazardous materials. Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roadways.

California Division of Occupational Safety and Health

Cal/OSHA is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA requires many entities to prepare injury and illness prevention plans and chemical hygiene plans, and provides specific regulations to limit exposure of construction workers to lead. OSHA applies to this Project because contractors will be required to comply with its handling and use requirements that would increase worker safety and reduce the possibility of spills, and to prepare an emergency response plan to respond to accidental spills.

California Code of Regulations and California Government Code Utility Notification Requirements

Title 8, Section 1541 of the CCR requires excavators to determine the approximate locations of subsurface utility installations (e.g., sewer, telephone, fuel, electric, water lines, or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The CGC (Section 4216 et seq.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to Section 4216.1, operators of subsurface installations who are members or participate and share in the costs of a regional notification center are in compliance with this section of the code. Underground Services Alert of Southern California (known as DigAlert) receives planned excavation reports from public and private excavators and transmits those reports to all participating members of DigAlert that may have underground facilities at the location of excavation. Members will mark or stake their facilities, provide information, or give clearance to dig. This requirement would apply to this Project because any excavation would be required to identify underground utilities before excavation.

California Department of Forestry and Fire Protection

CALFIRE is dedicated to fire protection and stewardship of over 31 million acres of California's privately-owned wildlands. CALFIRE's mission includes management and protection of California's natural resources, CALFIRE's firefighters, fire engines, and aircraft respond to an

average of more than 5,600 wildland fires each year and oversees enforcement of California's forest practice regulations, which guide timber harvesting on private lands. CALFIRE also provides Fire Hazard Severity Zone Maps for SRA lands. CALFIRE requires counties within the State to develop fire protection management plans that address potential threats of wildland fires. The Riverside County Unit Strategic Fire Plan identifies federal, State, and local responsibility areas for the entire County to facilitate coordination efforts for fire protection services (CALFIRE 2018).

California Public Resource Code

The Proposed Project would be required to apply the following PRC regulations during implementation of the Proposed Project in order to ensure the safety of workers at project sites and to minimize risks to the environment due to fire hazards (California Legislative Information 2019).

California Public Resource Code 4427

PRC 4427 states: “During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarpots, or grinding devices from which a spark, fire, or flame may originate, which is located on or near any forest-covered land, brush-covered land, or grass-covered land, without doing both of the following:

- a) First clearing away all flammable material, including snags, from the area around such operation for a distance of 10 feet.
- b) Maintain one serviceable round point shovel with an overall length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

This section does not apply to portable power saws and other portable tools powered by a gasoline-fueled internal combustion engine.”

California Public Resource Code 4428

PRC 4428 states: “No person, except any member of an emergency crew or except the driver or owner of any service vehicle owned or operated by or for, or operated under contract with, a publicly or privately owned utility, which is used in the construction, operation, removal, or repair of the property or facilities of such utility when engaged in emergency operations, shall use or operate any vehicle, machine, tool or equipment powered by an internal combustion engine operated on hydrocarbon fuels, in any industrial operation located on or near any forest, brush, or grass-covered land between April 1 and December 1 of any year, or at any other time when ground litter and vegetation will sustain combustion permitting the spread of fire, without providing and maintaining, for firefighting purposes only, suitable and serviceable tools in the amounts, manner and location prescribed in this section.

- a) On any such operation a sealed box of tools shall be located, within the operating area, at a point accessible in the event of fire. This fire toolbox shall contain: one backpack pump-

type fire extinguisher filled with water, two axes, two McLeod fire tools, and a sufficient number of shovels so that each employee at the operation can be equipped to fight fire.

- b) One or more serviceable chainsaws of three and one-half or more horsepower with a cutting bar 20 inches in length or longer shall be immediately available within the operating area, or, in the alternative, a full set of timber-felling tools shall be located in the fire toolbox, including one crosscut falling saw six feet in length, one double-bit ax with a 36-inch handle, one sledge hammer or maul with a head weight of six, or more, pounds and handle length of 32 inches, or more, and not less than two falling wedges.
- c) Each rail speeder and passenger vehicle, used on such operation shall be equipped with one shovel and one ax, and any other vehicle used on the operation shall be equipped with one shovel. Each tractor used in such operation shall be equipped with one shovel.”

California Public Resources Code 4291

PRC 4291 establishes requirements for property owners that own, lease, control, operate, or maintain a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material. The owner shall at all times do all of the following:

- a) Maintain around and adjacent to the building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side of the building or structure or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This subdivision does not apply to single specimens of trees, ornamental shrubbery, or similar plants that are used as ground cover, if they do not form a means of rapidly transmitting fire from the native growth to any building or structure.
- b) Maintain around and adjacent to the building or structure additional fire protection or firebreak made by removing all brush, flammable vegetation, or combustible growth that is located within 100 feet from the building or structure or to the property line or at a greater distance if required by state law, or local ordinance, rule, or regulation. This section does not prevent an insurance company that insures a building or structure from requiring the owner of the building or structure to maintain a firebreak of more than 100 feet around the building or structure. Grass and other vegetation located more than 30 feet from the building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion.
- c) Remove that portion of any tree that extends within 10 feet of the outlet of a chimney or stovepipe.
- d) Maintain any tree adjacent to or overhanging a building free of dead or dying wood.
- e) Maintain the roof of a structure free of leaves, needles, or other dead vegetative growth.
- f) Provide and maintain at all times a screen over the outlet of every chimney or stovepipe that is attached to a fireplace, stove, or other device that burns any solid or liquid fuel. The screen shall be constructed of nonflammable material with openings of not more than one-half inch in size.
- g) The director may authorize the removal of vegetation that is not consistent with the standards of this section. The director may prescribe a procedure for the removal of that vegetation and make the expense a lien upon the building, structure, or grounds, in the same manner that is applicable to a legislative body under Section 51186 of the Government Code.

- h) As used in this section, “person” means a private individual, organization, partnership, limited liability company, or corporation.

California Public Resource Code 4431

PRC 4431 states: “During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate or cause to be operated in the area any portable saw, auger, drill, tamper, or other portable tool powered by a gasoline-fueled internal combustion engine on or near any forest-covered land, brush-covered land, or grass-covered land, within 25 feet of any flammable material, without providing and maintaining at the immediate locations of use or operation of the saw or tool, for firefighting purposes one serviceable round point shovel, with an overall length of not less than 46 inches, or one serviceable fire extinguisher. The Director of Forestry and Fire Protection shall by administrative regulation specify the type and size of fire extinguisher necessary to provide at least minimum assurance of controlling fire caused by use of portable power tools under various climatic and fuel conditions.

The required fire tools shall at no time be farther from the point of operation of the power saw or tool than 25 feet with unrestricted access for the operator from the point of operation.”

California Public Resource Code 4442

PRC 4442 states:

- a) “Except as otherwise provided in this section, no person shall use, operate, or allow to be used or operated, any internal combustion engine which uses hydrocarbon fuels on any forest-covered land, brush-covered land, or grass-covered land unless the engine is equipped with a spark arrester, as defined in subdivision (c), maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443.
- b) Spark arresters affixed to the exhaust system of engines or vehicles subject to this section shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.
- c) A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles over 0.0232 of an inch in size from the exhaust flow of an internal combustion engine that uses hydrocarbon fuels or which is qualified and rated by the United States Forest Service.
- d) Engines used to provide motive power for trucks, truck tractors, buses, and passenger vehicles, except motorcycles, are not subject to this section if the exhaust system is equipped with a muffler as defined in the Vehicle Code.
- e) Turbocharged engines are not subject to this section if all exhausted gases pass through the rotating turbine wheel, there is no exhaust bypass to the atmosphere, and the turbocharger is in effective mechanical condition.”

California Code of Regulations, Fire Hazard Reduction Around Buildings and Structures (Title 14, Division 1.5, Chapter 7)

The intent of this regulation is to provide guidance for implementation of PRC 4291(a) and (b), and minimize the spread of fire within a 100-foot zone around a building or structure. These regulations would apply to the Project because the Project site is located within a high fire hazard severity area.

- A person that owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, and is within State Responsibility Area, shall do the following:
 - Within 30 feet from each building or structure maintain a firebreak by removing and clearing away all flammable vegetation and other combustible growth pursuant to PRC § 4291(a). Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.
 - Within the 30 feet to 100 feet zone (Reduced Fuel Zone) from each building or structure (or to the property line, whichever is nearer to the structure), provide a fuel break by disrupting the vertical and/or horizontal continuity of flammable and combustible vegetation with the goal of reducing fire intensity, inhibiting fire in the crowns of trees, reducing the rate of fire spread, and providing a safer environment for firefighters to suppress wildfire pursuant to PRC § 4291(b).
- Any vegetation fuels identified as a fire hazard by the fire inspection official of the authority having jurisdiction shall be removed or modified provided it is required by subsection (a)(1) & (a)(2).
- Within the intent of the regulations, the fire inspection official of the authority having jurisdiction may approve alternative practices which provide for the same practical effects as the stated guidelines.
- Guidance for implementation of this regulation is contained in the publication: “General Guidelines for Creating Defensible Space” as published by the Board of Forestry and Fire Protection by resolution adopted on February 8, 2006.

California Vehicle Code Section 38366

The California Vehicle Code, Section 38366, requires spark-arresting equipment on vehicles that travel off-road. This code applies to the proposed project because farm and ranch vehicles that work in off-road areas would be required to have spark-arresting equipment to reduce the risk of wildfires.

Local

Certified Unified Program Agency

In 1993, SB 1082 was passed by the State Legislature to streamline the permitting process for those businesses that use, store, or manufacture hazardous materials. The passage of SB 1082 provided for the designation of a CUPA that would be responsible for the permitting process and collection of fees. The CUPA would be responsible for implementing at the local level the

Unified Program, which serves to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental and emergency management programs:

- Hazardous Materials Release Response Plans and Inventories (HMBPs);
- CalARP Program;
- Underground Storage Tank Program;
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control and Countermeasure (SPCC) Plans;
- Hazardous Waste Generator and On-Site Hazardous Waste Treatment (tiered permitting) Programs; and
- California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements.

For Riverside County, the Riverside County Department of Environmental Health administers hazardous materials business plans, hazardous waste, tiered permits, CalARP, and underground and above ground storage tanks. The City of Perris Office of the Fire Marshal and Menifee (through the Riverside County Fire Department) administers the California Fire Code, hazardous materials storage, and toxic gases. Contractors would be required to comply with the regulatory programs overseen by the CUPA.

City of Perris General Plan, Safety Element

The Safety Element outlines the City's goals for reducing the potential risks for death, injuries, property damage and economic and social dislocation resulting from hazards or catastrophic events. These may be fires, floods, earthquakes, landslides, or acts of terrorism. The Safety Element also addresses issues related to man-made hazards such as hazardous waste users and handlers and the level of emergency services accessible by residents of the City. The Safety Element includes an overview of existing risk potential and plans for mitigating or reducing damage resulting from any single damaging event or series of events. The Proposed Project is located within Area 10 of the Planning Area. The following policies and implementation measures are applicable to the Proposed Project (City of Perris 2005):

Policy I.A Hazards - Create or participate in Multi-Jurisdictional Hazard Plans

Implementation Measures

I.A.1 Identify all known hazards within the City in the Multi-jurisdictional Hazard Plan

I.A.2 Prepare evacuation routes and disaster response plans for all known hazards within the City

I.A.3 Participate in on-going disaster preparedness training programs in conjunction with other jurisdictions

Policy I.C. Fire – Reduce the risk of damage from fires

Implementation Measures

I.C.1 Maintain fuel modification standards to ensure proper clearance of brush around homes and businesses abutting undeveloped areas

I.C.2 Adopt landscaping standards to include a fire-resistant plant palette, where appropriate

I.C.3 Enforce current California Building Code standards to exclude the use of materials that pose a fire risk such as untreated wood roofing materials

I.C.5 Maintain appropriate setback requirements in the Zoning Code for new development or redevelopment to prevent spread of fire

City of Menifee General Plan, Safety Element

The Safety Element of the City's General Plan provides a strategy for city staff, residents, developers, and business owners to effectively address natural and man-made hazards in Menifee, including seismic and geological issues; flood hazards; fire hazards; hazardous materials; wind hazards; and disaster preparedness, response, and recovery. The following goals and policies are applicable to the Proposed Project (City of Menifee 2019c):

Fire/Flood Hazards

S-4: A community that has effective fire mitigation and response measures in place, and as a result is minimally impacted by wildland and structure fires.

S-4.1: Require fire-resistant building construction materials, the use of vegetation control methods, and other construction and fire prevention features to reduce the hazard of wildland fire.

S-4.2: Ensure, to the maximum extent possible, that fire services, such as firefighting equipment and personnel, infrastructure, and response times, are adequate for all sections of the city.

S-4.3: Use technology to identify flood-prone areas and to notify residents and motorists of impending flood hazards and evacuation procedures.

Hazardous Materials

S-5: A community that has reduced the potential for hazardous materials contamination.

S-5.1: Locate facilities involved in the production, use, storage, transport, or disposal of hazardous materials away from land uses that may be adversely impacted by such activities and areas susceptible to impacts or damage from a natural disaster.

S-5.2: Ensure that the Fire Department can continue to respond safely and effectively to a hazardous materials incident in the city, whether it is a spill at a permitted facility, or the result of an accident along a section of the freeway or railroads that extend across the city.

S-5.4: Ensure that all facilities that handle hazardous materials comply with federal and state laws pertaining to the management of hazardous wastes and materials.

S-5.5: Require facilities that handle hazardous materials to implement mitigation measures that reduce the risks associated with hazardous material production, storage, and disposal.

Disaster Preparedness, Response and Recovery

S-6: A city that responds and recovers in an effective and timely manner from natural disasters such as flooding, fire, and earthquakes, and as a result is not impacted by civil unrest that may occur following a natural disaster.

S-6.1: Continuously review, update, and implement emergency preparedness, response, and recovery plans that make the best use of the city- and county-specific emergency management resources available.

S-6.2: Ensure to the fullest possible extent that, in the event of a major disaster, critical, dependent care and high-occupancy facilities remain functional.

3.8.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to hazards, hazardous materials, and wildfire according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or substantially impair an adopted emergency response plan or emergency evacuation plan within a very high fire severity zone or state responsibility area.
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire within a very high fire severity zone or state responsibility area.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment within a very high fire severity zone or state responsibility area.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes within a very high fire severity zone or state responsibility area.
- Result in cumulatively considerable impacts to hazardous materials and wildfire.

Methodology

Hazardous material and fire hazard information for the Project area was derived from various existing literature and compiled in this section to develop a comprehensive understanding of the potential hazards associated with construction and operation of the Proposed Project facilities. Information sources include: Phase I Environmental Site Assessment prepared in 2012 for the proposed water storage tank site; DTSC Cortese List and EnviroStor Database; SWQCB GeoTracker Database; Perris and Menifee General Plans; and CALFIRE.

The Project would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the Project with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Note that compliance with many of the regulations are conditions of permit approvals.

Impact Analysis

Hazardous Materials

Impact 3.8-1: The Proposed Project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Construction

Construction activities required for implementation of the Proposed Project facilities would involve drilling, trenching, excavation, grading, and other ground-disturbing activities. Construction activities would be required for the installation of the water storage tank and associated facilities, and the proposed transmission pipeline. During the construction phase, construction equipment and materials would include fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures, which are all commonly used in construction. The routine use or an accidental spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment.

Construction activities would be required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies. Contractors would be required to prepare and implement HMBPs that would require that hazardous materials used for construction would be used properly and stored in appropriate containers with secondary containment to contain a potential release. The California Fire Code would also require measures for the safe storage and handling of hazardous materials.

As discussed in Section 3.9, *Hydrology and Water Quality*, construction contractors would be required to prepare a SWPPP for construction activities according to the NPDES General Construction Permit requirements. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; protocols for responding immediately to spills; and describe BMPs for controlling site runoff.

In addition, the transportation of hazardous materials would be regulated by the US DOT, Caltrans, and the CHP. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release.

Finally, in the event of a spill that releases hazardous materials at the Project site, a coordinated response would occur at the federal, State, and local levels, including the cities of Perris or Menifee, depending on the spill location. In the event of a hazardous materials spill, the police and fire departments would be simultaneously notified and sent to the scene to respond and assess the situation.

The required compliance with the numerous laws and regulations discussed above that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for creation of hazardous conditions due to the use or accidental release of hazardous materials. Therefore, impacts would be less than significant.

Operation

Operation of the proposed transmission pipeline would consist of conveying potable water from the water storage tank to the existing service system. Therefore, hazardous materials would not be associated with the regular operation of the transmission pipeline. No impact would occur.

Operation of the proposed water storage tank would require the periodic cleaning and disinfection of the water storage tank using sodium hypochlorite, which is considered a hazardous material.

The use of hazardous materials and substances during operation would be subject to the existing federal, State and local health and safety requirements for the handling, storage, transportation, and disposal of hazardous materials, summarized above in Section 3.8.2, *Regulatory Framework*. As required by the Hazardous Materials Management Program, EMWD, as the operator of the facility would be required to prepare and submit a HMBP to the Riverside County Department of Environmental Health, the local CUPA for the facility prior to the start of operations. The HMBP is required to include information on hazardous material handling and storage, including site layout, storage in appropriate containers with secondary containment to contain a potential release, and emergency response and notification procedures in the event of a spill or release. In addition, the plan requires annual employee health and safety training. The plan must be approved by the CUPA prior to commencement of project construction and the Proposed Project would be subject to post-construction compliance inspections. The HMBP would also provide the local agencies with the information they need to plan appropriately for a chemical release, fire, or other incident, which would reduce the potential for an accidental release to cause harmful health effects to workers or the public or substantial degradation to soil or water quality.

All hazardous materials are required to be stored and handled according to manufacturer's directions, and local, state and federal regulations. The California Fire Code would also require measures for the safe storage and handling of hazardous materials. Transportation and disposal of wastes, such as spent cleaning solutions, would also be subject to regulations for the safe handling, transportation, and disposal that would include appropriate containerization and labeling, transportation by licensed hazardous materials haulers, and disposal at licensed facilities permitted to accept the waste.

The required compliance with the numerous laws and regulations discussed above that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for creation of hazardous conditions due to the routine use or accidental release of hazardous materials. Therefore, impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Hazardous Material Site Listing

Impact 3.8-2: The Proposed Project could be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.

Construction and Operation

As described above in Section 3.8.1, *Existing Setting*, a database search of hazardous materials sites using the online DTSC EnviroStor and SWRCB GeoTracker databases identified no hazardous material sites under investigation or remediation in the Project area (DTSC 2019; SWRCB 2019). Additionally, no evidence of aboveground dumping, staining or other hazardous material storage was observed in a 2019 site visit, which confirms the results of the 2012 Phase 1 ESA are still accurate. Therefore, the Proposed Project would result in no impact regarding a hazardous material site listing.

Mitigation Measures

None Required

Significance Determination

No Impact

Wildland Fire

Impact 3.8-3: The Proposed Project could expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Construction

The Proposed Project facilities would be constructed within disturbed undeveloped areas with some native vegetation. CALFIRE designates the Project Area as a very high FHSZ. As discussed above in Section 3.8.1, *Environmental Setting*, and shown in Figure 3.8-1 and Figure 3.8-2, the proposed water storage tank, associated facilities, and portions of the proposed transmission pipeline would be located in areas with high risks of wildland fires. The use of spark-producing construction machinery within these fire risk areas could create hazardous fire conditions and expose Project workers and contractors to wildfire risks. However, the implementation of **Mitigation Measure HAZ-1** would ensure fire hazard reduction measures are conducted during construction in areas designated as very high FHSZs to reduce the potential for wildfire impacts on people or structures to less than significant levels.

Operation

The Project does not involve permanent workers or occupants at the Project site. Implementation of the proposed facilities would require routine maintenance; however, these temporary trips to the Project site would not place Project staff in an area of high wildland fire risk permanently. As a result, operational impacts would be less than significant.

Mitigation Measures

Mitigation Measure HAZ-1: Implement Fire Hazard Reduction Measures. During construction of facilities located in areas designated high or very high fire hazard severity zone by CALFIRE, EMWD shall require that all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the Proposed Project facilities, contractors shall require all vehicles and crews to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.

Significance Determination

Less than Significant with Mitigation

Emergency and Evacuation Plans

Impact 3.8-4: The Proposed Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or substantially impair an adopted emergency response plan or emergency evacuation plan within a very high fire severity zone or state responsibility area.

Construction

The majority of the proposed facilities would not be installed within public rights-of-way and therefore, would not interfere with emergency access or evacuation routes if an emergency were to occur. However, the proposed stormwater drainage features and various portions of the proposed transmission pipeline would be implemented within the unpaved roadways of Sotelo Road and/or Our Way, and paved areas of Goetz Road, Thornton Avenue, and Murrieta Road. This construction activity could potentially block access to roadways and driveways for emergency vehicles. The construction-related impacts, although temporary, could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan in LRAs and SRAs.

However, as discussed in Section 3.12, *Traffic and Transportation*, implementation of **Mitigation Measure TRA-1** would require the preparation of a Traffic Control Plan with comprehensive strategies to reduce disruption to emergency access. Some of these strategies include signage, striping, flagging and delineated detours if/when roadways may be blocked. Under the Mitigation Measure TRA-1, EMWD would provide ample notice prior to the start of construction to owners/occupants along roadways to be affected during construction. Additionally, the Traffic Control Plan would be prepared in accordance with the City of Perris and City of Menifee's traffic control guidelines to ensure individual property access will be maintained and not restricted. Further, the Traffic Control Plan would be consistent with the Riverside County Emergency EOP, which was created in accordance with the cities of Perris, Menifee and CALFIRE. See Section 3.12, *Traffic and Transportation* for more specific traffic design measures to be implemented to reduce interference with emergency access and local evacuation routes. With implementation of a detailed Traffic Control Plan, potential significant impacts to emergency access and evacuation plans in LRA and SRA would be reduced to less than significant levels.

Operation

Operation of the Proposed Project facilities would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The facilities all consist of water storage and transport infrastructure which, during operation, would not interfere with traffic flows. Aboveground facilities would require periodic maintenance. Maintenance activities would require minimal trips that would not significantly impact the surrounding roadways. Impacts related to an adopted emergency plan would be considered less than significant during operation.

Mitigation Measures

Implement **Mitigation Measure TRA-1** (see Section 3.12, *Traffic and Transportation*)

Significance Determination

Less than Significant with Mitigation

Wildfire Pollutant Concentrations

Impact 3.8-5: The Proposed Project could exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire within a very high fire severity zone or state responsibility area.

Construction

As discussed above in Section 3.8.1, *Environmental Setting*, the Project is located within an area designated as a very high FHSZ. The Project area does not contain steep slopes or valleys that would be susceptible to prevailing winds. However, during construction, the use of fuel for equipment could pose a risk of wildfire with possible ignition sources such as internal combustion engines, fuel-powered tools, and equipment that could produce a spark, fire, or flame. The use of spark-producing construction machinery within fire risk areas could expose temporary Project workers and contractors to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.

However, contractors would be required to comply with PRC Sections 4427, 4428, 4431, and 4442, summarized above in Section 3.8.2, *Regulatory Framework*. During construction, strict adherence to these PRC sections would ensure that contractors are responsible for all monitoring and safety measures ensuring that any risk to exacerbate wildfire. Furthermore, as described above, implementation of Mitigation Measure HAZ-1 would ensure fire hazard reduction measures are implemented during construction activities to further reduce the potential for wildfire impacts on Project workers and contractors to a less than significant level.

Operation

The Project does not involve permanent workers or occupants at the Project site, therefore, no Project occupants would be exposed to pollutant concentrations from wildfire. Implementation of the proposed water storage tank and associated facilities would comply with PRC 4291 and the City of Perris goals and policies regarding fire safety measures including: maintaining fuel modification standards to ensure proper clearance of brush around the Project site; adopting landscaping standards to include fire-resistant plants; abiding by the current California Building Code standards of excluding the use of materials that pose fire threats such as untreated wood materials; and maintaining appropriate setback requirements as described in the Zoning Code in order to prevent the spread of wildfire.

The proposed transmission pipeline would be installed underground and would not impact wildfire conditions during operation. With the implementation of design guidelines and best building practices outlined in Section 3.8.2, *Regulatory Framework*, implementation of the Proposed Project would result in less than significant impacts regarding the exposure of Project occupants to pollutants from wildfire or the uncontrollable spread of wildfire.

Mitigation Measures

Implement Mitigation Measure HAZ-1

Significance Determination

Less than Significant with Mitigation

Exacerbate Fire Risk

Impact 3.8-6: The Proposed Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment within a very high fire severity zone or state responsibility area.

The majority of the Proposed Project includes the construction and operation of a water storage tank and transmission pipeline, which do not typically catch fire or exacerbate existing fire risks. Additionally, implementation of the Proposed Project would require the installation of a new SCE transformer and meter at the proposed water tank site to power the facilities. With changing climate conditions, SCE has invested in improvements to help prevent wildfires and act quickly if they were to occur. SCE includes new technologies including insulated wires, composite poles, fast-acting fuses, advanced lightning arrestors and other devices to their facilities. The proposed transformer and meter would include this updated technology in order to minimize fire risks (SCE 2019). Proactive power shutoffs to the proposed facilities would occur, if necessary, dependent on the weather and risks in the immediate Project area.

Further, construction must comply with fire protection and prevention requirements specified by CCR and Cal/OSHA. This includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. With adherence to applicable laws and regulations, potential impacts would be less than significant.

As discussed above, the Proposed Project facilities would be designed according to the California Building Code and other building/implementation measures described above in the *Regulatory Framework*, to reduce the threat of fire hazards. As a result, impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Post Fire Hazards

Impact 3.8-7: The Proposed Project could expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes within a very high fire severity zone or state responsibility area.

As described in more detail in Section 3.9, *Hydrology and Water Quality*, the proposed transmission pipeline would be constructed underground within existing or future public rights-of-way and would have no impact regarding drainage patterns, flooding or landslides.

As discussed in Chapter 2, *Project Description*, Section 2.3.1, and analyzed in Impact 3.9-3 in Section 3.9, *Hydrology and Water Quality*, the current drainage design concept includes proposed offsite drainage facilities adjacent to the site that would allow a 100-year storm event to be conveyed around the site without impacting the tank and other site facilities, or creating additional runoff that could impact adjacent properties. The drainage infrastructure would enable stormwater to flow around or through the site in a manner that would prevent flooding or landslides. With implementation of this project design feature, the impact would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Cumulative Impacts

Impact 3.8-8: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to hazards, hazardous materials, and wildfires.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. The only cumulative project that could have impacts regarding hazards, hazardous materials, and wildfires when combined with the Proposed Project, and that could result in cumulatively considerable impacts, is Cumulative Project 1, the Cimarron Ridge Specific Plan. All other projects are located too far away to result in cumulatively considerable impacts.

Construction and Operation

Cumulative projects consisting of mostly residential development projects in the vicinity of the Project, especially Cumulative Project 1 (Cimarron Ridge Development Project), have the potential to affect hazards and hazardous materials in the geographic scope. Similar to the Proposed Project, construction of cumulative projects would temporarily require the transport, use, and disposal of hazardous materials including fuels, oils and lubricants, solvents and

cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, asphalt mixtures and other similarly related materials. As with the Proposed Project, cumulative projects would be required to comply with applicable federal, State and local regulations regarding the handling, storage, transportation, and disposal of hazardous materials. In addition, in the event that the project design of cumulative projects has the potential to adversely affect emergency access routes during construction, the cumulative projects would be required to implement a mitigation measure similar to Mitigation Measure TRA-1 that would implement a traffic control plan to prevent interfering with emergency access.

As with the Proposed Project, cumulative projects would be located within areas designated as a very high fire hazards risk area. Other cumulative developments would also be required to implement fire reduction building techniques and design to reduce potential impacts regarding wildland fires. If necessary, cumulative projects would also be required to implement a mitigation measure similar to Mitigation Measure HAZ-1 to reduce the risk of wildfires. Therefore, cumulative projects are not expected to result in significant impacts regarding hazards, hazardous materials, and wildfires with the implementation of similar mitigation.

Cumulative development, including Cumulative Project 1 immediately adjacent to the Project site, in conjunction with implementation of the Proposed Project, would not contribute incrementally to cumulative impacts on hazards, hazardous materials and wildfire. With implementation of mitigation measures, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures HAZ-1 and TRA-1

Significance Determination

Less than Significant with Mitigation

3.8.4 References

- CalEPA, 2019. Regional Screen Levels, Risk Assessment. Available online at: <https://www.epa.gov/risk/regional-screening-levels-rsls>, accessed November 2019.
- CALFIRE, 2018. Unite Strategic Fire Plan, CAL FIRE/Riverside County Fire. Available online at: <https://bofdata.fire.ca.gov/media/8966/online-only-rpc-1-a-1-riverside-unit-strategic-fire-plan.pdf>, accessed November 2019.
- CALFIRE, 2019. FHSZ Viewer. Available online at <https://egis.fire.ca.gov/FHSZ/>, accessed November 2019.
- California Department of Toxic Substances Control (DTSC), 2019. EnviroStor Database. Available at: <https://www.envirostor.dtsc.ca.gov/public/>, accessed November 2019..
- City of Menifee, 2019a. Fire Department. Available online at: <https://cityofmenifee.us/103/Fire-Department>, accessed November 2019.

City of Menifee, 2019b. Safety Element S-6: Disaster Preparedness, Response and Recovery. Available online at: <https://cityofmenifee.us/227/S-6-Disaster-Preparedness-Response-Recovery>, accessed November 2019.

City of Menifee, 2019c. Safety Element. Available online at: <https://cityofmenifee.us/222/Safety-Element>, accessed November 2019.

City of Perris, 2005. City of Perris General Plan, Safety Element. Available online at: http://www.cityofperris.org/city-hall/general-plan/Safety_Element.pdf, accessed November 2019.

City of Perris, 2013. Emergency Operations Plan. Available online at: <http://www.cityofperris.org/departments/development/emergency-plans/PerrisEmergencyOperationsPlan-I.pdf>, accessed November 2019.

City of Perris, 2019. Fire. Available online at: <http://www.cityofperris.org/departments/fire.html>, accessed November 2019.

County of Riverside, 2019. Plans. Available online at: <https://www.rivcoemd.org/Programs/Preparedness/Plans>, accessed November 2019.

Dudek, 2015. *Preliminary Design Report*, January 2015.

EnGEN, 2012. PHASE I ENVIRONMENTAL SITE ASSESSMENT, APN: 335-430-008, Northwest of Goetz Road & Sotelo Road, Perris Area, Riverside County, California.

Southern California Edison (SCE), 2019. Our Wildfire Safety Measures. Available online at: <https://www.sce.com/safety/wildfire>, accessed December 2019.

State Water Resources Control Board (SWRCB), 2019. Geotracker Database, www.geotracker.waterboards.ca.gov, accessed January 16, 2019.

3.9 Hydrology and Water Quality

This section evaluates the potential hydrology and water quality impacts associated with construction and operation of the Proposed Project. This section includes: a description of the existing hydrologic conditions in and around the Proposed Project site; a summary of applicable regulations related to hydrology and water quality; and an evaluation of the potential impacts of the Proposed Project related to hydrology in and around the Project site, including cumulative impacts.

The information in this section is partially based on a Preliminary Design Report dated January 2015 (Dudek 2015). The report describes the existing site conditions and provides hydraulic analysis for proposed water storage tank site at Goetz Road and several potential pipeline alignments, provides preliminary geotechnical and hydrological design criteria, and identifies environmental, geotechnical, and construction constraints. The Dudek report includes the results of the draft Hydrology Analysis for the Cimarron Ridge Development, prepared by Hunsaker & Associates Irvine that delineated the local watershed and the modeled storm runoff rates.

3.9.1 Environmental Setting

Surface Water Hydrology

The Proposed Project area is within the San Jacinto River Watershed. The perennial¹ San Jacinto River is about one mile northwest of the Project site; there are no other perennial rivers or streams near or within the footprint of the proposed water storage tank or transmission pipeline alignment. There are surface drainages to the east of the proposed water storage tank and transmission pipeline alignment. The drainage conveys overland sheet flow or intermittent to ephemeral² flows toward Interstate 215.

The proposed water storage tank site is relatively flat. The site has a natural swale across the property that conveys drainage from an existing 24-inch corrugated metal pipe in the southwest corner near Sotelo Road to the northeast corner of the water storage tank site to an existing 36-inch corrugated metal pipe beneath Goetz Road (Dudek 2015). The local watershed is approximately 43 acres and results in storm runoffs of up to 60.3 cubic feet per second (cfs) for a 10-year storm event and 99.6 cfs for a 100-year storm event.

