Rainbow Municipal Water District Water and Sewer Facilities Plan

Final Program Environmental Impact Report

State Clearinghouse No. 2021050602

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ADA	Americans with Disabilities Act
AIA	Airport Influence Area
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
APCD	Air Pollution Control District
ATS	advanced treatment systems
B.P.	before present
BAT	best available technology economically feasible
BCT	best conventional pollutant control technology
BMP	best management practice
BTU	British thermal unit
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CED	California Energy Demand
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERS	California Environmental Reporting System
CESA	California Endangered Species Act
CFG	California Fish and Game
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
CIP	Capital Improvement Program
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
County	County of San Diego
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources

CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DEH	County Department of Environmental Health, Hazardous Materials Division
DIP	ductile iron pipe
District	Rainbow Municipal Water District
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	environmental impact report
EO	Executive Order
EOP	Emergency Operations Plan
EPCRA	Emergency Planning Community Right-to-Know Act
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GHG	greenhouse gas
gpm	gallons per minute
GWh	gigawatt hour
H_2S	hydrogen sulfide
HA	hydrologic area
HAP	hazardous air pollutants
HELIX	HELIX Environmental Planning, Inc.
HMBP	Hazardous Materials Business Plan
hp	horsepower
HRA	health risk assessment
HRS	Hazard Ranking System
HSC	Health and Safety Code
HU	Hydrologic Unit
HVAC	heating, ventilation, and air conditioning
Hz	hertz
I-	Interstate
IBC	International Building Code
ICC	International Code Council
IEPR	Integrated Energy Policy Report
in/sec	inches per second
ITP	Incidental Take Permit
ITS	Incidental Take Statement

kWh	kilowatt hour
LCFS	Low Carbon Fuel Standard
L_{DN}	day-night sound level
L_{EQ}	energy equivalent level
LID	low impact development
LOS	level of service
LTPP	Long Term Procurement Plan
LUP	linear underground projects
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
MG	million gallons
MGD	million gallons per day
MHMP	Multi-Jurisdictional Hazard Mitigation Plan
MLD	Most Likely Descendant
MMT	million metric tons
MMTh	million Therms
mph	miles per hour
MS4	Municipal Separate Sewer Systems
MSCP	Multiple Species Conservation Plan
MT	metric ton(s)
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCS	North County Subarea
NCTD	North County Transit District
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO	nitrogen oxide
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NSLU	noise-sensitive land use
O_3	ozone
ODP	other District pipeline
OHP	Office of Historic Preservation
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration

Pb	lead
PCB	polychlorinated biphenyls
PEIR	Program EIR
PM	particulate matter
PM_{10}	respirable particulate matter
$PM_{2.5}$	fine particulate matter
PPV	peak particle velocity
PRC	Public Resources Code
Project	Water and Sewer Facilities Plan
PRV	pressure reducing valve
PSV	pressure sustaining valve
PVC	polyvinyl chloride
RAQS	Regional Air Quality Strategy
RCRA	Resource Conservative and Recovery Act
REAP	Rain Event Action Plan
RES	Regional Energy Strategy
RMP	Risk Management Plan
ROGs	reactive organic gases
RPO	Resource Protection Ordinance
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCADA	supervisory control and data acquisition
SCIC	South Coastal Information Center
SCS	Sustainable Communities Plan
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCRAA	San Diego County Regional Airport Authority
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas and Electric
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SLRWTP	San Luis Rey Wastewater Treatment Plant
SO_2	sulfur dioxide
SR	State Route
SSMP	Sewer System Management Plan
SWAMP	Surface Water Ambient Monitoring Program
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Stormwater Quality Management Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCA	traditionally and culturally affiliated
TCP	Traditional Cultural Properties

TCRs	tribal cultural resources
TDM	transportation demand management
TDS	total dissolved solids
TIS	Traffic Impact Study
TMDL	total maximum daily load
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VCP	vitrified clay pipe
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WEAP	Worker Environmental Awareness Program
WMA	Watershed Management Area
WQIP	Water Quality Improvement Plan

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FOREWORD

OVERVIEW

A Draft Program EIR (PEIR) for the Rainbow Municipal Water District (District) Water and Sewer Facilities Plan (Project) was prepared and circulated for a 45-day public review beginning May 25, 2022 and closed on July 8, 2022 (SCH No. 2021050602). All written comments received on the Draft PEIR during the public review period, responses to the comments, and any revisions to the Draft PEIR have been incorporated into this Final PEIR.

The Final PEIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) and the CEQA guidelines. The purpose of the Final PEIR is to provide the decision-making body, in this case the District, public and quasi-public agencies and groups, and the general public environmental impact information relative to the proposed Project. The District must consider the information contained in this Final PEIR prior to approving the Project.

SUMMARY OF REVISIONS INCORPORATED INTO THE FINAL PEIR

The Final PEIR includes the Draft PEIR, Technical Appendices, and copies of each public letter commenting on the Draft PEIR and the District's responses thereto. Public comments and the District's responses are included in Appendix G of the Final PEIR. Each public comment is assigned a comment number that corresponds to a response number. The Final Program EIR contains minor revisions, including clarifications and corrections. Where changes have been made to the Final PEIR as a result of public comment, such revision is noted in the response to the comment (using ~~strikeout~~/underline in the response to specify changed text) and indicated in the Final PEIR by an outside margin line.

Comments were received during public review of the Draft PEIR from agencies regarding the potential impacts to biological resources, geology, hazardous materials, hydrology and water quality, and transportation associated with the construction of the Project, as well as clarifications for future discretionary actions and procedures such as encroachment permits from Caltrans, stormwater permits from the County of San Diego, and Cal-OSHA permits for construction works. Clarifications were made within Chapter 4, Environmental Analysis, on page 4-9 regarding the OSHA and Cal-OSHA regulatory requirements for excavation to be consistent with what is stated on page 4.5-11 of the PEIR, and on page 4-10 to specify in greater detail the applicable local standards of the County's Grading Ordinance and Watershed Protection Ordinance.

No new information has been presented in the Final PEIR that would require recirculation of the Draft PEIR pursuant to CEQA Guidelines Section 15088.5(a). Specifically, no new significant environmental impacts would result from the Project or from new mitigation measures proposed for implementation. The Project would not result in a substantial increase in the severity of an environmental impact unless mitigation measures are adopted that reduce the impact to a level of insignificance. In addition, no new feasible Project alternatives or mitigation measures considerably different from those analyzed in the Draft PEIR have been identified that would clearly lessen any significant Project impacts. Finally, the Draft PEIR included adequate information for a meaningful public review and comment.

The Final PEIR also includes the Mitigation, Monitoring, and Reporting Program, appended to this document as Appendix H.

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EXECUTIVE SUMMARY

A Program Environmental Impact Report (PEIR) was developed for implementation of the Rainbow Municipal Water District (District) Water and Sewer Facilities Plan (Project) in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. The Project proposes improvements to accommodate future needs for potable water and wastewater systems District-wide. This summary provides a brief description of the Project, including the Project's background and objectives, outlines the alternatives to the Project, and identifies areas of potential concerns. In addition, this section provides tables that summarize: (1) the direct and indirect impacts that would occur from implementation of the Project; (2) the level of impact significance before mitigation; (3) the recommended mitigation measures that would avoid or reduce significant environmental impacts; (4) the level of impact significance after mitigation measures are implemented; and (5) cumulative impacts.

ES.1 OVERVIEW

As required by CEQA, this PEIR: (1) assesses the potentially significant direct, indirect, and cumulative environmental effects of the Project; (2) identifies potential feasible means of avoiding or mitigating significant adverse impacts; (3) identifies significant and unavoidable adverse impacts that cannot be mitigated to below a less than significant level; and (4) evaluates a range of reasonable alternatives to the Project, including the required No Project Alternative. The District is the "Lead Agency" for this PEIR and is responsible for the implementation of the Project. As the CEQA Lead Agency, the District has the principal responsibility for certifying the PEIR in accordance with Section 15090 of the State CEQA Guidelines.

ES.2 PROJECT BACKGROUND

In 2016, the Water and Wastewater Master Plan Update (Atkins 2016) provided a comprehensive review of the District's potable and wastewater systems and identified a plan of capital improvements necessary for the systems to adapt to future conditions, including major planned land development projects, while providing reliable and economical service to the District's customers. Planning for the 2016 Master Plan was based on regional growth forecasts developed by the San Diego Association of Governments (SANDAG) and was consistent with the adopted land use plans of jurisdictions within the District boundaries.

In 2018, the District prepared a Water Pipeline Condition Assessment to analyze, based on historical break data from District pipes, the current condition of the potable water system and to plan for future maintenance of the system. The assessment assigned a risk score to segments in the pipe system based on the likelihood of a future failure.

An Urban Water Management Plan was prepared in 2020 that assessed demands and supplies over a 20-year planning horizon and addressed methods to ensure reliable and adequate water service to meet the needs of the various categories of customers during normal, dry, and multiple dry years (Brown and Caldwell 2021. The plan documents that the water supplies available to District customers adequate to meet demands over the required 20-year planning period.

Based on the aforementioned sources, the District developed a list of capital improvement projects to be implemented in the near-term and long-term future. Further, as many of the pipes in the District's service area have reached their useful life (over 50 years old), the Project would cover potential breakages or repairs over the entire District service area.

ES.3 PROJECT OBJECTIVES

The Project identifies an implementation plan for improvements necessary for the systems to adapt to future water and wastewater supply and demand conditions, while providing reliable service to the District's customers.

Specific key objectives of the Project are to:

1. Implement improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards.

2. Address system deficiencies under current demand and flow conditions.

3. Meet future water demand and flow conditions in the short term (2030) and long term (2050).

ES.4 PROJECT DESCRIPTION

The Project would include improvements necessary for the systems to adapt to future water and wastewater supply and demand conditions, while providing reliable service to the District's customers, including Capital Improvement Program (CIP) projects, other District pipeline (ODP) projects, and maintenance projects.

The proposed CIP includes projects that are recommended to address existing and forecasted capacity deficiencies, improve system reliability, redundancy and operating efficiencies, and conduct strategic system maintenance and replacement programs. The CIP identifies facilities or programs primarily to provide the District's customers with a system that meets the District's capacity criteria, is in good condition and can be operated efficiently and reliably. CIP projects include 28 water system projects and 10 sewer system projects, which are listed in Chapter 3.0, *Project Description*, and include improvements associated with existing and new pump stations, lift stations, pipelines, and other water and sewer infrastructure and appurtenances.

In 2018, a condition assessment was conducted to review the District's water main infrastructure. Based on the risk parameters used in the condition assessment, the water CIP projects (refer to Chapter 3.0, *Project Description* for a list of the 38 projects) were chosen as the facilities that were determined to be the highest priority for replacement or rehabilitation. However, as the District's pipeline infrastructure continues to age and deteriorate, particularly for facilities that are 50 or more years old, failures or breaks could occur anywhere in the system. Therefore, this PEIR addresses on a broad level the totality of the District's water and sewer pipelines, including 336 miles of water pipelines and 76 miles of sewer pipelines. Specific locations, details, and timing of replacements or improvements along the ODP projects are unknown at this time. The District will undertake the required CEQA review once adequate information is available regarding the specific replacement and improvement projects to support a project-level environmental analysis and prior to approving any specific replacements or improvements.

Maintenance projects are minor activities that the District may undertake as part of general operations. Maintenance projects would include replacement or reconstruction of existing structures and facilities where the new structure would be located on the same site as the structure replaced. The structure would also have substantially the same purpose and capacity as the structure replaced, including existing utility facilities involving negligible or no expansion of capacity.

Other maintenance projects may include installation of new equipment and facilities in small structures or the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. Examples may also include activities such as access cover replacements or rehabilitation; installation of valves, fire hydrants, air/vacuum relief assemblies, and blow off assemblies; relocation of water meters; asphalt pavement replacement; pipeline abandonment; street improvements such as landscaping; or vegetation trimming and brush management within a District easement.

Maintenance projects could be subject to exemptions from CEQA review but have been conservatively included in the impact analysis in this PEIR.

ES.5 IMPACT SUMMARY

The PEIR examines the potential environmental effects from implementation of the Project, including information related to existing conditions, regulatory framework, analyses of the types and magnitude of individual and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid environmental impacts. In accordance with Appendix G of the *CEQA Guidelines*, the potential environmental effects of the Project were analyzed for the following areas:

- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation
- Wildfire

Table S-1, *Summary of Environmental Impacts and Mitigation Measures,* presented at the end of this chapter provides a summary of the environmental impacts that could result from implementation of the Project and feasible mitigation measures that could reduce or avoid environmental impacts. Table S-2, *Summary of Cumulative Impacts,* summarizes the Project's cumulative impacts on the environment.

Impacts to aesthetics, agriculture and forestry resources, land use and planning, mineral resources, population and housing, public services, recreation, and utilities and service systems are considered to be "Effects Found Not to be Significant," according to Section 15128 of the *CEQA Guidelines*. These issues are discussed further in Chapter 5, *Environmental Effects Found Not to be Significant*, of this PEIR.

ES.6 ALTERNATIVES TO THE PROJECT

Alternatives to the Project are analyzed in detail in Chapter 7.0, *Alternatives*, of this PEIR. The objective of the alternatives analysis is to allow meaningful evaluation, analysis, and comparison of each alternative and to consider a reasonable range of potentially feasible alternatives to foster informed decision-making and public participation. The District considered a Reduced Biological Resource Impacts Alternative, in addition to a No Project Alternative.