Goetz Road runs adjacent to the site in a north-south direction. The roadway is paved but does not have curbs and gutters for drainage control. Our Way Road and Sotelo Road, located to the west and south of the site, respectively, are both unpaved. A residential home shares the property line north of the site.

¹ Perennial streams flow year round.

² Intermittent streams do not have continuous flowing water year-round and are not relatively permanent waters. Ephemeral streams have less flow than intermittent streams, are typically shallow, and have flowing water for brief periods in response to rainfall.

The proposed transmission pipeline alignment would extend from the water storage tank site east through a currently disturbed area to Thornton Avenue, continuing east to Murrieta Road. The transmission pipeline alignment would be within approximately ½ mile of unpaved road and approximately ½ mile road that is paved (see Figure 2-1). There is no existing drainage system (i.e., curbs, gutters, drains) within the unpaved portion of the proposed transmission pipeline alignment.

Surface Water Quality

As noted above, there are no established rivers, streams, or lakes within the Project footprint, and thus no surface water quality data.

Flood Hazard Zones

FEMA delineates regional flooding hazard areas as part of the National Flood Insurance Program. Areas that have a 1 percent chance of flooding in any given year are referred to as 100-year flood hazard zones. The Proposed Project is located within an area designated as Zone X, an area with minimal flood hazards that is not within 100-year flood hazard zone (FEMA 2014). The Proposed Project is also not within the 200-year or 500-year floodplain (Dudek 2015).

Although not designated by FEMA as a 100-year flood zone, the Project site is known to be in an area susceptible to large seasonal storm flows and subsequent flooding (Dudek 2015; Albert A. Webb Associates 2017).

Tsunami and Seiche Hazard Zones

A tsunami is a large wave or series of waves generated by an earthquake, volcanic eruption, or coastal landslide on the ocean. Similar in cause to a tsunami, a seiche is a standing wave that occurs on rivers, reservoirs, ponds, and lakes when seismic waves from an earthquake pass through the area. The Proposed Project area is not located near the ocean or standing water bodies (e.g., lakes) and therefore is not within a tsunami or seiche hazard zone.

Groundwater

The Sustainable Groundwater Management Act (SGMA), described below in Section 3.9.2, *Regulatory Framework*, was adopted in 2014 and became effective January 1, 2015. In 2017, EMWD became the Groundwater Sustainability Agency (GSA) for the western portion of the San Jacinto Groundwater Basin under the SGMA program (DWR 2019; EMWD 2017). The Basin is designated as a high priority basin, meaning that the volume of current groundwater use is not sustainable. The area encompasses the cities of Moreno Valley, Perris, Menifee, and the surrounding unincorporated communities. The City of Perris serves as an Executive Advisory Committee member for the GSA along with several other entities in the San Jacinto Groundwater Basin. As the GSA, EMWD manages the West San Jacinto Groundwater Management Area (Management Area) located in the western portion of Riverside County within the San Jacinto River Watershed. The Proposed Project is located in this Management Area. The Management Area covers approximately 256 square miles and has been divided into six groundwater

management zones. The Project area is partially located in the Management Area zone ‘Perris South.’

The depth to groundwater is anticipated to be more than 50 feet below the ground surface (Converse Consultants 2014). The Proposed Project would not extract groundwater and would not inject water into a subsurface aquifer. Therefore, given that there would be no impacts on groundwater, no description of groundwater conditions is provided.

3.9.2 Regulatory Framework

Federal

Clean Water Act

The CWA was first introduced in 1948 as the Water Pollution Control Act. The CWA authorizes federal, State, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of state waters and tributaries. The primary goals of the CWA are to restore and maintain the chemical, physical, and biological integrity of the nation’s waters and to make all surface waters fishable and swimmable. As such, the CWA forms the basic national framework for the management of water quality and the control of pollutant discharges. The CWA also sets forth a number of objectives in order to achieve the above-mentioned goals. These objectives include regulating pollutant and toxic pollutant discharges; providing for water quality that protects and fosters the propagation of fish, shellfish and wildlife; developing waste treatment management plans; and developing and implementing programs for the control of non-point sources of pollution.

Since its introduction, major amendments to the CWA have been enacted (e.g., 1961, 1966, 1970, 1972, 1977, and 1987). Amendments enacted in 1970 created the USEPA, while amendments enacted in 1972 deemed the discharge of pollutants into Waters of the United States from any point source unlawful unless authorized by a USEPA NPDES permit. Amendments enacted in 1977 mandated development of a Best Management Practices Program at the State level and provided the Water Pollution Control Act with the common name of Clean Water Act, which is universally used today. Amendments enacted in 1987 required the USEPA to create specific requirements for discharges.

In response to the 1987 amendments to the CWA and as part of Phase I of its NPDES permit program, the USEPA began requiring NPDES permits for: (1) municipal separate storm sewer systems (MS4) generally serving, or located in, incorporated cities with 100,000 or more people (referred to as municipal permits); (2) 11 specific categories of industrial activity (including landfills); and (3) construction activity that disturbs 5 acres or more of land. Phase II of the USEPA’s NPDES permit program, which went into effect in early 2003, extended the requirements for NPDES permits to: (1) numerous small municipal separate storm sewer systems, (2) construction sites of 1 to 5 acres, and (3) industrial facilities owned or operated by small municipal separate storm sewer systems. The NPDES permit program is typically administered by individual authorized states. In 2008, the USEPA published draft Effluent Limitation

Guidelines for the construction and development industry. On June 27, 2016, the USEPA finalized its 2016 Effluent Guidelines Program Plan.

In California, the NPDES stormwater permitting program is administered by the SWRCB. The joint authority of water distribution and water quality protection allows the SWRCB to provide protection for the State's waters, through its nine RWQCBs. The RWQCBs develop and enforce water quality objectives and implement plans that will best protect California's waters, acknowledging areas of different climate, topography, geology, and hydrology. The RWQCBs develop basin plans for their hydrologic areas, issue waste discharge requirements, enforce action against stormwater discharge violators, and monitor water quality. The Santa Ana RWQCB regulates water quality in the area of the Proposed Project.

National Pollutant Discharge Elimination System (NPDES) Permit Program

The NPDES permit program was first established in 1972 under authority of the federal government through the CWA to control the discharge of pollutants from any point source into the waters of the United States. As indicated above, in California, the NPDES stormwater permitting program is administered by the SWRCB through the Santa Ana RWQCB. For all water quality related objectives for CWA purposes, including the NPDES, the state must achieve water quality standards in effect at the State level as well as the regional level. At the regional level, the effective plan is the Santa Ana RWQCB's Basin Plan. The Basin Plan and the NPDES permits that apply to activities in the cities of Menifee and Perris are described under State and local regulations further below.

State

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) is California's statutory authority for the protection of water quality. Under this act, the State must adopt water quality policies, plans, and objectives that protect the State's waters. The act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of Basin Plans and establishment of water quality objectives. Unlike the federal CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater and this authority serves as the basis for Waste Discharge Requirements issued to municipal sewage treatment facilities by the RWQCBs. The Porter-Cologne Water Quality Act is promulgated in the California Code of Regulations Title 22. Title 22 includes treatment and reuse requirements for recycled water projects throughout California. The Project area lies within the jurisdiction of the Santa Ana RWQCB.

Anti-Degradation Policy

The SWRCB's Anti-Degradation Policy, otherwise known as Resolution No. 68-16, sets specific restrictions for surface and groundwater that have higher than the required quality in order to avoid degradation of those water bodies. Requirements of this policy must be included within all Basin Plans throughout California (discussed below). Under this policy, actions that would lower the water quality in designated water bodies would only be allowed if the action would provide a maximum benefit to the people of California, if it will not unreasonably affect beneficial uses, and if it will not lower water quality below applicable standards.

NPDES Construction General Permit

As discussed in Chapter 2, *Project Description*, construction associated with the Proposed Project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The Proposed Project would, therefore, be subject to the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one acre or more of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

- Effluent standards;
- Good site management “housekeeping;”
- Non-stormwater management;
- Erosion and sediment controls;
- Run-on and runoff controls;
- Inspection, maintenance, and repair; or
- Monitoring and reporting requirements.

The Construction General Permit requires the development and implementation of a SWPPP that includes specific BMPs designed to prevent sediment and pollutants from contacting stormwater from moving off site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The SWPPP must be prepared before construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In the Project area, the Construction General Permit is implemented and enforced by the Santa Ana RWQCB, which administers the stormwater permitting program. Dischargers are required to electronically submit a notice of intent (NOI) and permit registration documents (PRDs) in order to obtain coverage under this Construction General Permit. Dischargers are responsible for notifying the RWQCBs of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner. A Legally Responsible Person, who is legally authorized to sign and certify PRDs, is responsible for obtaining coverage under the permit.

NPDES Municipal Separate Storm Sewer System Permit (MS4)

In 1987, amendments to the Clean Water Act expanded the NPDES permit program to regulate discharges from storm drains owned and operated by municipalities, such as the cities of Menifee and Perris. In November 1990, USEPA published regulations that established application requirements for stormwater permits for municipal stormwater discharges. In California, the NPDES stormwater permit program is administered and enforced by the SWRCB through the

nine RWQCBs by issuing Waste Discharge Requirements and NPDES permits. These permits are reissued approximately every five years and also include applicable provisions of the State Porter-Cologne Act, which is the principal legislation for controlling stormwater pollutants in California. The permit establishes regulations covering discharge prohibitions, receiving water limitations, municipal operations (such as the Proposed Project), new development, construction site controls (construction site runoff), and other regulations to regulate surface water quality.

The discharge prohibitions prohibit the discharge of non-stormwater (materials other than stormwater) into storm drain systems and watercourses. The municipal operations regulations include a number of requirements to control and reduce non-stormwater discharges and polluted stormwater to storm drains and watercourses during operation, inspection, and routine repair and maintenance activities of municipal facilities and infrastructure, such as the Proposed Project. The requirements include source control, site design, and stormwater treatment requirements, such as minimizing disturbance of natural infiltration areas and the addition of impervious surfaces, controlling and directing runoff, and the use of infiltration and bioretention measures, among other measures. The MS4 Permit for the Project area is discussed further below.

Sustainable Groundwater Management Act

The SGMA of 2014, effective January 1, 2015, gives local agencies the authority to manage groundwater in a sustainable manner and allows for limited state intervention when necessary to protect groundwater resources. The SGMA establishes a definition of sustainable groundwater management, establishes a framework for local agencies to develop plans and implement strategies to sustainably manage groundwater resources, prioritizes basins with the greatest problems (ranked as high- and medium-priority) and sets a 20-year timeline for implementation. The initial basin prioritization under SGMA uses the prioritization conducted by the DWR in 2014 under the California Statewide Groundwater Elevation Monitoring program. SGMA requires the creation of a Groundwater Sustainability Agency that would develop and implement a Groundwater Sustainability Plan that would manage and use groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results, defined as follows:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies;
- Significant and unreasonable land subsidence that substantially interferes with surface land uses; or
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

Local

Santa Ana Water Quality Control Plan (Basin Plan)

The Proposed Project would be located within the area under the jurisdiction of the Santa Ana RWQCB and its Basin Plan. The SWRCB and the Santa Ana RWQCB share the responsibility, under the Porter-Cologne Act, to formulate and adopt water policies and plans and to adopt and implement measures to fulfill CWA requirements. The Santa Ana River Basin Water Quality Control Plan (Basin Plan), last updated in June 2019, identifies surface water and groundwater resources in the watershed and establishes beneficial uses and numeric water quality objectives for each resource. The beneficial uses of any specifically identified water body generally apply to its tributary streams, with a few exceptions. The Basin Plan identifies Reach 3 of the San Jacinto River as the stretch of the river near the Proposed Project site. The beneficial uses for Reach 3 of the nearby San Jacinto River are listed below in **Table 3.9-1**.

**TABLE 3.9-1
 BENEFICIAL USES OF SAN JACINTO RIVER – REACH 3**

Beneficial Use	Description
Agricultural Supply (AGR) (Intermittent)	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Groundwater (GWR) (Intermittent)	Uses of water for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality or halting saltwater intrusion into freshwater aquifers
Water Contact Recreation (REC 1) (Intermittent)	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white-water activities, fishing, or use of natural hot springs.
Non-Contact Water Recreation (REC 2) (Intermittent)	Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Wildlife Habitat (WILD) (Intermittent)	Uses of water that support wildlife habitats including, but not limited to, preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.
Warm Freshwater Habitat (WARM) (Intermittent)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Rare (RARE) (Existing or Potential)	Rare, Threatened or Endangered Species (RARE) waters support the habitats necessary for the survival and successful maintenance of plant or animal species designated under state or federal law as rare, threatened or endangered

SOURCE: RWQCB Basin Plan 2019

The CWA gives states the primary responsibility for protecting and restoring surface water quality. Under the CWA, states that administer the CWA must review, make necessary changes, and submit the CWA section 303(d) list to the U.S. Environmental Protection Agency (USEPA).

The 303(d) list is the list of waters not meeting water quality standards. Reach 3 is not listed on the 303(d) water bodies list.

Municipal NPDES Permit No. CAS 618033, Order No. R8-2010-0033 - NPDES Permit and Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside, and the Incorporated Cities of Riverside County within the Santa Ana Region Area-Wide Urban Runoff Management Program

The NPDES municipal general permits issued by the RWQCB establish regulations covering discharge prohibitions, receiving water limitations, municipal operations (such as the Proposed Project), new development, construction site controls (construction site runoff), and other regulations to regulate surface water quality. The discharge prohibitions prohibit the discharge of non-stormwater (materials other than stormwater) into storm drain systems and watercourses and includes a tiered categorization of non-stormwater discharges based on potential for pollutant content that may be discharged upon adequate assurance that the discharge contains no pollutants of concern at concentrations that will impact beneficial uses or cause exceedances of water quality standards. The receiving water limitations provide narrative and numeric water quality standards. The municipal operations regulations include a number of requirements to control and reduce non-stormwater discharges and polluted stormwater to storm drains and watercourses during operation, inspection, and routine repair and maintenance activities of municipal facilities and infrastructure, such as the Proposed Project. The requirements include source control, site design, and stormwater treatment requirements, such as minimizing disturbance of natural infiltration areas and the addition of impervious surfaces, controlling and directing runoff, and the use of infiltration and bioretention measures, among other measures.

Romoland Master Drainage Plan

The Romoland Master Drainage Plan (Romoland Plan) is a drainage and flooding planning guide developed by the RCFCWCD for the area roughly bounded by the San Jacinto River to the west, Rouse Road to the south, Briggs Road to the east and Mapes Road to the north, which includes the Proposed Project site (Riverside County 2006). The Romoland Plan evaluated the quantity and points of concentration of stormwater runoff, and developed the preliminary plans and profiles for the size and location of proposed drainage facilities, drainage routes and methods, and a drainage facility map. The alignments and locations of proposed facilities in the Romoland Plan are preliminary and general. Precise facility locations and sizings will be dictated by conditions and other factors existing at the time of design of specific facilities.

The purpose of the Romoland Plan is to describe plans to collect and control storm flows emanating from the local foothills and convey them safely through the lower valley area and outletting them into the San Jacinto River. The Romoland Plan includes recommendations for open channels, underground storm drains, and detention basins. Future projects, including the Proposed Project, are required to conform to the Romoland Plan to the extent possible. In other words, the drainage facilities constructed by the Proposed Project are required to be consistent with and integrated with the ongoing development and construction of drainage and flood control facilities in this area.

RWQCB Order No. R8-2015-0004, NPDES No. CAG998001 - General Waste Discharge Requirements for Discharges to Surface Waters That Pose an Insignificant (De Minimis) Threat to Water Quality (supersedes Order R8-2009-0003)

Order No. R8-2015-0004, NPDES No. CAG998001, was adopted by Santa Ana RWQCB on June 19, 2015, for discharges to surface waters of various types of wastes that pose an insignificant threat to water quality. The Order supersedes Order No. RS-2009-0003, which expired on March 1, 2014. This Order regulates discharges to surface waters within the Santa Ana Region that pose an insignificant threat to water quality as listed below.

- Construction dewatering wastes, except for storm water discharges regulated under a statewide general construction storm water permit or a MS4 permit;
- Wastes associated with well installation, development, test pumping and purging, and aquifer testing;
- Dewatering wastes from subterranean seepage (except for discharges from utility vaults);
- Discharges resulting from hydrostatic testing of vessels, pipelines, tanks, etc.;
- Maintenance and disinfection of potable water supply pipelines, tanks, reservoirs, etc.;
- Discharges from potable water supply systems resulting from initial system startup, routine startup, sampling of influent flow, system failures, pressure releases, etc.;
- Discharges from fire hydrant testing or flushing, air conditioning condensate, or swimming pool discharge;
- Discharges resulting from diverted stream flows;
- Decanted filter backwash wastewater and/or sludge dewatering filtrate water from water treatment facilities; and
- Other similar types of wastes as determined by the RWQCB Executive Officer, which pose a de minimis threat to water quality yet must be regulated under waste discharge requirements.

This Order prohibits the following:

- The discharge of oil, trash, industrial waste sludge, or other solids directly to the surface waters or in any manner that will ultimately affect surface waters;
- The discharge of any substances in concentrations toxic to aquatic life, animal life, or plant life;
- The discharge of wastes to property not owned or controlled by the Discharger is prohibited, except to surface waters as authorized under this Order;
- Odors, vectors, and other nuisances of waste origin are prohibited beyond the limits of each Discharger's facility;
- The addition of chemicals to the extracted groundwater, exclusive of chlorine to control biofouling in treatment systems, is prohibited except when approved in writing by the RWQCB.
- The direct discharges of waste to Areas of Special Biological Significance such as Newport Beach Marine Life Refuge and Irvine Coast Marine Life Refuge.

The Order provides the effluent limitations listed below in **Table 3.9-2**:

**TABLE 3.9-2
 EFFLUENT LIMITATIONS**

Constituent	Maximum Daily Concentration Limit in milligrams per liter (mg/L)
Total petroleum hydrocarbons (TPH)	0.1
Total residual chlorine	0.1
Suspended Solids	75
Sulfides	0.4

SOURCE: RWQCB Order No. R8-2015-0004, NPDES No. CAG998001

The Order requires that the pH of discharges shall be 6.5 to 8.5 pH units. There shall be no visible oil and grease in the discharge. The discharge of decanted filter backwash wastewater and/or sludge dewatering filtrate water from water treatment facilities shall not contain a total suspended solids maximum daily concentration in excess of 30 milligrams per liter (mg/L). Additional requirements and provisions are discussed in the Order. To obtain coverage under this this Order, the discharger shall submit a complete Notice of Intent and application to the RWQCB least 45 days before the start of a new discharge.

City of Menifee General Plan

Open Space & Conservation Element

Goal OSC-7: Water - A reliable and safe water supply that effectively meets current and future user demands.

Policy OCS-7.9: Ensure that high quality potable water resources continue to be available by managing stormwater runoff, wellhead protection, and other sources of pollutants.

Safety Element

Goal S-3: Flood Hazards A community that is minimally disrupted by flooding and inundation hazards.

Policy S-3.1: Require that all new developments and redevelopments in areas susceptible to flooding (such as the 100-year floodplain and areas known to the city to flood during intense or prolonged rainfall events) incorporate mitigation measures designed to mitigate flood hazards.

City of Perris General Plan

Conservation Element

Goal VI – Water Quality - Achieve regional water quality objectives and protect the beneficial uses of the region’s surface and groundwater.

Policy VI.A - Comply with requirements of the NPDES

Implementation Measure VI.A.3 - Prior to issuance of any grading permit involving a disturbance of one or more acres of land, require proof of a RWQCB San

Jacinto Watershed Construction Activities Permit and a Storm Water Pollution Prevention Plan.

Implementation Measure VI.A.4 - Review water quality impacts during the project review and approval phases to ensure appropriate BMPs are incorporated into the project design and long-term operations.

Implementation Measure VI.A.5 - In accordance with the Riverside County NPDES, enact a Water Quality Management Plan to review and regulate new development approvals.

Safety Element

Goal I - Reduced risk of damage to property or loss of life due to a natural or man-made disasters.

Policy I.B: Flooding - The City of Perris shall restrict future development in areas of high flood hazard until it can be shown that risk is or can be mitigated.

Implementation Measure I.B.4 - Require that new development projects must incorporate facilities for on-site control of storm water run-off.

3.9.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to hydrology and water quality according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- 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:
 - result in substantial erosion or siltation on- or off-site;
 - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
 - 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
 - impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
- Result in a cumulatively considerable impact to hydrology and water quality.

Additionally, the comments EMWD received on the Initial Study and Notice of Preparation were taken into consideration when preparing this Draft EIR. A summary of those comments is provided in **Table 3.9-3**.

**TABLE 3.9-3
 SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Hydrology and Water Quality	<ul style="list-style-type: none"> • Require that the SWPPP inspect erosion control measures prior to predicted rain events. • Require year-round erosion control measures. • Evaluate impacts to existing drainage and flood control facilities. • Evaluate inundation path in the event of a tank failure.

Methodology

General

Information for this assessment of impacts relative to hydrology and water quality is based on a review of reports, maps, and the general plans for the cities of Menifee and Perris. This information was used to identify potential impacts to workers, the public, or the environment.

The Project would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the Project with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Note that compliance with many of the regulations are conditions of permit approvals.

As described in more detail below, the analysis of hydrology impacts in this section takes into account that the Proposed Project would incorporate into the facility design the engineering recommendations provided by geotechnical and hydrological investigations conducted to date and to be conducted for the final design of the Proposed Project, which would include managing stormwater to prevent erosion, flooding, and adverse effects on the existing stormwater drainage system. The analysis also considers the various existing state and local regulations that apply to technical design and construction, which include the CBC and local ordinances for construction and grading. Through compliance with the existing CBC and local ordinances, the Proposed Project would be required to demonstrate that the Project design would be compatible with the local hydrology and water quality conditions; this must occur before building permits are issued. Additionally, it is assumed that the Proposed Project design would require pipeline engineers and construction contractors to adhere to standards for water works and pipeline construction.

Impact Analysis

Water Quality

Impact 3.9-1: The Proposed Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Construction

Construction of the Proposed Project would involve excavation, trenching, potential blasting, and grading at the proposed water storage tank site and along the transmission pipeline alignment. Sediment associated with earthmoving activities and exposed soil would have the potential to erode and be transported to down gradient areas, potentially resulting in water quality standard violations. In the event of heavy rain, erosion of the soil stockpiles may occur resulting in scouring and sedimentation of local drainages, adversely affecting surface water quality.

During construction of the Proposed Project, construction equipment and materials would include fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures, which are all commonly used in construction. Additionally, potential blasting activities involve controlled use of explosive blasting agents (ammonium-nitrate fuel oil). Stormwater passing through the construction site would have the potential to pick up construction-related chemicals and oils, which have the potential to be conveyed into the local stormwater collection system, impacting water quality.

As discussed in Impact 3.8-1 in Section 3.8 *Hazards, Hazardous Materials, and Wildfire*, construction activities would be required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies.

As discussed above in Section 3.9.2, *Regulatory Framework*, because the overall footprint of construction activities would exceed one acre, the Proposed Project would be required to comply with the Construction General Permit, the Romoland Master Drainage Plan, and the general plan stormwater policies of the cities of Menifee and Perris. These State and local requirements were developed to ensure that stormwater is managed and erosion is controlled on construction sites. The Construction General Permit requires preparation and implementation of a SWPPP, which requires applications of BMPs to control run-on and runoff from construction work sites. The BMPs would include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion and the potential for impacts to surface water quality from occurring during construction.

As discussed in Section 3.9.1, *Environmental Setting*, the Project is not expected to encounter groundwater. Excavation for the water storage tank would be to 10 feet bgs with potential blasting below that depth up to 35 feet bgs; the excavation depths for transmission and drainage pipelines would be shallower. Given that the depth to groundwater is anticipated to be greater than 50 feet, the Project components would not encounter groundwater.

The required compliance with the regulations discussed above would substantially reduce or prevent runoff and erosion from construction activities. As a result, the potential for adverse effects to water quality would be reduced to a less than significant level.

Operation

Once constructed, the proposed transmission pipeline would be located entirely underground and would not impact water quality. Operation of the water storage tank may involve draining the tank for maintenance purposes (Dudek 2015). When draining the tank, most of the water would be conveyed through the distribution system, however some of the water would be required to be discharged into the local storm drain system. To comply with the requirements of EMWD's NPDES permit (Order No. R8-2015-0004, NPDES No. CAG998001), the tank drainage water must be dechlorinated and filtered before discharge to the storm drain system. The drain would discharge the water to a vault where the water would be chemically dechlorinated within the vault by adding sulfur dioxide, sodium metabisulfite, or sodium bisulfite (Dudek 2015). A permanent submersible pump on a rail system would convey the water to a common discharge pipe for the tank overflow and drain that terminates into an above ground discharge for conveyance to the onsite storm drain system. If the tank has an appreciable buildup of sediment, a nonwoven geotextile filter bag would be connected to the end of the discharge pipe to trap sediment washed down the tank drain. With compliance with the NPDES permit and implementation of the above-described Project features, the impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Groundwater Supplies

Impact 3.9-2: The Proposed Project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.

Construction

The Proposed Project includes construction of a water storage tank and transmission pipeline and would not extract groundwater during construction. Dewatering would not be needed because the depth to groundwater is anticipated to be greater than 50 feet and construction activities would not extend to that depth. Further, the Proposed Project would not result in the use of groundwater during construction and would not substantially deplete groundwater supplies. No impact would occur to groundwater.

Operation

The operation of the water storage tank and transmission pipeline would not include any facilities that would extract groundwater. The water storage facility and associated paved areas would result in the addition of approximately 1.56 acres of impervious surface, which could interfere with groundwater recharge. Rain falling on the storage facility would be routed to curbs and gutters that would flow via pipelines to the existing storm drain system on Goetz Avenue and

eventually to the San Jacinto River. Further, the minimal amount of new impervious surface of 1.56 acres would have a negligible effect on recharge to the underlying aquifer. As a result, impact would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Erosion

Impact 3.9-3: The Proposed Project could 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 result in substantial erosion or siltation onsite or offsite; or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite; or 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 impede or redirect flood flows.

Construction

The transmission pipeline would be installed underground within existing or future public street rights-of-way and have no impact on drainage patterns during construction.

The construction of the water storage tank facility would alter the drainage pattern of the facility and add approximately 1.56 acres of new impervious surface. Potential impacts, if any, from these changes would occur during operations, as discussed below. There would be no impacts during construction.

Operation

The transmission pipeline would be installed underground within existing or future public street rights-of-way and have no impact on drainage patterns during operation.

As discussed in Section 3.9.1, *Environmental Setting*, large storm flows may occur through the water storage tank site. As a Project design feature discussed in Chapter 2, *Project Description*, Section 2.3.1, the current drainage design concept includes proposed offsite drainage facilities adjacent to the site that would allow a 100-year storm event to be conveyed around the site without impacting the tank and other site facilities, or creating additional runoff that could impact adjacent properties. As shown on Figure 2-2, a proposed inlet and 18-inch storm drain would be installed within the Our Way right-of-way on the western side of the proposed water storage tank site. The 18-inch storm drain would extend south on Our Way and then east onto Sotelo Road, where it would be joined by another inlet and a 30-inch storm drain within the Sotelo Road right-

of-way. The storm drain would then be sized at 42 inches in the remainder of Sotelo Road right-of-way and extend north within the Goetz Road right-of-way, where it would end as a 48-inch storm drain that would connect with the existing storm drain within Goetz Road. This activity would occur outside of EMWD's property and would therefore require coordination with RCFCWCD and the cities of Perris and Menifee. The drainage infrastructure would enable stormwater to flow around or through the site in a manner that would prevent erosion, siltation, flooding, polluted runoff, or the exceedance of stormwater drainage systems capacities. With implementation of this design feature, the impact would be less than significant.

As discussed in Chapter 2, *Project Description*, Section 2.3.1, the water storage tank would be periodically drained for maintenance and cleaning. Most of the potable water would be routed into the existing distribution system, however; some water may need to be discharged to the local storm drain system. EMWD would implement the Project design features described in Chapter 2, *Project Description*, that would ensure that the water storage tank would not be drained during rain events, which would prevent the drainage system from being overwhelmed. Therefore, the drainage system described above would be able to handle the volume of remaining water in the tank, resulting in a less than significant impact.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Flood Hazard, Tsunami, or Seiche

Impact 3.9-4: The Proposed Project could result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

Construction and Operation

As discussed in Section 3.9.1, *Environmental Setting*, the Proposed Project site is not located in an area susceptible to tsunamis or seiches. Therefore, no impact would occur.

The potential for construction activities to release pollutants is analyzed above in Impact 3.9-1, which concluded a less than significant impact. In addition, the disinfection chemicals used to treat the storage water and periodically clean the inside of the storage tank and pipelines would be stored inside the Electrical and Disinfection Building (see Figure 2-2). Stormwater falling on the facility would not come in contact with the chemicals and there would be no risk of releasing pollutants to the environment.

As discussed in Section 3.9.1, *Environmental Setting*, although not designated by FEMA as a 100-year flood zone, the Project site is known to be in an area susceptible to large storm flows and flooding. As discussed above in Impact 3.9-3, the Proposed Project includes the construction

of a stormwater drainage system as a project design feature that would reduce the impact of flooding on-site to less a than significant level.

In the event of a seismic event, the water storage tank could be subjected to seismic shaking that could damage the tank and possibly result in a large scale-release of water from the water storage tank. However, the water storage tank and its pipelines would be constructed in compliance with State and local design regulations such that the water storage tank and transmission pipeline would resist damage from seismic events. In addition, the water storage tank would be constructed partially below grade. Water within the tank at elevations below grade would remain below grade; only water above grade could be released in the unlikely event of a large-scale tank failure. The remaining water released from above-grade would mostly flow with the existing grade to the east to Goetz Road, which would further spread out the water and reduce the water depth. Therefore, damage from a large-scale tank failure would be minimal, if any. With compliance with existing regulations and constructing the water storage tank partially below ground, the impact from a large-scale tank failure would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Water Quality Control Plan or Sustainable Groundwater Management Plan

Impact 3.9-5: The Proposed Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Construction and Operation

As discussed in Section 3.9.1, *Environmental Setting*, the Proposed Project is located within the western portion of the San Jacinto Groundwater Basin, which has been designated by the DWR as a high-priority basin. This means that the current use of groundwater exceeds the recharge of the basin. As discussed in Section 3.9-2, *Regulatory Framework*, the local GSA will be required to prepare and implement a Groundwater Sustainability Plan (GSP) to restore the sustainable use of groundwater within the basin.

As discussed above in Impact 3.9-1, the Proposed Project would not adversely affect water quality because the construction of the Project would not be deep enough to reach groundwater, which would be consistent with the water quality control plan (Basin Plan) and the GSP. Additionally, as discussed above in Impact 3.9-2, the Proposed Project would not adversely impact groundwater recharge or supplies because the Proposed Project would not use groundwater. No impact would occur.

Mitigation Measures

None Required

Significance Determination

No Impact

Cumulative Impacts

Impact 3.9-6: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to hydrology and water quality.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. Cumulative projects 1, 2, 3, 5, and 7 are located downslope or within the same drainage area of the Proposed Project and could combine together with the Proposed Project to create a cumulatively considerable impact to hydrology. All other projects are located too far away or within a different watershed to result in cumulatively considerable impacts.

Construction

If the Proposed Project and one or more cumulative projects are constructed at the same time, the erosion effects with a potential for the release of sediment and/or other pollutants affecting water quality, or changing drainage patterns that could result in erosion, siltation, and flooding, could be cumulatively considerable. However, the state Construction General Permit would require the Proposed Project and each cumulative project to prepare and implement a SWPPP, and local grading and erosion control plans (i.e., the Romoland Plan described in Section 3.9-2, *Regulatory Framework*) would similarly require preventing erosion that could affect water quality. The SWPPPs and local plans would describe BMPs to control runoff and prevent erosion for each project. Through compliance with these requirements, the potential for erosion impacts would be reduced and thus water quality would be protected. The Construction General Permit has been developed to address cumulative conditions arising from construction throughout the State, and is intended to maintain cumulative effects of projects subject to this requirement below levels that would be considered significant. For example, Cumulative projects 1, 2, 3, 5, and 7 would be required to implement BMPs to reduce and control the release of sediment and/or other pollutants in any runoff leaving their respective sites. The runoff water from cumulative project sites would be required to achieve the same action levels, measured as a maximum amount of sediment or pollutant allowed per unit volume of runoff water. Thus, even if the runoff waters were to combine after leaving the sites, the sediments and/or pollutants in the combined runoff would still be at concentrations (amount of sediment or pollutants per volume of runoff water) below action levels. Therefore, the combined impacts to water quality within the geographic scope would not be considered cumulatively significant and impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Operation

If the Proposed Project and one or more cumulative projects are in operation at the same time, the erosion effects with a potential for the release of sediment and/or other pollutants affecting water quality, or changing drainage patterns that could result in erosion, siltation, and flooding, could be cumulatively considerable. The Proposed Project and Cumulative Projects 1, 2, 3, 5, and 7 would be required to comply with the requirements of the MS4 Permit and the Romoland Plan that would require the design of projects maintain proper drainage to prevent erosion, siltation, and flooding for the infrastructure under their responsibility. The MS4 permit development standards (see Section 3.9.2, *Regulatory Framework*), which would reduce pollutants and runoff flows using BMPs and LID/post-construction standards. In addition, similar to the Proposed Project, water discharged from any of the cumulative projects to surrounding land and into surface waters would be required to comply with the EMWD's NPDES permit for Discharges to Surface Waters That Pose an Insignificant Threat to Water Quality (Order No. R8-2015-0004, NPDES No. CAG998001). Additionally, a project design feature would prohibit EMWD from adding Project water to the storm drain system during rain events. With compliance with existing regulations and mitigation measures, cumulative impacts to hydrology and water quality during operation would be less than cumulatively considerable.