As discussed in Section 7.3, the Reduced Biological Resources Impacts Alternative would involve siting projects outside of ecologically sensitive areas and would constitute the environmentally superior alternative in addition to the No Project Alternative. The Reduced Biological Resources Impacts Alternative was determined to be infeasible primarily because of the constraints imposed by the existing water delivery and sewage systems. Realignment would require a substantial amount of additional pipeline length, construction of new access roads and decommissioning of existing facilities, which would result in additional impacts. Realignment and relocation of projects entirely out of sensitive habitat would in some cases require moving facilities far away from existing infrastructure and where they would not offer benefits to existing infrastructure facilities that are in need of upgrades. Therefore, the PEIR analyzes the proposed Project and the No Project alternative. Under the No Project alternative, the District would not implement the Project.

An EIR is required to identify the environmentally superior alternative among the alternatives that are evaluated. If the environmentally superior alternative is No Project, the EIR shall also identify an environmentally superior alternative among the other alternatives.

The No Project Alternative assumes that the proposed Project would not be approved, and the alternative would therefore avoid the potentially significant environmental impacts identified for the Project that would occur as a result of construction and operation of the proposed CIP projects, ODP projects, and maintenance projects. However, as discussed above in Section 7.4.1.1, because the facility improvements proposed under the Project would not be implemented, existing District infrastructure would not be brought up to current design, safety, and regulatory standards, and would therefore be at risk of failure. In addition, facilities planned for upsizing under the Project to account for current deficiencies and to accommodate planned future growth would not be upsized under this alternative and would therefore be subject to exceedances. Such failure and exceedances, specifically of sewer pipes and lift stations, could result in hazardous materials spills and the exposure of the public and environment to hazardous conditions. Hazardous materials spills could also affect water quality and result in the violation of water quality standards and/or waste discharge requirements. These impacts would be expected to occur in an on-going manner as components of District infrastructure would continue to age, meet their useful life, and be at risk of failure and/or exceedances.

The District also considered a Reduced Biological Disturbance Alternative, which would constitute the environmentally superior alternative in addition to the No Project Alternative. Due to the nature of Project, which involves upgrading existing infrastructure for a largely built-out system, options involving siting infrastructure entirely outside of sensitive habitat while limiting disturbance of sensitive habitat and maintaining efficient and reliable service are limited.

For the above reasons, neither the No Project Alternative nor the Environmentally Superior Alternative offers clearly environmentally superior benefits as compared to the proposed Project.

The on-going nature of impacts under the No Project Alternative would be in contrast to the predominantly short-term and temporary impacts that would result from construction of individual CIP projects, ODP projects, and maintenance projects under the proposed Project. Because the proposed Project primarily consists of either improvements to existing facilities and/or improvements to belowground infrastructure, the Project would not result in a substantial increase in new permanent impacts.

ES.7 AREAS OF KNOWN CONTROVERSY/CONCERN

To initiate the public scoping process for this PEIR in accordance with CEQA, the District circulated a Notice of Preparation (NOP) on May 27, 2021. An online public scoping meeting was held on June 16, 2021. The 30-day public review period for the NOP ended on June 25, 2021. Commenters on the NOP expressed concerns related to:

- Potential impacts to Native American human remains and tribal cultural resources;
- Potential impacts to special status species, including State and/or federally listed species and California Species of Special Concern and natural communities; and
- Potential impacts to wetlands and associated mitigation.

These issues have been identified as areas of known concern and are addressed throughout this PEIR. Additional comment topics raised during the NOP public review period are provided in Table 1-1, *NOP Comment Letter Topics,* in Chapter 1 of this PEIR. Comment letters received in response to the NOP are included in Appendix A of this PEIR.

Table S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
4.1 Air Quality				
Consistency with Air Quality Plans	The proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	No mitigation is necessary.	Less than Significant
Air Quality Standards	The proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment.	Less than Significant	No mitigation is necessary.	Less than Significant
Sensitive Receptors	The proposed Project would not expose sensitive receptors to substantial pollutant concentrations.	Less than Significant	No mitigation is necessary.	Less than Significant
Odors	The proposed Project would not result in other emissions, such as those leading to odors, affecting a substantial number of people.	Less than Significant	No mitigation is necessary.	Less than Significant
4.2 Biological Resources				
Sensitive Species	The Project may result in a substantial adverse impact, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	Potentially Significant	• MM BIO-1 Project Specific Biological Resource Surveys (see PEIR p. 4.2-21 for full text of measure) • MM BIO-2 Rare Plant Surveys, Avoidance, and Mitigation (see PEIR p. 4.2-22 for full text of measure). • MM BIO-3 Special-Status Wildlife Species Surveys, Avoidance, and Mitigation (see PEIR p. 4.2.23 for full text of measure). • MM BIO-4 Avoidance of Nesting Birds and Raptors (see PEIR p. 4.2-24 for full text of measure).	Less than Significant

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
			• MM BIO-5 Coastal California Gnatcatcher Pre-Construction Surveys and Avoidance (see PEIR p. 4.2-25 for full text of measure). • MM BIO-6 Stephen's Kangaroo Rat Pre-construction Surveys and Avoidance (see PEIR p. 4.2-26 for full text of measure). • MM BIO-7 Least Bell's Vireo Pre-construction Surveys and Avoidance (see PEIR p. 4.2-26 for full text of measure). • MM BIO-8 Southwestern Willow Flycatcher Pre-Construction Surveys and Avoidance (see PEIR p. 4.2-27 for full text of measure). • MM BIO-9 Pre-Construction Biological Resource Surveys (see PEIR p. 4.2-28 for full text of measure). • MM BIO-10 Construction-Related Noise (see PEIR p. 4.2-28 for full text of measure). • MM BIO-11 Biological Construction Monitoring and Temporary Construction Fencing (see PEIR p. 4.2-29 for full text of measure). • MM BIO-12 Construction Staging Areas (see PEIR p. 4.2-29 for full text of measure). • MM BIO-13 Contractor Training (see PEIR p. 4.2-30 for full text of measure).	

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
			• MM BIO-14 Maintenance Project Compliance (see PEIR p. 4.2-30 for full text of measure).	
Sensitive Habitats	The Project may result in a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.	Potentially Significant	• MM BIO-1 Project Specific Biological Resource Surveys (see PEIR p. 4.2-21 for full text of measure). • MM BIO-11 Biological Construction Monitoring and Temporary Construction Fencing (see PEIR p. 4.2-29 for full text of measure). • MM BIO-12 Construction Staging Areas (see PEIR p. 4.2-29 for full text of measure). • MM BIO-13 Contractor Training (see PEIR p. 4.2-30 for full text of measure). • MM BIO-14 Maintenance Project Compliance (see PEIR p. 4.2-30 for full text of measure). • MM BIO-15A Compensatory Mitigation for Project Impacts to Sensitive Upland Communities (see PEIR p. 4.2-33 for full text of measure). • MM BIO-15B Compensatory Mitigation for Project Impacts to Sensitive Wetland/Riparian Communities (see PEIR p. 4.2-35 for full text of measure).	Less than Significant

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
Wetlands	The Project may 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.	Potentially Significant	• MM BIO-1 Project Specific Biological Resource Surveys (see PEIR p. 4.2-21 for full text of measure). • MM BIO-11 Biological Construction Monitoring and Temporary Construction Fencing (see PEIR p. 4.2-29 for full text of measure). • MM BIO-12 Construction Staging Areas (see PEIR p. 4.2-29 for full text of measure). • MM BIO-13 Contractor Training (see PEIR p. 4.2-30 for full text of measure). • MM BIO-14 Maintenance Project Compliance (see PEIR p. 4.2-30 for full text of measure). • MM BIO-16 Project-Level Jurisdictional Delineations (see PEIR p. 4.2-39 for full text of measure). • MM BIO-17 Compensatory Mitigation for Impacts to Jurisdictional Resources (see PEIR p. 4.2-40 for full text of measure).	Less than Significant
Wildlife Movement	The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than Significant	No mitigation is necessary.	Less than Significant
Local Policies	The Project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	No Impact	No mitigation is required; however, mitigation measures MM BIO-1 through MM BIO-17 would avoid and minimize impacts to biological resources.	No Impact

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
Conservation Planning	The Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, and other approved local, regional, or state habitat conservation plan.	No Impact	No mitigation is required; however, mitigation measures MM BIO-1 through MM BIO-17 would avoid and minimize impacts to biological resources.	No Impact
4.3 Cultural and Tribal Cultural Resources				
Historical and Archaeological Resources	The Project has the potential to cause a substantial adverse change in the significance of historical resources and archaeological resources pursuant to §15064.5.	Potentially Significant	• MM CUL-1 Project-specific Cultural Resource Procedures (see PEIR p. 4.3-12 for full text of measure). • MM CUL-2 Cultural Resources Monitoring Program (see PEIR p. 4.3-14 for full text of measure). • MM CUL-3 Procedure for Project Improvements with no Archaeological Monitoring (see PEIR p. 4.3-15 for full text of measure).	Less than Significant
Human Remains	The Project has the potential to disturb human remains, including those interred outside of formal cemeteries.	Potentially Significant	• MM CUL-4 Identification of Human Remains (see PEIR p. 4.3-16 for full text of measure).	Less than Significant
Tribal Cultural Resources	The Project has the potential to cause a substantial change in the significance of a tribal cultural resource, defined in PRC §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.	Potentially Significant	• MM CUL-1 Project-specific Cultural Resource Procedures (see PEIR p. 4.3-12 for full text of measure). • MM CUL-2 Cultural Resources Monitoring Program (see PEIR p. 4.3-14 for full text of measure). • MM CUL-3 Procedure for Project Improvements with no Archaeological Monitoring (see PEIR p. 4.3-15 for full text of measure).	Less than Significant

[1] In the interest of brevity, only the mitigation measure number and title are provided. The page number of where the full text of the measure is located in the PEIR is listed after the title.

Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
4.4 Energy				
Wasteful, Inefficient, or Unnecessary Energy Consumption	The Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than significant	No mitigation is necessary.	Less than Significant
Conflict with Energy Plans	The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than Significant	No mitigation is necessary.	Less than Significant
4.5 Geology and Soils				
Seismic Hazards	The Project may directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides.	Potentially Significant	• MM GEO-1 Conduct Site-Specific Geotechnical Investigations (see PEIR p. 4.5-15 for full text of measure).	Less than Significant
Erosion and Sedimentation	The Project may result in substantial soil erosion or the loss of topsoil.	Potentially Significant	• MM HYD-1 Conduct Site-Specific Water Quality Investigations (see PEIR p. 4.8-15 for full text of measure).	Less than Significant
Geologic Instability	The Project may result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse by being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed Project.	Potentially Significant	• MM GEO-1 Conduct Site-Specific Geotechnical Investigations (see PEIR p. 4.5-15 for full text of measure).	Less than Significant
Expansive Soil	The Project may create substantial direct or indirect risks to life or property by being located on expansive soil.	Potentially Significant	• MM GEO-1 Conduct Site-Specific Geotechnical Investigations (see PEIR p. 4.5-15 for full text of measure).	Less than Significant

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
Septic Tanks	The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	No Impact	No mitigation is necessary.	No Impact
Paleontological Resources	The Project may directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant	• MM GEO-2 Paleontological Construction Monitoring in Sensitive Areas (see PEIR p. 4.5-20 for full text of measure).	Less than Significant
4.6 Greenhouse Gas Emissions				
Greenhouse Gas Emissions	The Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than Significant	No mitigation is necessary.	Less than Significant
Conflict with Plans or Policies	The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions.	Less than Significant	No mitigation is necessary.	Less than Significant
4.7 Hazards and Hazardous Materials				
Transport, Use, Disposal, and Accidental Release of Hazardous Materials	The Project may create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Potentially Significant	• MM HAZ-1 Sewer Pipeline and Lift Station Safety Features (see PEIR p. 4.7-8 for full text of measure).	Less than Significant

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
Hazardous Materials Sites	The Project may be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code §65962.5 and, as a result, create a significant hazard to the public or the environment.	Potentially Significant	• MM HAZ-2 Conduct Site-Specific Environmental Site Assessment (see PEIR p. 4.7-9 for full text of measure).	Less than Significant
Airport Hazards	The Project would not result in a safety hazard or excessive noise for people residing or working in the Project area.	Less than Significant	No mitigation is necessary.	Less than Significant
Emergency Response and Evacuation	The Project may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Potentially Significant	• MM TRA-1 Traffic Control Plan (see PEIR p. 4.10-5 for full text of measure).	Less than Significant
Wildland Fires	The Project may expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	Potentially Significant	• MM HAZ-3 Construction Fire Safety Plan (see PEIR p. 4.7-12 for full text of measure).	Less than Significant
4.8 Hydrology and Water Quality				
Water Quality	The Project may violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	Potentially Significant	• MM HYD-1 Conduct Site-Specific Water Quality Investigations (see PEIR p. 4.8-15 for full text of measure).	Less than Significant

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
Drainage Patterns and Flooding	The Project may alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or the addition of impervious surfaces, in a manner which would: result in substantial erosion, siltation, or flooding on- or off-site; substantially increase the rate or amount of surface runoff; 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.	Potentially Significant	• MM HYD-2 Conduct Site-Specific Hydrologic and Hydraulic Investigations (see PEIR p. 4.8-19 for full text of measure).	Less than Significant
Flood Hazards	The Project would not risk release of pollutants due to inundation.	Less than Significant	No mitigation is necessary.	Less than Significant
Groundwater	The Project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Potentially Significant	• MM HYD-1 Conduct Site-Specific Water Quality Investigations (see PEIR p. 4.8-15 for full text of measure).	Less than Significant
4.9 Noise				
Increase in Ambient Noise	The Project may result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies	Potentially Significant	• MM NOI-1 General Construction and Maintenance Noise Limits (see PEIR p. 4.9-14 for full text of measure). • MM NOI-2 Operational Compliance with Noise Regulations (see PEIR p. 4.9-15 for full text of measure).	Less than Significant
Vibration	The Project would not result in the generation of excessive groundborne vibration or groundborne noise levels.	Less than Significant	No mitigation is necessary.	Less than Significant

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
Aircraft Noise	The proposed Project would not expose people residing or working in the Project area to excessive noise levels by being located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.	Less than Significant	No mitigation is necessary.	Less than Significant
4.10 Transportation				
Traffic Circulation	The Project may conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Potentially Significant	• MM TRA-1 Traffic Control Plan (see PEIR p. 4.10-5 for full text of measure).	Less than Significant
Vehicle Miles Traveled	The Project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	Less than Significant	No mitigation is necessary.	Less than Significant
Hazardous Traffic Conditions	The Project may increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Potentially Significant	• MM TRA-1 Traffic Control Plan (see PEIR p. 4.10-5 for full text of measure).	Less than Significant
Emergency Access	The Project may result in inadequate emergency access.	Potentially Significant	• MM TRA-1 Traffic Control Plan (see PEIR p. 4.10-5 for full text of measure).	Less than Significant
4.11 Wildfire				
Impair Emergency Response or Evacuation Plan	The Project may impair an adopted emergency response plan or emergency evacuation plan.	Potentially Significant	• MM TRA-1 Traffic Control Plan (see PEIR p. 4.10-5 for full text of measure).	Less than Significant
Wildfire Pollutants and Spread	Due to slope, prevailing winds, or other factors, the Project may exacerbate wildfire risk, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Potentially Significant	• MM HAZ-3 Construction Fire Safety Plan (see PEIR p. 4.7-12 for full text of measure).	Less than Significant

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Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Issue	Impact	Significance Before Mitigation	Mitigation Measures[1]	Significance After Mitigation
Exacerbation of Fire Risk from Infrastructure	The Project may 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.	Potentially Significant	• MM HAZ-3 Construction Fire Safety Plan (see PEIR p. 4.7-12 for full text of measure).	Less than Significant
Flooding and Landslides	The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Less than Significant	No mitigation is necessary.	Less than Significant

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Table S-2
SUMMARY OF CUMULATIVE IMPACTS

Issue	Geographic Scope of the Cumulative Analysis	Cumulatively Considerable Impact?
4.1 Air Quality		
Consistency with Air Quality Plans	The South Diego Air Basin (SDAB).	No.
Air Quality Standards	The SDAB.	No.
Sensitive Receptors	The area in the immediate vicinity of the Project improvements.	No.
Odors	The area immediately surrounding potential odor sources.	No.
4.2 Biological Resources		
Special Status Species	The District's service area and surrounding areas, particularly undeveloped lands that support native habitats, native plant and animal species, and potentially jurisdictional waters, as well as contiguous units of critical habitat.	Not cumulatively considerable with implementation of MM BIO-1 through MM BIO-14.
Sensitive Habitats	The District's service area and surrounding areas, particularly undeveloped lands that support native habitats, native plant and animal species, and potentially jurisdictional waters, as well as contiguous units of critical habitat.	Not cumulatively considerable with implementation of MM BIO-11 through MM BIO-14, MM BIO-15A, and MM BIO-15B.
Wetlands	The District's service area and surrounding areas, particularly undeveloped lands that support native habitats, native plant and animal species, and potentially jurisdictional waters, as well as contiguous units of critical habitat.	Not cumulatively considerable with implementation of MM BIO-16 and MM BIO-17. Indirect cumulative impacts would be avoided through implementation of MM BIO-11 through MM BIO-14.
Wildlife Movement	The District's service area and surrounding areas, particularly undeveloped lands that support native habitats, native plant and animal species, and potentially jurisdictional waters, as well as contiguous units of critical habitat.	No.
Local Policies	The District's service area and surrounding areas, particularly undeveloped lands that support native habitats, native plant and animal species, and potentially jurisdictional waters, as well as contiguous units of critical habitat.	No.
Conservation Planning	The District's service area and surrounding areas, particularly undeveloped lands that support native habitats, native plant and animal species, and potentially jurisdictional waters, as well as contiguous units of critical habitat.	No.

Table S-2 (cont.)
SUMMARY OF CUMULATIVE IMPACTS

Issue	Geographic Scope of the Cumulative Analysis	Cumulatively Considerable Impact?
4.3 Cultural and Tribal Cultural Resources		
Historical and Archaeological Resources	Areas with moderate and high cultural resource sensitivity within the District's service area.	Not cumulatively considerable with implementation of MM CUL-1 through MM CUL-3.
Human Remains	The District's service area.	Not cumulatively considerable with implementation of MM CUL-4.
Tribal Cultural Resources	Areas with moderate and high cultural resource sensitivity within the District's service area.	Not cumulatively considerable with implementation of MM CUL-1 through MM CUL-3.a
4.4 Energy		
Wasteful, Inefficient, or Unnecessary Energy Consumption	The service area of the energy (electricity and natural gas) provider in the Project area, which is SDG&E.	No.
Conflict with Energy Plans	The service area of the energy (electricity and natural gas) provider in the Project area, which is SDG&E.	No.
4.5 Geology and Soils		
Seismic and Geologic Hazards	Impacts are generally site-specific and not cumulative in nature.	No.
Erosion and Sedimentation	The watersheds downstream from the Project's CIP, ODP, and maintenance improvement sites.	Not cumulatively considerable with implementation of MM HYD-1.
Septic Tanks	Impacts are generally site-specific and not cumulative in nature.	No.
Paleontological Resources	The paleontologically sensitive geologic formations occurring within the District's service area, which includes Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks.	Not cumulatively considerable with implementation of MM GEO-2.
4.6 Greenhouse Gas Emissions		
Greenhouse Gas Emissions	The global atmosphere.	No.
Conflict with Plans or Policies	The global atmosphere.	No.
4.7 Hazards and Hazardous Materials		
Transport, Use, Disposal, and Accidental Release of Hazardous Materials	The Project improvement construction sites and operational facility sites that may involve the use of hazardous materials and the roadways and freeways used by vehicles transporting hazardous materials to and from these sites.	No.

Table S-2 (cont.)
SUMMARY OF CUMULATIVE IMPACTS

Issue	Geographic Scope of the Cumulative Analysis	Cumulatively Considerable Impact?
Hazardous Materials Sites	Impacts are generally site-specific and limited to the area directly adjacent to the hazardous materials site.	No.
Airport Hazards	Impacts are generally site-specific and limited to the area within the Airport Influence Area or two miles of a specific airport.	No.
Emergency Response and Evacuation	The circulation network (i.e., roadways and freeways) within the District's service area.	Not cumulatively considerable with implementation of MM TRA-1.
Wildland Fires	The District's service area.	Not cumulatively considerable with implementation of MM HAZ-3.
4.8 Hydrology and Water Quality		
Water Quality	The San Luis Rey Watershed and the Santa Margarita Watershed.	Not cumulatively considerable with implementation of MM HYD-1.
Drainage Patterns and Flooding	The San Luis Rey Watershed and the Santa Margarita Watershed.	Not cumulatively considerable with implementation of MM HYD-2.
Flood Hazard Areas	Impacts are generally site-specific and not cumulative in nature.	No.
Groundwater	The San Luis Rey Valley Groundwater Basin	Not cumulatively considerable with implementation of MM HYD-1.
4.9 Noise		
Increase in Ambient Noise	Areas with noise-sensitive land uses surrounding temporary Project improvement areas (for construction-related impacts) and areas with noise-sensitive land uses surrounding permanent Project facilities (for operations-related impacts).	Not cumulatively considerable with implementation of MM NOI-1 and MM NOI-2.
Vibration	Vibration-sensitive land uses surrounding temporary Project improvement areas (for construction-related impacts) and areas with vibration-sensitive land uses surrounding permanent Project facilities (for operations-related impacts)	No.
Aircraft Noise	The Noise Impact Zone (defined as within the 55-CNEL contour) of Fallbrook Community Airpark.	No.
4.10 Transportation		
Traffic Circulation	The circulation network within the District's service area.	Not cumulatively considerable with implementation of MM TRA-1.
Vehicle Miles Traveled	The circulation network within the District's service area.	Not cumulatively considerable.
Hazardous Traffic Conditions	The circulation network within the District's service area.	Not cumulatively considerable with implementation of MM TRA-1.
Emergency Access	The circulation network within the District's service area.	Not cumulatively considerable with implementation of MM TRA-1.

Table S-2 (cont.)
SUMMARY OF CUMULATIVE IMPACTS

Issue	Geographic Scope of the Cumulative Analysis	Cumulatively Considerable Impact?
4.11 Wildfire		
Impair Emergency Response or Evacuation Plan	The circulation network within the District's service area.	Not cumulatively considerable with implementation of MM TRA-1.
Wildfire Pollutants and Spread	The District's service area.	Not cumulatively considerable with implementation of MM HAZ-1.
Exacerbation of Fire Risk from Infrastructure	The District's service area.	Not cumulatively considerable with implementation of MM HAZ-1.
Flooding and Landslides	Impacts are generally site-specific and not cumulative in nature.	No.

1.0 INTRODUCTION

This Program Environmental Impact Report (PEIR) assesses the environmental effects associated with the Rainbow Municipal Water District (District) Water and Sewer Facilities Plan (Project). The Project proposes improvements to accommodate future needs for potable water and wastewater systems in the District.

The California Environmental Quality Act (CEQA) applies to discretionary projects not otherwise exempt from CEQA review, and that are approved or proposed to be carried out by public agencies (Public Resources Code, section 21080, subdivision (a).). If there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code section 21080, subdivision (d).) An EIR is an informational document which informs public agency decisionmakers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. (State CEQA Guidelines, section 15121, subdivision (a).) The required contents of an EIR are set forth in CEQA and the State CEQA Guidelines (State CEQA Guidelines section 15120-15132.).

The PEIR was prepared in accordance with CEQA and the State CEQA Guidelines.

1.1 DISTRICT OVERVIEW

The District is a publicly owned retail water and sewer agency serving 82 square miles in northern San Diego County. The District shares common boundaries with Riverside County and Camp Pendleton Marine Base, as shown in Figure 1-1, *Regional Location*. The District's service boundaries encompass several unincorporated areas including the communities of Rainbow and Bonsall as well as portions of Pala and Fallbrook, as well as a small portion within the City of Oceanside. The Fallbrook Public Utility District is located west of the District, and the Valley Center Municipal Water District lies to the east. The District is comprised of five divisions, as shown on Figure 1-2, *District Divisions*.

The District provides water service to nearly all the area within its boundaries, encompassing approximately 8,771 metered accounts, including agricultural uses and approximately 5,300 residences. The District has a contractual right to treat 1.5 million gallons of sewage per day at the San Luis Rey Wastewater Treatment Plant in Oceanside. The District's sewer service area includes over 2,500 connections mainly along the State Route (SR) 76 corridor.

The District was authorized as a California Special District by the State Legislature in 1953, under the provisions of the Municipal Water District Code. A five-member elected Board of Directors adopts ordinances and policies, and sets taxes and rates for providing sewer and potable water services within the District service area. The District is revenue neutral: each end user pays their fair share of the District's costs of capital improvements, water acquisition, and the operation and maintenance of its facilities.

The District is a member agency of the San Diego County Water Authority (SDCWA; Water Authority). SDCWA is responsible for transmission of the imported water supply within San Diego County to all its member agencies. SDCWA is a member of The Metropolitan Water District of Southern California. The District receives imported potable water from the aqueduct systems owned and operated by SDCWA and The Metropolitan Water District of Southern California. The District continues to be active in

reducing demands through conservation measures, and in pursuing new local and innovative sources of supply to increase system reliability, flexibility, and economy.

1.2 BACKGROUND

In 2016, the Water and Wastewater Master Plan Update (Atkins 2016a) provided a comprehensive review of the District's potable and wastewater systems and identified a plan of capital improvements necessary for the systems to adapt to future conditions, including major planned land development projects, while providing reliable and economical service to the District's customers. The 2016 Master Plan was based on regional growth forecasts developed by the San Diego Association of Governments (SANDAG) and was consistent with the adopted land use plans of all jurisdictions within the District boundaries.

An update to the Urban Water Management Plan (UWMP) was prepared in 2020 (Brown and Caldwell 2021). The UWMP assessed demands and supplies over a 20-year planning horizon and addressed methods to ensure reliable and adequate water service to meet the needs of the various categories of customers during normal, dry, and multiple dry years. The plan documented that the water supplies available to District customers are adequate to meet demands over the required 20-year planning period.

In 2018, the District prepared a Water Pipeline Condition Assessment to analyze, based on historical break data from District pipes, the current condition of the potable water system and plan for future maintenance of the system. The assessment assigned a risk score to segments in the pipe system based on the likelihood of a future failure.