Mitigation Measures

None Required

Significance Determination

Less than Significant

3.9.4 References

Albert E. Webb Associates, 2017. *1627 Zone Tank Siting, Central / West Area*. Prepared for Eastern Municipal Water District. November 2017.

Converse, 2014. *Geotechnical Investigation Report, 10-12.5 Million Gallon Goetz Road Water Storage Tank, 2.88-acre Site Northwest of Goetz Road and Sotelo Road, City of Perris, Riverside, California*, August 20.

Department of Water Resources (DWR), 2019. Basin Boundary Modification Request System, Eastern Municipal Water District - 8-005 San Jacinto. Available online at: <https://sgma.water.ca.gov/basinmod/basinrequest/preview/53>. Accessed November 20, 2019.

Dudek, 2015. *Preliminary Design Report*, January 2015.

EMWD, 2017. West San Jacinto Groundwater Management Area 2017 Annual Report. Available online at:
https://board.emwd.org/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=1595&MediaPosition=&ID=3345&CssClass=. Accessed on July 8, 2019.

Federal Emergency Management Agency (FEMA), 2014. National Flood Hazard Layer FIRMette from Flood Insurance Rate Map, Riverside County, Unincorporated Areas, Map 06065C2055H, Panel 2055 of 3805.

Riverside County Flood Control and Water Conservation District (District), 2006. *Romoland Master Drainage, Zone 4*.

Santa Ana Regional Water Quality Control Board (RWQCB), 2019. *Water Quality Control Plan, Santa Ana River Basin*.

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3.10 Land Use and Planning

This section evaluates the potential for land use and planning impacts that may result from construction and operation of the Proposed Project. This section includes: an overview of the land use designations in the Proposed Project area; a summary of applicable regulations related to land use and planning; and an evaluation of the potential impacts of the Proposed Project related to land use and planning in and around the Project site, including cumulative impacts.

3.10.1 Environmental Setting

Project Area

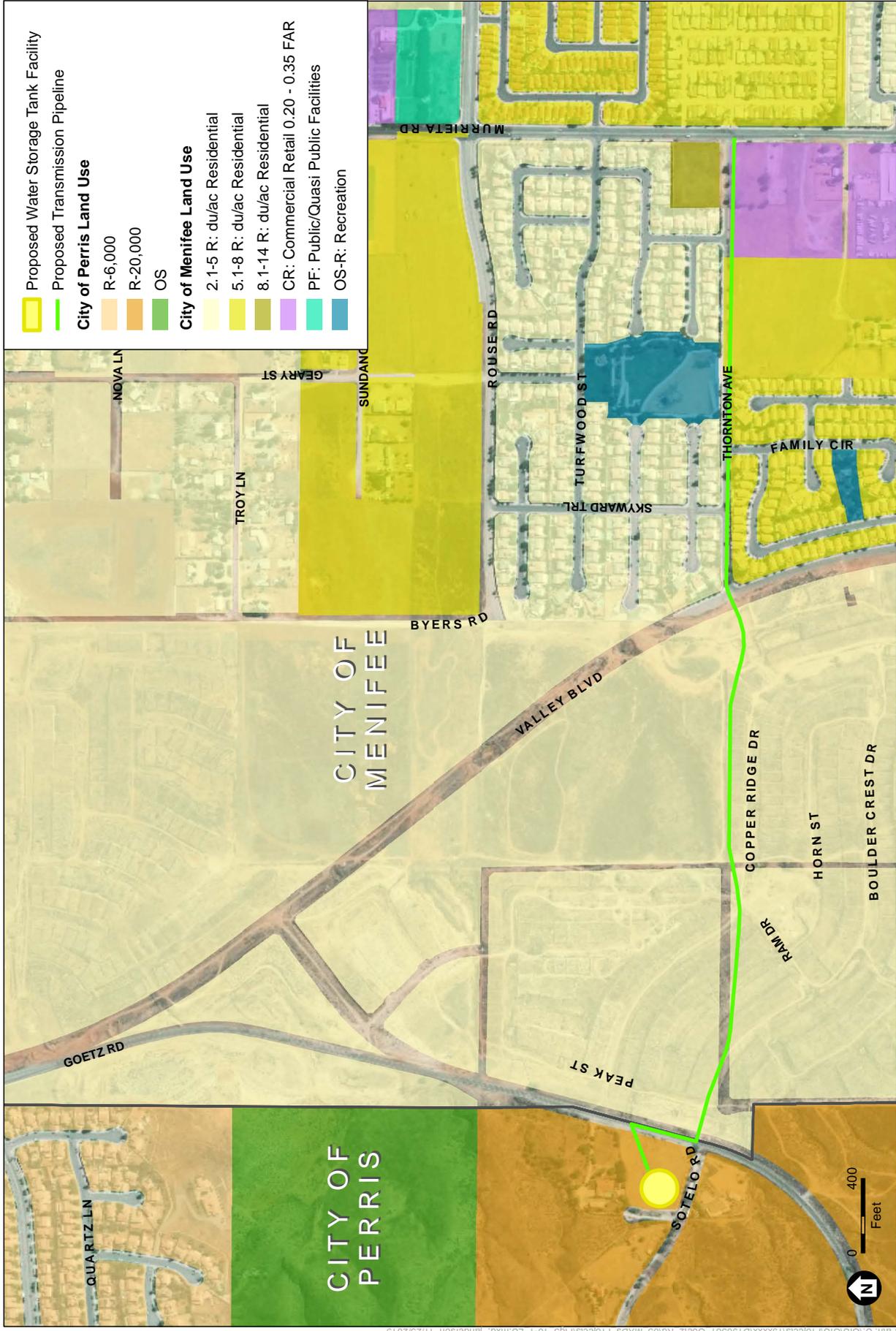
The Proposed Project is located in both the City of Menifee and the City of Perris within EMWD's service area in Riverside County. Riverside County encompasses approximately 7,200 square miles of land from the Colorado River to the east, to the Santa Ana Mountains to the west. At its westernmost point, Riverside County is less than 10 miles from the Pacific Ocean. The western half of the County is separated from the eastern half by the San Jacinto and Santa Rosa Mountains. In recent years the County has experienced substantial urbanization that has altered the regional character from a rural, inland desert area to one of the major population centers of Southern California. Key areas of development include the cities of Riverside, Moreno Valley, Perris, Lake Elsinore, Hemet, and Temecula, as well as the March Air Reserve Base. The City of Perris is divided into 10 different planning areas per the City of Perris General Plan. The water storage tank and associated facilities are located on a parcel owned by EMWD in the Southern Residential division of the City of Perris. Additionally, the Project would include a new transmission line to connect the proposed water storage tank to the existing transmission line in the 1627 pressure zone within Murrieta Road. This transmission pipeline would be located primarily in the City of Menifee with a small located in the City of Perris as shown on **Figure 3.10-1**.

Existing Land Use Designations

The existing land use designations in the Project area are included in the cities of Perris and Menifee's General Plan Land Use Element. The land use designations of the Project area are shown on Figure 3.10-1. In the City of Perris, the Project and surrounding areas have a land use designation R-20,000 (Residential 20,000), which includes both the area where the water storage tank would be located as well as the westernmost portion of the transmission pipeline.

The Land Use Element of the General Plan for the City of Perris defines the land use category in the Proposed Project area as follows:

Residential-20,000 (R-20,000) –The Residential 20,000 is to provide for the development of detached residential development and agricultural uses within a rural environment. The minimum lot size for this land use designation is 20,000 square feet (City of Perris 2013, 2019a).



SOURCE: ESRI, 2019; ESA, 2019.

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.10-1
Land Use Designation



The portion of the transmission pipeline that runs through the City of Menifee would be located in the following land use designations: 2.1-5 R (2.1-5 du/ac Residential), OS-R (Recreation), 8.1-14 R (8.1-14 du/ac Residential), CR (Commercial Retail), and 5.1-8 R (5.1-8 du/ac Residential) (City of Menifee 2018). The portion of the transmission pipeline that would be installed within the Cimarron Ridge Specific Plan is located entirely in an area with a land use designation of 2.1-5 R (City of Menifee 2015).

The Land Use Element of the General Plan for the City of Menifee defines these land use categories as follows:

2.1-5 du/ac Residential (2.1-5 R) – The 2.1-5 du/ac Residential land use designates single-family detached and attached residences with a density range of 2 to 5 dwelling units per acre. Limited agriculture and animal keeping is permitted; however, intensive animal keeping is discouraged.

Open Space Recreation (OS-R) – The Open Space Recreation land use designates recreational uses including parks, trails, athletic fields, golf courses, and drainage corridors to be used as recreation facilities. Neighborhood parks are permitted within residential land uses.

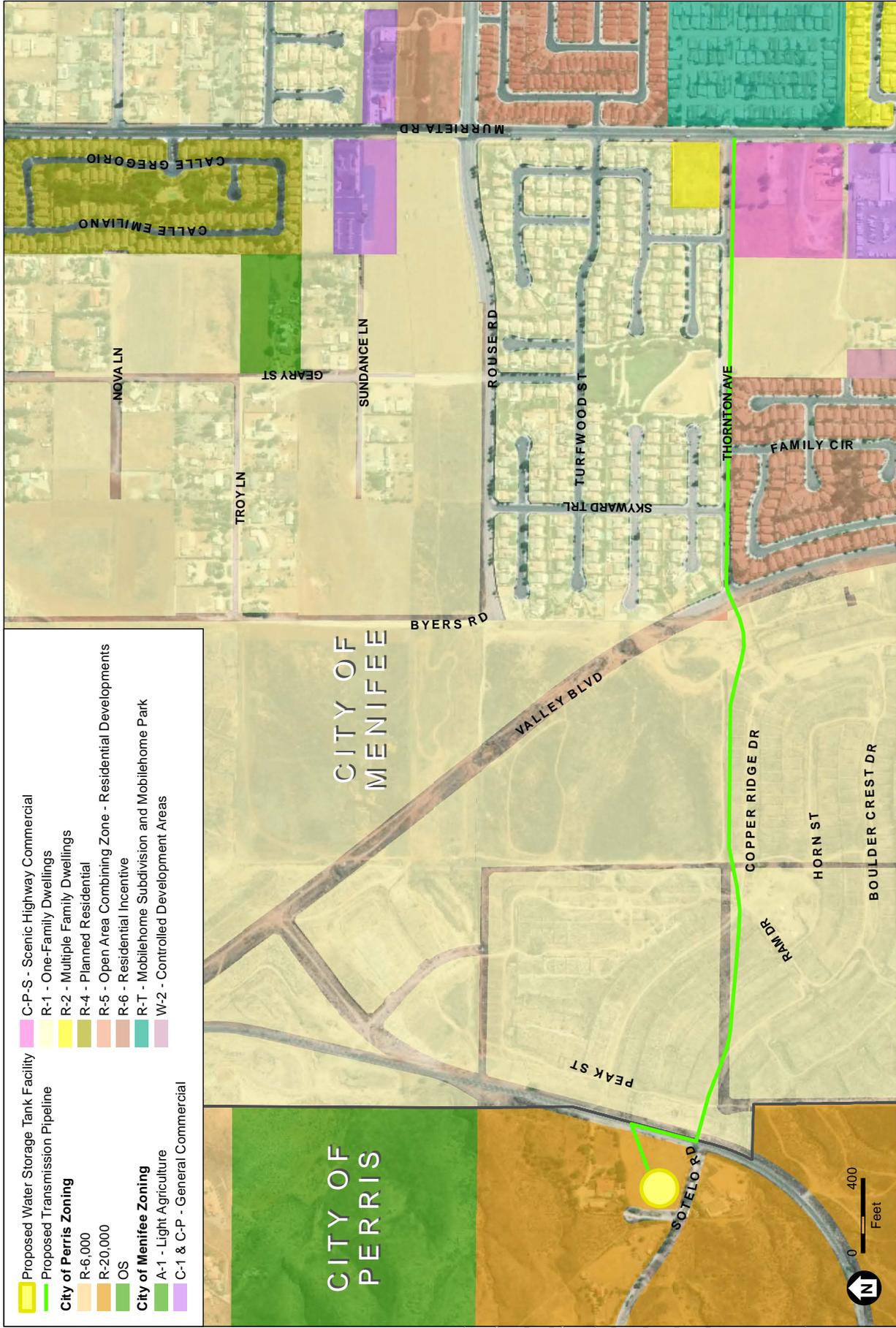
8.1-14 du/ac Residential (8.1-14 R) – The 8.1-14 du/ac Residential land use designates single-family attached and detached residences, including townhouses, stacked flats, courtyard homes, patio homes, and zero lot line homes.

Commercial Retail (CR) – The Commercial Retail land use designates neighborhood, local, and regional serving retail and service uses. Hotels are also permitted in this designation.

5.1-8 du/ac Residential (5.1-8 R) – The 5.18 du/ac Residential land use designates single-family attached and detached residences with a density range of 5 to 8 dwelling units per acre.

Existing Zoning Designations

The existing zoning designations in the Project area are included in the cities of Perris and Menifee General Plans' Land Use Elements and are depicted on **Figure 3.10-2**. Within the City of Perris, the Project and surrounding areas are zoned as R-20,000 (Residential 20,000) (City of Perris 2019b). Zoning along Thornton Avenue where the transmission pipeline alignment would be installed includes R-1 (one family dwellings), R-2 (multiple family dwellings), R-5 (open area combining zone- residential developments), and C-P-S (scenic highway commercial). The portion of the transmission pipeline that would be installed within the Cimarron Ridge Specific Plan is designated as R-1 (City of Menifee 2015).



SOURCE: ESRI, 2019; ESA, 2019; City of Perris; City of Menifee.

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.10-2
 Zoning Designation



3.10.2 Regulatory Framework

Local

City of Menifee General Plan

The City of Menifee General Plan provides a set of long-term goals and policies that decision-makers will use to guide growth and development in the City of Menifee.

General Plan Land Use Element

General Land Use

LU-1.8: Ensure new development is carefully designed to avoid or incorporate natural features, including washes, creeks, and hillsides.

Utilities and Infrastructure

LU-3.1: Work with utility providers in the planning, designing, and siting of distribution and support facilities to comply with the standards of the General Plan and Development Code.

LU-3.2: Work with utility providers to increase service capacity as demand increases.

LU-3.3: Coordinate public infrastructure improvements through the city's Capital Improvement Program.

LU-3.5: Facilitate the shared use of right-of-way, transmission corridors, and other appropriate measures to minimize the visual impact of utilities infrastructure throughout Menifee.

City of Perris General Plan

The City of Perris General Plan is a 30-year guide for local government decision on growth, capital investment, and physical development in the City of Perris (City of Perris 2016).

General Plan Land Use Element

Relevant Policies, Goals, and Implementations

Goal V: Protection from natural or man-made disasters.

Policy IIA: Require new development to pay its full, fair-share of infrastructure cost.

Policy VA: Restrict development in areas at risk of damage due to disasters.

Implementation V.A.1.: Consult hazards map as part of the review process for all development application.

3.10.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related land use and planning according to thresholds identified in *CEQA Guidelines Appendix G* if it would do the following:

- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
- Result in a cumulatively considerable impact to land use.

Additionally, the comments EMWD received on the Initial Study and Notice of Preparation were taken into consideration when preparing this Draft EIR. A summary of those comments is provided in **Table 3.10-1** below.

**TABLE 3.10-1
SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Land Use and Planning	<ul style="list-style-type: none">• The EIR should include an analysis of land use impacts as result of the Proposed Project.• Clarification on the differences in land use between the City of Perris General Plan and zoning and the City of Menifee General Plan and Zoning.

Methodology

The significance determination is based on several evaluation criteria, including analysis of consistency with existing land use and zoning as well as consistency with existing general plans and relevant goals, policies, and implementations as they relate to the Proposed Project.

Impact Analysis

Land Use Plan, Policy, and Regulation Consistency

Impact 3.10-1: The Proposed Project could cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The proposed facilities would be located within various land uses throughout the cities of Perris and Menifee, as described above in the existing setting and shown on Figure 3.10-1. The proposed water storage tank would be installed on a parcel owned by EMWD that is zoned as R-20,000 and has a Residential land use designation. The proposed transmission pipeline would be installed within public rights-of-way and within the Cimarron Ridge Specific Plan, which is zoned for Residential. While the water storage tank and portion of the transmission pipeline would not be consistent with the existing land use and zoning designations, the tank is considered a public utility. Per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. Specifically, Section 53091 states (State of California Legislative Council 2003):

- (d) Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency.*

(e) *Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water.*

As a result, implementation of the Proposed Project would be exempt from conflicting with the residential land use or zoning designations for the cities of Perris and Menifee within the Proposed Project area. As a result, any Project facilities that conflict with local General Plan land use designations would not be subject to a conditional use permit or general plan amendment. Impacts would be less than significant.

Nevertheless, an analysis of the consistency of the with the relevant land use and planning-related General Plan plans and policies of the cities of Perris and Menifee has been conducted below in **Table 3.10-2** and **Table 3.10-3**. As shown, the Project would be consistent will all applicable land-use policies and impacts would be less than significant.

**TABLE 3.10-2
 CITY OF PERRIS GENERAL PLAN CONSISTENCY ANALYSIS**

Section	Goal, Policy, or Implementation	Determination of Consistency
Chapter 2: Land Use Element		
General Land Use Goals		
Goal V	Protection from natural or manmade disasters.	Consistent. This EIR evaluates the impact the Project would have on the environment. For discussion of impacts related to disasters such as inundation, subsidence, earthquake, and tsunami refer to Section 3.6, Geology Soils and Seismicity. Impacts related to hazardous materials and wildfire are discussed in Section 3.8 Hazards, Hazardous Materials, and Wildfire. This Project is designed to accommodate natural features such high storm flow by installing storm drains to convey storm flows around the Project site and into local storm drains. For more information, please see Section 3.9, Hydrology and Water Quality. The Project would mitigate any impact on the environment found to be significant and would not exacerbate natural or manmade disasters. As such, the Project would be consistent with this goal.
General Land Use Policies		
Policy II.A	Require new development to pay its full, fair-share of infrastructure cost.	Consistent. The Project will be funded by EMWD and the Proposed Project would require the full fair-share payment of both construction and operation on the behalf of EMWD. As such, the Project would be consistent with this policy.
Policy V.A	Restrict development in areas at risk of damage due to disasters.	Consistent. See consistency discussion above under Goal V.
General Land Use Implementations		
V.A.1	Consult hazards maps as part of the review process for all development application.	Consistent. The Proposed Project has analyzed hazards and hazardous materials to the full extent required by CEQA. For discussion of hazards and hazardous materials analysis please refer to Section 3.8, Hazards, Hazardous Materials, and Wildfire. As such, the Project would be consistent with this policy.
SOURCE: City of Perris 2016		

**TABLE 3.10-3
 CITY OF MENIFEE GENERAL PLAN CONSISTENCY ANALYSIS**

Section	Goal, Policy, or Implementation	Determination of Consistency
Chapter 2: Land Use Element		
General Land Use Policies		
LU-1.8	Ensure new development is carefully designed to avoid or incorporate natural features, including washes, creeks, and hillsides.	Consistent. This Project is designed to accommodate natural features such high storm flow by installing storm drains to convey storm flows around the Project site and into local storm drains. For more information, please see Section 3.9, Hydrology and Water Quality. The Project has been designed and would be constructed and operated to reduce impacts to these natural features. As such, the Project would be consistent with this policy.
LU-3.1	Work with utility providers in the planning, designing, and siting of distribution and support facilities to comply with the standards of the General Plan and Development Code.	Consistent. The Project would be implemented by EMWD, which is a water utility provider in Riverside County. EMWD would ensure that construction and operation of the Proposed Project would comply with the standards of the General Plan and Development Code. As such, the Project would be consistent with this policy.
LU-3.2	Work with utility provides to increase service capacity as demand increases.	Consistent. The Proposed Project would be implemented by EMWD, which is a water utility provider in Riverside County. The Proposed Project itself would allow EMWD to address inconsistencies in service in the existing 1627 pressure zone and would therefore benefit future water service levels. As such, the Project would be consistent with this policy.
LU-3.5	Facilitate the shared use of right-of-way, transmission corridors, and other appropriate measures to minimize the visual impact of utilities infrastructure throughout Menifee.	Consistent. In the City of Menifee, the Proposed Project would be constructed within public rights-of-way. Once constructed the transmission line would be located below ground and would not result in visual impact. As such, the Project would be consistent with this policy.
SOURCE: City of Menifee 2019		

Mitigation Measures

None Required

Significance Determination

Less than Significant

Cumulative Impacts

Impact 3.10-2: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to land use and land use planning.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. The only cumulative projects that could have impacts to land use when combined with the Proposed Project, and that could result in cumulatively considerable impacts, are large scale development projects or other proposed uses that may conflict with land use policies within the cities of Perris and Menifee.

Construction and Operation

As mentioned above, the Proposed Project transmission line alignment traverses several different forms of residential zoning and land use. One of these areas is a portion of the Cumulative Project 1, the Cimarron Ridge Development Project. The Cimarron Ridge Specific Plan is a comprehensive plan for the development of a new community that will be comprised of traditional residential neighborhoods combined with parks, functional open space areas, a multi-purpose trail system and road improvements. The majority of the other cumulative projects include residential and commercial development projects.

When added to the Cimarron Ridge Development Project and other development within the local area, the effects of the Proposed Project would not contribute to the cumulative impacts on land use and planning. In fact, implementation of the Proposed Project would allow EMWD to meet future service needs in the Project area as result of increased population from these cumulatively development projects. The purpose of the Proposed Project is to address inadequacies in the existing infrastructure in the 1627 pressure zone in the EMWD service area. Additionally, the Project would ensure adequate supply of water for future growth within the EMWD service area, and as a result, the Project itself would not cause land use conflicts but would instead support land use and planning within the region. Therefore, when considered in addition to the cumulative projects, impacts to land use and planning would not be cumulatively considerable.

Mitigation Measures

None Required

Significance Determination

Less than Significant

3.10.4 References

City of Menifee, 2015. Cimarron Ridge Specific Plan. Available at:

<https://cityofmenifee.us/DocumentCenter/View/6021/Cimarron-Ridge-SP-07-10-15?bidId=>, accessed on July 8, 2019.

City of Menifee, 2018. General Plan Land Use Map. Available at:

<https://www.cityofmenifee.us/DocumentCenter/View/1013/Menifee-General-Plan-Land-use-map-as-of-May-2018>, accessed on July 8, 2019. Updated April 2018.

City of Menifee, 2019. General Plan Land Use Element. Available at:

<https://cityofmenifee.us/231/Land-Use-Element>, accessed on July 8, 2019.

City of Perris 2013. General Plan Map. Available at: [http://www.cityofperris.org/city-](http://www.cityofperris.org/city-hall/general-plan/Land_Use_Map.pdf)

[hall/general-plan/Land_Use_Map.pdf](http://www.cityofperris.org/city-hall/general-plan/Land_Use_Map.pdf), accessed July 8, 2019. Updated January 3, 2013.

City of Perris 2016. General Plan Land Use Element. Available at:

http://www.cityofperris.org/city-hall/general-plan/Land_Use_Element.pdf, accessed on July 8, 2019. City Council Adoption 2005, Amended 2016.

City of Perris 2019a. Zoning, 19.21 R20,000 Single Family Residential. Available at: http://www.cityofperris.org/city-hall/zoning/19-21_R20000-SingleFamilyResidential.pdf, accessed on November 25, 2019.

City of Perris, 2019b. Zoning Map. Available at: <http://www.cityofperris.org/city-hall/zoning/2016-zone-map.pdf>, accessed July 8, 2019.

3.11 Noise and Vibration

This section evaluates the potential for noise and ground-borne vibration impacts that may result from construction and operation of the Proposed Project. This section includes: an overview of the fundamental principles of noise and vibration and describes the existing noise environment in the Project vicinity; a summary of applicable regulations related to noise and vibration; and an evaluation of the potential impacts of the Proposed Project related to noise and vibration in and around the Project site, including cumulative impacts.

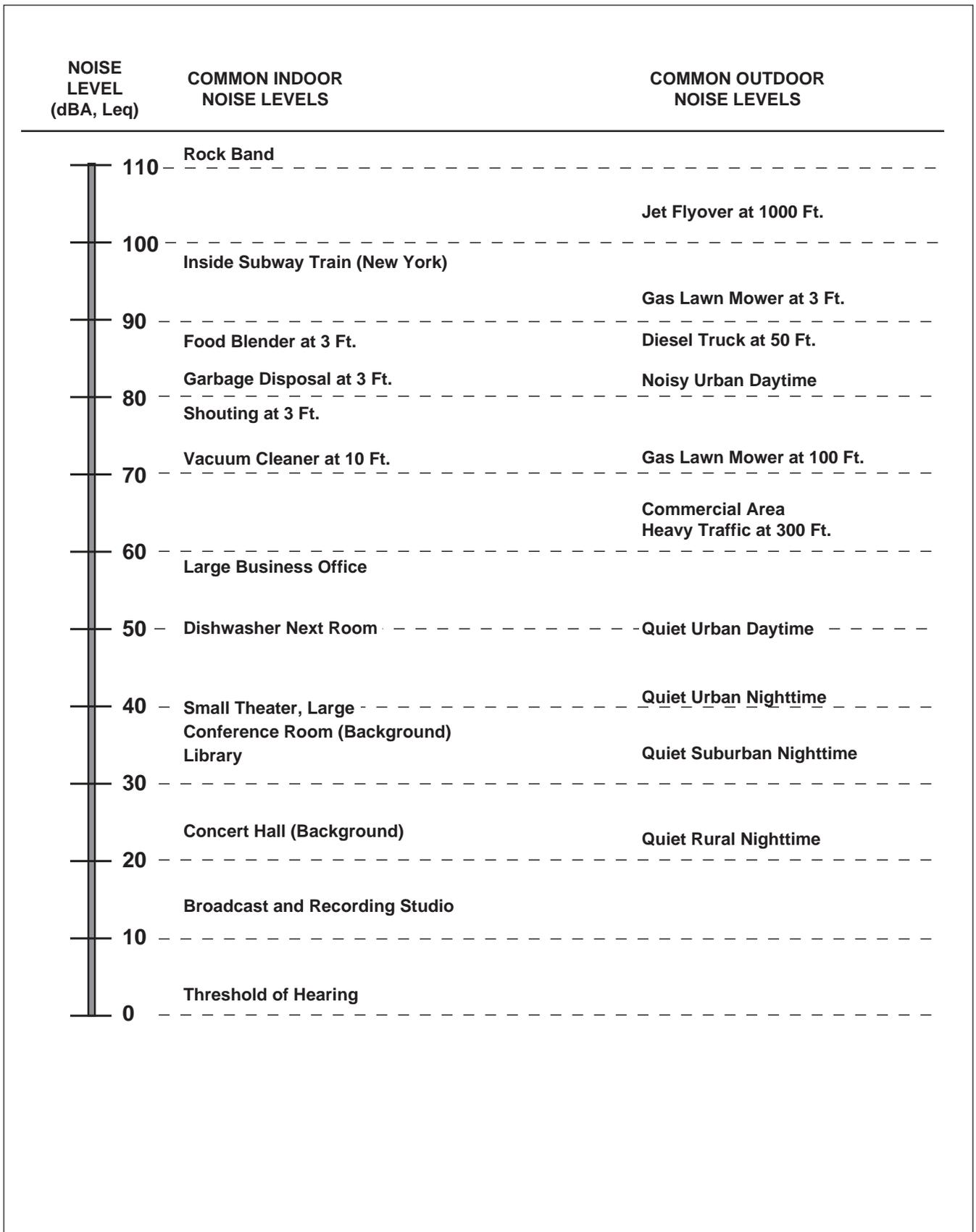
3.11.1 Environmental Setting

Noise Principles and Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as unwanted sound (i.e., loud, unexpected, or annoying sound). Acoustics is defined as the physics of sound. In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver.

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the theoretical threshold of human hearing and 120 to 140 dB corresponding to the threshold of feeling and pain, respectively. Pressure waves traveling through air exert a force registered by the human ear as sound (Caltrans 2013).

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The typical human ear is not equally sensitive to this frequency range. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to these extremely low and extremely high frequencies. This method of frequency filtering or weighting is referred to as A-weighting, expressed in units of A-weighted decibels (dBA), which is typically applied to community noise measurements (Caltrans 2013). Some representative common outdoor and indoor noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.11-1**. All noise levels presented below are A-weighted unless otherwise stated.



SOURCE: State of California, Department of Transportation (Caltrans), Technical Noise Supplement (TeNS), October 1998

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.11-1
Decibel Scale and Common Noise Sources

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time; a noise level is a measure of noise at a given instant in time, as presented in Figure 3.11-1. However, noise levels rarely persist at that level over a long period of time. Rather, community noise varies continuously over a period of time with respect to the sound sources contributing to the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with many of the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources, such as changes in traffic volume. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual (Caltrans 2013).

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the noise exposure to be measured over periods of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. The following noise descriptors are used to characterize environmental noise levels over time, which are applicable to the Project (Caltrans 2013).

L_{eq} : The equivalent sound level over a specified period of time, typically, 1 hour (L_{eq}). The L_{eq} may also be referred to as the average sound level.

L_{max} : The maximum, instantaneous noise level experienced during a given period of time.

L_{min} : The minimum, instantaneous noise level experienced during a given period of time.

L_x : The noise level exceeded a percentage of a specified time period. For instance, L_{50} and L_{90} represent the noise levels that are exceeded 50 percent and 90 percent of the time, respectively.

L_{dn} : The average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dB to measured noise levels between the hours of 10:00 p.m. to 7:00 a.m. to account nighttime noise sensitivity. The L_{dn} is also termed the day-night average noise level (DNL).

CNEL: The Community Noise Equivalent Level (CNEL) is the average A-weighted noise level during a 24-hour day that includes an addition of 5 dB to measured noise levels between the hours of 7:00 a.m. to 10:00 p.m. and an addition of 10 dB to noise levels between the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Effects of Noise on People

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are

related to subjective effects and interference with activities. Activities most affected by noise include rest, relaxation, recreation, study, and communications (Caltrans 2013).

With regard to the subjective effects, the responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity. Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur (Caltrans 2013).

- Except in carefully controlled laboratory experiments, a change of 1 dBA in ambient noise levels cannot be perceived;
- Outside of the laboratory, a 3 dBA change in ambient noise levels is considered to be a barely perceivable difference;
- A change in ambient noise levels of 5 dBA is considered to be a readily perceivable difference; and
- A change in ambient noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel scale. The human ear perceives sound in a non-linear fashion; therefore, the dBA scale was developed. Because the dBA scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. Under the dBA scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dBA higher than one of the sources under the same conditions. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. Under the dB scale, three sources of equal loudness together produce a sound level of approximately 5 dBA louder than one source, and ten sources of equal loudness together produce a sound level of approximately 10 dBA louder than the single source (Caltrans 2013).

Noise Attenuation

When noise propagates over a distance, the noise level reduces with distance depending on the type of noise source and the propagation path. Noise from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, referred to as “spherical spreading.” Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (i.e., reduce) at a rate between 6 dBA for acoustically “hard” sites and 7.5 dBA for

“soft” sites for each doubling of distance from the reference measurement, as their energy is continuously spread out over a spherical surface (e.g., for hard surfaces, 80 dBA at 50 feet attenuates to 74 at 100 feet, 68 dBA at 200 feet, etc.). Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the reduction in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, which in addition to geometric spreading, provides an excess ground attenuation value of 1.5 dBA (per doubling distance) (Caltrans 2013).

Roadways and highways consist of several localized noise sources on a defined path, and hence are treated as “line” sources, which approximate the effect of several point sources. Noise from a line source propagates over a cylindrical surface, often referred to as “cylindrical spreading.” (Caltrans 2013). Line sources (e.g., traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans 2013). Therefore, noise due to a line source attenuates less with distance than that of a point source with increased distance.

Additionally, receptors located downwind from a noise source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Atmospheric temperature inversion (i.e., increasing temperature with elevation) can increase sound levels at long distances (e.g., more than 500 feet). Other factors such as air temperature, humidity, and turbulence can also have significant effects on noise levels (Caltrans 2013).

Fundamentals of Vibration

As described in the Federal Transit Administration’s (FTA’s) *Transit Noise and Vibration Impact Assessment* (FTA 2018), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and the operation of heavy earthmoving equipment.¹

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. The relationship of PPV to RMS velocity is expressed in

¹ California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, page 1, September 2013.

terms of the “crest factor,” defined as the ratio of the PPV amplitude to the RMS amplitude. PPV is typically a factor of 1.7 to 6 times greater than RMS vibration velocity.² Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, students, the elderly, and the sick), and vibration-sensitive equipment.³

The effects of ground-borne vibration include movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings.

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people.⁴

Project Area

Sensitive Receptors

Some land uses are more sensitive to noise levels than others because of the types of activities typically associated with the uses. Noise-sensitive land uses generally include schools, hospitals, rest homes, long-term care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas. These sensitive land uses, when compared to non-sensitive uses such as commercial and industrial land uses, depend on a low-level noise environment to promote the well-being of their occupants and visitors.

Sensitive receptors in the Project vicinity include the existing single-family residences with property lines located adjacent to the north of the Proposed Project site and approximately 59 feet to the south of the Proposed Project site. There are also three existing residences located to the west of the Project site, with a property line located as close as 61+/- feet from the Proposed Project site.

The proposed water storage tank is located within the Project site and is located approximately 76 feet from the northern Project site boundary, approximately 31 feet from the southern Project site boundary, and approximately 27 feet from the western Project site boundary. Thus, when measured from the location of the proposed water storage tank, the nearest sensitive receptor

² Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Section 7.2, September 2018.

³ Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Section 6.4, September 2018.

⁴ Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Section 6.2, September 2018.

property lines are located approximately 76 feet to the north, 90 feet to the south, and 88 feet to the west. When measured from the location of the proposed water storage tank to the nearest structure (i.e., buildings, walls) on the sensitive receptor properties, the nearest structures would be located approximately 110 feet to the north, 90 feet to the south, and 162 feet to the west.

The transmission pipeline connecting the proposed water storage tank to the existing water distribution system in Murrieta Road would be installed within the existing Thornton Avenue right-of-way. Sensitive receptors along Thornton Avenue would be located as close as 25 feet from the proposed transmission pipeline route construction area. There is also a park, Sun Ranch Community Park, located adjacent to the proposed transmission pipeline route on Thornton Avenue.

Existing Noise Conditions

The Proposed Project is located in both City of Perris and City of Menifee, in western Riverside County. The noise environment surrounding the Project site is influenced primarily by traffic on local roadways.

Existing Ground-borne Vibration Conditions

Aside from periodic construction work that may occur throughout the Cities of Perris and Menifee, other sources of ground-borne vibration in the Project site vicinity include heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on local roadways. Trucks and buses typically generate ground-borne vibration velocity levels of around 63 VdB, and these levels could reach 72 VdB where trucks and buses pass over bumps in the road. In terms of PPV levels, a heavy-duty vehicle traveling at a distance of 50 feet can result in a vibration level of approximately 0.001 inch per second.⁵

3.11.2 Regulatory Framework

Federal

Noise Standards

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the Proposed Project. With regard to noise exposure and workers, OSHA regulations safeguard the hearing of workers exposed to occupational noise. Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations, Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters (or approximately 50 feet) from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

⁵ Federal Transit Authority, Transit Noise and Vibration Impact Assessment, Figure 6-4, September 2018.

Vibration Standards

The FTA has adopted vibration standards that can be used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by the FTA are shown in **Table 3.11-1**.

**TABLE 3.11-1
 CONSTRUCTION VIBRATION DAMAGE CRITERIA**

Building Category	Vibration Levels that May Cause Damage	
I. Reinforced-concrete, steel or timber (no plaster)	0.5 in/sec PPV	102 VdB
II. Engineered concrete and masonry (no plaster)	0.3 in/sec PPV	98 VdB
III. Non-engineered timber and masonry buildings	0.2 in/sec PPV	94 VdB
IV. Buildings extremely susceptible to vibration damage	0.12 in/sec PPV	90 VdB

SOURCE: FTA 2018

In addition, the FTA has also adopted standards associated with human annoyance for ground-borne vibration impacts for the following three land use categories: (1) Vibration Category 1 – High Sensitivity, (2) Vibration Category 2 – Residential, and (3) Vibration Category 3 – Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment but still have the potential for activity interference.

Under conditions where there are an infrequent number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 80 VdB for Category 2 buildings, and 83 VdB for Category 3 buildings.⁶ Under conditions where there are an occasional number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 75 VdB for Category 2 buildings, and 78 VdB for Category 3 buildings.⁷ No thresholds have been adopted or recommended for commercial and office uses. Based on Table 8-3 in the FTA’s *Transit Noise and Vibration Impact Assessment* (FTA 2018), interpretation of vibration criteria for detailed analysis is 78 VdB for residential uses during daytime hours. For office and office buildings, the FTA guidelines suggest that a vibration level of 84 VdB should be used for detailed analysis.

⁶ “Infrequent events” is defined by the FTA as being fewer than 30 vibration events of the same kind per day.

⁷ “Occasional events” is defined by the FTA as between 30 and 70 vibration events of the same source per day.

State

Noise Standards

The California Department of Health Services (DHS) has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines for land use and noise exposure compatibility are shown in **Table 3.11-2**. In addition, Section 65302(f) of the California Government Code requires each county and city in the state to prepare and adopt a comprehensive long-range General Plan for its physical development, with Section 65302(g) requiring a noise chapter to be included in the General Plan. The noise chapter must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

**TABLE 3.11-2
 COMMUNITY NOISE EXPOSURE LEVEL (CNEL)**

Land Use	Normally Acceptable ^a	Conditionally Acceptable ^b	Normally Unacceptable ^c	Clearly Unacceptable ^d
Single-family, Duplex, Mobile Homes	50–60	55–70	70–75	above 75
Multi-Family Homes	50–65	60–70	70–75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	above 80
Transient Lodging – Motels, Hotels	50–65	60–70	70–80	above 80
Auditoriums, Concert Halls, Amphitheaters	---	50–70	---	above 65
Sports Arena, Outdoor Spectator Sports	---	50–75	---	above 70
Playgrounds, Neighborhood Parks	50–70	---	67 - 75	above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	---	70–80	above 80
Office Buildings, Business and Professional Commercial	50–70	67–78	above 75	---
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	above 75	---

All CNEL measurements are expressed in dBA.

^a **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.

^b **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 included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

^c **Normally Unacceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

^d **Clearly Unacceptable:** New construction or development should generally not be undertaken.

SOURCE: OPR 2017 (in coordination with the California DHS).

The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dBA at 15 meters. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters (or approximately 50 feet) from the centerline.

These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

The state has also established noise insulation standards for new multifamily residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA CNEL/L_{dn} in any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dBA CNEL/L_{dn}. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Vibration Standards

There are no state vibration standards applicable to the Proposed Project. Moreover, according to the California Department of Transportation (Caltrans) *Transportation- and Construction-Induced Vibration Guidance Manual* (2013), there are no official Caltrans standards for vibration. However, this manual provides guidelines for assessing vibration damage potential to various types of buildings, ranging from 0.08 to 0.12 in/sec PPV for extremely fragile historic buildings, ruins, and ancient monuments to 0.50 to 2.0 in/sec PPV for modern industrial/commercial buildings. The values for building damage thresholds referenced above are shown in **Table 3.11-3**, which is taken from the *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013).

**TABLE 3.11-3
 GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA**

Structure and Condition	Maximum PPV (inch/sec)	
	Transient Sources ¹	Continuous/Frequent Intermittent Sources ²
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

SOURCE: Table 19, Transportation and Construction Vibration Guidance Manual (Caltrans 2013).

¹ Transient sources create a single, isolated vibration event, such as blasting or drop balls.

² Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Caltrans = California Department of Transportation

inch/sec = inches per second

PPV = peak particle velocity

Local

Local noise issues are addressed through implementation of General Plan policies, including noise and land use compatibility guidelines, and through enforcement of noise ordinance standards. A city or county's noise ordinance will typically include regulations that restrict the amount and duration of noise from various noise sources occurring within its jurisdiction as well as prescribe noise limits for different land use types. As a public agency, EMWD is not subject to other local jurisdictional agencies' noise ordinances and is therefore not required to obtain variances from local agencies. Additionally, State law provides that city and county building and zoning ordinances do not apply to the location or construction by local agencies of facilities for the production, generation, storage, treatment, or transmission of water (Gov. Code § 53091(d)). However, the noise analysis considers the local jurisdictional agencies' noise ordinances of the City of Perris and City of Menifee to provide a basis with which to inform the determination of noise impacts for this Draft EIR.

City of Perris Noise Element

The City of Perris General Plan Noise Element (2005) establishes the following policies applicable to the Proposed Project:

Goal V: Stationary Source Noise: Future non-residential land uses compatible with noise sensitive land uses.

Policy V.A: New large scale commercial or industrial facilities located within 160 feet of sensitive land uses shall mitigate noise impacts to attain an acceptable level as required by the State of California Noise/Land Use Compatibility Criteria.

The above goal and policy are applicable to the Proposed Project's operational stationary noise sources. There are no other goals or policies in the Noise Element applicable to the Project.

City of Perris Municipal Code

Chapter 7.34 of the Perris Municipal Code regulates noise. According to Section 7.34.050 (General Prohibition) of the City of Perris Municipal Code, it is unlawful for any loud excessive or offensive noises or sounds to be created that would unreasonably disturb the peace and quiet of any residential neighborhood or be physically annoying to persons of ordinary sensitivity. To ensure that Section 7.34.050 would be complied with, the City established the noise standards shown in **Table 3.11-4**. In addition, a noise violation would also result when a loud excessive or offensive noise level is generated that results in an increase in ambient noise levels of more than 1.0 dBA at the property line.

**TABLE 3.11-4
CITY OF PERRIS NOISE LEVEL STANDARDS**

Time Period	Maximum Noise Level (dBA)
10:01 p.m.–7:00 a.m.	60
7:01 a.m.–10:00 p.m.	80

SOURCE: City of Perris Ordinance 1082 Section 2(part), 2000

Furthermore, Section 7.34.050 states that the characteristics and conditions that should be considered in determining whether a noise violation has occurred should include, but not be limited to, the following:

- The level of the noise
- Whether the nature of the noise is usual or unusual
- Whether the origin of the noise is natural or unnatural
- The level of the ambient noise
- The proximity of the noise to sleeping facilities
- The nature and zoning of the area from which the noise emanates and the area where it is received
- The time of day the noise occurs
- The duration of the noise
- Whether the noise is recurrent, intermittent, or constant

With respect to construction noise in the City, Section 7.34.060 stipulates that it would be unlawful for any person between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on a legal holiday, with the exception of Columbus Day and Washington’s Birthday, or on Sundays, to erect, construct, demolish, excavate, alter, or repair any building or structure in such a manner as to create disturbing, excessive, or offensive noise. Additionally, construction activity is prohibited from exceeding 80 dBA in residential zones in the city between the hours of 7:00 a.m. and 7:00 p.m.

City of Menifee Noise Element

The City of Menifee General Plan Noise Element (2013) establishes the following policies applicable to the Proposed Project:

Goal N-1: Noise-sensitive land uses are protected from excessive noise and vibration exposure.

Policy N-1.7: Mitigate exterior and interior noises to the levels listed in the table below [Table 3.11-5] to the extent feasible, for stationary [permanent] sources adjacent to sensitive receptors.

Policy N-1.13: Require new development to minimize vibration impacts to adjacent uses during demolition and construction.

**TABLE 3.11-5
 CITY OF MENIFEE STATIONARY (PERMANENT) SOURCE NOISE STANDARDS**

Residential Land Use	Interior Standards	Exterior Standards
10:00 p.m. to 7:00 a.m.	40 dB L _{eq} (10 minute)	45 dB L _{eq} (10 minute)
7:00 a.m. to 10:00 p.m.	55 dB L _{eq} (10 minute)	65 dB L _{eq} (10 minute)

SOURCE: City of Menifee 2013
 L_{eq} = Sound equivalent level

The above goal and policies are applicable to the Proposed Project’s operational stationary noise sources. There are no other goals or policies in the Noise Element applicable to the Project.

City of Menifee Municipal Code

When the City of Menifee incorporated, the City adopted the County of Riverside Noise Ordinance (Ordinance No. 847). The City is in the process of updating its Municipal Code to adopt the stationary noise standards into Chapter 9.09 of the Menifee Municipal Code, which are consistent with the standards in the County of Riverside Municipal Code.

Allowable hours of construction are regulated in Chapter 8.01 of the Menifee Municipal Code. Section 8.01.010 states that any construction within the City located within 0.25 mile from an occupied residence shall be permitted Monday through Saturday, except nationally recognized holidays, 6:30 a.m. to 7:00 p.m. Construction activities on Sundays and national holidays are prohibited unless approval is obtained from the City Building Official or City Engineer.

Chapter 9.09 of the Menifee Municipal Code regulates noise. It codifies the levels listed in Table 3.11-5. Section 9.09.030 of the City of Menifee Municipal Code includes a provision for construction-related exceptions. The code allows for application of an exception for construction activities if construction activities occur more than 0.25 miles from an inhabited dwelling or if construction occurs within 0.25 miles of an inhabited dwelling and construction does not occur between 6:00 p.m. and 6:00 a.m. from June through September and between 6:00 p.m. and 7:00 a.m. from October through May. Section 9.09.030(C) provides exceptions, which states that a construction-related exception shall be considered either a minor temporary use or a major temporary use as defined in Chapter 9.06 of this code (see Section 9.09.020) and an application for a construction-related exception shall be made using the temporary use application provided by the Community Development Director. For construction activities on Sunday or nationally recognized holidays, Section 8.01.010 shall prevail.

3.11.3 Impacts and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to noise and vibration according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- Generate 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.
- Generate excessive ground-borne vibration or ground-borne noise levels.
- Result in a cumulatively considerable impact to noise and vibration.

Additionally, the analysis presented below takes into consideration the comments EMWD received on the Initial Study and NOP. A summary of those comments is provided in **Table 3.11-6** below.

**TABLE 3.11-6
SUMMARY OF PREVIOUS PUBLIC COMMENTS**

Environmental Topic	Comment
Noise and Vibration	<ul style="list-style-type: none">• Noise levels associated with construction of the water storage tank should be quantified and sound attenuation measures specified.• Concern about whether vibration from digging will cause undue settling and possible damage to exterior brick walls or cracking and setting of pools at a nearby home.

Noise Criteria

The proposed water storage tank is located in the City of Perris and the transmission pipeline is located in the City of Menifee, in western Riverside County. As such, for the purpose of determining whether the Proposed Project would result in the exposure of persons to, or generation of, noise levels that would exceed established noise standards, the standards that will be used to determine if the Project's construction noise levels would result in a significant impact are those contained in the construction noise regulations of the City of Menifee and City of Perris. Operational impacts are compared to noise standards and thresholds established in the municipal codes, noise elements, and noise ordinances of the cities of Perris and Menifee as discussed above.

City of Perris

The City of Perris General Plan (2005) has noise policies related to new and future land uses and road improvements; none of these policies are applicable to the Proposed Project. The City of Perris regulates construction noise levels under Section 7.34.060 of its municipal code, which establishes permitted hours for construction activities between the hours of 7:00 a.m. and 7:00 p.m. along with a numerical noise standard of 80 dBA at the property line that should not be exceeded in residential zones between the hours of 7:00 a.m. and 7:00 p.m. The City of Perris Municipal Code does not include provisions for construction-related exceptions. As such, noise

impacts from Project construction could result in a significant construction impact if the construction activity occurred outside of the permitted construction hours or if the noise levels generated exceed the construction noise standards established in the applicable municipal code.

In addition, to a violation of established noise regulations or an exceedance of established noise standards, the Project's construction activities are also assessed to determine whether the noise levels generated would result in a temporary substantial increase in the ambient noise environment. The *CEQA Guidelines* do not define the levels at which temporary increases in ambient noise are considered "substantial." Therefore, with regard to temporary construction noise, the significance of the Proposed Project's noise impacts can be determined by comparing estimated construction-related noise levels to existing non-construction noise levels.

As mentioned above, as a public agency, EMWD is not subject to other local jurisdictional agencies' noise ordinances and is therefore not required to obtain variances from local agencies. Additionally, State law provides that city and county building and zoning ordinances do not apply to the location or construction by local agencies of facilities for the production, generation, storage, treatment, or transmission of water (Gov. Code § 53091(d)).

City of Menifee

Chapter 9.09 of the Menifee Municipal Code regulates noise within City boundaries. The code also allows for application of an exception for construction activities if construction activities occur more than 0.25 miles from an inhabited dwelling or if construction occurs within 0.25 miles of an inhabited dwelling and construction does not occur between 6:00 p.m. and 6:00 a.m. from June through September and between 6:00 p.m. and 7:00 a.m. from October through May. Construction activities on Sundays and national holidays are governed by time limits in Section 8.01.010 of the municipal code, which prohibits construction on those days unless approval is obtained from the City Building Official or City Engineer. Section 9.09.030 of the City of Menifee Municipal Code includes a provision for construction-related exceptions. As such, noise impacts from Project construction could result in a significant construction impact if the construction activity occurred outside of the permitted construction hours.

Vibration Criteria

Construction Vibration Structural Damage

The cities of Perris and Menifee do not have local standards regarding construction-related vibration, and there are no binding state or federal standards that would apply to this impact. For this Draft EIR, EMWD relies on the guidelines regarding construction-related vibration impacts on buildings based on the age and/or condition of the structures that are located in proximity to construction activity that have been developed by the FTA (as shown in Table 3.11-1) and Caltrans (as shown in Table 3.11-3). Specifically, Caltrans provides guidelines for transient sources of vibration such as blasting (i.e., an isolated vibration event). Based on these two tables, construction impacts relative to ground-borne vibration would be considered significant if any of the following were to occur:

- Project construction activities would cause a PPV ground-borne vibration level to exceed 2.0 inch per second at a modern industrial/commercial building for transient sources of vibration.

- Project construction activities would cause a PPV ground-borne vibration level to exceed 1.0 inch per second at a new residential structure for transient sources of vibration.
- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.5 inch per second at a reinforced concrete, steel, or timber building for non-transient sources of vibration.
- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.3 inch per second at any engineered concrete and masonry building for non-transient sources of vibration.
- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.2 inch per second at any non-engineered timber and masonry buildings for non-transient sources of vibration.
- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.12 inch per second at any buildings “extremely susceptible to vibration damage” (e.g., a historical building) for non-transient sources of vibration.

Nearby buildings are considered to be “new residential” structures and the 1.0 in/sec PPV threshold would be applied to assess potential structural damage as a result of Project implementation.

Vibration Human Annoyance

Under conditions where there are an infrequent number of events per day,⁸ which would be the case during Project construction activities when equipment would be used or blasting would occur on an infrequent and periodic basis, the FTA has established thresholds of 65 VdB for Category 1 buildings, 80 VdB for Category 2 buildings, and 83 VdB for Category 3 buildings. Category 1 refers to buildings where vibration would interfere with interior operations such as a laboratory with sensitive instruments, Category 2 refers to residences and buildings where people normally sleep, and Category 3 refers to institutional uses with primarily daytime use. In terms of ground-borne vibration impacts associated with human annoyance, this analysis uses the FTA’s vibration impact threshold of 80 VdB for residences (Category 2 buildings) under conditions where there are an infrequent number of events per day (FTA 2018).

Methodology

The Proposed Project involves construction of a water storage tank and the installation of a transmission pipeline connecting to an existing pipeline system. The water storage tank facility would consist of a transformer, switchgear, pump controls, submersible pumps and metering vaults, discharge piping and collection manifold, valves, and flow meters. The pumps used for the water storage tank would require electric pump engines that would be housed in a three-sided, 6-foot enclosures or 12-foot structure to shield noise from nearby sensitive receptors. The increase in noise levels generated by the Project’s construction and operational activities have been quantitatively estimated and evaluated against the applicable noise standards and thresholds of significance.

⁸ “Infrequent events” is defined by the FTA as being fewer than 30 vibration events of the same kind per day.

Aside from noise levels, ground-borne vibration would also be generated during construction of the Project facilities at the Project site by various construction-related activities and equipment. Thus, the ground-borne vibration levels generated by these sources have also been quantitatively estimated and compared to applicable thresholds of significance.

Construction Noise Levels

Construction noise levels were estimated using equipment noise levels identified in the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM). Existing noise-sensitive receptors surrounding the proposed water storage tank include residential uses located within the jurisdiction of the City of Perris, and residential areas located along the proposed transmission pipeline route within the jurisdiction of the City of Menifee. For the purpose of conducting a conservative analysis, it is assumed that construction equipment would be located on the Project site with equipment located at the nearest distance to the sensitive receptors (i.e., sensitive receptors located adjacent to the north of the Project site, approximately 59 feet to the south of the Project site, and approximately 61 feet to the west of the Project site). Since it is not physically possible for equipment to be all located at the same location at the same time, the loudest equipment was assumed to be located at the closest distance to the sensitive receptors, while other equipment would be located at staggered distances of 100 feet and 200 feet further away. The estimated noise levels resulting from construction of the proposed water storage tank at the nearby offsite sensitive receptors were then analyzed against the construction noise standards established in the municipal code of the City of Perris (where the proposed water storage tank and the nearest offsite sensitive receptors are located) to determine whether an exceedance of allowable noise levels would occur across any adjacent property boundaries. Similarly, construction of the transmission pipeline would be located adjacent to residences within the City of Menifee, and potential noise impacts would be assessed against the noise ordinance identified in the City Menifee Municipal Code.

Offsite construction noise levels by mobile sources were estimated using the FHWA Traffic Noise Model and the Caltrans Technical Noise Supplement (TeNS) method based on haul truck, vendor, and worker trip volume data for the Project, consistent with the construction data used for the Project's air quality analysis in Section 3.2, *Air Quality*, and included in Appendix AQ/GHG/Energy of this Draft EIR. This method allows for the definition of roadway configurations, barrier information (if any), and receiver locations.

Blasting Noise

Blasting noise levels were estimated using blasting noise levels identified in the FHWA RCNM. Blasting could occur on the Project site, specifically at the location of the proposed water storage tank (i.e., blasting would not occur at the periphery of the proposed water storage tank site). The proposed water storage tank is located approximately 76 feet away from the northern Project site boundary, approximately 31 feet from the southern Project site boundary, and approximately 27 feet from the western Project site boundary. Therefore, the nearest distances that blasting would occur relative to the property lines of the noise-sensitive receptors would be approximately 76 feet to the north, 90 feet to the south, and 88 feet to the west. Blasting would only occur if needed and at depths greater than 10 feet bgs.

Operational Noise Levels

Operation of the Proposed Project would involve on-site stationary equipment (pumps) and offsite mobile sources (vehicular traffic). Similar to construction noise levels, operational noise levels from on-site stationary equipment were estimated using FHWA's RCNM to estimate noise levels from electric pump engines operating at the water storage tank facility. The estimated operational noise levels resulting from the Proposed Project at the nearby offsite sensitive receptors were then analyzed against the noise standards within the corresponding city boundary to determine whether there would be any violation of the noise code during Project operation. Existing noise-sensitive receptors surrounding the Project site include residential uses located within the jurisdiction of the City of Perris and residences along the transmission pipeline within the City of Menifee.

Offsite operational mobile source noise levels generated by worker trips would be sporadic and only necessary when the water storage tank and/or transmission pipeline require maintenance. As discussed in Section 2, *Project Description*, the proposed water storage tank and chlorination disinfection facility would require weekly maintenance consisting of a maximum of two service truck trips per week (1/2 ton pickup), and one truck trip per month for material/chemical delivery. No new employees would be required to operate the facilities. Tank cleaning is anticipated once every five years, and assumes 3 vehicles per day for 20 days (4 weeks at 5 days per week). Even if these trips were to occur on the same day, due to the low volume of operational trips to the site, noise impacts from the worker trips and delivery trucks would not be expected to create any discernible difference in noise levels and are not discussed further in the impact analysis below.

Ground-borne Vibration Associated with Project Construction and Operation

Construction Equipment Vibration

Ground-borne vibration levels resulting from construction activities at the Project site were estimated using data published by the FTA in its *Transit Noise and Vibration Impact Assessment* (2018) document. Potential vibration levels resulting from construction of the Project facilities are identified for offsite locations that are sensitive to vibration, including the existing residences, based on their distance from vibration-generating construction activities. In contrast to noise-sensitive receptor distances that are measured to the nearest property line, the distance to vibration sensitive receptors was measured from the construction activity to the closest structure due to the insensitivity of human response to groundborne vibration in an outdoor environment. Therefore, the nearest distances that vibration-generating construction equipment would be used relative to the closest structures would be approximately 34 feet to the north, 59 feet to the south, and 135 feet to the west.

Blasting Vibration

Vibrations are commonly measured using a device known as an accelerometer. This device consists of a small crystal shaped instrument that is designed to produce a small electrical charge when it is vibrated. This electrical charge is transmitted via a cable assembly into a spectrum analyzer that displays the frequency content and magnitude of the electrical signal.

Since no agency standards have been adopted for regulating blasting levels, previous tests and studies have been relied upon to establish parameters for potential vibration impacts due to blasting. Vibration test blasts conducted at five locations along the First San Diego Aqueduct alignment by Ogden Environmental and Energy Services (Ogden) in 1996 were used to provide an analysis of the general potential effects from blasting. The Ogden study includes a summary of a vibration technical report which addresses existing vibratory site conditions, as well as potential impacts from construction blasting activities. The Ogden report has been supplemented by additional vibration impact modeling conducted by Investigative Science and Engineering (ISE 1998), to determine the level of impact on nearby residences.

From the experimental test blasts described in the Ogden (1996) and ISE (1998) reports above, the principal frequency response of the soil occurred at approximately 15 Hz. For a groundborne vibrational wave with a 15 Hz primary component, the distance traveled by the wave would be 165 feet before diminishing to a level of 0.75 inches per second as set by the RI 8507 standard. This distance drops to slightly over 130 feet for a pure 40 Hz wave.

Therefore, based on the findings of the Ogden (1996) and ISE (1998) reports, vibration impacts as a result of blasting activities are expected if blasting occurs inside the influence zone (165 feet) for the respective frequency (15.0 Hz) and maximum velocities (15 inches/second). No vibration impacts are expected outside this zone.

Blasting could occur on the Project site, specifically at the location of the proposed water storage tank (i.e., blasting would not occur at the periphery of the proposed water storage tank site). Therefore, the nearest distances that blasting could occur relative to the closest structures would be approximately 110 feet to the north, 90 feet to the south, and 162 feet to the west. Blasting would only occur if needed and at depths greater than 10 feet bgs.

Operational Vibration

Ground-borne vibration levels resulting from operations at the Project site would be associated normal maintenance activities. Potential vibration levels resulting from operation of the Project facilities would be substantially lower than during Project construction. During operations, the on-site stationary equipment (pumps) may generate low vibration levels in the immediate vicinity of the equipment. However, they would necessarily be designed and installed so as not to cause damage to the Proposed Project facilities on the Project site. Receivers at offsite locations that are sensitive to vibration, including the existing residences, would be located greater than 50 feet from the location of the on-site stationary equipment. At this distance, the minimal vibration levels would rapidly diminish such that these offsite locations sensitive to vibration would be exposed to vibration levels that would be small and not result in any discernible difference in vibration levels and are not discussed further in the impact analysis.

Impact Analysis

Temporary or Permanent Increase of Ambient Noise Levels

Impact 3.11-1: The Proposed Project could have a significant impact if it would generate 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.

Construction of all Proposed Project components would require the use of heavy equipment during site preparation, grading, trenching, excavation, and building activities. Construction activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of construction, there would be a different mix of equipment. As such, construction activity noise levels at and near the Project site would fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment. Construction-related material haul trips would result in an increase in noise levels along haul routes.

Table 3.11-7 shows the anticipated noise levels (L_{max}) produced by the various types of construction equipment that would be used at the Project site, given a reference distance of 50 feet between the equipment and a noise sensitive receptor. It should be noted that L_{max} noise levels associated with the construction equipment would only be generated when equipment is operated at full power. Typically, the operating cycle for a piece of construction equipment would involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. As such, the L_{max} noise levels shown in Table 3.11-7 would occur only occasionally and intermittently throughout the typical construction day. Average L_{eq} noise levels take into account a usage factor, which is the estimated average usage of the equipment where 100 percent represents an equipment used at the maximum level over a time duration (e.g., such as a construction workday). The average L_{eq} noise levels represent the average noise level generated by the equipment and are also shown in Table 3.11-7.

**TABLE 3.11-7
 MAXIMUM NOISE LEVELS FROM CONSTRUCTION EQUIPMENT**

Construction Equipment	Maximum Noise Level at 50 Feet (dBA, L_{max})	Usage Percentage	Average Noise Level at 50 Feet (dBA, L_{eq})
Air Compressor	78	40%	74
Backhoe	78	40%	74
Blasting	94	1%	74
Cement/Mortar Mixer	79	40%	75
Cranes	81	16%	73
Dozers	82	40%	78
Dump/Haul Trucks	77	40%	73
Excavator	81	40%	77
Forklift	75	10%	65
Front End Loader	79	40%	75
Generator Sets	81	50%	78
Graders	85	40%	81

Construction Equipment	Maximum Noise Level at 50 Feet (dBA, L _{max})	Usage Percentage	Average Noise Level at 50 Feet (dBA, L _{eq})
Paving Equipment	77	50%	74
Pickup Truck	75	40%	71
Pumps	81	50%	78
Scraper	84	40%	80
Tractor/Loader/Backhoe	80	25%	74
Vacuum Street Sweeper	82	10%	72
Water Trucks	80	10%	70
Welders	74	40%	70

SOURCE: Federal Highway Administration 2006

During Project construction, these nearby offsite sensitive receptors would be exposed to increased exterior noise levels. **Table 3.11-8** and **Table 3.11-10** show the estimated construction noise levels that would occur at the nearest offsite sensitive uses located in the City of Perris and in the City of Menifee, respectively, during construction activities. The estimated noise levels at these offsite sensitive receptors were calculated using equipment noise levels identified in the FHWA’s RCNM and were based on the concurrent operation of various pieces of equipment depending on the construction phase at the nearest construction area within the Project site relative to each of the identified nearest offsite receptor areas. Calculation assumptions and output files are provided in **Appendix NOI**.

City of Perris

The facilities to be constructed within the City of Perris include the water storage tank and all appurtenant facilities as shown on Figure 2-2. Additionally, the transmission pipeline would be constructed from the water storage tank site across Goetz Road east into undeveloped areas within the City of Menifee. Construction may be perceivable to sensitive receptors within the City of Perris from the construction occurring just adjacent in the City of Menifee.

Construction Noise

As shown in Table 3.11-8, the maximum construction noise levels associated with construction of the water storage tank would range from approximately 78 dBA L_{eq} to 106 dBA L_{eq} at nearby residential property boundaries prior to mitigation. These noise levels represent the estimated maximum construction noise levels at the residential property boundaries and not at the actual residential buildings, which are setback from the property boundary and located further away from construction activities associated with the water storage tank. Construction noise levels at the nearby residential buildings would be lower than at the nearest residential property boundaries. For informational purposes, the noise level at the residential building located to the north of the water storage tank site is provided in Table 3.11-8. As shown, the noise levels at the residential building would be substantially lower than at the residential property boundary due to noise attenuation from increased separation distance. Nonetheless, the determination of potentially significant impacts is required to be based on the estimated noise level at the residential property boundaries consistent with Municipal Code requirements.