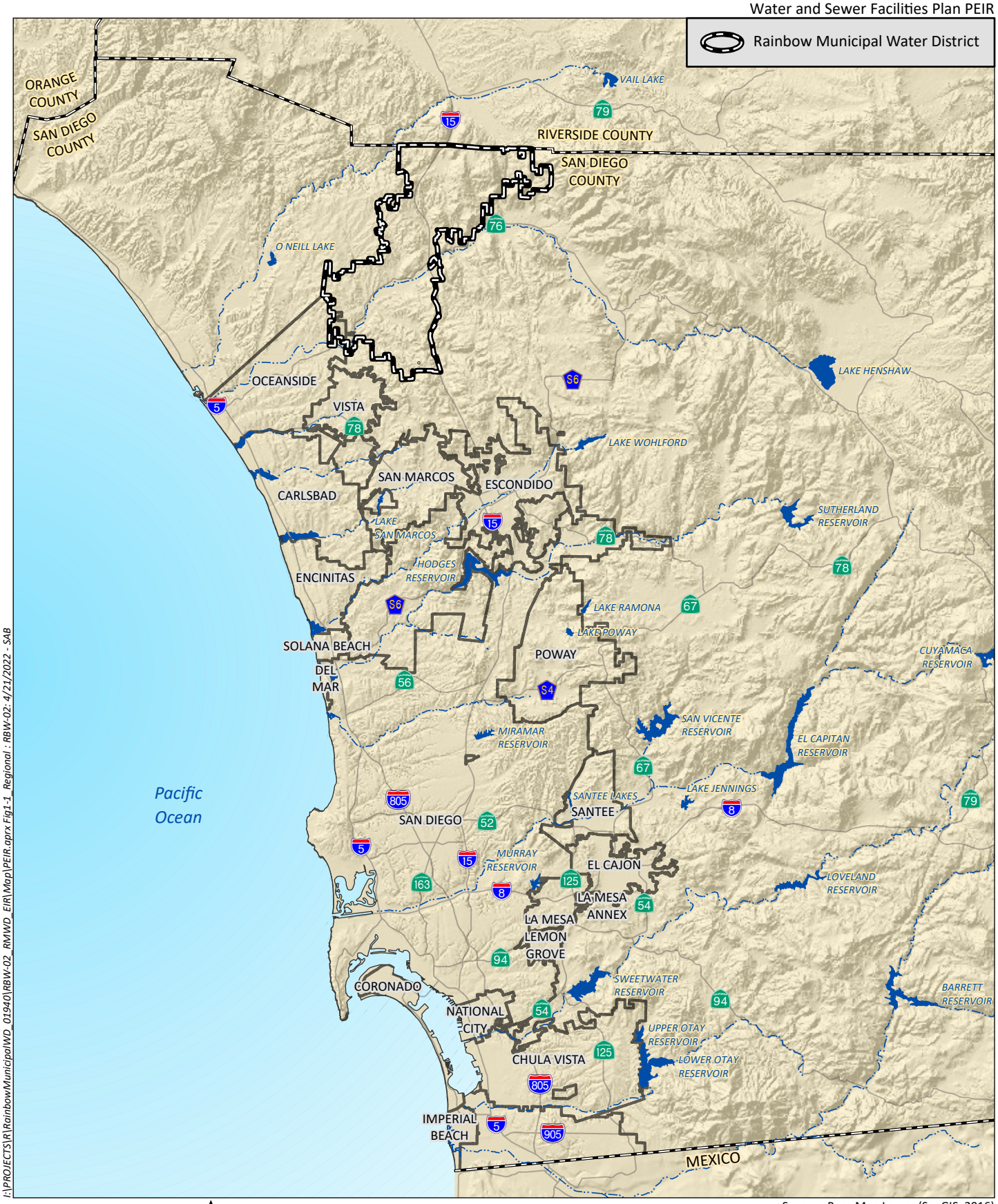
Based on these sources, the District developed a list of capital improvement projects to be implemented in the near-term and long-term future. Further, as many of the pipes in the District's service area are aging (over 50 years old), the District aims to put in place a plan that would cover potential breakages or repairs over the entire District service area.

1.3 ENVIRONMENTAL REVIEW PROCESS

1.3.1 Lead, Responsible, and Trustee Agencies

The District has the principal responsibility of approving and implementing the Project and is therefore the CEQA Lead Agency for this Project. CEQA requires the lead agency to consider the information in an EIR and make findings regarding each potentially significant impact identified in the EIR prior to approving a project.

Public agencies, other than the lead agency, which have discretionary authority over a project, are responsible agencies. Federal agencies are not responsible agencies under CEQA; however, federal agencies may also have discretionary authority over a project. A trustee agency is a state agency that has jurisdiction by law over natural resources affected by a project that are held in trust for the people of the state of California. For a list of agency permits and approvals anticipated to be needed for implementation of the Project, please see Table 1-2, *Anticipated Regulatory Permits and Approvals*, below.



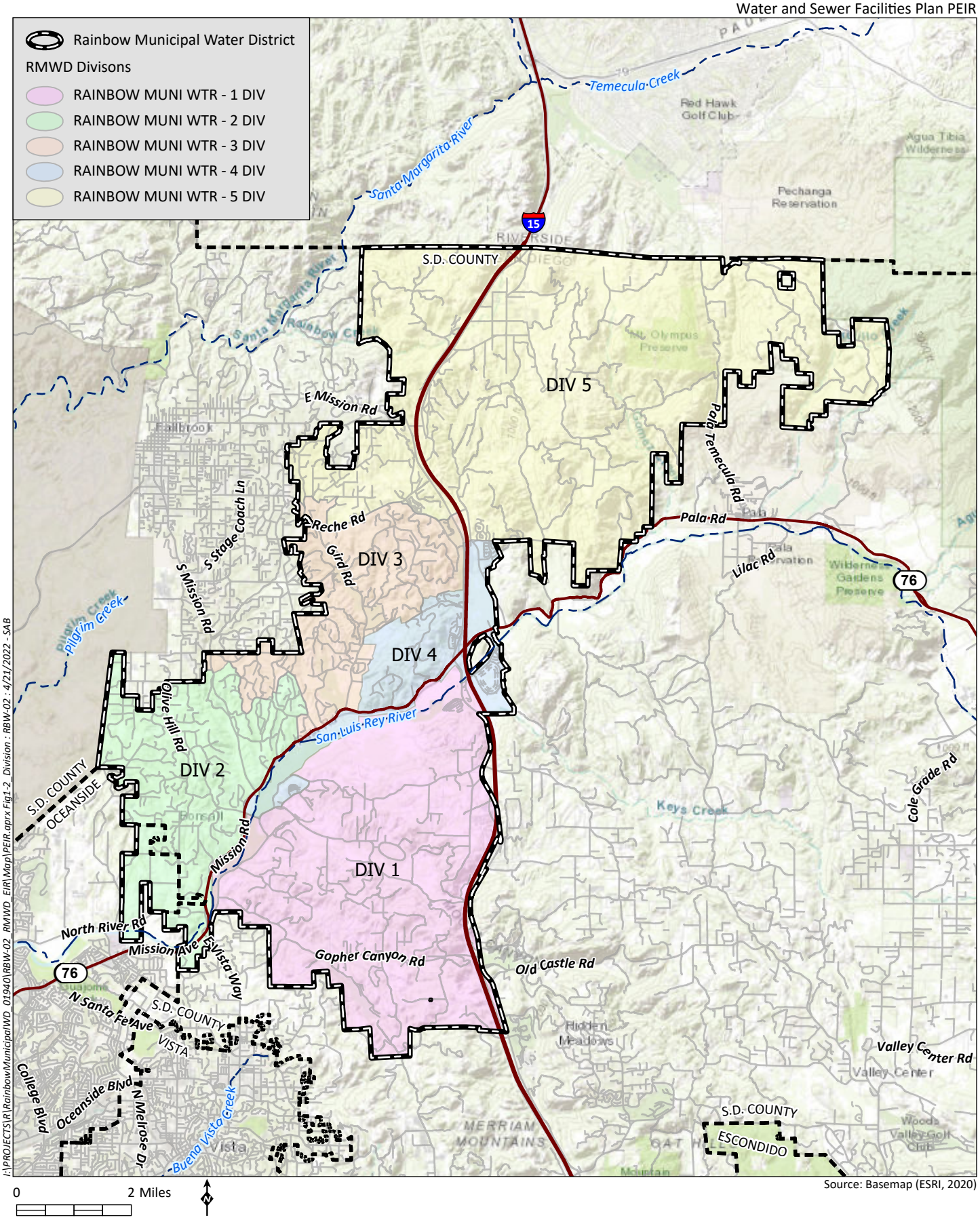
I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\PEIR.aprx Fig1-1_Regional : RBW-02; 4/21/2022 - SAB

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1-1



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Source: Basemap (ESRI, 2020)

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District Divisions

Figure 1-2

1.3.2 Purpose and Intended Uses of this PEIR

A "program" environmental impact report (EIR) is an EIR that may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in a chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

This PEIR evaluates the broad programmatic implementation of the Project. It provides a more thorough consideration of potential environmental effects and alternatives than could be provided in an EIR on an individual action and ensure that cumulative impacts are fully considered. The PEIR also allows policy alternatives and program-wide mitigation measures to be considered at an early stage and thereby helps to avoid duplication of efforts with respect to the review and approval of future specific system repairs and improvements.

The District's adoption of the Project and certification of the final PEIR support approval of an overall program that focuses on program-wide issues, such as policy alternatives and cumulative impacts, including GHG emissions impacts, and further environmental review would be conducted as needed to support detailed analysis of issues that are specific to individual Project improvements.

The District intends for the PEIR to be used for the following purposes:

- To inform the public and decision makers of the potential environmental consequences of the implementation of the Project and on the range of reasonable alternatives and mitigation measures that may feasibly reduce or avoid the Project's potentially significant environmental effects; and

- To facilitate CEQA compliance by agencies with discretionary authority over the Project.

1.3.3 Future Tiering from the PEIR

Subsequent environmental documents (if needed) for future individual activities would tier from this PEIR, and may include addenda, initial studies, negative declarations, mitigated negative declarations, and subsequent or supplemental EIRs. CEQA Guidelines Section 15168(c) provides guidance pertaining to the environmental review process for implementing individual activities within the Project:

1. Where the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the PEIR.

2. If the agency finds that pursuant to CEQA Guidelines Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the PEIR, and no new environmental document would be required.

3. If a later activity would have effects that were not examined in the PEIR, a new initial study would need to be prepared to determine the appropriate level of CEQA analysis.

4. An agency shall incorporate feasible mitigation measures and alternatives developed in the PEIR into subsequent actions in the program.

A PEIR can also be used to simplify the task of preparing subsequent environmental documents for individual projects. The PEIR can be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole. This allows the subsequent analysis to focus on effects that had not been previously considered.

1.3.4 Notice of Preparation/Scoping Process of the PEIR

To initiate the public scoping process for this PEIR in accordance with CEQA, the District circulated a Notice of Preparation (NOP) on May 27, 2021. The NOP was published in The Daily Transcript and submitted to the State Clearinghouse. The 30-day public review period for the NOP ended June 25, 2021. During the scoping period, comment letters were received from the Native American Heritage Commission (NAHC), the California Department of Fish and Wildlife (CDFW), the California Department of Transportation (Caltrans), and the County of San Diego (County). The comment letters are included in Appendix A of this PEIR along with the NOP. The main topics raised in the comment letters, and where they are discussed in the PEIR, are shown in Table 1-1, *NOP Comment Letter Topics*.

Table 1-1
NOP COMMENT LETTER TOPICS

Agency of Letter Received	Issue Area(s)	Where Addressed in PEIR
Native American Heritage Commission (NAHC)	1. If the Project impacts tribal cultural resources, it would be considered to have a significant effect on the environment.	Section 4.3, *Cultural Resources and Tribal Cultural Resources*
	2. The proposed Project may be subject to Assembly Bill (AB) 52 and Senate Bill (SB) 18. Consultation per AB 52 and SB 18 with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the Project is recommended to occur as early as possible to avoid inadvertent discoveries of human remains and best protect tribal cultural resources.	Section 4.3, *Cultural Resources and Tribal Cultural Resources*
	3. The Project should perform a cultural resources assessment that includes an archaeological record search at the California Historical Research Information System (CHRIS); a report detailing the findings and recommendations of the records search and field survey; a Sacred Lands File Search; and a mitigation and monitoring reporting program plan.	Section 4.3, *Cultural Resources and Tribal Cultural Resources*

Agency of Letter Received	Issue Area(s)	Where Addressed in PEIR
California Department of Fish and Wildlife (CDFW)	1. The Project may impact State and/or federally listed species and California Species of Special Concern. If the Project would result in take of listed species, the Project should seek appropriate take authorization under the California Endangered Species Act. Focused species-specific surveys are required to determine species presence. If species are present, the EIR should disclose potential impacts to the species as well as proposed avoidance and mitigation measures.	Section 4.2, *Biological Resources*
	2. The EIR should include a complete discussion of the purpose and description of the Project and a range of feasible alternatives that would avoid or otherwise minimize impacts to sensitive biological resources.	Chapter 3, *Project Description*, and Chapter 8, *Alternatives*
	3. The Project should not result in the development of wetlands or conversion of wetlands to uplands unless, at a minimum, Project mitigation assures there will be "no net loss" of either wetland habitat value or acreage. In addition to wetlands, other watercourses and aquatic resources should be avoided. A preliminary delineation of aquatic features should be conducted and mitigation measures to compensate for impacts to aquatic resources must be included in the EIR.	Section 4.2, *Biological Resources*
	4. The EIR should provide a complete assessment of the flora and fauna within and adjacent to the Project area, with particular emphasis upon identifying endangered, threatened, sensitive, and locally unique species and sensitive habitats.	Section 4.2, *Biological Resources*
	5. The EIR should include a detailed discussion of potential impacts, including indirect and cumulative impacts, as well as specific measures to offset such impacts.	Section 4.2, *Biological Resources*
	6. Special status species and natural communities detected during Project surveys should be reported to the California Native Diversity Database.	Section 4.2, *Biological Resources*
California Department of Transportation (Caltrans)	1. A Vehicle Miles of Travel (VMT)-based Traffic Impact Study (TIS) may be needed for the Project. The TIS may also need to identify the Project's construction-related, near-term, and long-term safety or operational issues on or adjacent to any existing or proposed State facilities.	Section 4.10, *Transportation*
	2. Hydraulics and hydrology studies and drainage and grading plans should be prepared and provided to Caltrans for review.	Section 4.8, *Hydrology and Water Quality*
	3. A Traffic Control Plan should be submitted to Caltrans District 11 at least 30 days prior to the start of Project construction. The plan shall ensure that traffic is not unreasonably delayed and shall outline suggested detours to use during closures. Impacts to highway facilities and vehicular travel associated with construction should be addressed.	Section 4.10, *Transportation*

Agency of Letter Received	Issue Area(s)	Where Addressed in PEIR
	4. Discretionary review by Caltrans and an encroachment permit would be required for work within Caltrans' right-of-way. Final environmental documents need to be provided for issuance of the permit. The environmental documents should address impacts to the natural environment, infrastructure, and appurtenant features within Caltrans' right-of-way and associated mitigation measures, as necessary.	Chapter 1, *Introduction,* and Section 4.10, *Transportation*
	5. Discretionary review by Caltrans and an encroachment permit would be required for work within Caltrans' right-of-way. Final environmental documents need to be provided for issuance of the permit. The environmental documents should address impacts to the natural environment, infrastructure, and appurtenant features within Caltrans' right-of-way and associated mitigation measures, as necessary.	Chapter 1, *Introduction,* and Section 4.10, *Transportation*
	6. Perpetuation of survey monuments by a licensed land surveyor is required if they are being destroyed by Project construction.	Section 4.10, *Transportation*
	7. Modifications to access control would need both Caltrans and Federal Highway Administration approval.	Section 4.10, *Transportation and Traffic*
County of San Diego (County)	1. Project impacts that could have potentially significant adverse effects to unincorporated San Diego County or County facilities should be evaluated using the County's Guidelines for Determining Significance.	Chapter 4, *Environmental Analysis*
	2. The County's Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources provides guidance for assessing impacts to sensitive species and habitats, as well as standard mitigation measures and project design considerations. For low-level sensitive species (Group II), mitigation is generally achieved concurrently with habitat-based mitigation. For high-level sensitive species (Group I), the mitigation requirement is ratio based.	Section 4.2, *Biological Resources*
	3. Project impacts that could have potentially significant adverse effects to sensitive lands with the unincorporated County should be evaluated using the County's Resource Protection Ordinance. Activities damaging sensitive lands are prohibited unless all feasible measures necessary to protect and preserve the sensitive lands are completed as a condition of project approval, and mitigation provides an equal or greater benefit to the affected species.	Section 4.2, *Biological Resources*
	4. The Project is located within the North County Multiple Species Conservation Plan (North County Plan) Area and portions may be within the North County Plan Pre-Approved Mitigation Area. The Project's environmental documentation should address potential impacts to the draft North County Plan.	Section 4.2, *Biological Resources*

Agency of Letter Received	Issue Area(s)	Where Addressed in PEIR
	5. As related to transportation/traffic, the Project applicant/contractor(s) shall: obtain right-of-way permits from the County Department of Public Works; prepare a Traffic Control Plan; repair/replace pavements to the satisfaction of the County Traffic Engineer; obtain special permits for night work; obtain California Division of Occupational Safety and Health permits for construction work, as necessary; obtain permits for work in privately-owned lands in unincorporated areas of the county and/or County-owned lands/resources; and forward information to the County Department of Public works regarding impacts to County roads.	Chapter 1, *Introduction*, and Section 4.10, *Transportation*
	6. Project improvements may impact County Flood Control facilities. For Project improvements occurring within a Floodplain/Floodway, a Conditional Letter of Map Revision (CLOMR) and a Letter of Map Revision (LOMR) would have to be prepared, submitted, and approved by the County Flood Control department and the Federal Emergency Management Agency. Project improvements not within a Floodplain/Floodway but directly impacting County Flood Control facilities would need to be reviewed and approved by the County Flood Control department.	Section 4.9, *Hydrology and Water Quality*
	7. The Project should comply with the County's Vector Control Program (VCP) and avoid or minimize potential impacts from possible mosquito breeding sources created by the Project.	Chapter 3, *Project Description*

As a result of the outbreak of COVID-19 and restrictions placed on in-person gatherings throughout California, an online public scoping meeting was held on June 16, 2021, from 12:00 p.m. to 1:00 p.m. Pacific Daylight Time. The purpose of the public scoping meeting was to provide information on the Project and the CEQA process, as well as receive public comments on the scope of the EIR. Participants were given the opportunity to submit comments on environmental issues and alternatives that should be considered in the PEIR by using an online question submitting tool. No questions or comments were submitted during the online meeting.

Appendix A to this PEIR includes the NOP, comment letters received in response to the NOP, the proof of publication in The Daily Transcript, and a record of the attendees from the online scoping meeting.

The following environmental issue topic areas are applicable to this PEIR and addressed at an in-depth level: (1) air quality, (2) biological resources; (3) cultural resources and tribal cultural resources (TCRs); (4) energy, (5) geology and soils; (6) greenhouse gas (GHG) emissions, (7) hazards and hazardous materials; (8) hydrology and water quality, (9) noise, (10) transportation, and (11) wildfire. The remaining issue topics listed in Appendix G of the CEQA Guidelines are discussed in Section 5.0, *Environmental Effects Found Not to be Significant*, of this PEIR.

1.3.5 Draft PEIR Public Review

When a Draft PEIR is submitted to the State Clearinghouse for review by state agencies, the public review period shall not be less than 45 days, unless the State Clearinghouse approves a shorter period. During public review, the Draft PEIR is circulated to responsible agencies and trustee agencies with resources affected by the project, state agencies with jurisdiction by law, federal agencies, and interested parties and individuals. The purpose of public and agency review of the Draft PEIR includes sharing expertise, disclosing agency analysis, checking for accuracy, detecting omissions, discovering public concerns, and soliciting comments. In reviewing the Draft PEIR, reviewers should focus on the adequacy of the document in identifying and analyzing potentially significant effects on the environment and avoiding or mitigating the significant effects of the proposed Project.

1.3.6 Final PEIR and Public Hearing Process

Following the public review period, the Final PEIR will be prepared to address the written and verbal comments and testimony received on the Draft PEIR during the public review period. The lead agency is required to make findings regarding each significant effect identified in the PEIR.

1.4 REQUIRED PUBLIC ACTIONS AND APPROVALS

Certification of the PEIR and the adoption of the Project requires the affirmative vote of the District's Board of Directors. Implementation of the proposed Project improvements may require that the District obtain approvals, permits, licenses, certifications, or other entitlements from various federal, state, and local agencies, depending on the location of the individual improvement being implemented, as shown in Table 1-2, *Anticipated Regulatory Permits and Approvals*.

Table 1-2
ANTICIPATED REGULATORY PERMITS AND APPROVALS

Agency / Department	Permit / Approval
Federal Agencies	
U.S. Army Corps of Engineers	Clean Water Act Section 404 Notification
U.S. Fish and Wildlife Service	Incidental Take Permit pursuant to Section 10(a) of the Endangered Species Act[1]
	Biological Opinion and Incidental Take Statement pursuant to Section 7 of the Endangered Species Act[1]
Federal Emergency Management Agency	Conditional Letter of Map Revision and/or Letter of Map Revision[1]
State Agencies	
State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCB)	General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009 DWQ
	Waste Discharge Requirements (Water Code 13000 et seq.)
	Groundwater Extraction Discharges Permit, Order No. R9-2015-0013
	Clean Water Act Section 401 Request for Water Quality Certification or State Porter-Cologne Water Quality Control Act Report for Waste Discharge
California Department of Fish and Wildlife (CDFW)	California Endangered Species Act (California Public Resources Code Section 30600)
	CFG Code Section 1602 Notification of Lake or Streambed Alteration

Agency / Department	Permit / Approval
California Department of Transportation (Caltrans)	Encroachment Permit (California Streets and Highways Code Sections 660 et seq.) [1]
	Traffic Control Plan
San Diego Air Pollution Control District	Permit to Operate
Local Agencies	
County of San Diego	Encroachment Permit
	Excavation Permit
	Right-of-Way Permit
	Traffic Control Plan
County of San Diego Flood Control District	Conditional Letter of Map Revision and/or Letter of Map Revision[1]
City of Oceanside	Right-of-Way Permit
	Traffic Control Plan
	Haul Route Permit

[1] If necessary

1.5 ORGANIZATION OF THE PEIR

The content and format of this PEIR are designed to meet the requirements of CEQA. This PEIR includes the following:

- **Executive Summary**. Summarizes the proposed Project, environmental impacts that would result from implementation of the Project, recommended mitigation measures that would avoid or reduce impacts, and the level of significance of impacts both before and after mitigation. Also identifies areas of controversy known to the Lead Agency and issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.

- **Chapter 1, Introduction**. Provides an introduction and overview describing the purpose and intended use of the PEIR, the PEIR's compliance with CEQA, and the scope and organizational format of the PEIR. This section also includes a list of public actions and approvals that would be required to approve the proposed Project by the Lead Agency and other responsible and trustee agencies.

- **Chapter 2, Existing District Facilities and Services**. Provides a description of the District's existing facilities and services, providing a baseline for the analysis.

- **Chapter 3, Project Description**. Provides a detailed description of the proposed Project, including the major objectives, implementation phasing, and Project characteristics.

- **Chapter 4, Environmental Analysis**. Contains program-level analysis for the various environmental issues. The subsection for each environmental topic contains a description of the existing conditions, regulatory framework, impacts, and mitigation measures, as well as cumulative impacts.

- **Chapter 5, Environmental Effects Found Not to be Significant**. Contains discussion of environmental issues for which impacts would not be significant.

- **Chapter 6, Other CEQA Considerations**. Provides discussions required by Sections 15126 and 15128 of the CEQA Guidelines, including growth-inducing impacts, significant environmental effects, and significant irreversible environmental changes that would result from implementation of the proposed Project.

- **Chapter 7, Project Alternatives**. Describes alternatives to the proposed Project that could avoid or substantially lessen significant effects and evaluates their environmental effects in comparison to the proposed Project.

- **Chapter 8, References**. This chapter provides a list of the references used in preparation of this report.

- **Chapter 9, Preparers**. This chapter provides a list of the PEIR preparers and persons consulted during PEIR preparation.

- **Appendices to the PEIR.** Includes the five appendices prepared as part of this PEIR.

2.0 EXISTING DISTRICT FACILITIES AND SERVICES BASELINE

This chapter provides an overview of the District's existing facilities and services, and provides a baseline in relation to the CEQA analysis included in this PEIR.

2.1 EXISTING POTABLE WATER SYSTEM

The District's existing water distribution system comprises 12 major pressure zones with storage facilities. Four of the major zones are supplied directly from SDCWA aqueduct connections and the remaining major zones are supplied through pressure reducing stations or booster pump stations. In addition to the major zones, there are 30 reduced pressure areas that are supplied from the major zones through pressure reducing stations. Figure 2-1, *Existing Potable Water Distribution System*, illustrates the location of these distribution system facilities.

2.1.1 Distribution Pipelines

The existing distribution system has over 336 miles of pipelines ranging in size from 4 inches to 42 inches in diameter. Most of the smaller diameter pipelines are constructed of asbestos cement pipe or steel, although ductile iron pipe (DIP) is used in high pressure areas. Larger transmission mains are constructed of cement mortar lined and coated steel pipe or DIP.

2.1.2 Water Storage Facilities

Each of the 12 major pressure zones within the District have at least one water storage reservoir or tank to regulate pressures and provide operational, emergency and fire flow storage. There are three operational reservoirs which were upgraded with floating covers and 13 enclosed storage tanks within the District's distribution system. The reinforced concrete or asphalt lined reservoirs with floating covers range in size from 7.8 million gallons (MG) to 151.5 MG. These reservoirs provide additional reserve storage capacity for planned or emergency shutdowns of the aqueduct supply system. The District's newest storage facility, the Pala Mesa Tank, is a 6.0 MG pre-stressed concrete tank which was put into service in January 2013 to replace the open Beck Reservoir. All the other storage tanks in the distribution system are circular above-ground steel tanks ranging in size from 0.4 MG to 6.0 MG. In addition to the operational storage facilities, the 203.7 MG Beck Reservoir and the 0.9 MG Rainbow Heights Tank No. 1 are currently not in service. Table 2-1, *Storage Facilities*, provides a summary of the storage facilities.