**TABLE 3.11-8
 EXTERIOR NOISE AT OFFSITE SENSITIVE USES FROM PROJECT TANK SITE CONSTRUCTION – CITY OF PERRIS**

Offsite Sensitive Land Uses	Location	Closest Approximate Distance to Project Site Construction Area (ft.) ^a	Estimated Construction Noise Levels (dBA L _{eq})	Daytime Applicable Noise Standard (dBA L _{eq}) ^b	Exceed Noise Standard?	Estimated Construction Noise Levels with Mitigation (dBA L _{eq})	Exceed Noise Standard?
Water Storage Tank Site – Site Preparation							
Single-family residence	North of proposed water storage tank site	5 (approximately 64 feet to residential building)	104 (82 dBA at residential building)	80	Yes	94 (72 dBA at residential building)	Yes
Single-family residence	South of proposed water storage tank site	59	83	80	Yes	73	No
Single-family residences	West of proposed water storage tank site	61	82	80	Yes	72	No
Water Storage Tank Site – Grading							
Single-family residence	North of proposed water storage tank site	5 (approximately 64 feet to residential building)	106 (84 dBA at residential building)	80	Yes	96 (74 dBA at residential building)	Yes
Single-family residence	South of proposed water storage tank site	59	85	80	Yes	75	No
Single-family residences	West of proposed water storage tank site	61	85	80	Yes	75	No
Water Storage Tank Site – Tank Installation							
Single-family residence	North of proposed water storage tank site	5 (approximately 64 feet to residential building)	104 (82 dBA at residential building)	80	Yes	94 (72 dBA at residential building)	Yes
Single-family residence	South of proposed water storage tank site	59	83	80	Yes	73	No
Single-family residences	West of proposed water storage tank site	61	83	80	Yes	73	No

Offsite Sensitive Land Uses	Location	Closest Approximate Distance to Project Site Construction Area (ft.) ^a	Estimated Construction Noise Levels (dBA L _{eq})	Daytime Applicable Noise Standard (dBA L _{eq}) ^b	Exceed Noise Standard?	Estimated Construction Noise Levels with Mitigation (dBA L _{eq})	Exceed Noise Standard?
Water Storage Tank Site – Paving							
Single-family residence	North of proposed tank site	5 (approximately 64 feet to residential building)	105 (83 dBA at residential building)	80	Yes	95 (73 dBA at residential building)	Yes
Single-family residence	South of proposed water storage tank site	59	84	80	Yes	74	No
Single-family residences	West of proposed water storage tank site	61	83	80	Yes	73	No
Water Storage Tank Site – Testing/Start Up							
Single-family residence	North of proposed water storage tank site	5 (approximately 64 feet to residential building)	100 (78 dBA at residential building)	80	Yes	90 (68 dBA at residential building)	Yes
Single-family residence	South of proposed water storage tank site	59	79	80	No	N/A	N/A
Single-family residences	West of proposed water storage tank site	61	78	80	No	N/A	N/A

NOTES: N/A = non-applicable

^a The approximate distances are measured from the sensitive-receptor property line to the nearest construction area at the Project site. Since it is not physically possible for equipment to be all located at the same location at the same time, the loudest equipment was assumed to be located at the closest distance to the sensitive receptors while other equipment were located at staggered distances of 100 feet and 200 feet further away.

^b The City of Perris has established a noise standard of 80 dBA for construction activities occurring near residential zones between the hours of 7:00 a.m. and 7:00 p.m.

SOURCE: ESA 2019.

Construction noise at sensitive receptor property boundaries within the City of Perris would exceed 80 dBA, resulting in a potentially significant impact related to a temporary increase in ambient noise levels in the vicinity of the Proposed Project. Mitigation Measures **NOISE-1** through **NOISE-3**, which require noise barriers and BMPs, would be implemented for all construction activities at the proposed water storage tank site. With implementation of Mitigation Measures **NOISE-1** through **NOISE-3**, the temporary increase in ambient noise levels would be reduced but would still exceed the daytime noise standards for the receptor to the north. Thus, construction noise impacts would be significant and unavoidable for the receptor to the north.

Blasting Noise

When necessary, blasting could be used to clear bedrock material at depths greater than 10 feet bgs. Blasting would only occur at the location of the proposed water storage tank within the proposed tank site (i.e., blasting would not occur at the periphery of the proposed tank site). Construction equipment would be used prior to and after the actual blasting event to prepare the site for blasting and to clear the site of earthen materials. The nearest distances that blasting-related construction equipment would be used relative to the property lines of the noise-sensitive receptors would be approximately 76 feet to the north, 90 feet to the south, and 88 feet to the west. Construction equipment noise levels related to blasting activities are shown in **Table 3.11-9**. As shown, the construction equipment noise levels at sensitive receptors within the City of Perris would exceed the City’s 80 dBA standard, resulting in a potentially significant impact related to a temporary increase in ambient noise levels in the vicinity of the Proposed Project. Mitigation Measures **NOISE-1** through **NOISE-3**, which require noise barriers and BMPs, would be implemented for all construction activities at the proposed water storage tank site. With implementation of Mitigation Measures **NOISE-1** through **NOISE-3**, the temporary increase in ambient noise levels would be reduced to below the City of Perris standard of 80 dBA. Thus, construction noise impacts from blasting-related construction equipment would be mitigated to less than significant levels.

**TABLE 3.11-9
 EXTERIOR NOISE AT OFFSITE SENSITIVE USES FROM PROJECT TANK SITE BLASTING-RELATED
 CONSTRUCTION EQUIPMENT – CITY OF PERRIS**

Offsite Sensitive Land Uses	Location	Closest Approximate Distance to Project Site Construction Area (ft.) ^a	Estimated Construction Noise Levels (dBA L _{eq})	Daytime Applicable Noise Standard (dBA L _{eq}) ^b	Exceed Noise Standard?	Estimated Construction Noise Levels with Mitigation (dBA L _{eq})	Exceed Noise Standard?
Water Storage Tank Site – Blasting							
Single-family residence	North of proposed tank site	76	84	80	Yes	74	No
Single-family residence	South of proposed tank site	90	83	80	Yes	73	No
Single-family residences	West of proposed tank site	88	83	80	Yes	73	No

NOTES:

^a The approximate distances are measured from the sensitive-receptor property line to the nearest construction area at the Project site. This analysis conservatively assumes all blasting-related construction equipment are located at the same distance.

^b The City of Perris has established a noise standard of 80 dBA for construction activities occurring near residential zones between the hours of 7:00 a.m. and 7:00 p.m.

SOURCE: ESA, 2019.

If blasting is used for the Project, the blasting event noise itself would generate an instantaneous noise event. Blasting event noise could result in a noise level of approximately 94 dBA L_{max} at a distance of 50 feet. At a distance of 76 feet, this maximum noise level would be reduced to approximately 90 dBA L_{max} with distance attenuation alone. With the blasting being done at depths greater than 10 feet bgs, shielding by the edge of the excavated tank hole would provide an additional 7 dBA or more noise reduction. With distance and shielding attenuation, the blasting event would result in a noise level of approximately 83 dBA L_{max} or lower at the property line of the noise-sensitive receptor to the north. Based on similar calculations for the noise-sensitive receptors to the south and west, the blasting event would result in a noise level of approximately 82 dBA L_{max} or lower at the property lines of the noise-sensitive receptors to the south and west. Because a blast typically lasts less than three seconds, when averaged over a period of 1 minute, the measured noise level over the entire period would be lower than 80 dBA L_{eq} .⁹ Therefore, when averaged to account for typical infrequent and non-continuous blasting conditions, blasting events on the proposed water storage tank site would not exceed the City's 80 dBA standard. Nonetheless, while blasting events would not exceed the City's 80 dBA standard, Mitigation Measure NOISE-1 through NOISE-3 would be in effect during a blasting event. These measures involve noise barriers and BMPs that would be implemented for construction activities at the proposed water storage tank site, as described above for construction equipment noise. Thus, implementation of Mitigation Measure NOISE-1 through NOISE-3 would also reduce the blasting event noise by 10 dBA or more.

Operational Noise

Operation within the City of Perris includes the proposed electric engines used to power the pumps for the water storage tank. The noise levels at the pumps may cause increased noise levels at the single family residences located to the north and to the south of the Project site in the City of Perris. A three-sided concrete masonry unit (CMU) wall approximately 6-feet tall and a small building with a maximum height of approximately 12 feet aboveground would act as a screen and sound barrier for each pump. Based on the location of the proposed water storage tank, the pumps would be located approximately 76 feet or more from the nearest sensitive receptors to the north, 90 feet or more from the nearest sensitive receptors to the south, and 88 feet or more from the nearest sensitive receptors to the west. Based on a reference noise level of 81 dBA L_{max} at 50 feet for pumps, the noise level at 76 feet from the pumps, including a 15 dBA noise reduction from the pump enclosure, would result in noise levels of 62 dBA and would not exceed the City's daytime maximum noise standard of 80 dBA. Therefore, noise levels from operation of the water storage tank facility would not contribute to a significant permanent increase in noise. Additionally, the Proposed Project would result in a minimal amount of worker trips for operation that would not affect existing noise levels. Therefore, operation of the water storage tank would result in less than significant impacts.

⁹ A period of 1-minute is equivalent to 60 seconds. A blasting noise contribution of 83 dBA for 3 seconds and 0 dBA for 57 seconds results in a noise level of approximately 70 dBA averaged over a 1-minute period. Refer to calculation provided in Appendix NOI.

There is no noise-generating equipment associated with operation of the transmission pipeline. As a result, there would be no permanent increase in ambient noise levels and no impact would occur.

City of Menifee

Facilities to be implemented within the City of Menifee include the transmission pipeline and use of existing electric pumps at the intersection of Thornton Road and Murrieta Road. Noise from the construction and operation activities at the proposed water storage tank site in the City of Perris would be approximately 3,000 feet away from the closest residence along Thornton Avenue and would be not be perceivable.

Construction Noise

Noise-sensitive receptors within the City of Menifee include existing homes along Thornton Road and at the intersection of Thornton Road and Murrieta Road. **Table 3.11-10** lists the estimated overlapping construction noise levels from daytime construction activity. Construction activities would occur in segments, which construction crews moving along the transmission pipeline alignment in 100-200 foot segments. Construction would not occur in front of a single residence for more than approximately 3 days. As shown in Table 3.11-10, the maximum construction noise level associated with construction of the transmission pipeline would range from 83 to 90 dBA L_{eq} at adjacent residences that are 25 feet from the transmission pipeline construction, on a temporary basis depending on the specific transmission pipeline construction activity being conducted near adjacent residences. Residential properties that are setback from the roadway as well as those with solid walls along the residential property perimeters would result in reduced noise levels within the residential buildings depending on the setback distance and/or wall coverage. The existing residential properties in the vicinity of the intersection of Thornton Avenue and Murrieta Road are setback from Murrieta Road by approximately 50 feet and are partially shielded by a brick perimeter wall. Since pipeline connection work would connect the Project pipeline to the existing pipeline network, it is assumed that construction would occur at a distance as close as 50 feet from the nearest property line for residences in the vicinity of the transmission pipeline connection work at the intersection of Thornton Avenue and Murrieta Road. Additionally, based on Table 3.11-7, haul truck noise would be up to 79 dBA L_{eq} adjusted to 25 feet (with a peak of 83 L_{max} adjusted to 25 feet) when in use near sensitive receptor. During haul truck transport, when considering that haul trucks pass by sensitive receptors for only a few seconds, and when haul truck noise is averaged over a longer period of time together with generally lower ambient noise without truck noise (in the low 60s or 50s), such as 10 minutes or 1 hour, the resulting average noise level would be less. Therefore, haul trucks traveling by residential uses on Goetz Road and Thornton Avenue could result in a general construction workday noise exposure of approximately 60 to 65 dBA L_{eq} , depending on the ambient noise levels.

The City of Menifee has not established an upper noise limit for construction activity, as long as the construction activity occurs within the permitted hours. Construction in the City of Menifee is not allowed between the hours of 6:00 p.m. and 6:00 a.m. from June through September and between 6:00 p.m. and 7:00 a.m. from October through May. The proposed project facilities

would be constructed within the City of Menifee’s allowable hours of construction as regulated in Chapter 8.01 of the Menifee Municipal Code. Therefore, construction noise impacts in the City of Menifee would be less than significant. Nevertheless, construction of the Project would implement Mitigation Measures NOISE-2 and NOISE-3, as previously discussed, which require notification of upcoming construction work, an onsite noise complaint manager, and BMPs to reduce construction noise, which would reduce noise levels within and surrounding the Proposed Project. With implementation of these mitigation measures, temporary increases in ambient levels would be minimized within the City of Menifee.

**TABLE 3.11-10
 EXTERIOR NOISE AT OFFSITE SENSITIVE USES FROM PROJECT CONSTRUCTION – CITY OF MENIFEE**

Offsite Sensitive Land Uses	Location	Closest Approximate Distance to Project Site Construction Area (ft.)	Estimated Noise Levels from Transmission Pipeline Construction (dBA L _{eq})	Daytime Applicable Noise Standards (dBA L _{eq}) ^a	Exceed Noise Standard for Daytime Hours? ^b
Transmission Pipeline – Pavement Cutting, Excavation, Pipeline Installation, Backfill/Compaction					
Residences adjacent to conveyance pipeline route	Along Thornton Avenue	25	90	N/A ^c	N/A
Transmission Pipeline – Shoring, Paving					
Residences adjacent to conveyance pipeline route	Along Thornton Avenue	25	88	N/A ^c	N/A
Transmission Pipeline – Site Restoration/Testing					
Residences adjacent to conveyance pipeline route	Along Thornton Avenue	25	83	N/A ^c	N/A

^a The City of Menifee exempts noise associated with construction activity if construction does not occur between 6:00 p.m. and 6:00 a.m. from June through September and between 6:00 p.m. and 7:00 a.m. from October through May.

^b With the necessary permits, the Project would be exempt from the applicable noise standards

^c Not applicable. No upper noise limit has been established for construction activity occurring in the permitted hours.

SOURCE: ESA 2019

Operational Noise

There is no new noise-generating equipment associated with the water transmission pipeline. The noise generated from proposed pumps on the proposed water storage tank site would be imperceptible at residences along the transmission pipeline and would not contribute to the existing noise environment. Therefore, noise levels would not exceed noise thresholds applicable to stationary (permanent) sources of noise as listed in Table 3.11-5 and impacts would be less than significant.

Mitigation Measures

Mitigation Measure NOISE-1: The following mitigation measures are recommended to minimize the noise impacts near the water storage tank site:

- For water storage tank construction activities, the contractor shall provide a minimum 8-foot-tall temporary noise barrier around the tank site between the adjacent receivers to the north, west, and south with a performance standard of achieving a minimum 10 dBA noise level reduction at the residential receptors to the north, south, and west.
- Notice should be sent out to residences within 1,000 feet of the water storage tank site at least 10 days prior to the occurrence of blasting.

Mitigation Measure NOISE-2: In coordination with the City of Perris and City of Menifee, construction contractors shall implement the following:

- Signs shall be posted at the construction sites that include permitted construction days and hours, a day and evening contact number for the job site, and an EMWD contact number in the event of problems.
- An on-site complaint and enforcement manager shall respond to and track complaints and questions related to noise.

Mitigation Measure NOISE-3: To reduce noise impacts due to construction, EMWD shall require construction contractors to implement the following BMP measures:

- During construction, the contractor shall outfit all equipment, fixed or mobile, with properly operating and maintained exhaust and intake mufflers, consistent with manufacturers' standards.
- Impact tools (e.g., jack hammers, pavement breakers) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used where feasible.
- Stationary noise sources that could affect adjacent receptors shall be located as far from adjacent receptors as possible.

Significance Determination

Significant and Unavoidable for Construction Occurring in the City of Perris. Less than Significant for Construction Occurring in the City of Menifee. Less than Significant for Operations

Ground-borne Vibration or Ground-borne Noise Levels

Impact 3.11-2: The Proposed Project could have a significant impact if it would generate excessive ground-borne vibration or ground-borne noise levels.

As shown in **Table 3.11-11**, loaded trucks could result in vibration levels of 0.076 in/sec PPV and 86 VdB along haul routes at a distance of 25 feet. Blasting may be used at depths greater than 10

feet bgs on the proposed water storage tank site. As stated above, operation of the Project would not involve any equipment that would cause high levels of vibration and much of the Project will consist of subterranean transmission pipelines that would not cause discernible vibration above ambient levels. Therefore, operation-related vibration would be less than significant, and construction vibration is the only impact considered in this analysis.

**TABLE 3.11-11
 VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT**

Equipment Activity	PPV at 25 Feet (inches/second)^a	RMS at 25 Feet (VdB)^b
Loaded Trucks	0.076	86

^a Buildings can be exposed to ground-borne vibration levels of 0.2 in/sec PPV without experiencing structural damage.

^b The human annoyance response level is 80 VdB.

SOURCE: FTA 2018.

City of Perris

Construction Equipment Vibration

The nearest offsite vibration sensitive structures potentially susceptible to elevated levels of vibration from construction activity would be as close as 34 feet to the north of the proposed water storage tank site. Haul trucks would generate the maximum vibration levels to offsite receptors. Haul trucks would travel on major arterials and would generally be 50 feet or more from surrounding residential structures within the City of Perris and could be exposed to generate vibration levels of 0.027 in/sec PPV and 77 VdB. Other residential and recreational receptors would be located at a greater distance from equipment and trucks and would be exposed to lower vibration levels.

Thus, Proposed Project construction would result in ground-borne vibration levels that would not exceed the applied structural damage threshold of 0.2 in/sec PPV or the 80 VdB threshold for human annoyance response. Therefore, construction equipment vibration impacts would be less than significant.

Blasting Vibration

When necessary, blasting would be used to clear bedrock material at depths greater than 10 feet bgs. A minimum recommended blast distance of greater than 130 feet to register a vibration level of 0.75 in/sec would be required for a 15.0 in/sec PPV, pure 40 Hz impulse recorded at 50 feet. With blasting occurring at 10 feet bgs, this distance would be reduced to approximately 110 feet (for a vibration level of 0.75 in/sec). The closest offsite receptors would be structures (i.e, walls or buildings) located on the surrounding residential properties. When measured from the location of the proposed water storage tank to the nearest structure (i.e., buildings, walls) on the sensitive receptor properties, the nearest structures would be located approximately 110 feet to the north, 90 feet to the south, and 162 feet to the west of the proposed water storage tank. At the closest distance of approximately 90 feet, the blasting vibration would be up to 1.0 in/sec PPV, which would not exceed the 1 in/sec PPV damage threshold for new residential buildings (see Table 3.11-3). Therefore, structural damage impacts would be less than significant.

Although blasting, if required, would generate an instantaneous vibration event, the blasting event may exceed the 80 VdB threshold for human annoyance response. As discussed previously, a blast typically lasts less than three seconds and would occur infrequently on a non-continuous basis; therefore, vibrations from blasting would occur on an infrequent basis during the grading and excavation phases of construction. Blasting would only occur during daytime hours per City of Perris Municipal Code Section 7.34.060. While blasting noise would not occur during the nighttime hours when residents would be particularly sensitive to vibrations, blasting may be needed at depths greater than 10 feet bgs for tank installation. Thus, blasting cannot be eliminated as an option and there are no feasible mitigation measures that could be implemented to reduce the temporary vibration impacts from blasting associated with human annoyance. Therefore, blasting would result in a short-term significant and unavoidable impact with respect to human annoyance response.

City of Menifee

Construction Equipment Vibration

The nearest offsite vibration-sensitive structures would be located approximately 25 feet away from the water conveyance pipeline, although the majority of the residential structures along Thornton Avenue would be located 25 to 50 feet from the transmission pipeline. Vibration may be generated along the transmission pipeline route from haul trucks that would travel on major arterials and would generally be 25 feet or more from surrounding residential structures. For those few residential structures along Thornton Avenue located approximately 25 feet from the transmission pipeline, the vibration level would be up to 0.076 in/sec PPV and 86 VdB from loaded haul trucks, which would not exceed the threshold of 0.2 in/sec PPV for structural impacts due to non-transient vibrations from construction equipment but would exceed the 80 VdB threshold for human annoyance response, albeit for very short-term durations associated with haul trucks driving past. At 50 feet, the residential receptors could be exposed to 0.027 in/sec PPV and 77 VdB, which is less than the impact threshold of 0.2 in/sec PPV for structural impacts due to non-transient vibrations from construction equipment and the 80 VdB threshold for human annoyance response. Nonetheless, because construction work and the use of haul trucks would be required on Thornton Avenue in order to construct the Project, the vibration impacts for temporary and short-term human annoyance would be significant and unavoidable. Potential mitigation measures to reduce vibration impacts from on-site construction activities with respect to human annoyance include the installation of a wave barrier, which is typically a trench or a thin wall made of sheet piles installed in the ground (essentially a subterranean sound barrier to reduce noise). However, wave barriers must be very deep and long to be effective and are not considered feasible for temporary applications, such as the Project construction (Caltrans 2013). Per Caltrans, the wave barrier would need to be at least two-thirds of the seismic wavelength and that the length of the barrier must be at least one wavelength (typical wavelength can be up to 500 feet). In addition, constructing a wave barrier to reduce the Project's construction-related vibration impacts would, in and of itself, generate ground-borne vibration from the excavation equipment. Thus, it is concluded that there are no feasible mitigation measures that could be implemented to reduce the temporary vibration impacts from on-site construction associated with human annoyance. Therefore, vibration from construction equipment would result in a short-term significant and unavoidable impact with respect to human annoyance response.

Mitigation Measures

None Available

Significance Determination

Less than Significant for Structural Damage Vibration Impacts in the City of Perris and City of Menifee. Less than Significant for Human Annoyance Construction Equipment Vibration Impacts in the City of Perris. Significant and Unavoidable for Human Annoyance Blasting Event Vibration in the City of Perris. Significant and Unavoidable for Human Annoyance Construction Equipment Vibration Impacts in the City of Menifee. Less than Significant for Operations.

Cumulative Impacts

Impact 3.11-3: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to noise and vibration.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. The only cumulative project that could have impacts to noise and vibration when combined with the Proposed Project, and that could result in cumulatively considerable impacts, is Cumulative Project 1, the Cimarron Ridge Development Project. All other projects are located too far away to result in cumulatively considerable impacts.

Construction Noise

Construction noise affects only land uses in the immediate neighborhood of the Project site and along the construction access routes. The Cimarron Ridge Development Project on the east side of Goetz Road may have overlapping construction access routes and affect residential uses to the north, west, and south of the Proposed Project site. Since noise levels attenuate at a rate of 6 dBA per doubling of distance from the source, construction of the Proposed Project and the Cimarron Ridge Development Project, even occurring at the same time, would not affect the same receiver with the same level of noise intensity. When considering distance attenuation, noise receivers that are affected by construction noise from the Proposed Project and the Cimarron Ridge Development Project would experience at most a 1 dBA increase on top of the worst case construction noise level the receiver would be exposed to compared to construction of one of the projects. Each project is required to comply with the requirements identified in the Municipal Code noise ordinance of the city or jurisdiction in which it is located. Nonetheless, given that the Proposed Project would result in a significant and unavoidable impact for construction noise occurring in the City of Perris, even when considering the minor increase in noise level from the combined Proposed Project and the Cimarron Ridge Development Project, the resulting cumulative noise level would result in a cumulatively significant impact and the noise levels would be cumulatively considerable. Mitigation measures NOISE-1 through NOISE-3 would be required. Even with implementation of NOISE-1 through NOISE-3, impacts would be significant and unavoidable.

Mitigation Measures

Implement Mitigation Measures NOISE-1 through NOISE-3

Significance Conclusion

Significant and Unavoidable

Operation Noise

Project operation would not result in any significant noise-generating activity, except for occasional maintenance trucks accessing the Project site and along the transmission pipeline route. The only cumulative project that would affect traffic flow along the access routes and along the transmission pipeline route would be the Cimarron Ridge Development Project. Although traffic associated with the Cimarron Ridge Development Project has the potential to affect traffic noise levels along Goetz Road and Thornton Avenue, compared to the existing traffic flow on Goetz Road and Thornton Avenue, project-related maintenance traffic would be minimal and would not result in a significant change in traffic noise level along the access route and along the transmission pipeline route. The proposed water storage tank and chlorination disinfection facility would require weekly maintenance consisting of a maximum of two service truck trips per week (1/2 ton pickup), and one truck trip per month for material delivery. Additionally, tank cleaning is anticipated once every five years, and assumes 3 vehicles per day for 20 days (4 weeks at 5 days per week). No new employees would be required to operate the facilities. Therefore, the project would not result in a cumulative contribution to noise levels. No significant cumulative noise impact would occur and no mitigation measures are required.

Mitigation Measures

None Required

Significance Conclusion

Less than Significant

Cumulative Vibration

Due to the rapid attenuation characteristics of groundborne vibration and distance from each of the related projects to the Project Site, there is no potential for cumulative construction or operational impacts with respect to groundborne vibration. Therefore, construction and operation of the Project considered together with related projects would not result in a significant cumulative impact.

Mitigation Measures

None Required

Significance Conclusion

Less than Significant

3.11.4 References

- Caltrans, 2013. Transportation- and Construction-Induced Vibration Guidance Manual.
- City of Menifee, 2013. City of Menifee General Plan Noise Element. Accessed:
<https://www.cityofmenifee.us/229/N-1-Noise-sensitive-Land-Uses>, December 2019.
- City of Perris, 2005. City of Perris General Plan Noise Element. Accessed:
http://www.cityofperris.org/city-hall/general-plan/Noise_Element.pdf, December 2019
- Federal Highway Administration, 2006. Roadway Construction Noise Model User's Guide. Final Report. January.
- Federal Transit Administration (FTA), 2018. Transit Noise and Vibration Impact Assessment Manual. September.
- Highway Research Board, 1971. National Cooperative Highway Research Program Report 117, Highway Noise: A Design Guide for Highway Engineers.
- Office of Planning and Research, 2017. State of California General Plan Guidelines. Available:
http://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf. Accessed May 2020.
- Ogden Environmental and Energy Services Co., Inc., 1996. Vibration Technical Report on Construction Blasting Operations at the Gregory Canyon Landfill, Pala, California.

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3.12 Transportation and Traffic

This section evaluates the potential for impacts related to traffic and transportation generated by construction and operation of the Proposed Project. This section includes: a description of the existing transportation and circulation conditions regionally and in and around the Proposed Project site; a summary of applicable regulations related to transportation; and an evaluation of the potential impacts of the Proposed Project related to transportation and traffic in and around the Project site, including cumulative impacts.

3.12.1 Environmental Setting

Regional Traffic Circulation System

The Proposed Project is located within Riverside County. The regional circulation system within which construction vehicles, including trucks that would transport equipment and material as well as individual construction worker trips, would travel to access the Proposed Project areas consisting of the following regional freeways:

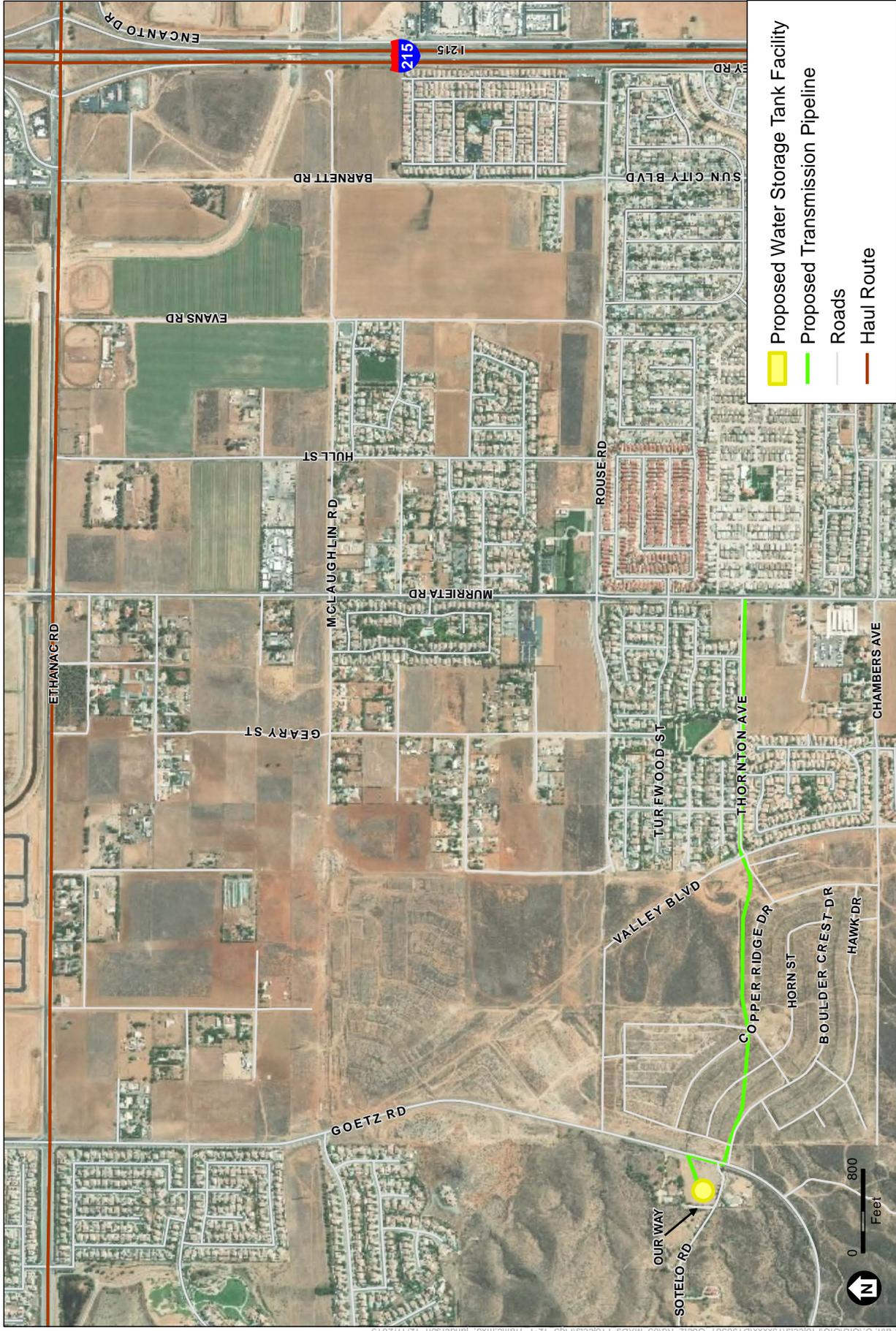
Interstate 215 (I-215) is a north–south freeway that runs through Riverside County and bisects the City of Perris. I-215 connects the City of Perris with the cities of Menifee and Murrieta to the south and Moreno Valley and unincorporated Riverside County to the north. I-215 has an average daily traffic load range of 72,000 to 88,000 vehicles in the Project area (Caltrans 2017). It is expected that most Project-generated traffic would use I-215 to reach Goetz Road. I-215 is approximately one mile east of the Project site. I-215 is designated as a truck route for both the City of Perris (City of Perris 2008) and the City of Menifee and would be used during construction to move materials to and from the Proposed Project site.

Interstate 15 (I-15) is a north-south freeway that runs through Riverside County, west and southwest of the Project site. I-15 merges with I-215 in the City of Murrieta south of the Project area. I-15 intersects SR 74 northwest of the Project area near Lake Elsinore. I-15 is approximately 6.2 miles away from the Project site.

State Route 74 (SR 74) is an east–west freeway that connects Orange County and Riverside County, and connects with I-215 in the City of Perris. SR-74 has an average daily traffic load range of 23,568 to 28,486 vehicles in the Project area (City of Perris 2014). SR 74 is located approximately 3.5 miles to the northwest of the Project site. SR 74 would be used by construction trucks transporting construction materials from outside of Riverside County to the Project site.

Local Traffic Circulation System

The Project site lies within the cities of Perris and Menifee. The following roadways would provide local access to the Project site (as shown on **Figure 3.12-1**):



SOURCE: ESRI, 2019; ESA, 2019.

Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 3.12-1
Local Roadways



Goetz Road is both a primary and secondary arterial with two lanes in the City of Perris and a major four lane roadway within the City of Menifee. Goetz Road has an average daily traffic load of 3,760 vehicles in the Project area between Rouse Road and Lesser Lane (City of Perris 2014). The proposed water storage tank would be located on a parcel owned by EMWD at the northwest corner of Goetz Road and Sotelo Road. The transmission pipeline connecting the proposed water storage tank to existing EMWD infrastructure under Murrieta Road would traverse underneath Goetz Road. Partial or full closure of Goetz Road might be required during Project construction.

Thornton Avenue is a two lane east-west collector road in the City of Menifee. The proposed transmission pipeline would be installed within the Thornton Avenue right-of-way and would connect to existing EMWD infrastructure within Murrieta Road. Construction of the Proposed Project could result in partial or full road closure of Thornton Avenue.

Murrieta Road is a two lane north-south secondary arterial in the City of Menifee. Murrieta Road has an average daily traffic load range of 1,380 to 2,937 vehicles (City of Perris 2014). The transmission pipeline to be installed within Thornton Avenue would connect to existing EMWD infrastructure. Partial closure of Murrieta Road might be required during construction of the proposed transmission line.