Table 2-1
STORAGE FACILITIES

Storage Facility	Pressure Zone	Capacity (MG)	Discharge Size (in)	High Water Level (ft)	Max Depth (ft)
Magee Tank	Magee	3.0	16	2,160	40
Rainbow Heights Tank No. 1[(1)]	Rainbow Heights	0.9	--	1,967	40
Rainbow Heights Tank No. 2	Rainbow Heights	4.0	16	1,972	40
Gomez Tank	Gomez	3.5	16	1,710	40
Upper Lookout Tank	Lookout	0.6	12	1,579	32

Storage Facility	Pressure Zone	Capacity (MG)	Discharge Size (in)	High Water Level (ft)	Max Depth (ft)
Lower Lookout Tank	Lookout	1.5	12	1,579	48
Vallecitos Tank	Vallecitos	0.4	12	1,338	24
Rainbow Hills Reservoir	Rainbow Hills	22.8	24	1,282	42
North Reservoir	North	7.8	18	1,212	20
Rice Canyon Tank	Rice	4.0	16	1,206	40
Canonita Tank	Canonita	6.0	16	1,019	40
Gopher Canyon Tank	Gopher	4.0	16	1,011	40
Hutton Tank	Hutton	4.0	16	1,011	40
Turner Tank	Turner	4.0	16	1,011	40
Beck Reservoir [1]	Pala Mesa	203.7	24	897	51
Pala Mesa Tank	Pala Mesa	6.0	18	865	33
Morro Tank	Morro Tank	4.0	16	865	40
Morro Reservoir	Morro Res	151.5	36	825	58

Source: Atkins 2016, as updated by the District
[1] Out of service facility
MG = million gallons; in = inches; ft = feet

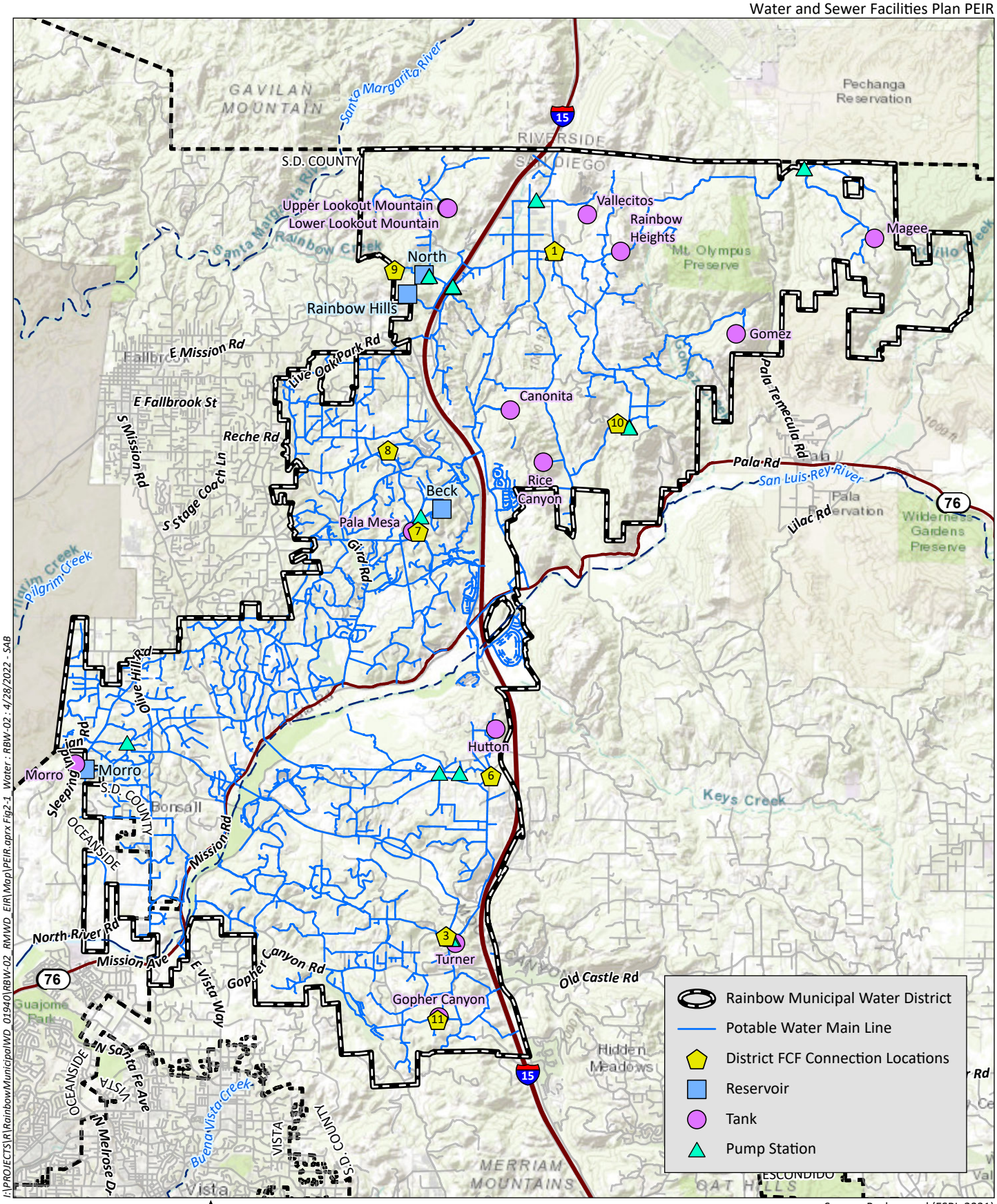
The distribution system reservoirs have been designed to be flexible in their ability to transfer water throughout the District. Reservoir and tank water levels are recorded by the District's supervisory control and data acquisition (SCADA) system. District staff closely monitor the water level and quality in each storage facility and operate the water system to cycle water through the reservoirs and tanks for improved turnover rates.

2.1.3 Booster Pump Stations

There are seven booster pump stations in the District distribution system which pump water up to higher zones with storage facilities. All pumps have constant speed motors and are controlled based upon tank or reservoir water levels. Some pumps can only be operated when a corresponding flow control facility within the zone is active due to high pump capacity. Some pumps are operated only during the night to take advantage of off-peak electricity charges. Pump operating status is recorded by the SCADA system. A summary of each permanent pump station is provided in Table 2-2, *Booster Pump Stations*.

Table 2-2
BOOSTER PUMP STATIONS

Pump Station Name	Pump Unit	Year Last Tested	Pump Design		Rated Capacity		Pump Station Capacity				Pump Location
							Total Capacity		Firm Capacity		
			Hp	TDH	gpm	MGD	gpm	MGD	gpm	MGD	
PS #1 Rainbow Heights	4	2018	290	752	814	1.2	3,509	5.1	2,533	3.6	5463 8th Street
	5	2018	300	752	852	1.2					
	6	2018	250	748	867	1.2					
	7	2018	250	743	976	1.4					
PS #2 Lookout	1	2018	75	345	503	0.7	1,615	2.3	1,035	1.5	1040 Rainbow Glen Road
	2	2018	75	345	580	0.8					
	3	2018	75	346	532	0.8					



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Source: Background (ESRI, 2021)

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Existing Potable Water Distribution System

Figure 2-1

Pump Station Name	Pump Unit	Year Last Tested	Pump Design		Rated Capacity		Pump Station Capacity				Pump Location
							Total Capacity		Firm Capacity		
			Hp	TDH	gpm	MGD	gpm	MGD	gpm	MGD	
PS 3 Vallecitos	2	2018	75	225	679	1.0	679	1.0	679	1.0	2718 Rainbow Valley Blvd
PS 4 Rainbow Hills	A	2018	150	97	4,044	5.8	6,296	5.8	4,044	3.2	933 Rainbow Valley Blvd
	C	2018	75	65	2,252	3.2					
PS 5 Morro Hills	1	2018	150	118	3,455	5.0	3,455	5.0	3,455	5.0	421 Morro Hills Road
PS 6 Gomez	1	2018	300	541	1,566	2.3	4,552	6.6	2,872	4.1	9215 Huntley Road
	2	2018	300	523	1,680	2.4					
	3	2018	250	521	1,306	1.9					
	$_4$(1)	--	--	--	--	--					
PS 7 Magee	1	2018	100	226	681	1.0	1,398	2.0	681	1.0	39190 Magee Road
	2	2018	50	229	717	1.0					

Source: Atkins 2016, as updated by the District
PS = Pump Station; Hp = horsepower; TDH = total dynamic head; gpm = gallons per minute; MGD = million gallons per day

The District has purchased backup power generators which can be easily wired into pump stations for quick connections in the event of a power outage. In addition to the permanent pump stations, the District owns a trailer-mounted pump that can be used in emergency conditions; however, it is not large enough to operate pump stations 1 and 6. The District rents additional trailer mounted pumps for planned facility shutdowns or emergencies.

2.1.4 Pressure Regulating Stations

The District currently operates over 62 pressure regulating stations to supply water to lower pressure zones from higher zones. These stations will include one or more hydraulically actuated pressure reducing valves (PRVs), which are globe valves that have a selectable downstream pressure setting. If the downstream pressure should rise above the PRV setting, the valve will close. One of the stations operate with pressure sustaining valves (PSVs) or combination pressure reducing and pressure sustaining valves that control flow into a lower pressure zone based upon maintaining a set pressure in the higher-pressure supply zone. Additionally, many of the regulating stations have a pressure relief valve in addition to one or more PRVs. The pressure relief valve has a higher pressure setting than the PRVs and vents to atmosphere in the event of PRV failure or over pressurization. In addition to the active pressure regulating stations there are six pressure control stations which have only a pressure relief valve. It has been recommended that all existing pressure reducing stations be equipped with pressure relief valves to protect the facilities and the customers downstream from damage due to excessive pressure in the event of a pressure reducing valve failure.

Most of the pressure regulating stations are used to supply the 30 small reduced-pressure zones without storage reservoirs that are supplied from the Morro, Hutton, Turner, Pala Mesa and Canonita Zones. These stations typically have a main reducing valve with a smaller by-pass valve. Several stations separate the major pressure zones and are set to supply flow only in response to a large pressure drop,

such as fire flow, or under emergency supply conditions. A few pressure regulating stations are used to fill downstream reservoirs from upper zones. These may also include a pressure sustaining control to limit the pressure drop in the upstream (high) zone. A pressure regulating station is located at each of the pump stations (except pump station 3 and pump station 5) to allow flow back from storage tanks under various operational or emergency scenarios when the pump stations are not operating. A summary of the active pressure regulating stations is provided in Table 2-3, *Pressure Regulating Stations*.

Table 2-3
PRESSURE REGULATING STATIONS

PRS No.	Facility Name	Pressure Zones Upstream => Downstream	PRV/PSV Size (inch)	Settings (psi)	Relief Valve	Comments
1	Magee Pump Station	Magee => Rainbow Heights	8, 2	220-240	No	Normally closed
2	Lookout Pump Station	Lookout => North	6	30	No	Normally closed
3	Rainbow Hills PS	Rainbow Hills => North	10	50	No	Normally closed
4	Vallecitos PRS	Rainbow Heights => Vallecitos	8, 4	80	Yes	Normally Closed
5	Rainbow Heights South	Rainbow Heights => North	6	35	No	Normally closed
6	Stewart Canyon	North => Canonita	12, 6	130	Yes	PRV/PSV; normally closed
7	Moon Ridge	Rainbow Heights => Gomez	8	107	No	Normally closed
8	Los Alisos	Northside => Los Alisos zone	6 & 2	100	Yes	Normally open, Sole supply to reduced pressure zone
9	Garret Ranch	Northside => Canonita	8	187	No	Normally closed
10	Gomez Pump Station	Gomez => North	8 & 2	40	No	Normally closed
11	Dentro De Lomas South	Turner=> Dentro De Lomas Street	8 & 2	100	Yes	Primary supply to reduced zone
12	Pala Lake North	Canonita => Pala Lake Dr	8 & 2	90	Yes	Primary supply to reduced zone
13	Pala Lake South	Canonita => Pala Lake Dr	8 & 2	110-120	Yes	Secondary supply to reduced zone
14	Horse Ranch Creek Rd	Canonita => Horse Ranch Creek Rd	8 & 2	110-120	Yes	Sole supply to reduced pressure zone
15	Pala Mesa Condos	Canonita => Pala Mesa Condos	6 & 2	68-75	Yes	Sole supply to reduced pressure zone
16	Pala Mesa Greens	Canonita => Pala Mesa Greens	8 & 2	95-100	Yes	Sole supply to reduced pressure zone
17	Wilt & Citrus	Canonita => Pala Mesa	12	22	No	Supply to Pala Mesa Tank from Conn 8
18	Canonita	Canonita => Pala Mesa	10	90	No	Normally closed; supply to Pala Mesa Tank
19	Laketree East	Canonita => Pala Mesa	8	100	No	Normally closed

PRS No.	Facility Name	Pressure Zones Upstream => Downstream	PRV/PSV Size (inch)	Settings (psi)	Relief Valve	Comments
21	Laketree West	Pala Mesa => Laketree	6 & 2	100-110	Yes	Sole supply to reduced pressure zone
22	Oakcliff	Pala Mesa => Oakcliff	8 & 2½	110-115	Yes	Sole supply to reduced pressure zone
23	Daisy Lane	Pala Mesa => Daisey Lane	8 & 2½	68-75	Yes	Sole supply to reduced pressure zone
24	Nella	Turner => Nella Lane street	6 & 2	95	Yes	Sole supply to reduced pressure zone
25	Thoroughbred	Morro => Thoroughbred housing tract.	8 & 3	100	Yes	Sole supply to reduced pressure zone.
26	Fire Road	Canonita => Fire Road	6	55	No	Sole supply to reduced pressure zone
27	SR 76 & Gird Road	Pala Mesa => Morro	8 & 4	218-225	Yes	Normally closed; Backup to Morro Res
29	Rancho Monserate "W"	Pala Mesa => Rancho Monserate (Dulin Rd)	10 & 2	100-110	Yes	Primary supply to reduced zone
30	Rancho Monserate "E"	Pala Mesa => Rancho Monserate (Dulin Rd)	10 & 2	100-110	No	Secondary supply to reduced zone
32	Sweetgrass	Morro => Sweetgrass	6 & 1	80-90	Yes	Sole supply to reduced pressure zone
33	Ocean Breeze	South => Vessel's Ranch	8 & 2	110-120	Yes	Sole supply to reduced pressure zone
36	Ascot Park Estates	Morro => Ascot Park	8 & 2	60-70	Yes	Sole supply to reduced pressure zone
37	Villas Fore	Morro => Villas Fore	6 & 2	119-125	Yes	Sole supply to reduced pressure zone
38	Bonsall Park	Morro => Bonsall Park	2 to 3	80	No	Sole supply to reduced pressure zone
39	The Heights (condos)	Morro => The Heights (condos)	4 to 4	105	No	Sole supply to reduced pressure zone
40	Via Casitas	Morro => Via Casitas/ SLR Downs	6 & 2	92-100	Yes	Secondary supply to reduced zone
41	Los Casitas	Morro => Los Casitas	8 & 2½	95-100	Yes	Sole supply to reduced pressure zone
42	W. Lilac	South => Morro	8 & 4	213-220	Yes	Normally closed
45	SLR Downs/Via Casitas	Morro => SLR Downs	6 & 3	100-110	Yes	Primary supply to reduced zone
46	Lake Vista (SLR)	Morro => Golf Club Dr	8 & 2	90-100	Yes	Sole supply to reduced pressure zone
47	Cottontail Ln	South =>Sunset/ Cottontail	6	110	No	Main supply to reduced zone
48	Camino Del Rey	South => Morro	8 & 4	218-225	Yes	Normally closed
49	Via Mariposa West	South => Via Mariposa	4	140	No	Secondary supply to reduced zone

PRS No.	Facility Name	Pressure Zones Upstream => Downstream	PRV/PSV Size (inch)	Settings (psi)	Relief Valve	Comments
50	Sarah Ann	Pala Mesa => Diego Estates Housing Tract.	8, 2	80	Yes	Sole supply to reduced pressure zone
51	Rancho Amigos	Tres Amigos East => Tres Amigos West	8,2	70	Yes	Sole supply to reduced pressure zone
53	N-N Dentro De Lomas	South => Morro	8 & 4	250-260	Yes	Normally closed
54	Villa Medici	Moosa Crest => Villa Streets	8 & 2½	60-70	Yes	Primary supply to reduced zone
55	Villa Toscana	Moosa Crest => Villa Streets	8 & 2	73-80	Yes	Secondary supply to reduced zone
56	Via Mariposa East	South => Via Mariposa	4 & 2	96-114	Yes	Primary supply to reduced zone
57	Aqueduct	South => Hutton	6, 2	78	Yes	Sole supply to reduced pressure zone
58	Almendra	Pala Mesa =>Almendra Ct	8, 3	80	Yes	Sole supply to reduced pressure zone
60	Holly Lane	Morro => Holly Lane	4 & 2	60-70	Yes	Sole supply to reduced pressure zone
61	Sagewood Road	South => Morro	6 & 3	273-280	Yes	Normally closed
62	Moosa Crest	South => Moosa Crest	8 & 4	74-84	No	Sole supply to reduced pressure zone

Source: Atkins 2016, as updated by the District
psi = pounds per square inch

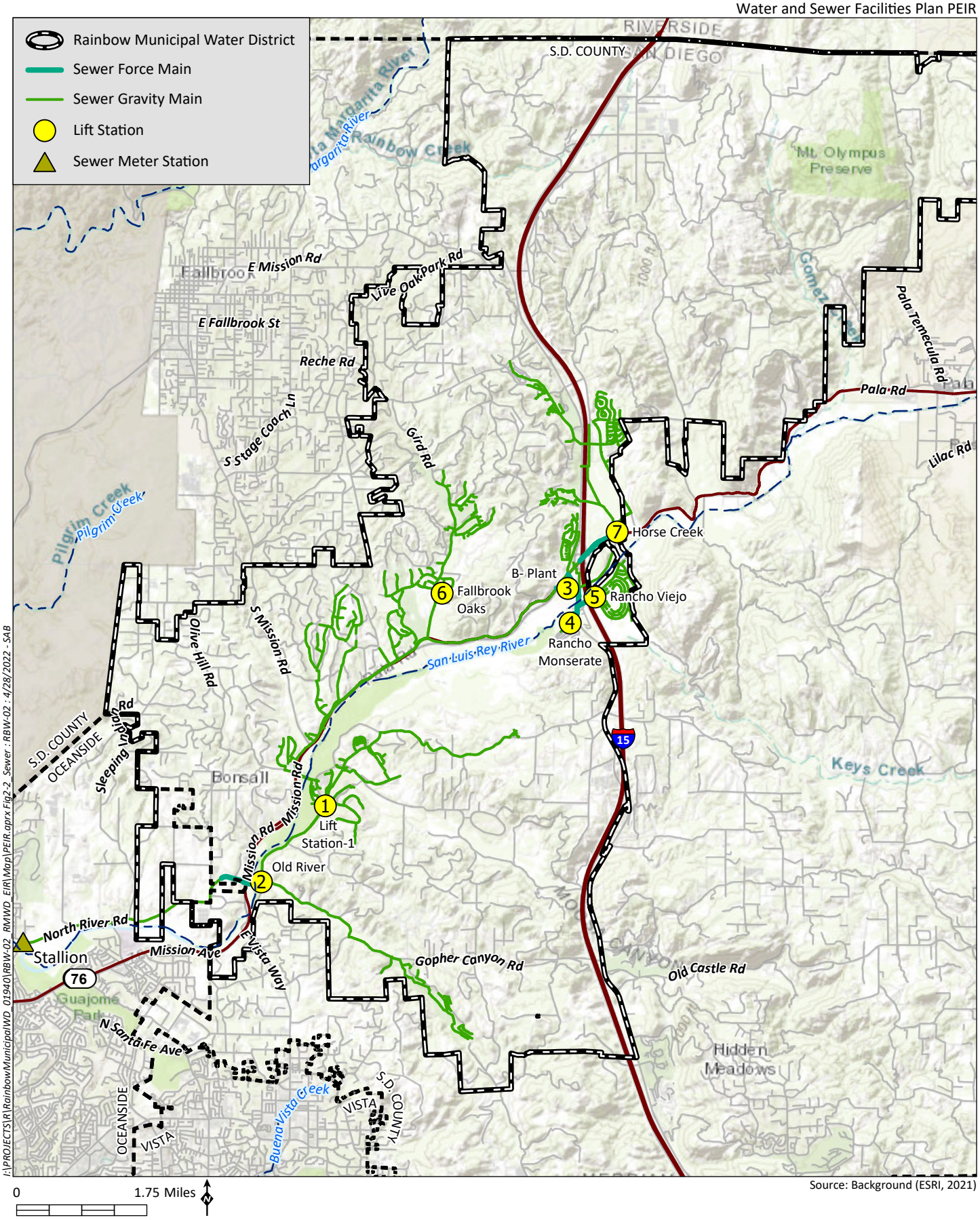
2.2 EXISTING SEWER SYSTEM

Approximately 27 percent of the District's water customers are sewered. Sewer facilities include the gravity lines, utility access holes, lift stations, force mains, and a flow meter. Within the District's service area, land use is transitioning from primarily agricultural use to include a substantial component of rural residential development along with multiple dense, large scale residential and mixed-use developments planned for the near future. Commercial land use in the District is very limited and is concentrated along the Interstate (I-) 15 and SR 76 corridors. Growth in the District and throughout San Diego County has been steady for several years as residential development spreads further and further away from the metropolitan areas of San Diego County. Figure 2-2, *Existing Sewer System*, displays the locations of the District's sewer lines, trunks, and lift stations.

Projected land use for the District indicates that denser, master planned residential and mixed-use developments are forthcoming in the District's existing sewer service area. Outside of the existing sewer service area, some rural residential development will continue, but it is likely that a large portion of the District will remain on septic systems for the foreseeable future.

2.2.1 Collection System Description

The District currently owns, operates, and maintains approximately 76 miles of wastewater conveyance pipelines, including gravity flow pipelines and force mains. Collection system pipelines range in size from 6 to 24 inches in diameter. Gravity pipe materials used throughout the system include polyvinyl chloride



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0 1.75 Miles

Source: Background (ESRI, 2021)

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Existing Sewer System

Figure 2-2

(PVC), DIP, and vitrified clay pipe (VCP). Force mains within the District are constructed of cast iron and PVC.

Wastewater generated within the District is metered as it flows out of the District by gravity at the Stallion Metering Station (Stallion) to the San Luis Rey Wastewater Treatment Plant (SLRWTP) in the city of Oceanside.

Approximately 20 miles of the District's conveyance pipelines are 40 years of age or older. In the near future some of these pipes will become candidates for rehabilitation or replacement, dependent upon condition.

2.2.2 Lift Stations and Force Mains

Seven wastewater lift stations are operated within the District's service area. The lift station type and location are described for each station below:

- Golf Club – This station is located just south of the intersection of Golf Club Drive and Old River Road on the south side of the San Luis Rey River. It consists of a Smith and Loveless packaged lift station with three 5-horsepower (hp) wetwell/drywell pumps and a 3,000-gallon working volume wet well. The existing pumps were rated at 625 gallons per minute (gpm) each and there is a backup generator in case of a power failure. The District replaced the pumps at this station in kind in 1994. Lift Station 1 is currently under design for replacement which will expand the station's capacity to serve peak wet weather and future projected sewer flow. The replacement design has considered relocating the station to the north side of the San Luis Rey River in order to abandon the siphon crossing beneath the river and replacing it with a force main. In addition, the new design will strive to move the station further away from nearby residences.
- Old River – This station is located at the intersection of Little Gopher Canyon Road and Old River Road, in the southwest corner of the District's service area. The station is a Flygt/Xylem packaged lift station consisting of three 70-hp wet well/dry well pumps and a 14,000-gallon working volume wet well. The existing pumps are rated at 1,500 gpm each. There is also a backup generator in case of a power outage. This station was replaced in 2010 due to a history of problems with overflows. Capacity was increased from 1,000 gpm per pump to the current 1,500 gpm per pump to allow significant capacity to serve the ultimate projected sewer flow.
- Plant B Lift Station – This station is located south of the District offices on Old Highway 395. This station is a Smith & Loveless prefabricated station consisting of two 5-hp wet well/dry well pumps and an 800-gallon working volume wet well. The pumps are each rated at 320 gpm. The station has a standby generator to run the lift station in the case of a power failure. This is the District's oldest lift station and is located in a sub-basin subject to high infiltration. Abandonment of this station is planned to coincide with the construction of the Pankey Sewer Lift Station.
- Rancho Monserate Lift Station – Wastewater generated at the Rancho Monserate Mobile Home Park is tributary to this station, located north of the park off Dulin Road. Collected wastewater is conveyed north via force main for approximately 1,740 feet where it intercepts the Rancho Viejo Force Main. The Rancho Viejo Force Main transports the wastewater an additional 2,350 feet before it discharges into Manhole No. 20L-M020 at the intersection of Old Highway 395 and Pala Road. The Rancho Monserate lift station is a Flygt/Xylem lift station consisting of

two 5-hp wet well/dry well pumps with a 300-gallon working volume wet well. The pumps are each rated at 320 gpm. The station also has a backup power generator in the case of a power failure.

- Rancho Viejo Lift Station – This station is located on Dulin Road east of I-15. This station was built in 1990 to transport wastewater generated in the Lake Rancho Viejo subdivision. The lift station is a Gorman-Rupp prefabricated station consisting of two 40-hp wet well/dry well pumps and a 600-gallon working volume wet well. The pumps are each rated at 805 gpm. This station also has a backup power generator.
- Fallbrook Oaks Lift Station – This station is located south of the intersection of Sarah Ann Drive and Kate Lendre Drive in the Fallbrook Oaks subdivision off Gird Road. This is the only station that contains two submersible Meyer's pumps inside of a 500-gallon working volume wet well. It consists of two 250 gpm, 5-hp submersible Meyer's pumps. The station has a standby generator to provide power to the lift station in the case of a power failure.
- Horse Creek Lift Station - This station is located northeast of the intersection of Pankey Road and Highway 76 (Pala Road) and serves the Valley Oaks mobile home park, Pala Mesa Resort, Horse Creek community and Palomar College. This station contains three 54-hp submersible diesel-fueled pumps with a total average flow of 175,000 gallons per day. The station has a standby generator to provide power to the lift station in the case of a power failure.