Ethanac Road is a two lane east-west primary arterial in the City of Perris and an expressway with six to eight lanes divided in the City of Menifee. Ethanac Road provides access to and from the I-215 and the Project site. Ethanac Road from Goetz Road to the I-215 has an average daily traffic load range of 10,460 to 14,070 vehicles (City of Perris 2014). Ethanac Road is designated as a truck route for both the City of Perris and the City of Menifee and would be used during construction to move materials to and from the Proposed Project site.

Sotelo Road is an unpaved road in the City of Perris. Sotelo Road is adjacent to the proposed water storage tank site. Sotelo Road provides local residents access to Goetz Road and to the surrounding cities of Perris and Menifee. Construction may occur within the Sotelo Road right-of-way.

Our Way is an unpaved road in the City of Perris. Our Way is adjacent to the proposed water storage tank and is perpendicular to Sotelo Road. Our Way provides local residents access to Sotelo Road, Goetz Road and the surrounding cities. Construction may occur within the Our Way right-of-way.

Alternative Transportation

Transit Service

The Project area is served by Riverside Transit Agency (RTA) buses. Within the City of Perris, RTA operates five fixed route services that link the City with various Riverside County destinations such as Riverside, Woodcrest, Mead Valley, Moreno Valley, Hemet and Sun City. In addition, RTA maintains one fixed-route service within the City of Perris linking the Wal-Mart shopping center located at Orange Avenue and Perris Boulevard with Goetz and Ellis Roads in the south and Weston and Lamore Roads in the west. The route covers the downtown area via A

Street, 11th Street, and D Street and makes a stop near the Civic center and library. There are two RTA routes that go through the City of Menifee providing access to the destinations mentioned above.

RTA Route 74 has seven stops and runs from the Perris Station Transit Center to the Mt. San Jacinto College in San Jacinto. Route 74 travels along Ethanac Road and Murrieta Road. The intersection of Murrieta Road and Thornton Avenue is where the proposed transmission pipeline would be installed to connect to existing EMWD infrastructure in the public rights-of-way within Murrieta Road.

RTA Route 208 is an RTA Commuter Link Express Line that runs primarily north to south connecting Riverside to Temecula. The Route utilizes I-215 for large portions of its route. Construction vehicles would use I-215 to access the Proposed Project site and could contribute to traffic on I-215.

Bicycle and Non-Motorized Transportation Facilities

The City of Perris' bikeway system is included as a part of the Riverside County circulation system. The City of Perris accommodates non-motorized modes of transportation through wide City streets and shoulders along the designated street and highway system. The City's non-motorized transportation systems connect community centers, residential neighborhoods, recreational amenities, employment centers, shopping areas, and activity areas. There are no designated bike lanes in the Proposed Project area within the City of Perris.

The Menifee Bikeway and Community Pedestrian Network works in conjunction with the Menifee General Plan Roadway Network to provide a framework for key routes and facilities that will enhance connectivity for all users. The layered networks enable travel by various modes to schools, civic and county facilities, hospitals, libraries, major parks and recreation areas, colleges, malls and other retail centers, and employment districts. The City of Menifee classifies Goetz Road and Murrieta Road as a Class II bike routes. Additionally, Thornton Avenue is classified as a Class III bike route within the City of Menifee.

3.12.2 Regulatory Framework

State

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for planning, designing, building, operating, and maintaining California's transportation system. Caltrans sets standards, policies, and strategic plans that aim to do the following: 1) provide the safest transportation system for users and workers; 2) maximize transportation system performance and accessibility; 3) efficiently deliver quality transportation projects and services; 4) preserve and enhance California's resources and assets; and 5) promote quality service. Caltrans has the discretionary authority to issue special permits for the use of State highways for other than normal transportation purposes. Caltrans also reviews all requests from utility companies, developers,

volunteers, nonprofit organizations, and others desiring to conduct various activities within the State Highway right-of-way.

The following Caltrans regulations apply to potential transportation and traffic impacts associated with the Proposed Project.

California Vehicle Code (CVC), division 15, chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

Regional

Southern California Association of Governments 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy

The SCAG is the designated Metropolitan Planning Organization for Imperial, Los Angeles, Orange, Riverside, Ventura and San Bernardino Counties. On April 7, 2016, SCAG adopted its 2016-2040 RTP/SCS. The RTP/SCS presents the transportation vision for the SCAG region through the year 2040 and provides a long-term investment framework for addressing the region's transportation and related challenges. The RTP/SCS focuses on maintaining and improving the transportation system through a balanced approach and considers economic, environmental, public health, improved coordination between land-use decisions and transportation investments, and strategic expansion of the system to accommodate future growth.

Local

Riverside County Congestion Management Program

The Riverside County Transportation Commission (RCTC), with support from Riverside County, prepares and implements the Riverside Congestion Management Program (CMP), created in compliance with Proposition 111 that aims to more directly link land use, transportation, and air quality to promote reasonable growth management programs. The CMP was most recently updated in 2011. A revised CMP is currently under review and is planned to be incorporated in the Commission's Long Range Transportation Plan (LRTP). The purpose of the State-mandated CMP is to monitor roadway congestion and assess the overall performance of the region's transportation system. Based upon this assessment, the CMP contains specific strategies and improvements to reduce traffic congestion and improve the performance of a multi-modal transportation system. Examples of strategies include increased emphasis on public transportation and rideshare programs, mitigating the impacts of new development, and better coordinating land use and transportation planning decisions.

City of Menifee General Plan: Circulation Element

The City of Menifee General Plan Circulation Element provides overall guidance for the City's responsibility to satisfy the local and subregional circulation needs of residents, visitors, and businesses while maintaining the city's quality of life. In addition, it coordinates the circulation system with future land use patterns and levels of buildout and addresses access and connectivity

among the various neighborhoods and economic development districts. The City of Menifee's circulation network responds to regional and statewide regulatory direction and is strategically designed to reduce vehicle miles traveled by promoting a range of transportation options. Relevant polices in the circulation element include:

C-1.2: Require development to mitigate its traffic impacts and achieve a peak hour Level of Service (LOS) D or better at intersections, except at constrained intersections at close proximity to the I-215 where LOS E may be permitted.

C-1.3: Work with Caltrans, RCTC, and others to identify, fund, and implement needed improvements to roadways identified in the citywide roadway network.

C-1.5: Minimize idling times and vehicle miles traveled to conserve resources, protect air quality, and limit greenhouse gas emissions.

C-3.2: Require new development to provide transit facilities, such as bus shelters, transit bays, and turnouts, as necessary.

City of Perris General Plan: Circulation Element

The City of Perris General Plan Circulation Element describes the extent of physical improvements needed to accommodate anticipated population growth and introduces other techniques (e.g., restricted street parking, transportation systems management plans and congestion management plans), which can be used to improve and maintain an acceptable level of service for the City's circulation system. Relevant policies listed in the General Plan include:

Policy I.C: Cooperate with local, regional, State and federal agencies to establish an efficient multi-modal circulation system.

3.12.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to transportation and traffic according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Result in cumulatively considerable impacts to transportation and traffic.

Additionally, the comments EMWD received on the Initial Study and Notice of Preparation were taken into consideration when preparing this Draft EIR. A summary of those comments is provided in **Table 3.12-1** below.

**TABLE 3.12-1
 SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Transportation and Traffic	<ul style="list-style-type: none"> • Concern regarding the Traffic Control Plan and associated detour routes. • Concern about the Project and its ability to provide the appropriate driveway access to the parcel per Perris road standards. • Concern regarding the construction of the Community On-Street Bike Lane along the Goetz Road frontage of the tank parcel. • Concern over the transmission route to avoid issues with adjacent construction and existing utility lines.

Methodology

The significance determination is based on evaluation criteria included in the Riverside County CMP, the City of Perris’ General Plan, and the City of Menifee’s General Plan in order to determine the Project’s consistency with these established plans.

Impact Analysis

Circulation Programs, Plans, Ordinances, and Policies

Impact 3.12-1: The Proposed Project could conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Construction

Construction truck and vehicle trips would be generated primarily by construction workers commuting to and from the Project sites, and by trucks hauling materials and equipment to and from the proposed water storage tank and transmission line construction sites. A total of up to 10 workers would be needed per day for construction of the water storage tank while 5 to 10 workers would be required during various phases of pipeline installation. For the purposes of this analysis, it is assumed up to 20 workers would be commuting to the Project sites each day, for up to 435 days of construction. Disposal of soil and bedrock material at the nearest landfill (approximately 15 miles from the Project site) would result in approximately 3,100 roundtrip truck trips for the proposed water storage tank and approximately 110 roundtrip truck trips for construction of the transmission pipeline throughout the duration of construction activities. Including site preparation and the removal of pavement cuttings for the pipeline, a total of 3,725 truck trips would be needed for construction spread out over 435 days of construction (approximately 8 trips per day). The Project is also estimated to generate approximately 126 one-way vendor truck trips for the delivery of building materials and supplies to the Project site over the construction period.

Construction activities, scheduling, and number of workers could overlap between the construction of the water storage tank and transmission pipeline.

Construction trucks and vehicles would use the regional circulation system, as well as roadways within the cities of Perris and Menifee. Based on the designated construction truck routes established in the City of Perris' General Plan and City of Menifee's General Plan, construction trucks would primarily use Goetz Road and Ethanac Road to bring construction materials and construction workers to the Project area. As stated in Section 3.12.1 above, Goetz Road has an average daily traffic load of 3,760 vehicles in the Project area between Rouse Road and Lesser Lane, and Ethanac Road from Goetz Road to the I-215 has an average daily traffic load range of 10,460 to 14,070 vehicles (City of Perris 2014). While construction of the Proposed Project would temporarily generate an average of approximately 8 additional daily truck trips, 20 vehicle trips, and a handful of vendor trips within the City of Perris, City of Menifee, and the regional circulation system of Riverside County, traffic levels would not substantially increase above baseline daily traffic loads. Additionally, the additional trips would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, these delays would be intermittent throughout the day and would cease once construction activities are completed.

While construction of the water storage tank and transmission pipeline would not significantly increase the number of vehicles on the local and regional circulation systems, construction of the transmission pipeline would require partial closure of traffic lanes, which may include closures of portions of Goetz Road, Thornton Avenue, and Murrieta Road. Additionally, Project construction activities consisting of the installation of drainage facilities may result in partial closures along Sotelo Road and Our Way adjacent to the water storage tank site. In terms of the alternative transportation system, construction of the water storage tank would involve trucks entering and existing Goetz Road which could affect the Class II bikeway designated by the City of Menifee. Additionally, construction of the transmission pipeline within Thornton Avenue and Murrieta Road could significantly impact the Class II and III bike routes, the RTA Route 74 bus route, and sidewalks. As a result, construction activities within roadways could potentially impact the performance of applicable roadways and alternative transportation methods. However, the implementation of **Mitigation Measure TRA-1**, which would require the preparation and implementation of a Traffic Control Plan, would reduce any potential impacts to alternative transportation to less than significant. The Traffic Control Plan would include traffic control measures to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the cities of Perris and Menifee. The traffic control plan for the Proposed Project would be coordinated with the cities of Perris and Menifee. Therefore, with implementation of Mitigation Measure TRA-1, impacts would be less than significant.

Operation

Once constructed, the transmission pipeline would be contained entirely underground and would require minimal maintenance and associated trips on local roadways. The proposed water storage tank and chlorination disinfection facility would require weekly maintenance consisting of a

maximum of two service truck trips per week (1/2 ton pickup), and two truck trips per month for material delivery. Tank cleaning is anticipated once every five years, and assumes 3 vehicles per day for 20 days (4 weeks at 5 days per week). Maintenance trips would result in a 10-mile one-way trip and chemical deliveries are based on haul trip distances of 20 miles per one-way trip. While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, the number of truck trips during operation would be minimal and would occur on a limited number of days throughout the year. Since the number of truck trips would be minimal during operation of the Proposed Project, the effects on the surrounding circulation system would be negligible and would not cause existing roadway levels of operation to decrease. Therefore, impacts to the applicable program plans, ordinances or policies addressing the circulation system during operation, including transit, roadway, bicycle and pedestrian facilities, would be less than significant.

Mitigation Measures

Mitigation Measure TRA-1: Prior to the start of construction, EMWD shall require the construction contractor to prepare and have approved a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations, and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of Perris, City of Menifee, and Riverside County, as applicable. The Traffic Control Plan shall be prepared in accordance with the City of Perris' and City of Menifee's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan will ensure that congestion and traffic delays are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.

EMWD shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction.

During construction, EMWD will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, EMWD shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The Traffic Control Plan shall include provisions to ensure that the construction of the Project does not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.

EMWD shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for project construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow emergency response providers adequate time to prepare for lane closures.

Significance Determination

Less than Significant with Mitigation

Congestion Management Programs and Public Transit

Impact 3.12-2: The Proposed Project could conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

In accordance with SB 743, *CEQA Guidelines* section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the *CEQA Guidelines* criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas and shift the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person. Section 15064.3 of the *CEQA Guidelines* suggests that the analysis of VMT impacts applies mainly to land use and transportation projects, and not water infrastructure projects. Furthermore, projects that generate or attract fewer than 110 operational trips per day would generally be exempt from further consideration with respect to VMT. The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. The City of Perris has not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. The City of Menifee released draft guidelines in May 2020, which indicate projects generating fewer than 110 trips per day do not require a transportation impact analysis that includes VMT (City of Menifee 2020). Since the regulations of SB 743 have not been finalized or adopted by the local jurisdictions, a qualitative traffic analysis was used in this EIR to determine significance of transportation impacts (see Impact 3.12-1 discussion above). Since the Proposed Project is neither a land use nor a transportation project, and would generate approximately 2 to 3 operational trips per week, impacts with respect to VMT would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Design Hazards

Impact 3.12-3: The Proposed Project could substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Construction

The Proposed Project does not include the construction of a new roadway or intersection, which could be determined to be a hazardous design feature.

Construction of the Proposed Project would include the use of heavy trucks to bring construction materials to and from the proposed water storage tank and transmission pipeline project sites. For the purposes of this analysis, it is assumed up to 20 workers would be commuting to the Project sites each day. Disposal of soil and bedrock material would result in approximately 3,100 roundtrip truck trips for the potable water storage tank and approximately 111 round trip truck trips for construction of the transmission pipeline throughout the duration of construction activities. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, these delays would be intermittent throughout the day and would cease once construction activities are completed. Further, heavy trucks are typical of construction activities and are not considered a roadway hazard. Construction of the water storage tank and transmission pipeline would require partial road closures, which would potentially result in hazardous driving conditions. However, implementation of Mitigation Measure TRA-1 would require the preparation and implementation of a Traffic Control Plan to minimize the effects on roadway safety. Therefore, construction of the Proposed Project would not result in a hazardous design feature within the Project area. Impacts during construction would be less than significant with mitigation.

Operation

The Proposed Project does not include the operation of a new roadway or intersection, which could be determined to be a hazardous design feature.

Operation of the Proposed Project would require periodic maintenance checks and activities within the cities of Perris and Menifee. Existing staff would perform routine operations similar to what occurs along other pipelines and water storage facilities in the vicinity and within the cities of Perris and Menifee. Once constructed, the transmission pipeline would be contained entirely underground and would require minimal maintenance and associated trips on local roadways. The proposed water storage tank and chlorination disinfection facility would require weekly maintenance consisting of a maximum of two service truck trips per week (1/2 ton pickup), and one truck trip per month for material delivery. Tank cleaning is anticipated once every five years, and assumes 3 vehicles per day for 20 days (4 weeks at 5 days per week). Further, operation of the Proposed Project would not require heavy equipment, nor would it impact existing intersections or roadways and as such would not result in a hazardous design feature. As a result, impacts during operation of the Proposed Project would be less than significant.

Mitigation Measures

Implement Mitigation Measure TRA-1

Significance Determination

Less than Significant with Mitigation

Emergency Access

Impact 3.12-4: The Proposed Project could result in inadequate emergency access.

Construction

As described in Impact 3.12-1, construction of the Proposed Project would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bringing materials to and from the construction sites and daily construction worker vehicle trips. However, while construction of the Proposed Project would not significantly increase the amount of trucks and vehicles on the local and regional circulation systems, construction activities within roadways would require partial road closures, which could interfere with emergency access. In order to reduce impacts to emergency access during construction of the Proposed Project, EMWD would be required to implement Mitigation Measure TRA-1 which would require the preparation and implementation of a Traffic Control Plan. The Traffic Control Plan would include, but would not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate emergency access and circulation to the satisfaction of the cities of Perris and Menifee. The Traffic Control Plan would be coordinated with Riverside County, as necessary, as well as with emergency responders, which include fire departments, police departments, and ambulances that have jurisdiction within the Project area. The mitigation measure also requires that EMWD notify emergency responders of proposed partial or full lane closures at least 30 days prior to impacts. Therefore, with implementation of Mitigation Measure TRA-1, impacts would be less than significant.

Operation

Once constructed, the transmission pipeline connecting the water storage tank to the existing EMWD infrastructure would be contained entirely underground and the water storage tank would be located partially underground on a parcel owned by EMWD. These facilities would not interfere with emergency access.

The proposed water storage tank and chlorination disinfection facility would require weekly maintenance consisting of a maximum of two service truck trips per week (1/2 ton pickup), and one truck trip per month for material delivery. Tank cleaning is anticipated once every five years, and assumes 3 vehicles per day for 20 days (4 weeks at 5 days per week). While these operational activities would generate additional truck trips on the surrounding local and regional circulation

system, the number of truck trips during operation would be minimal and would occur on a limited number of days throughout the year. Due to the relatively limited amount of vehicle trips associated with operation and maintenance of the Proposed Project facilities, it is reasonable to assume these trips would not interfere with emergency access. Thus, impacts to emergency access during operation would be less than significant.

Mitigation Measures

Implement Mitigation Measure TRA-1

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.12-5: Concurrent construction of the Proposed Project and related projects in the geographic scope could result in cumulative short-term impacts to traffic and transportation.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. Cumulative Projects 1, 8, and 9 are large-scale residential subdivisions that have the potential to temporarily affect traffic and transportation.

Construction and Operation

The effects of construction activities on traffic are due to an increase in the number of vehicles on local roadways (due to material delivery and worker commutes) and physical constraints on roadways if lane or street closures are required. The construction-related traffic trips associated with all of the cumulative projects would be short-term and temporary in nature. Some of the larger developments, including Cumulative Projects 1, 8 and 9 which are residential subdivisions consisting of 756, 637 and 65 houses/lots, respectively, would permanently affect traffic in the area due to a greater number of people living in the area and traveling to/from the residences in their cars. The permanent increase in daily trips associated with new large-scale residential development (Cumulative Projects 1, 8 and 9) are part of the planned growth within the City of Menifee and would not be expected to increase stress on traffic systems and transportation routes that would reduce the effectiveness of the circulation system.

Construction of the Proposed Project, along with the identified related projects in the geographic scope, could affect traffic and circulation in the region. These projects could be constructed simultaneously in areas proximate to, or overlapping geographically with the Proposed Project, most notably the Cimarron Ridge Development Project (Cumulative Project 1). This project has the potential to result in a cumulative impact to traffic, particularly since the proposed pipelines would involve construction activities within roadways and public rights-of-way. As required by Mitigation Measure TRA-1, EMWD would implement a Traffic Control/Traffic Management

Plan for the Proposed Project as necessary to reduce construction-related effects of the Project to less than significant levels. The Traffic Control/Traffic Management Plan should also take into consideration the effects other construction activities occurring simultaneously in the same geographic area. Mitigation Measure TRA-1 would require EMWD to coordinate all construction activities with emergency service providers to ensure adequate access to emergency services is maintained during construction. While the Cimarron Ridge Development Project could potentially overlap with the Proposed Project construction, the proposed area for the Cimarron Ridge Development Project is undeveloped and does not include roadways. As a result, the Project's incremental contribution to traffic and transportation would not be cumulatively considerable with implementation of mitigation measures.

The Proposed Project would only contribute to local traffic during the construction phase of the Project. Therefore, the Project's contribution to cumulative transportation and traffic impacts would be less than cumulatively considerable.

Mitigation Measures

Implement Mitigation Measure TRA-1

Significance Determination

Less than Significant with Mitigation

3.12.4 References

California Department of Transportation (Caltrans), 2017. 2017 Traffic Volumes: Route 198-220. Available online at: <https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-198-220>. Accessed May 6, 2020.

City of Menifee, 2020. Draft City of Menifee traffic Impact Analysis Guidelines for Vehicle Miles Traveled. <https://cityofmenifee.us/DocumentCenter/View/10338/Resolution-Attachment-A---TIA-Guidelines-for-VMT>. Accessed June 2, 2020.

City of Perris, 2008. General Plan Circulation Element, City of Perris General Plan, 2030. Available online at: http://www.cityofperris.org/city-hall/general-plan/Circulation_Element.pdf, accessed February 12, 2020. City council adoption in 2005, amended in 2008.

City of Perris, 2014. City of Perris Speed Study Traffic Conditions Form for 2014. Counts taken on August 18, 2014.

3.13 Tribal Cultural Resources

This section addresses the tribal cultural resources impacts associated with construction and operation of the Proposed Project. This section includes: a description of the tribal cultural resources in the Proposed Project area; a summary of applicable regulations related to tribal cultural resources; and an evaluation of the potential impacts of the Proposed Project related to the tribal cultural resources on the Proposed Project site and in the surrounding area, including cumulative impacts. The results of the Native American consultation conducted by EMWD for purposes of compliance with CEQA requirements prompted by Assembly Bill (AB) 52 are located in **Appendix TRIBAL** of this Draft EIR.

3.13.1 Environmental Setting

Ethnographic Overview

The Project site is situated within a region historically occupied by a Native American group known as the Cahuilla near the boundary with the Juaneño and Luiseño (Bean 1978, Kroeber 1925). The term Cahuilla likely derived from the native word *káwiya*, meaning “master” or “boss” (Bean 1978:575). Traditional Cahuilla ethnographic territory extended west to east from the present-day City of Riverside to the central portion of the Salton Sea in the Colorado Desert, and south to north from the San Jacinto Valley to the San Bernardino Mountains. The Cahuilla, like their neighbors to west, the Luiseño and Juaneño, and the Cupeño to the south, are speakers of a Cupan language. Cupan languages are part of the Takic linguistic subfamily of the Uto-Aztec language family. It is thought that the Cahuilla migrated to southern California approximately 2,000 to 3,000 years ago, most likely from the southern Sierra Nevada mountain ranges of east-central California with other Takic speaking social groups (Moratto 1984:559).

Cahuilla villages were usually located in canyons or on alluvial fans near a source of accessible water. Each lineage group maintained their own houses (*kish*) and granaries, and constructed ramadas for work and cooking. Sweat houses and song houses (for non-religious music) were also often present. Each community also had a separate house for the lineage or clan leader. A ceremonial house, associated with the clan leader was where major religious ceremonies were held. Houses and ancillary structures were often spaced apart, and a “village” could extend over a mile or two. Each lineage had ownership rights to various resource collecting locations, “including food collecting, hunting, and other areas. Individuals also owned specific areas or resources, e.g., plant foods, hunting areas, mineral collecting places, or sacred spots used only by shamans, healers and the like” (Bean 1990:2).

The Cahuilla hunted a variety of game, including mountain sheep, cottontail, jackrabbit, mice, and wood rats, as well as predators such as mountain lion, coyote, wolf, bobcat, and fox. Various birds were also consumed, including quail, duck, and dove, plus various types of reptiles, amphibians, and insects. A wide variety of tools and implements were employed by the Cahuilla to gather and collect food resources. For the hunt, these included the bow and arrow, traps, nets, slings and blinds for hunting land mammals and birds, and nets for fishing. Rabbits and hares

were commonly brought down by the throwing stick; however, when communal hunts were organized for these animals, the Cahuilla often utilized clubs and very large nets.

The Cahuilla had adopted limited agricultural practices by the time Euro-Americans traveled into their territory. Bean (1978:578) has suggested that their “proto-agricultural techniques and a marginal agriculture” consisting of beans, squash and corn may have been adopted from the Colorado River groups to the east. Certainly by the time of the first Romero Expedition in 1823-24, they were observed growing corn, pumpkins, and beans in small gardens localized around springs in the Thermal area of the Coachella Valley (Bean and Mason 1962:104). The introduction of European plants such as barley and other grain crops suggest an interaction with the missions or local Mexican rancheros. Despite the increasing use and diversity of crops, no evidence indicates that this small-scale agriculture was anything more than a supplement to Cahuilla subsistence, and it apparently did not alter social organization.

By 1819, several Spanish mission outposts, known as *assistencias*, were established near Cahuilla territory at San Bernardino and San Jacinto. Cahuilla interaction with Europeans at this time was not as intense as it was for native groups living along the coast. This was likely due to the local topography and lack of water, which made the area less attractive to colonists. By the 1820s, however, European interaction increased as mission ranchos were established in the region and local Cahuilla were employed to work on them.

The Bradshaw Trail was established in 1862 and was the first major east-west stage and freight route through the Coachella Valley. Traversing the San Gorgonio Pass, the trail connected gold mines on the Colorado River with the coast. Bradshaw based his trail on the Cocomaricopa Trail, with maps and guidance provided by local Native Americans. Journals by early travelers along the Bradshaw Trail told of encountering Cahuilla villages and walk-in wells during their journey through the Coachella Valley. The continued influx of immigrants into the region introduced the Cahuilla to European diseases. The single worst recorded event was a smallpox epidemic in 1862-63. By 1891, only 1,160 Cahuilla remained within what was left of their territory, down from an aboriginal population of 6,000–10,000 (Bean 1978:583-584). By 1974, approximately 900 people claimed Cahuilla descent, most of who resided on reservations.

Between 1875 and 1891, the United States established ten reservations for the Cahuilla within their traditional territory. These reservations include: Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, Soboba, and Torres-Martinez (Bean 1978:585). Four of the reservations are shared with other groups, including the Chemehuevi, Cupeño, and Serrano. The Soboba Reservation, which includes people of both Luiseño and Cahuilla descent, is closest to the Project site.

Identification of Tribal Cultural Resources

Records Search

A records search for the Project was conducted by ESA staff on May 21, 2019 at the CHRIS EIC housed at the University of California, Riverside. The records search included a review of all previously documented archaeological resources and historic architectural resources within 0.5-

mile radius of the Project area that were not documented in the 2015 Cultural Resources Study (see Appendix CUL). The records search also included a review of listings for the National Register, California Register, California Points of Historical Interest, California Historical Landmarks, and California State Historic Resources Inventory.

The records search results indicate that no cultural resources studies have been conducted within a 0.5-mile radius of the Project site since the 2015 Cultural Resources Study was prepared. As such, none of the studies overlap with the Project site. The records search results also indicate that no resources have been previously recorded within the 0.5-mile radius of the Project site since the 2015 Cultural Resources Study was prepared. As a result, none of the resources overlap with the Project site.

Sacred Land File Search

The NAHC maintains a confidential SLF which contains sites of traditional, cultural, or religious value to the Native American community. A request was sent to the NAHC for a review of the SLF on May 30, 2019. The NAHC responded to the request in a letter dated June 18, 2019. The results of the SLF search conducted by the NAHC indicate that no Native American cultural resources are known to be located within the Project area. The SLF request and response from the NAHC are included as an appendix in the Cultural Resources Assessment included in Appendix CUL to this Draft EIR.

Native American Correspondence and AB 52 Tribal Consultation

On July 9, 2019, EMWD sent consultation notification letters via certified mail to Native American groups on EMWD's Master List pursuant to the requirements of AB 52 pertaining to government-to-government consultation. **Table 4.13-1** summarizes EMWD's consultation efforts. To date, EMWD has conducted consultation with three Native American Tribes: The Pechanga Band of Luiseño Indians (Pechanga), Rincon Band of Luiseño Indians (Rincon), and the Soboba Band of Luiseño Indians (Soboba). In consultation meetings, Tribes highlighted their concerns for the site and made recommendations. They noted potential tribal cultural resources known to be in the vicinity, but none that were identified within the Proposed Project site. The Rincon informed EMWD of a tribal cultural resource known to exist several miles from the Proposed Project site. Additionally, all Tribes expressed concern with potential unearthing of unknown artifacts while trenching for pipeline installation, as well as grading of the vacant water storage tank site. Tribes recommended tribal monitoring to cover the potential for uncovering of unknown buried artifacts.

**TABLE 5.13-1
 SUMMARY OF AB 52 CONSULTATION EFFORTS**

Individual Contacted	Tribe/Organization	Date Letter Mailed	Response Received
Katie Croft, Archaeologist, Tribal Historic Preservation Office	Agua Caliente Band of Cahuilla Indians	July 9, 2019	A letter from the Agua Caliente dated August 16, 2019 requested shapefiles of the project APE and copies of cultural resources report and site records. An email from the Agua Caliente on September 4, 2019 deferred consultation to the Soboba.
Travis Armstrong, Cultural Resources Specialist	Morongo Band of Mission Indians	July 9, 2019	The Morongo deferred consultation to other consulting tribes in an email on July 30, 2019.
Ebru Ozdil, Planning Specialist, Pechanga Cultural Resources	Pechanga Band of Luiseño Indians (Pechanga)	July 9, 2019	The Pechanga requested formal consultation in an email on August 8, 2019. Formal consultation was held with the Pechanga on January 27, 2020.
Destiny Colocho, Manager Cultural Resources Department	Rincon Band of Luiseño Indians	July 9, 2019	The Rincon requested formal consultation via email on August 6, 2019 and requested consultation. Upon review of information provided by EMWD, in an email dated September 17, 2019, the Rincon identified one cultural resource approximately 3.5 miles from the Proposed Project site. The Rincon also requested copies of cultural report and EIR and stated they would issue recommendations upon reviewing the materials. Consultation with the Rincon occurred on September 10, 2019.
Jessica Mauck, Cultural Resources Analyst	San Manuel Band of Mission Indians	July 11, 2019	The San Manuel declined consultation in an email on July 17, 2019.
Joseph Ontiveros, Cultural Resources Director	Soboba Band of Luiseño Indians	July 11, 2019	The Soboba requested consultation in a letter dated August 5, 2019. Formal consultation was held on August 22, 2019.

3.13.2 Regulatory Framework

State

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by Governor Brown on September 25, 2014. The act amended PRC section 5097.94, and added PRC sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which an NOP or a notice of intent to adopt a negative declaration or mitigated negative declaration (MND) is filed.

The primary intent of AB 52 is to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans, known as tribal cultural resources, that require consideration under CEQA. PRC section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural

landscapes, sacred places, and objects with cultural value to a California Native American [T]ribe” that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to *CEQA Guidelines* Appendix G, which was approved by the Office of Administrative Law on September 27, 2016.

PRC section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a Tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC section 21073) and who have requested in writing to be informed by the lead agency (PRC section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency’s formal notification and the lead agency must begin consultation within 30 days of receiving the Tribe’s request for consultation (PRC sections 21080.3.1(d) and 21080.3.1(e)).

PRC section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project’s impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC section 21080.3.2(b)).

If a California Native American Tribe has requested consultation pursuant to PRC section 21080.3.1 and does not provide comments to the lead agency, or otherwise does not engage in the consultation process, or if the lead agency has complied with section 21080.3.1(d) and the California Native American Tribe has not requested consultation within 30 days, then the lead agency may certify an EIR or adopt an MND (PRC section 21082.3(d)(2) and (3)).

PRC section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American Tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the Tribe that provided the information. If the lead agency publishes any information submitted by a California Native American Tribe during the consultation or environmental review process, then that information shall be published in a confidential appendix to the environmental document unless the Tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

3.13.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to tribal cultural resources according to the *CEQA Guidelines* Appendix G if it would do the following:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).
 - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.
- Result in a cumulatively considerable impact to tribal cultural resources.

The analysis presented below takes into consideration the comments EMWD received on the Initial Study and NOP. A summary of those comments is provided in **Table 3.13-2** below.

**TABLE 3.13-2
SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Tribal Cultural Resources	<ul style="list-style-type: none">• The EIR should demonstrate compliance with the requirements of Assembly Bill 52 for tribal consultations. The EIR should state whether there is the presence or absence of any tribal cultural resources and make findings regarding the tribal cultural resources as required by law.

Methodology

The Proposed Project’s potential impacts to tribal cultural resources have been evaluated using a variety of resources, including an SLF search conducted by the NAHC. AB 52 notification letters were sent to Native American groups and individuals indicated by the NAHC to solicit information regarding the presence of tribal cultural resources. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Impact Analysis

Tribal Cultural Resource Identified in the CRHR

Impact 3.13-1: The Proposed Project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

The SLF search conducted by the NAHC indicates an absence of sacred sites within the Project site. EMWD's government-to-government consultation efforts with interested Native American groups conducted pursuant to AB 52 did not result in identification of tribal cultural resources within or in close proximity to the Proposed Project site. Given that no tribal cultural resources have been identified within or immediately adjacent to the Proposed Project site through AB 52 consultation, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource and no mitigation would be required.

While no known resources have been identified in the Proposed Project site, unknown tribal cultural resources could be uncovered during construction of the pipeline and proposed water storage tank. As noted in Section 3.4, *Cultural Resources*, EMWD would be required to implement Mitigation Measure CUL-2 which includes archaeological and Tribal monitoring of all ground-disturbing activities.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Tribal Cultural Resource Determined to be Significant

Impact 3.13-2: The Proposed Project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

As noted above, no tribal cultural resources were identified as part of EMWD's government-to-government notification and consultation efforts with interested Native American groups conducted pursuant to AB 52. Given that no tribal cultural resources have been identified within

or immediately adjacent to the Project site, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource and no mitigation would be required.

While no known resources have been identified in the Proposed Project site, unknown tribal cultural resources could be uncovered during construction of the pipeline and proposed water storage tank. As noted in Section 3.4, *Cultural Resources*, EMWD would be required to implement Mitigation Measure CUL-2 which includes archaeological and Tribal monitoring of all ground-disturbing activities.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Cumulative Impacts

Impact 3.13-3: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to tribal cultural resources.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. The only cumulative project that could have impacts to tribal cultural resources when combined with the Proposed Project, and that could result in cumulatively considerable impacts, is Cumulative Project 1, the Cimarron Ridge Development Project.

Construction and Operation

No tribal cultural resources were identified as part of EMWD's government-to-government notification and consultation efforts with interested Native American groups conducted pursuant to AB 52. Given that no tribal cultural resources have been identified within or immediately adjacent to the Project site, the Proposed Project would not cause a substantial adverse change in the significance of a tribal cultural resource and no mitigation would be required.

While the Project site is not known to contain tribal cultural resources, it is possible that the Project site could contain previously undiscovered tribal cultural resources. Refer to Section 3.4, *Cultural Resources*, for a discussion of cumulative impacts to unknown resources.

Mitigation Measures

None Required

Significance Determination

Less than Significant

3.13.4 References

- Bean, Lowell J., 1978. Cahuilla. In California, edited by Robert F. Heizer, pp. 575–587. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Bean, Lowell J., 1990 Ethnography of the Toro Canyon Cahuilla. Prepared for George Berkey & Associates, Inc. Cultural Systems Research, Inc., Menlo Park, California.
- Bean, Lowell J., and William B. Mason, 1962. *The Romero Expeditions, 1823-1826*. Palm Springs Desert Museum, Palm Springs, CA.
- Kroeber, Alfred J., 1925. *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin 78. Originally published 1925, Smithsonian Printing Office, Washington, D.C. Unabridged reprint 1976, Dover Publications, Inc. New York.
- Moratto, Michael, 1984. *California Archaeology*. Academic Press, New York.

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3.14 Utilities and Service Systems

This section evaluates the potential for impacts related to utilities and service systems associated with construction and operation of the Proposed Project. This section includes: a description of the existing utilities and service systems serving the Proposed Project site; a summary of applicable regulations related to utilities and service systems; and an evaluation of the potential impacts of the Proposed Project related to utilities and services in and around the Project site, including cumulative impacts.

3.14.1 Environmental Setting

Water Supply

The Project is located entirely within the EMWD service area, which includes 555 square miles of western Riverside County. EMWD is a water retailer that provides potable water, wastewater treatment, and recycled water services for portions of Riverside County, including the cities of Perris, Moreno Valley, San Jacinto, Menifee and Temecula. EMWD is one of 26 member agencies of MWD. The majority of EMWD's water supplies consist of imported water purchased through MWD from the SWP and the CRA. EMWD depends on MWD for approximately half of its retail water supply (EMWD 2016).

EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. EMWD owns and operates two desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water for distribution throughout the service area. EMWD also owns, operates, and maintains its own recycled water system that consists of four Regional Water Reclamation Facilities (RWRFs) and multiple storage ponds throughout EMWD's service area. Recycled water is sold to customers, discharged to Temescal Creek, or percolated in storage ponds throughout the EMWD service area.

In 2017, EMWD became the GSA for the western portion of the San Jacinto Groundwater Basin. The area encompasses the cities of Moreno Valley, Perris, and Menifee and the surrounding unincorporated communities. The City of Perris serves as an Executive Advisory Committee member for the GSA along with several other entities in the San Jacinto Groundwater Basin. As the GSA, EMWD manages the West San Jacinto Groundwater Management Area (Management Area) located in the western portion of Riverside County within the San Jacinto River Watershed. The Proposed Project is located in this Management Area. The Management Area covers approximately 256 square miles and has been divided into six groundwater management zones. The project area is partially located in the management area zone 'Perris South' (EMWD 2017).

Table 3.14-1 shows the existing and projected water demand in the EMWD service area. Demand projections are based on information about planned development and land use, and assume typical hydrologic conditions. **Table 3.14-2** shows the service area's existing and projected water supply.

**TABLE 3.14-1
 EXISTING AND PROJECTED WATER DEMAND IN THE EMWD SERVICE AREA (AFY)**

	2015	2020	2025	2030	2035	2040
Potable and Raw Water Demand	100,705	151,000	165,600	180,600	195,200	209,300
Recycled Water Demand	45,385	46,901	53,100	55,200	57,400	58,900
Total Water Demand	146,090	197,901	218,700	235,800	252,600	268,200

SOURCE: EMWD 2016

**TABLE 3.14-2
 EXISTING AND PROJECTED WATER SUPPLY IN THE EMWD SERVICE AREA (AFY)**

	2015	2020	2025	2030	2035	2040
Imported Water	78,165	131,697	143,197	158,197	172,797	186,897
Groundwater	15,252	12,303	12,303	12,303	12,303	12,303
Desalinated Groundwater	7,288	7,000	10,100	10,100	10,100	10,100
Recycled Water	45,385	46,901	53,100	55,200	57,400	58,900
Total Water Supply	146,090	197,901	218,700	235,800	252,600	268,200

SOURCE: EMWD 2016

As shown in Table 3.14-1, demand for both potable and recycled water is expected to increase through 2040. Table 3.14-2 demonstrates that although groundwater supply is projected to decrease in 2020 and remain constant through 2040, other potable and recycled water supply sources are anticipated to increase to match overall demand. According to EMWD’s Urban Water Management Plan (UWMP), EMWD plans to meet projected demand increases through a combination of local supply development and ongoing water conservation. Future projects to increase water supply within the EMWD service area include continued full utilization of recycled water, expansion of the desalter program, increasing local groundwater banking and developing additional regional water transfers and exchanges (EMWD 2016).

Wastewater Treatment

EMWD is responsible for all wastewater collection and treatment in its service area through the use of its four RWRFs, which have recently completed expansions and produce tertiary effluent suitable for California Department of Health Services permitted uses including almost any use but human consumption (EMWD 2016).

As shown in **Table 3.14-3**, the four RWQFs have a combined treatment capacity of 81,800 acre-feet per year (AFY), which, after subtracting the total amount of wastewater EMWD treated in 2015, leaves a remaining capacity of 33,135 AFY. Wastewater generated in the Project area is either treated at the San Jacinto RWRf or Perris Valley RWRf. The San Jacinto Valley and Perris Valley RWRFs use tertiary treatment, which is the highest level of wastewater treatment and removes bacteria, viruses and almost all suspended solids (EMWD 2016).

**TABLE 3.14-3
 RWF TREATMENT CAPACITY AND 2015 CAPACITY UTILIZATION (AFY)**

Regional Water Reclamation Facility (RWF)	Treatment Capacity (AFY)
San Jacinto Valley	15,700
Moreno Valley	17,900
Temecula Valley	20,200
Perris Valley	28,000
Total Capacity	81,800
2015 Capacity Utilization	48,665
Remaining Capacity	33,135

SOURCE: EMWD 2016

Stormwater

The Project is located within the jurisdiction of the RCFCWCD. RCFCWCD operates a stormwater drainage system consisting of over 420 miles of major underground storm drains, open channels and levees, along with 40 dams and detention basins in Riverside County. In most cases, the RCFCWCD does not maintain storm drain inlets or pipes less than 36 inches in diameter. These inlets and smaller facilities are typically maintained by city street departments or the Riverside County Transportation Department (RCFCWCD 2019).

Solid Waste Management

The two closest permitted active landfills to the Project site are the Lamb Canyon Sanitary Landfill located in Beaumont, CA, and the El Sobrante Landfill located in Corona, CA. **Table 3.14-4** lists the closure dates, daily permitted capacities, remaining permitted capacities, and proximity of the Proposed Project to these Class III solid waste landfills. As shown in the table, the two landfills are open and have remaining capacities available to serve Project activities through 2051.

**TABLE 3.14-4
 LANDFILLS IN PROXIMITY TO THE ALIGNMENT**

Facility Name	Closure Date	Daily Permitted Capacity (tons/day)*	Remaining Permitted Capacity (cubic yards)	Approximate Distance from Project Area
Lamb Canyon Sanitary Landfill	04/01/2029	5,000	19,242,950 ^a	17 miles northeast
El Sobrante Landfill	01/01/2051	16,054	143,977,170 ^b	15 miles northwest

* Max permitted daily throughput

^a as of 2015

^b as of 2018

SOURCE: CalRecycle 2019a; CalRecycle 2019b

3.14.2 Regulatory Framework

Federal

Resource Conservation and Recovery Act

The RCRA (40 CFR, Part 258 Subtitle D) established minimum location standards for siting municipal solid waste landfills. In addition, because California laws and regulations governing the approval of solid waste landfills meet the requirements of Subtitle D, the EPA has delegated the enforcement responsibility to the State of California.

State

California State Assembly Bill 341

With the passage of AB 341, the Governor and the Legislature established a policy goal for the State that a minimum of 75 percent of solid waste must be reduced, recycled, or composted by the year 2020. Since the passage of AB 939 in 1989, State diversion rates are now equivalent to 65 percent. The Statewide recycling rate is 50 percent, and the beverage container recycling rate is 80 percent. The State provided strategies to achieve its new 75 percent goal, including moving organics out of the landfill and expanding recycling/ manufacturing infrastructure. To achieve State strategies, the State recommended legislative and regulatory changes including mandatory organics recycling, solid waste facility inspections, and revising packaging. The State also recommends promotion of the recovery of construction and demolition materials suitable for reuse, compost or anaerobic digestion before residual wastes are considered for energy recovery.

Local

General Waste Discharge Requirements for De Minimis Threats to Water Quality – Santa Ana Region

The General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat to Water Quality (Order No. R8-2015-0004) was issued by the Santa Ana Regional Water Quality Control Board (Santa Ana Regional Board). Discharges regulated under this De Minimis Permit include but are not limited to construction dewatering wastes; wastes associated with well installation, development, test pumping and purging; and discharges resulting from maintenance of potable water supply pipelines, tanks, and reservoirs. For a discharge to be acceptable, the De Minimis Permit requires discharges to satisfy specific effluent limitations pertaining to concentrations of various constituents, pH levels, and oil and grease content. Discharges shall also not substantially affect the receiving waters into which they are deposited in various ways as specified by the De Minimis Permit, including violating water quality standards specified in the Basin Plan for the Santa Ana Region.

The De Minimis Permit requires submittal of a NOI to the Santa Ana Regional Board at least 45 days before the anticipated start of a new discharge. The Santa Ana Regional Board will then issue a discharge authorization letter that includes a self-monitoring program for the proposed

discharge. The Santa Ana Regional Board must also be informed when coverage under the De Minimis Permit is no longer needed.

Riverside County Liquid Waste Hauler Permit and Liquid Waste Vehicle Permit

To haul liquid waste (including portable toilet waste), businesses must obtain a Liquid Waste Hauler Permit County from Riverside County. This requires completion of an application that details information on the business, disposal sites, and vehicles to be used. The County also requires businesses to obtain a Liquid Waste Vehicle Permit; the application must include material safety data sheets for all businesses authorized to provide and service portable toilets, along with a wastewater discharge permit from each wastewater treatment plant to which the business discharges liquid waste.

3.14.3 Impact Analysis and Mitigation Measures

Significance Criteria

This Draft EIR assumes implementation of the Proposed Project would have a significant impact related to utilities and service systems according to thresholds identified in *CEQA Guidelines* Appendix G if it would do the following:

- 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.
- Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments.
- 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.
- Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.
- Result in cumulatively considerable impacts to utilities and service systems.

Additionally, the comments EMWD received on the Initial Study and Notice of Preparation were taken into consideration when preparing this Draft EIR. A summary of those comments is provided in **Table 3.14-5**.

**TABLE 3.14-5
 SUMMARY OF SCOPING COMMENTS**

Environmental Topic	Comment
Utilities and Service Systems	<ul style="list-style-type: none"> • Evaluate impacts to existing drainage and flood control facilities.

Methodology

The evaluation of potential impacts to utilities and service systems is based on current utility service levels and the ability of service providers to accommodate the construction and operation of the Proposed Project.

Impact Analysis

Utilities Construction or Relocation

Impact 3.14-1: The Proposed Project could 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.

The Proposed Project does not involve construction of new or expansion of existing wastewater, natural gas or telecommunication facilities and those topics are not addressed further. No impacts would occur.

Construction

The Proposed Project includes the construction of a new 8-million-gallon water storage tank in the City of Perris and a transmission pipeline in the City of Menifee. The Proposed Project also includes a chlorination disinfection facility at the water storage and site, and a relocation of existing stormwater drainage facilities, in order to allow for storm flows to be appropriately conveyed offsite. Additionally, the Proposed Project includes construction of a new low voltage (480-volt, 3-phase, 200A) SCE electrical service line connection to provide electrical service to the site. These Project features are located within EMWD's 2.85-acre tank site. Portions of the stormdrain alignment would occur outside of EMWD's property and would therefore require coordination with the RCFCWCD and the cities of Perris and Menifee. The potential impacts of constructing the electric, water storage, stormwater, and conveyance facilities are evaluated throughout this Draft EIR. No additional environmental effects would occur in addition to those presented in this Draft EIR. Impacts regarding the expansion or relocation of water, stormwater drainage, and electric power facilities would be less than significant during construction.

Operation

During operation of the Proposed Project, water would be stored within the water storage tank and distributed to the 1627 pressure zone. The relocated stormwater drainage facilities would convey storm flows offsite. The potential impacts of operating the water storage, stormwater, and conveyance facilities are evaluated throughout this Draft EIR. No additional environmental effects would occur in addition to those presented in this Draft EIR. Impacts regarding the expansion or relocation of water, stormwater drainage, and electric power facilities would be less than significant during operation.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Water Supply

Impact 3.14-2: The Proposed Project could result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years.

Construction

Water needs of the Proposed Project during construction would be supplied by one full time water truck for the duration of construction activities (approximately 325 working days during the fourth quarter of 2021 through fourth quarter 2023). A minimal amount of water would be needed for dust control purposes during construction in compliance with SCAQMD Rule 403 standards (see Section 3.2, *Air Quality*), and for concrete mixing and sanitary purposes. The construction demand would be minimal and accommodated by existing supplies. The Project would not result in insufficient water supplies during construction, and impacts would be less than significant.

Operation

The Proposed Project would store and distributed water to the 1627 pressure zone. The Proposed Project would not increase water demand or supplies, but would rather address deficiencies in the existing infrastructure in EMWD's 1627 pressure zone. This would increase the efficiency of EMWD's service in the Proposed Project area. Furthermore, the Proposed Project would use existing water supply entitlements. The Project would not result in insufficient water supplies during operation, and impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Wastewater Services

Impact 3.14-3: The Proposed Project could result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.

During construction of the Proposed Project, a minimal amount of wastewater would be generated by construction workers and collected by portable toilet facilities. All waste generated in portable toilets would be collected by a Riverside County-permitted portable toilet waste

hauler and appropriately disposed of at one of the County identified liquid waste disposal stations. These waste disposal stations have been appropriately permitted by the Santa Ana Regional Board. Once operational, the Proposed Project would not generate wastewater. Impacts during construction and operation would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Solid Waste Capacity

Impact 3.14-4: The Proposed Project could 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.

Construction of the Proposed Project would generate waste that would require disposal at a landfill. EMWD and the construction contractor would be required to divert construction waste from landfills in accordance with CALGreen requirements. No solid waste would be generated during operation of the Proposed Project. The Lamb Canyon has 19,242,950 cubic yards of remaining capacity (CalRecycle 2019a) and the El Sobrante landfill has 143,977,170 cubic yards of remaining capacity (CalRecycle 2019b). The Lamb Canyon landfill is anticipated to close in 2029 and the El Sobrante landfill is expected to close in 2051. As a result, the landfills nearest to the Proposed Project have room to accommodate waste generated during construction through 2029, well beyond the anticipated time to complete construction of the Proposed Project. Therefore, substantial remaining capacity combined with mandatory construction waste requirements, would result in less than significant impacts on the capacity of local solid waste infrastructure.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Solid Waste Regulations

Impact 3.14-5: The Proposed Project could not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Construction and operation of the Proposed Project would comply with federal and State regulations related to solid waste, including the California Integrated Waste Management Act of

1989, which ensures that all construction debris would be hauled away to local landfills serving the Proposed Project site. Compliance with all federal, state, and local statutes and regulations related to solid waste would ensure impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant

Cumulative Impacts

Impact 3.14-6: Concurrent construction and operation of the Proposed Project and related projects in the geographic scope could result in cumulative impacts to utilities and service systems.

The cumulative projects to be considered in the analysis of cumulative impacts are listed in Table 3-2 and illustrated on Figure 3-1 in Section 3 of this Draft EIR. All the cumulative projects listed in Table 3-2 are development projects that would require expanded utility services such as water, wastewater, stormwater electricity, telecommunications, and natural gas. Cumulative Project 1, the Cimarron Ridge Development Project, would be constructed adjacent to the Proposed Project on the east side of Goetz Road and would require a new stormdrain system, and could combine together with the Proposed Project to create a cumulatively considerable impact.

Construction and Operation

The Proposed Project would require a new low voltage (480-volt, 3-phase, 200A) SCE electrical service line connection. The Project would also involve construction of a stormdrain system that would replace an existing system. The effects of these utilities are evaluated throughout the EIR and would not separately cause significant environmental effects not analyzed in the EIR. The Cimarron Ridge Development Project would involve substantial new utility services to support 756 additional homes, such as water, wastewater, stormwater and electrical services. Although on a much greater scale, the Cimarron Ridge Development Project would be similar to the Proposed Project in that the EIR prepared for the development analyzed all impacts to the expanded utility service. While the Cimarron Ridge Development Project would require expansion of existing facilities above existing conditions, the development has been approved by the City of Menifee and is accounted for in the planned growth of the city. As a result, the Project would not combine together with the Cimarron Ridge Development Project to result in significant impacts to utilities and service systems. Therefore, the combined impacts to utilities and service systems within the geographic scope would not be considered cumulatively significant and impacts would be less than cumulatively considerable.

Mitigation Measures

None Required

Significance Determination

Less than Significant

3.14.4 References

CalRecycle, 2019a. Facility/Site Summary Details: Lamb Canyon Sanitary Landfill (33-AA-0007). Available at: <https://www2.calrecycle.ca.gov/swfacilities/Directory/33-AA-0007>. Accessed July 8, 2019.

CalRecycle, 2019b. Facility/Site Summary Details: El Sobrante Landfill (33-AA-0217). Available at: <https://www2.calrecycle.ca.gov/swfacilities/Directory/33-AA-0217/>. Accessed July 8, 2019.

Eastern Municipal Water District (EMWD), 2016. 2015 Urban Water Management Plan, June 2016. Available at: <https://www.emwd.org/home/showdocument?id=1506>. Accessed July 8, 2019.

EMWD, 2017. West San Jacinto Groundwater Management Area 2017 Annual Report. Available online at: https://board.emwd.org/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=1595&MediaPosition=&ID=3345&CssClass=. Accessed July 8, 2019.

Riverside County Flood Control and Water Conservation District (RCFCWCD), 2019. Riverside County Flood Control and Water Conservation District, <http://www.floodcontrol.co.riverside.ca.us/DistrictProjects.aspx>. Accessed July 8, 2019.

CHAPTER 4

Growth Inducement

4.1 Overview

CEQA Guidelines Section 15126.2(d) requires that an EIR discuss the potential growth-inducing impacts of a proposed project. The CEQA Guidelines provide the following guidance for such discussion:

Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can have direct and/or indirect growth-inducement potential. Direct growth inducement would result if a project involves construction of new housing. A project can have indirect growth-inducement potential if it establishes substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it involves a construction effort with substantial short-term employment opportunities that indirectly stimulates the need for additional housing and services to support the new employment demand. Similarly, under CEQA, a project would indirectly induce growth if it removes an obstacle to additional growth and development, such as removing a constraint on a required public service.

Water storage and supply is one of the primary public services needed to support growth and community development. While water supply plays a role in supporting growth, it is not the single determinant of such growth. Other factors, including general plan policies, land use plans, and zoning, the availability of wastewater treatment and solid waste disposal capacity, public schools, transportation services, and other essential public infrastructure, also influence business and residential population growth. Economic factors, in particular, greatly affect development rates and locations.

Growth inducement itself is not necessarily an adverse environmental impact. It is the potential consequences of growth, the secondary effects of growth, which may result in environmental

impacts. Potential secondary effects of growth include increased demand on other public services; increased traffic and noise; degradation of air quality; loss of plant and animal habitats; and the conversion of agriculture and open space to developed uses. Growth inducement may result in adverse impacts if the growth is not consistent with the land use plans and growth management plans and policies for the area, as “disorderly” growth could indirectly result in additional adverse environmental impacts. Thus, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

As stated in Chapter 2, *Project Description*, the Proposed Project would involve construction and operation of an 8 MG potable water storage tank, a chlorination disinfection facility, and associated transmission pipeline. EMWD’s 1627 pressure zone has low pressure, deficient storage, and insufficient pumping capacities. The Proposed Project would correct deficiencies while providing additional storage volume for existing and proposed development within the 1627 pressure zone. As such, this chapter evaluates the potential for the Proposed Project to induce growth in EMWD’s service area. This chapter reviews the population growth projections for the EMWD service area and describes the existing and projected water demand and water supply conditions. It provides a description of EMWD’s role in providing water to customers within their service area and evaluates the potential for the Proposed Project to induce growth.

4.2 Project Area Population and Water Demand Projections

4.2.1 Population Projections

Southern California Association of Governments Population Projections

The Proposed Project area is located entirely within EMWD’s service area within the cities of Perris and Menifee. Each city’s adopted General Plan guides the type and location of land uses and the intensity of development in response to projected population growth and associated housing needs. Each jurisdiction has assessed the growth-related impacts associated with planned land use and build-out scenarios allowed under their General Plans.

The Proposed Project and the EMWD service area are located within the jurisdiction of the South Coast Association of Governments (SCAG). SCAG consists of local governments from Orange, Ventura, San Bernardino, Los Angeles, Riverside, and Imperial Counties. One of SCAG’s primary functions is to forecast population, housing, and employment growth for each region, subregion, and city within its jurisdiction. SCAG recently adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) which acts as a long-term planning and management tool for the regional transportation system, providing mitigation measures to off-set the impacts of projected growth. SCAG population estimates are included in **Table 4-1** for the cities of Perris and Menifee beginning with the base year 2012 and including SCAG forecasting 2020, 2035, 2040. As shown in Table 4-1, the populations of the cities of Perris and Menifee are anticipated to increase through 2040. The City of Perris is expected to experience the greatest

amount of growth through 2040 with an estimated growth rate of 65.1 percent, while the City of Menifee is expected to experience a lower rate of growth at 48.4 percent over the same time period.

**TABLE 4-1
POPULATION PROJECTIONS**

	2012	2015	2020	2025	2030	2035	2040	% Change
City of Perris	70,700	-	78,100	-	-	112,400	116,700	65.1%
City of Menifee	81,600	-	93,800	-	-	115,900	121,100	48.4%
EMWD Service Area		761,221	856,500	967,100	1,075,200	1,178,600	1,274,600	67.4%

SOURCE: SCAG 2012; SCAG 2016; EMWD 2016.

Eastern Municipal Water District's 2015 Urban Management Plan Projections

EMWD provides potable water and recycled water to a large portion of western Riverside County. EMWD's primary service area covers approximately 555 square miles and includes the cities of Hemet, San Jacinto, Menifee, Moreno Valley, Murrieta, Perris, and Temecula and portions of unincorporated Riverside County, which include the communities of Homeland, Lakeview, Nuevo, Quail Valley, Romoland, Valle Vista, and Winchester (EMWD 2019).

EMWD's service area includes both the retail service area which represents the area directly served by EMWD's distribution system and the wholesale area which represents the areas served by agencies which buy water from EMWD. In 2015, EMWD served a retail area consisting of 546,146 people and a wholesale area consisting of 215,075 people, for a total service area population of 761,221 people (EMWD 2016).

Population projections for the EMWD service area were obtained from the EMWD's 2015 UWMP. UWMPs are prepared by California's urban water suppliers to support long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 AF of water annually or serves more than 3,000 connections is required to assess the reliability of its water sources over a 20-year planning horizon considering normal, dry, and multiple dry years. This reliability assessment is required to be included in its UWMP, which are to be prepared every five years and submitted to DWR for consistency review under the Urban Water Management Planning Act. The UWMP takes into account the projected population growth for the water supplier's service area when determining future available water supply and future anticipated water demand.

As stated in EMWD's 2015 UWMP, the population of EMWD's service area has grown rapidly, from 342,655 people in 1990 to 761,221 people in 2015 (EMWD 2016). As shown in Table 4-1, EMWD's service area is anticipated to continue to experience steady growth from 2015 through 2040 with an anticipated growth rate of approximately 67.4 percent. The 2015 UWMP population projections for 2020-2040 were estimated using EMWD's Database of Proposed Project and the SWRCB estimated population (EMWD 2016).

4.2.2 Water Supply and Demand

EMWD is one of 29 water agencies that have a SWP Water Supply Contract with DWR. The majority of EMWD's water supplies consist of imported water purchased through MWD from the SWP and the CRA. The availability of these imported supplies is dependent on the amount of precipitation in the watershed, the amount of that precipitation that runs off into the watershed, water use by others in the watershed and the amount of water in storage in the SWP's Lake Oroville at the beginning of the year. Variability in the location, timing, amount and form (rain or snow) of precipitation, as well as how wet or dry the previous year was, produces variability from year to year in the amount of water that is available for the SWP. EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. EMWD owns and operates two desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water. EMWD also owns, operates, and maintains its own recycled water system that consists of four RWRs and several storage ponds spread throughout EMWD's service area that are connected through the recycled water system (EMWD 2016).

Water demand projections for the service area, including retail and wholesale, are provided in **Table 4-2**. Since 2015, imported water accounted for approximately 54 percent of the EMWD's water supply consisting of 78,165 AFY. As shown in Table 4-2, by 2040 imported water is anticipated to account for approximately 70 percent of EMWD's water supply consisting of 186,897 AFY, which represents an increase of 140 percent by the year 2040. Over the same period, potable water demand within the EMWD service area is projected to more than double from 100,705 AFY to 209,300 AFY, which is an anticipated increase of 108 percent. With the expected demand for potable water increasing significantly over the next 30 years, EMWD intends to continue to rely heavily on the use of imported water to be able to meet demand within the service area.

**TABLE 4-2
EMWD CURRENT AND PROJECTED WATER SUPPLY AND DEMAND (AFY)**

Source	2015	2020	2025	2030	2035	2040
Water Demand						
Potable and Raw Water Demand	100,705	151,000	165,600	180,600	195,200	209,300
Recycled Water Demand	45,1385	46,901	53,100	55,200	57,400	58,900
Water Supply						
Imported Water	78,165	131,697	143,197	158,197	172,797	186,897
Groundwater	15,252	12,303	12,303	12,303	12,303	12,303
Desalinated Groundwater	7,288	7,000	10,100	10,100	10,100	10,100
Recycled Water	45,385	46,901	53,100	55,200	57,400	58,900
Total Demand	146,090	197,901	218,700	235,800	252,600	268,200
Total Supply	146,090	197,901	218,700	235,800	252,600	268,200

SOURCE: EMWD 2016

4.3 Growth Inducement Potential

Implementation of the Proposed Project would not have a direct growth inducement effect, as it does not propose development of new housing that would attract additional population to the area. Further, implementation of the Proposed Project would not result in substantial permanent employment that could indirectly induce population growth. Although construction activities would create some short-term construction employment opportunities over the duration of construction activities, the amount of opportunities created would not require persons outside of the County of Riverside work force. Further, no new permanent employees would be required to operate the proposed facilities.

The objectives of the Proposed Project are to correct existing deficiencies in the 1627 pressure zone, provide additional storage volumes for existing and planned development in the Central West Area of the 1627 pressure zone, and to achieve the shortest possible length of pipeline to connect the proposed tank to the existing 1627 pressure zone in order to reduce water quality issues and hydraulics. Implementation of the Proposed Project would not create a new or expanded water supply that could create an indirect growth inducement potential. Although the Proposed Project includes construction and operation of water storage, disinfection/treatment, and conveyance facilities, the water to be stored comes from an existing supply source via the SWP, and therefore does not represent a new supply.

The local jurisdictions that govern land use and development within the Proposed Project area include the cities of Perris and Menifee. These jurisdictions' adopted General Plan documents guide the type, location, and level of land use and development within each respective jurisdiction (see Section 3.10, *Land Use*, for land use goals and policies). Both of these jurisdictions have assessed the growth-related impacts associated with planned land use and growth allowed under their General Plans and the CEQA EIRs they have prepared for those plans. In addition, SCAG prepared the Regional Comprehensive Plan (RCP) (SCAG 2008), which combines regional planning efforts into a single focused document. The RCP addresses growth management as well as several core elements including housing, transportation, air quality, and water. The principal objectives of the RCP are to coordinate regional and local decisions with respect to future growth and development and to minimize future environmental impacts. SCAG has also prepared the 2016-2040 RTP/SCS as mentioned about (SCAG 2016). The RTP/SCS acts as a long-term planning and management plan for the regional transportation system, providing mitigation measures to off-set the impacts of growth projected in the RCP. The Final RTP/SCS Program EIR identifies significant unavoidable impacts in a number of issue areas, and concludes that when population and employment growth is held constant, many adverse environmental impacts will be significant and unavoidable regardless of whether the RTP/SCS is approved (SCAG 2015).

EMWD does not have the authority to make land use decisions to halt or alter growth and development patterns or approvals, nor does it have the authority to address many of the potentially significant, secondary effects of planned growth. Authority to implement those measures lies with the cities of Perris and Menifee, and other jurisdictions within EMWD's service area including unincorporated Riverside County. However, EMWD does have the

authority to take actions and implement projects to help mitigate the secondary effects of growth on water resources and water supply services within the service area.

While the Proposed Project would provide future water system infrastructure within EMWD's service area, the components to be constructed as part of the Proposed Project would support planned population growth that has been identified within the service area. The Proposed Project would not create a new water supply that would induce future growth. Rather, as a water supply/pressure deficiency correction project, the Proposed Project would accommodate the population growth already planned by SCAG and EMWD within the service area such that water infrastructure reliability would not be an impediment to already-planned growth. As a result, the Proposed Project neither supports nor encourages growth within the EMWD service area to a greater degree than presently estimated by the cities of Perris and Menifee, and SCAG as described above, as land use agencies with jurisdiction over the Proposed Project area. The Proposed Project would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, impacts to growth inducement would be less than significant.

4.4 References

- Eastern Municipal Water District (EMWD), 2016. Eastern Municipal Water District 2015 Final Urban Water Management Plan. Available online at: <https://www.emwd.org/home/showdocument?id=1506>, accessed November 2019.
- EMWD, 2019. Who We Are. Available online at: <https://www.emwd.org/who-we-are>, accessed November 2019.
- Southern California Association of Governments (SCAG), 2008. Regional Comprehensive Plan. Available online at: <http://www.scag.ca.gov/NewsAndMedia/Pages/RegionalComprehensivePlan.aspx>, accessed November 2019.
- SCAG, 2012. 2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction. Available online at: http://www.scag.ca.gov/Documents/2016_2040RTPSCS_FinalGrowthForecastbyJurisdiction.pdf, accessed May 2020.
- SCAG, 2015. Final Program Environmental Impact Report. Available online at: <http://scagrtpscs.net/Pages/FINAL2016PEIR.aspx>, accessed November 2019.
- SCAG, 2016. 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. <http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx>, accessed November 2019.

CHAPTER 5

Alternatives Analysis

5.1 Overview of Alternatives Analysis

CEQA requires that a Draft EIR describe and evaluate a reasonable range of feasible alternatives to a project, or to the location of a project, that would attain most of the project objectives and avoid or substantially lessen significant project impacts. The alternatives analysis must also include the “No Project Alternative” as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the project were not approved (*CEQA Guidelines* Section 15126(d)). The environmental impacts associated with the alternatives are evaluated relative to the impacts associated with the Proposed Project.

CEQA Guidelines (§15126.6) set forth the following criteria for alternatives:

- **Identifying Alternatives.** The range of alternatives is limited to those that would avoid or substantially lessen any of the significant effects of the project, are feasible, and would attain most of the basic objectives of the project. Factors that may be considered when addressing the feasibility of an alternative include site suitability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, economic viability, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site. An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. The specific alternative of ‘no project’ shall also be evaluated along with its impact.
- **Range of Alternatives.** An EIR need not consider every conceivable alternative, but must consider a reasonable range of alternatives that will foster informed decision-making and public participation. The “rule of reason” governs the selection and consideration of EIR alternatives, requiring that an EIR set forth only those alternatives necessary to permit a reasoned choice.
- **Evaluation of Alternatives.** EIRs are required to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the project. Matrices may be used to display the major characteristics of each alternative and significant environmental effects of each alternative to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed but in less detail than the significant effects of the project.

5.1.1 Project Objectives

The objectives of the Proposed Project are as follows:

- Relieve existing deficiencies in the 1627 pressure zone including hydraulic deficiencies, low pressure, deficient storage, and pumping capacities;
- Provide additional storage volume for existing and planned development in the Central West Area of the 1627 pressure zone;
- Achieve the shortest possible length of pipeline to connect the proposed water storage tank to the existing 1627 pressure zone in order to reduce water quality issues and hydraulics concerns.

5.1.2 Potentially Significant Impacts of the Proposed Project

Chapter 3 of this Draft EIR identifies potential impacts associated with the Proposed Project for each environmental issue area in Appendix G of the *CEQA Guidelines*, including cumulative impacts. Chapter 4 addresses impacts anticipated related to growth-inducement. Mitigation measures were identified to reduce the majority of impacts to a less than significant level. Significant and unavoidable temporary construction-related impacts to noise and vibration were found for the Proposed Project. A summary of the significance of the greatest impacts for each environmental resource analyzed in Chapter 3 is presented in **Table 5-1**. Specific impacts and all mitigation measures are provided in Table ES-1 in the Executive Summary of this Draft EIR.

**TABLE 5-1
SUMMARY OF PROPOSED PROJECT IMPACT ANALYSIS**

Environmental Resource	Proposed Project Significance Determination
Aesthetics	LTSM
Air Quality	LTSM
Biological Resources	LTSM
Cultural Resources	LTSM
Energy	LTS
Geology, Soils, and Paleontology	LTSM
Greenhouse Gas Emissions	LTS
Hazards, Hazardous Materials, and Wildfire	LTSM
Hydrology and Water Quality	LTS
Land Use and Planning	LTS
Noise and Vibration	SU
Traffic and Transportation	LTSM
Tribal Cultural Resources	LTS
Utilities and Service Systems	LTS
NOTES:	
LTS = Less than Significant	
LTSM = Less than Significant with Mitigation	
SU = Significant and Unavoidable	

5.2 Alternatives to the Proposed Project

5.2.1 Alternatives Considered but Rejected

Since 2017, EMWD conducted extensive siting studies to evaluate alternative locations to the Proposed Project water storage tank on Goetz Road. The *1627 Zone Tank Siting Study* prepared by Albert A. Webb Associates (2017) took into consideration a variety of constraints including buildable space, hydraulics, grading, and topography. Subsequently, the *Goetz Road Tank Siting Hydraulic Analysis Technical Memorandum* was prepared in 2018 (West Yost Associates 2018) and evaluated the top ranked sites that were identified in Albert A. Webb's 2017 tank siting study. The Technical Memorandum assessed whether additional conveyance improvements or acceleration of planned conveyance improvements would be needed for sites to be hydraulically similar to the Goetz Road site. *CEQA Guidelines* Section 15126(c) states that a lead agency should identify any alternatives considered by the lead agency but rejected. This section identifies the second and third top ranking alternatives (after the Proposed Project) identified in both reports that were considered but rejected from further consideration by EMWD.

Sun City Tank Alternative

The Sun City Tank Alternative (identified as Site 20 in Albert A. Webb 2017) would be located at the existing EMWD Sun City tank site in the City of Menifee. The site is located on top of a small hill just west of Interstate 215 north of El Rancho Road. Based on site topography, this alternative would require the demolition of the existing 1 MG tank and construction of one new water storage tank. Approximately 9,900 feet of pipeline would be required to be installed within Cherry Hills Boulevard and Bradley Road. A detention basin would also be installed south of the site. The tank would be located upslope from residential homes that are located approximately 300 feet to north. The access road leading up to the tank site is approximately 20 feet from homes in certain areas. The access road may need to be regraded as part of this alternative.

The Sun City Tank Alternative would involve similar aesthetic impacts as the Proposed Project given the adjacent development and proximity to local rights-of-way. The Sun City Tank Alternative would involve construction noise impacts that would likely be significant for the homes within 20 feet of the access road due to regular truck trips and material hauling. In this respect, the Sun City Tank Alternative would not avoid significant and unavoidable noise and vibration impacts of the Proposed Project.

The Sun City Tank Alternative would meet most of the Project objectives because it would correct existing deficiencies in the 1627 pressure zone and provide additional storage volume. The alternative would not meet Project objectives of achieving the shortest possible pipeline length, since pipeline construction would equal approximately 9,900 feet (compared to 5,490 feet for the Proposed Project). Additionally, hydraulic analysis indicates the Sun City Tank Alternative is least preferred to the storage tank on Goetz Road that is part of the Proposed Project (West Yost Associates 2018). Because of these reasons, EMWD has determined that the Sun City Tank Alternative is not a feasible alternative to the Proposed Project, and the alternative has been rejected from further consideration in this EIR.

Holland Road Tank Alternative

The Holland Road Tank Alternative (identified as Site 16 in Albert A. Webb 2017) would be located northeast of the intersection of Holland Road and Murrieta Road in the City of Menifee. The site would be located to the west of an existing knoll adjacent to rural development. The site would accommodate either one water storage tank or two smaller storage tanks and would require approximately 18,600 feet of transmission pipeline.

The Holland Road Tank Alternative would involve similar aesthetic impacts as the Proposed Project given the adjacent development and proximity to local rights-of-way. The alternative would be located adjacent to a proposed open space area associated with the Pacific Mayfield project, and may negatively alter the scenic views associated with that project. Similar to the Proposed Project, the Holland Road Tank Alternative would be installed adjacent to rural residential properties and would likely result in similar noise and vibration impacts as the proposed water storage tank site on Goetz Road. As a result, the Holland Road Tank Alternative would not avoid significant and unavoidable noise and vibration impacts of the Proposed Project.

The Holland Road Tank Alternative would meet most of the Project objectives because it would correct existing deficiencies in the 1627 pressure zone and provide additional storage volume. The alternative would not meet Project objectives of achieving the shortest possible pipeline length, since pipeline construction would equal approximately 18,600 feet (compared to 5,490 feet for the Proposed Project). While the site topography could allow either one larger or two smaller sized tanks at the site, significant rock outcroppings existing on the site which would make grading difficult at this location. Additionally, the Holland Road Tank Alternative is the furthest south of the alternatives evaluated, and as a result has the lowest operating range due to the distance from principal water supply sources in the northern part of the system (West Yost Associates 2018). Because of these reasons, EMWD has determined that the Holland Road Tank Alternative is not a feasible alternative to the Proposed Project, and the alternative has been rejected from further consideration in this EIR.

5.2.2 No Project Alternative

According to Section 15126.6(e) of the *CEQA Guidelines*, discussion of the No Project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the Project were not approved. See Section 3.0 for existing conditions of environmental topic areas found to have no impact as a result of Project implementation. Under the No Project Alternative, EMWD would not construct a new 8-million-gallon water storage tank and associated transmission pipeline. The vacant land proposed for the water storage tank would remain undeveloped and the rights-of-ways and undeveloped land would not be impacted by construction of the transmission pipeline. The benefits of the Proposed Project, which include improved operating conditions in the 1627 pressure zone, would not occur.

Ability to Meet Project Objectives

The No Project Alternative would meet none of the Project objectives. Without the Proposed Project, deficiencies in the 1627 pressure zone would not be improved, including hydraulic connectivity, low pressure, deficient storage, and pumping capacities. Additionally, without the

Project, existing and planned developments in the Central West area of the 1627 pressure zone would not have additional water storage volume available.

Impact Analysis

Aesthetics

The introduction of new facilities associated with the Proposed Project would not occur under this alternative. The No Project Alternative would have no potential to impact scenic vistas, visual character, or shade and shadow of the Proposed Project area. The Draft EIR found that the Proposed Project would have a less than significant impact after implementation of mitigation measures to scenic vistas, visual character, and shade and shadow from implementation of the water storage tank. Since the No Project Alternative would not introduce any above-ground facilities to the Project area, it would result in fewer aesthetic impacts when compared to the Proposed Project.

Air Quality

The No Project Alternative would not involve any construction activities or operation of any Proposed Project facilities, and would therefore not generate emissions that could impact air quality. While the Proposed Project would result in potentially significant construction-related air quality impacts due to emissions of NO_x and diesel particulate matter, mitigation measures would reduce the impacts to less than significant levels. As such, the No Project Alternative would result in fewer air quality impacts when compared to the Proposed Project.

Biological Resources

The No Project Alternative would not involve any construction activities or operation of any Proposed Project facilities, and would therefore not alter the existing site conditions at the vacant water storage tank site and portions of the transmission pipeline that traverse through undeveloped areas. The Proposed Project has the potential to impact sensitive species and their habitat, which would be reduced to levels of less than significance with implementation of mitigation measures. However, the No Project Alternative would completely avoid potential impacts to sensitive species such as burrowing owl and other special-status species. Therefore, the No Project Alternative would result in fewer potential biological resource impacts than the Proposed Project.

Cultural Resources

The No Project Alternative would not involve any construction activities or operation of any Proposed Project facilities, and would therefore not result ground disturbance that would disrupt and affect archaeological, historic, or human remains. Although the Proposed Project would not directly impact any known cultural resources, construction activities would involve substantial grading and excavation that could significantly impact undiscovered cultural resources, particularly at the proposed water storage tank site. Therefore, the No Project Alternative would result in fewer impacts to cultural resources than the Proposed Project.

Energy

The No Project Alternative would not involve an increase in energy usage from existing conditions because no infrastructure would be constructed. The Proposed Project would result in an increased usage of electricity to operate existing pumps, but not at significant levels. Therefore, the No Project Alternative would result in fewer energy impacts when compared to the Proposed Project.

Geology, Soils, and Paleontology

The No Project Alternative would not involve construction activities or operation of any facilities. As a result, geologic impacts related to ground shaking and soil erosion would not occur to any people or structures. While the geologic effects of the Proposed Project were determined to be potentially significant, the impacts to ground shaking and soil erosion would be reduced to a less than significant level through geotechnical design requirements, and would pose no long-term geologic impacts when implemented. For paleontological resources, the trenching for the pipeline could occur up to depths of 10.5 feet and could encounter paleontological resources in the Qvof alluvial fan sediments. Mitigation measures would reduce the impact to less than significant levels. As a result, since the No Project Alternative would not result in any ground disturbing activities or potential to uncover paleontological resources, the alternative would result in fewer geological, soil, and paleontological impacts when compared to the Proposed Project.

Greenhouse Gas Emissions

The No Project Alternative would not involve an increase in greenhouse gas emissions from existing conditions because no infrastructure would be constructed. The Proposed Project would result in greenhouse gas emissions but not at significant levels, and as such, the No Project Alternative would result in fewer greenhouse gas emissions impacts when compared to the Proposed Project.

Hazards, Hazardous Materials, and Wildfire

No new facilities would be constructed or operated under the No Project Alternative. While the Proposed Project would involve routine transport and use of potentially hazardous materials, compliance with existing State regulations would reduce all impacts to a level of less than significant. While the Proposed Project would be located within a very high fire severity zone, mitigation measures would implement fire hazard reduction measures which would reduce impacts to a less than significant level. The No Project Alternative would not involve transport of potentially hazardous fuels and lubricants or use of hazardous materials such as chlorine and blasting agents, or implement structures at risk of wildland fire. As a result, the No Project Alternative would result in fewer impacts to hazards and hazardous materials when compared to the Proposed Project.

Hydrology and Water Quality

The No Project Alternative would not involve any construction activities or operation of any Proposed Project facilities, and would therefore not result in ground disturbance that could impact surface water, groundwater, or associated drainage patterns. Under the Proposed Project, construction of new facilities would involve ground-disturbing activities that could impact

surface water quality due to polluted runoff from the construction sites. Such potential impacts would be mitigated with implementation of required regulatory requirements such as SWPPPs and BMPs. However, the No Project Alternative would not involve ground-disturbing activities and would not have the potential for such water quality impacts. As a result, the No Project Alternative would result in fewer impacts to hydrology and water quality impacts when compared to the Proposed Project.

Land Use and Planning

The No Project Alternative would not result in construction activities or operation of any proposed facilities. While the Proposed Project would involve construction of aboveground facilities, they would consist of an aboveground water storage tank within an existing vacant lot and an underground transmission pipeline. Based on the Government Code Section 53091 exemption, the Project would not conflict with land use policy. The No Project Alternative would involve no facilities and would therefore not be able to conflict with any land use policy. As a result, the No Project Alternative would result in fewer impacts to land use when compared to the Proposed Project.

Noise and Vibration

The No Project Alternative would not involve activities that would generate noise. The Proposed Project would result in significant and unavoidable temporary impacts to sensitive receptors and ambient noise levels during construction. The No Project Alternative would not alter the existing noise environment and as a result would have fewer noise impacts than the Proposed Project. Furthermore, the No Project Alternative would avoid significant and unavoidable impacts to noise that would occur under the Proposed Project.

Transportation and Traffic

The No Project Alternative would not result in construction activities or operation of any facilities. The Proposed Project would result in temporary impacts to traffic and circulation patterns due to construction of pipelines and other infrastructure within rights-of-way. All the Proposed Project impacts would be temporary and would be reduced to less than significant levels with implementation of mitigation measures such as a Traffic Control Plan. Therefore, the No Project Alternative would result in fewer impacts.

Tribal Cultural Resources

Under the No Project Alternative, the Proposed Project site would remain undeveloped and no ground disturbing activities would occur. According to record searches and tribal resource consultations, no tribal resources are present on the Proposed Project site. As such, the No Project Alternative would not cause a substantial adverse change in the significant of a tribal cultural resources with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) or as a resource determined by the lead agency, and impacts would be less than significant. The No Project Alternative would similarly not result in significant impacts to any known tribal cultural resources. Therefore, the No Project Alternative would result in similar impacts related to tribal cultural resource compared to the Proposed Project.

Utilities and Service Systems

The No Project Alternative would not result in any new facilities that would require additional use of utilities or services currently provided in the Proposed Project area. The Proposed Project would place new minor demand on existing utilities, including water or wastewater, stormwater, or landfills; however, impacts would be less than significant. Nevertheless, since the No Project Alternative would result in no additional demands on public services and utilities, the No Project Alternative would result in fewer impacts than the Proposed Project.

5.2.3 McLaughlin Avenue Pipeline Alternative

The McLaughlin Avenue Pipeline Alternative would involve use of a different transmission pipeline alignment to connect the proposed water storage tank at Goetz Road and Sotelo Road to the 1627 pressure zone along Murrieta Road. Instead of being installed within Thornton Avenue, the pipeline would travel north from the proposed water storage tank site north along Goetz Road, and east along McLaughlin Road until the terminus within Murrieta Road. The alternative alignment is shown on **Figure 5-1**. The alternative alignment would be approximately 8,950 feet long, approximately 3,460 feet longer than the Proposed Project alignment.

The 2019 Habitat Assessment (Appendix BIO) and 2019 Cultural Resources Assessment (Appendix CUL) prepared for the Proposed Project include a full analysis of the McLaughlin Avenue Pipeline Alternative. Those results are discussed below.

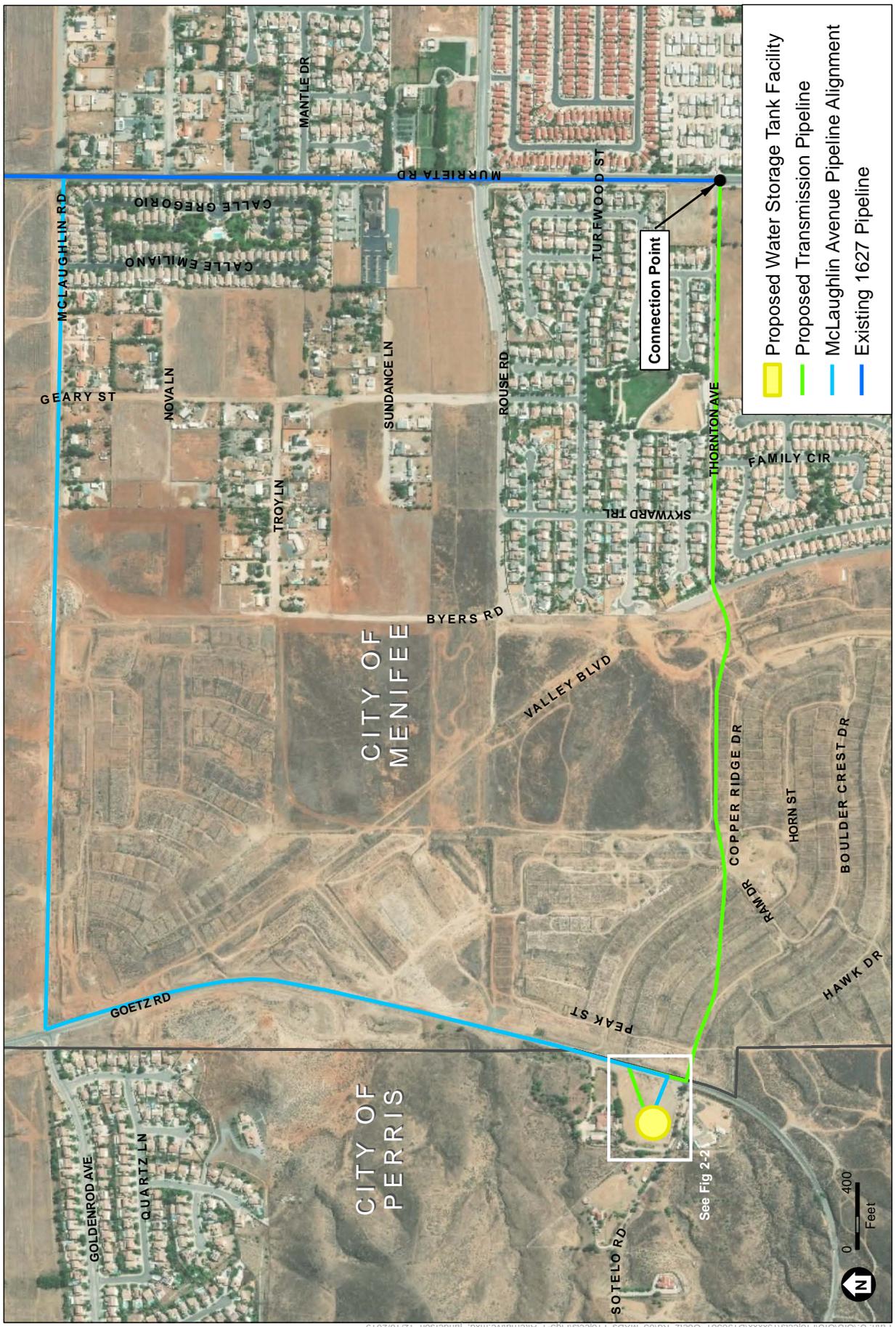
Ability to Meet Project Objectives

The McLaughlin Avenue Pipeline Alternative would meet most of the Project objectives. The alternative would address deficiencies in the 1627 pressure zone and would provide additional water storage for existing and planned developments in the area. The alternative would also meet the objective of implementing one storage tank on one site. However, the McLaughlin Avenue Pipeline Alternative would not meet the objective of achieving the shortest possible length of pipeline to connect the proposed tank to the existing 1627 pressure zone in order to reduce water quality issues and hydraulics.

Impact Analysis

Aesthetics

The McLaughlin Avenue Pipeline Alternative would result in implementation of the same aboveground facilities as the Proposed Project, namely the water storage tank and appurtenant facilities. The only difference would be a longer pipeline alignment, which would result in more days of construction activities which would involve temporary presence of large equipment within the viewshed. The Draft EIR found that the Proposed Project would have less than significant impacts with implementation of mitigation measures related to aesthetics from implementation of the water storage tank. The McLaughlin Avenue Pipeline Alternative would also have the potential to permanently impact the visual character of the area through implementation of the same water storage tank. As a result, the McLaughlin Avenue Pipeline Alternative would result in similar permanent aesthetic impacts and slightly greater temporary aesthetic impacts due to increased use of construction equipment for construction of the transmission pipeline, when compared to the Proposed Project.



Goetz Road Potable Water Storage Tank and Transmission Pipeline Project

Figure 5-1
McLaughlin Avenue Pipeline Alignment

SOURCE: ESRI, 2019; ESA, 2019.



Air Quality

The McLaughlin Avenue Pipeline Alternative would result in air quality-related construction and operation impacts that are similar in nature to the Proposed Project. The Proposed Project would result in potentially significant construction-related air quality impacts due to emissions of NO_x and diesel particulate matter, and mitigation measures would reduce the impacts to less than significant levels. However, the transmission pipeline under the McLaughlin Avenue Pipeline Alternative would be 3,460 feet longer which would result in an increase in approximately 66 days of construction compared to the Proposed Project's transmission pipeline. As a result, the diesel particulate matter impacts would be greater than the Proposed Project. As such, the McLaughlin Avenue Pipeline Alternative would result in greater air quality impacts when compared to the Proposed Project.

Biological Resources

The McLaughlin Avenue Pipeline Alternative would result in similar types of impacts to biological resources as the Proposed Project. The Proposed Project has the potential to impact sensitive species and their habitat, which would be reduced to levels of less than significance with implementation of mitigation measures. However, the alternative alignment on portions of McLaughlin Road would be installed adjacent to and likely within brittlebush scrub, which provides suitable habitat value for many plant and wildlife species (see Appendix BIO) and could therefore result in greater impacts than the Proposed Project particularly if habitat would be permanently removed. As a result, the McLaughlin Avenue Pipeline Alternative would result in greater impacts than the Proposed Project.

Cultural Resources

The McLaughlin Avenue Pipeline Alternative would involve construction of the same water storage tank as the Proposed Project but would have a longer transmission pipeline. Although the Proposed Project would not directly impact any known cultural resources, construction activities would involve substantial grading and excavation that could significantly impact undiscovered cultural resources, particularly at the proposed water storage tank site. Similar impacts to unknown cultural resources would occur as result of implementation of the McLaughlin Avenue Pipeline Alternative. As explained in Appendix CUL, results of the records search conducted in 2019 indicate that two previously conducted cultural resources studies intersect with the McLaughlin Avenue Pipeline Alternative. One of the resources includes a prehistoric milling station that has been destroyed. Due to the fact that known archaeological resources are known to exist along the McLaughlin Avenue Pipeline Alternative alignment, this alternative would result in greater impacts to archaeological resources than the Proposed Project.

Energy

The McLaughlin Avenue Pipeline Alternative would result in electricity and natural gas-related construction and operation impacts that are similar in nature to the Proposed Project. The Proposed Project would result in an increased usage of electricity to operate pumps to deliver water to the water storage tank, but not at significant levels. The McLaughlin Avenue Pipeline Alternative would result in similar electricity usage to operate the pumps, but a greater temporary increase in natural gas due the longer length of pipeline construction associated with equipment

and truck trips. As such, the McLaughlin Avenue Pipeline Alternative would result in similar permanent operation-related energy usage but a greater temporary commitment of natural gas when compared to the Proposed Project.

Geology, Soils, and Paleontology

The McLaughlin Avenue Pipeline Alternative would result in similar types of impacts to geology, soils, and paleontology compared to the Proposed Project. While the geologic effects of the Proposed Project were determined to be potentially significant, the impacts to ground shaking and soil erosion would be mitigated to a less than significant level through geotechnical design requirements, and would pose no long-term geologic impacts when implemented. The McLaughlin Avenue Pipeline Alternative would similarly be mitigated to less than significant levels through design requirements. The longer pipeline associated with the McLaughlin Avenue Pipeline Alternative could increase the potential of discovering unanticipated paleontological resources, but would not increase impacts since the same suite of mitigation measures would reduce potential impacts. Additionally, the McLaughlin Avenue Pipeline Alignment would be installed within similar and less sensitive geologic formations as the Proposed Project alignment (see Appendix PALEO). As a result, the McLaughlin Avenue Pipeline Alternative would result in similar geological, soil, and paleontological resources impacts when compared to the Proposed Project.

Greenhouse Gas Emissions

The McLaughlin Avenue Pipeline Alternative would involve a similar increase in greenhouse gas emissions from existing conditions as the Proposed Project. However, the increase would not be at significant levels. As such, the McLaughlin Avenue Pipeline Alternative would result in similar greenhouse gas emissions impacts when compared to the Proposed Project.

Hazards, Hazardous Materials, and Wildfire

The McLaughlin Avenue Pipeline Alignment would result in the similar routine transport of hazardous materials as the Proposed Project, including construction-related fuels and blasting agents and operational-related chemicals for water treatment. Both the alternative and the Proposed Project would comply with existing State regulations that would reduce all impacts to a level of less than significant. Similar to the Proposed Project, the McLaughlin Avenue Pipeline Alignment would be located within a very high fire severity zone, and the same requirements to implement fire hazard reduction mitigation measures would reduce impacts to a less than significant level. As a result, the McLaughlin Avenue Pipeline Alignment would result in similar impacts to hazards and hazardous materials when compared to the Proposed Project.

Hydrology and Water Quality

The No Project Alternative would not involve any construction or operation of any Proposed Project facilities, and would therefore not result in ground disturbance that could impact surface water, groundwater, or associated drainage patterns. Under the Proposed Project, construction of new facilities would involve ground-disturbing activities that could impact surface water quality due to polluted runoff from the construction sites. Such potential impacts would be mitigated with implementation of required regulatory requirements such as SWPPPs and BMPs. The

McLaughlin Avenue Pipeline Alignment would result in similar ground-disturbing activities. As a result, the McLaughlin Avenue Pipeline Alignment would result in similar impacts to hydrology and water quality impacts when compared to the Proposed Project.

Land Use and Planning

The McLaughlin Avenue Pipeline Alignment would involve construction and operation of the same water storage tank off Goetz Road as the Proposed Project. The Proposed Project is being implemented by EMWD which is not subject to the zoning requirements of local jurisdictions per Government Code Section 53091. The same exemption would be applied for the McLaughlin Avenue Pipeline Alignment. As a result, impacts to land use would be similar under the McLaughlin Avenue Pipeline Alignment when compared to the Proposed Project.

Noise and Vibration

The McLaughlin Avenue Pipeline Alignment would involve similar activities to the Proposed Project that would generate noise. The greatest impacts to ambient noise levels would be during construction to sensitive receptors surrounding the water storage tank site (which would be the same as the Proposed Project) and to sensitive receptors along the proposed transmission pipeline route (which would involve a longer period of construction than the Proposed Project due to the increased pipeline length). The Proposed Project would result in significant and unavoidable temporary impacts to sensitive receptors, ambient noise levels, and vibration during construction. Impacts would be less than significant during operation. Because the McLaughlin Avenue Pipeline Alignment would include a longer transmission pipeline than the Proposed Project, temporary impacts to sensitive receptors would be slightly greater than the Proposed Project. As a result, the McLaughlin Avenue Pipeline Alignment would not avoid the significant and unavoidable impacts to noise and vibration that would result from the Proposed Project.

Transportation and Traffic

The McLaughlin Avenue Pipeline Alignment would result in the same kind of construction activities that could potentially result in temporary impacts to traffic and circulation patterns on local roadways as the Proposed Project. Similar to the Proposed Project, all impacts associated with the McLaughlin Avenue Pipeline Alignment would be temporary and would be reduced to less than significant levels with implementation of mitigation measures such as a Traffic Control Plan. Nevertheless, since the McLaughlin Avenue Pipeline Alignment would involve a longer pipeline that would result in greater duration of impacts within local roadways, the McLaughlin Avenue Pipeline Alignment would result in greater temporary impacts to traffic and circulation than the Proposed Project.

Tribal Cultural Resources

The McLaughlin Avenue Pipeline Alternative would involve construction of the same water storage tank as the Proposed Project but would have a longer transmission pipeline. In addition to consultation about the Proposed Project, EMWD also included the McLaughlin Avenue Pipeline Alternative route in tribal consultation (see Appendix TRIBAL). According to a record search and tribal resource consultations, no tribal resources are present on the McLaughlin Avenue Pipeline Alternative site. As such, the No Project Alternative would not cause a substantial adverse change in the significance of a tribal cultural resources with cultural value to a California

Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) or as a resource determined by the lead agency, and impacts would be less than significant. The McLaughlin Avenue Pipeline Alignment would similarly not result in significant impacts to any known tribal cultural resources. Therefore, the McLaughlin Avenue Pipeline Alignment would result in similar impacts related to tribal cultural resource compared to the proposed project.

Utilities and Service Systems

The McLaughlin Avenue Pipeline Alignment would result in similar use of utilities and service systems currently provided in the Proposed Project area. Neither the McLaughlin Avenue Pipeline Alignment nor the Proposed Project would place new significant demands on existing utilities, including water or wastewater, stormwater, or landfills, and impacts were determined to be less than significant. As a result, impacts to public services would be similar under the McLaughlin Avenue Pipeline Alignment when compared to the Proposed Project.

5.3 Environmentally Superior Alternative

CEQA requires that a Draft EIR identify the environmentally superior alternative of a project other than the No Project Alternative (*CEQA Guidelines* Section 15126.6(e)(2)). One of the primary purposes of the alternatives analysis is to identify project alternatives that may avoid or substantially lessen significant project impacts (*CEQA Guidelines* Section 15126.6). Significant and unavoidable temporary impacts would result from construction-related noise and vibration generated by the Proposed Project. As stated above and summarized in **Table 5-2**, the No Project Alternative would avoid all of the environmental impacts of the Proposed Project (including the significant and unavoidable impact to noise and vibration) but would not meet any of the project objectives. The McLaughlin Avenue Pipeline Alignment would meet most of the Project objectives, and would result in reduced impacts to certain resources topics, but would not avoid the significant and unavoidable impacts to noise and vibration associated with the Proposed Project.

CEQA requires that an EIR identify the environmentally superior alternative of a project other than the No Project Alternative (*CEQA Guidelines* Section 15126.6(e)(2)). The McLaughlin Avenue Pipeline Alternative would result in overall greater environmental impacts than the Proposed Project. The McLaughlin Avenue Pipeline Alternative would not avoid the significant and unavoidable impact of the Proposed Project on temporary noise and vibration since the same water storage tank would be built under both alternatives. For this reason, the Proposed Project is considered the environmentally superior alternative.

TABLE 5-2
SUMMARY OF ALTERNATIVES ANALYSIS
IMPACTS AS COMPARED TO THE PROPOSED PROJECT

Environmental Resource	Proposed Project	No Project Alternative	McLaughlin Avenue Pipeline Alternative
Meets All Project Objectives?	Yes	No	No
Environmental Impacts			
Aesthetics	LTSM	-	+
Air Quality	LTSM	-	+
Biological Resources	LTSM	-	+
Cultural Resources	LTSM	-	+
Energy	LTS	-	+
Geology, Soils, and Paleontology	LTSM	-	0
Greenhouse Gas Emissions	LTS	-	0
Hazards, Hazardous Materials, and Wildfire	LTSM	-	0
Hydrology and Water Quality	LTS	-	0
Land Use and Planning	LTS	-	0
Noise and Vibration	SU	-	+
Traffic and Transportation	LTSM	-	+
Tribal Cultural Resources	LTS	-	0
Utilities and Service Systems	LTS	-	0
NOTES:			
- = fewer impacts			
+ = greater impacts			
0 = similar impacts			

5.4 References

Albert A. Webb Associates, 2017. *1627 Zone Tank Siting Study Central West Area*. Prepared for EMWD. November 2017.

West Yost Associates, 2018. *Goetz Road Tank Siting Hydraulic Analysis*. October 2, 2018.

CHAPTER 6

Report Preparers

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