Table 2-4, *Summary of District Lift Station Characteristics*, provides characteristic information for each of the District's lift stations. All pumps are constant speed. Characteristics of the force mains that accompany each lift station are summarized in Table 2-5, *Summary of District Force Main Characteristics*.

Table 2-4
SUMMARY OF DISTRICT LIFT STATION CHARACTERISTICS

Lift Station	No. of Pumps	Total HP	Firm Capacity[1]	Backup Power[2]	Year Built	Last Upgraded
Lift Station 1	3	15	1,250	Yes	1974	Under design for full station replacement
Lift Station 2	3	210	3,000	Yes	2010	Replaced original 1974 Station
Plant B (Lift Station 3)	2	10	640	Yes	1964	Planned to be abandoned with construction of Pankey SLS
Rancho Monserate (Lift Station 4)	2	20	640	Yes	1972	Station rehabbed in 1998, 2012
Rancho Viejo (Lift Station 5)	2	80	1,610	Yes	1990	
Fallbrook Oaks (Lift Station 6)	2	10	500	Yes	1988	Pumps replaced in 1994
Horse Creek Lift Station (Lift Station 7)	3	162	1,670	Yes	2018	

Source: Atkins 2016, as updated by the District
[1] Firm capacity is the capacity of the station with the largest pump out of service
[2] Backup power is provided at each site by permanently installed diesel, propane, or natural gas powered generators
HP = horsepower

Table 2-5
SUMMARY OF DISTRICT FORCE MAIN CHARACTERISTICS

Force Main	Diameter (inches)	Length (feet)	Material	Discharge Utility Access Holes
Lift Station 1	10	252	CI	N-3_65
Lift Station 2	12/14/18	2,950/236/850	PVC/HDPE	O-2_2
Plant B (Lift Station 3)	10	850	PVC	J-6_29
Rancho Monserate (Lift Station 4)	6	1,740	PVC/DIP	J-6_22[1]
Rancho Viejo (Lift Station 5)	10	1,492/2,352	PVC/DIP	J-6_22[1]
Fallbrook Oaks (Lift Station 6)	6	648	DIP	J-4_29

Source: Atkins 2016, as updated by the District

[1] Force main from Rancho Monserate conveys the wastewater approximately 1,740 feet where it intercepts the Rancho Viejo Force Main. The Rancho Viejo Force Main transports the wastewater an additional 2,350 feet before it discharges into Manhole No. J-6_22

DIP = ductile iron; CI = cast iron; PVC = polyvinyl chloride; HDPE = high density polyethylene

2.2.3 Wastewater Treatment and Disposal

Currently the District maintains no facilities for the treatment and disposal of wastewater. The District transports all its wastewater to the SLRWTP in Oceanside for treatment, solids disposal and disposal of the treated wastewater for use as recycled water, advanced treated water or to the ocean outfall.

2.2.4 Projected Sewer Service Area and System

The District's service area is characterized by low density residential development and agricultural operations. Although the District's water demands have never declined below 16 million gallons per day (MGD) in the last 35 years, its sewer flows have never risen above an average of 1.0 MGD. Neither rural residential nor agriculture land uses generate large enough volumes of waste to require sewering and municipal sewage treatment, therefore the District's wastewater is primarily treated and disposed of via on-site septic systems.

For many years the District enforced Ordinance 01-02 which stated that "no parcel that is greater than 250 feet from the sewer mains and trunk lines active shall be allowed to connect to the sewer system." This ordinance in effect limited the potential growth of the sewer customer base to those parcels and properties low in canyons and valleys near the trunk sewer system.

In recent years, the District has seen a surge of planned development activity within and around its boundaries of medium to high density projects requiring sewerage. Much of the planned growth was outlined in the County's 2020 General Plan which targeted areas near the SR 76 and I-15 for growth. These projects are anticipated to account for most of the growth expected within the planning horizon and may slightly expand the wastewater service area. Approximately 10 years ago the District rescinded Ordinance 01-02 to better accommodate the planned growth under the approved County General Plan.

Many of the proposed new developments to be served by the District are within the sewer service area and would construct their own onsite sewer system and connect to the District's existing system. However, some of the development projects are outside of the District's existing sewer service area and would be required to construct offsite sewer infrastructure and either annexed or enter into out of service agreements.

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3.0 PROJECT DESCRIPTION

This chapter provides a description of the Project, including a discussion of objectives, characteristics of the proposed improvements, construction methods, and phasing.

3.1 PROJECT OBJECTIVES

The Project identifies a plan of improvements necessary for the systems to adapt to future conditions, while providing reliable service to the District's customers.

Specific key objectives of the Project are to:

1. Implement improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards.

2. Address system deficiencies under current demand and flow conditions.

3. Meet future water demand and flow conditions in the short term (2030) and long term (2050).

The categories of improvements considered in the overall Program include Capital Improvement Program (CIP) projects, other District pipeline (ODP) projects, and maintenance projects, as described below.

3.2 CAPITAL IMPROVEMENT PROGRAM PROJECTS

3.2.1 Overview

The proposed CIP includes projects that are recommended to address existing and forecasted capacity deficiencies, improve system reliability, redundancy, and operating efficiencies, and conduct strategic system maintenance and replacement programs. Proposed new developments to be served by the District would be required to construct their own onsite sewer system and connection to the District's existing system. These facilities required for specific planned developments are not included, as these are assumed to be developer funded and advanced.

The CIP identifies facilities or programs primarily to provide the District's customers with a system that meets the District's capacity criteria, is in good condition and can be operated efficiently and reliably. Should demands and flows forecasted during the planning horizon not materialize, there may be opportunities to defer or eliminate some projects; however, the analysis provided in this PEIR conservatively assumes that the identified CIP projects would be implemented.

3.2.2 Proposed Water System CIP

Water system CIP projects fall into various improvement categories including hydraulic capacity; pressure regulation; fire flows; and operations, redundancy, and reliability. The water system CIP consists of 28 projects that are listed in Table 3-1 and illustrated on Figure 3-1, *Proposed CIP Projects*. The improvement categories are listed below:

- Hydraulic Capacity – consists primarily of pipeline upsizing to correct deficiencies in capacity caused by excessive velocity and headloss under peak demand conditions.
- Pressure Regulation – recommend potential reduced pressure service zones by constructing pressure reducing stations to protect pipelines, laterals, and appurtenances.
- Fire Flows – upsizing of small diameter pipelines to increase fire flows at critically deficient areas.
- Operations, Redundancy and Reliability – includes projects to add or improve emergency supplies, increase the system, and supply reliability for vulnerable or future service areas, improve operating efficiencies, and upgrade and/or replace facilities that don't meet current standards.

3.2.3 Proposed Sewer System CIP

The 10 proposed sewer system CIP projects are listed in Table 3-1 and illustrated on Figure 3-1. Sewer CIP projects include replacements, rehabilitations, and other improvements.

3.3 OTHER DISTRICT PIPELINE PROJECTS

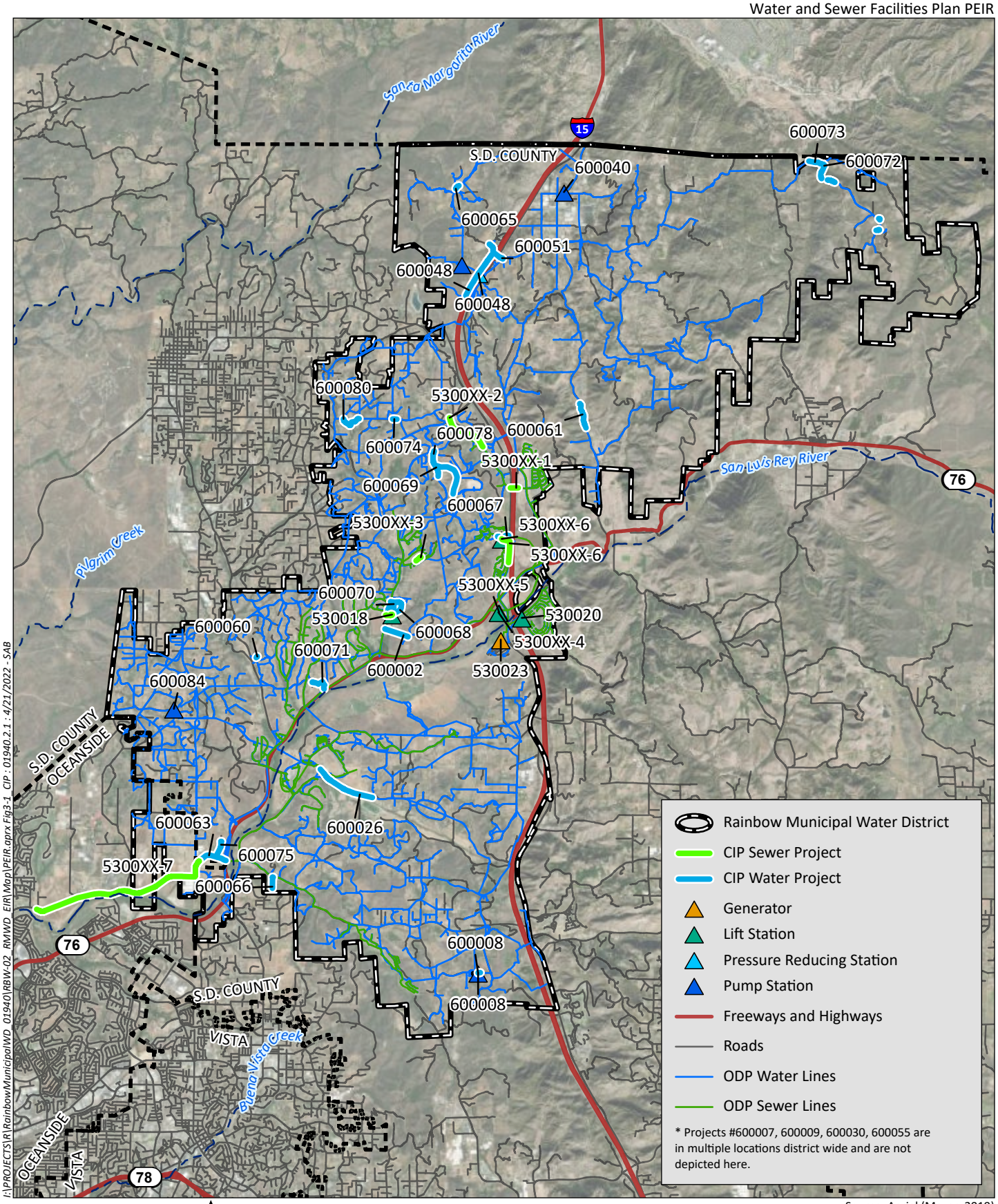
In 2018, a condition assessment was conducted to review the District's water main infrastructure. Based on the risk parameters used in the condition assessment, the water CIP projects listed in Table 3-1 were chosen as the facilities that were determined to be the highest priority for replacement or rehabilitation. However, as the District's pipeline infrastructure continues to age and deteriorate (particularly for facilities that are 50 or more years old), failures or breakages could occur anywhere in the system. Therefore, this PEIR addresses on a broad level the totality of the District's water and sewer pipelines, including 336 miles of water pipelines and 76 miles of sewer pipelines. Specific locations, details, and timing of replacements or improvements along the ODP projects are unknown at the time of preparation of this PEIR.

3.4 MAINTENANCE PROJECTS

Maintenance projects are minor activities that the District may undertake as part of general operations. Maintenance projects would include replacement or reconstruction of existing structures and facilities where the new structure would be located on the same site as the structure replaced. The structure would also have substantially the same purpose and capacity as the structure replaced, including existing utility facilities involving negligible or no expansion of capacity.

Other maintenance projects may include installation of new equipment and facilities in small structures or the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. Examples may also include activities such as access cover replacements or rehabilitation; installation of valves, fire hydrants, air/vacuum relief assemblies, and blow off assemblies; relocation of water meters; asphalt pavement replacement; pipeline abandonment; street improvements such as landscaping; or vegetation trimming and brush management within a District easement.

Maintenance projects could be subject to exemptions from CEQA review but have been conservatively included in the impact analysis in this PEIR.



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0 2.1 Miles

Source: Aerial (Maxar, 2019)

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Proposed CIP Projects

Figure 3-1

Table 3-1
CIP PROJECTS

Project #	Title	Division	Description	Construction (Fiscal Year)
Water Projects				
600007	Pressure Reducing Station Replacement Program	District Wide	District-wide installation of pressure-reducing stations to control high pressure and extend pipe life.	ongoing
600009	Isolation Valve Installation Program	District Wide	Replacement of isolation valves throughout the District which are currently inoperable.	2022
600040	Vallecitos Pump Station (PS) Replacement	5	Replacement of the existing Vallecitos PS on Rainbow Valley Boulevard and removal of inoperable equipment.	2022
600048	Northside Zone Supply Redundancy	5	Upsize Rainbow Hills Road pipeline to 12-inch pipeline and install new Pressure Reducing Station (PRS). This would replace 2,200 feet of a 6-inch pipeline on Rainbow Hills Road with a 12-inch pipeline. The project would provide an emergency supply connection to service a large critical zone and provide emergency service during a pump station outage.	2024
600008	Weese WTP Permanent Emergency Interconnect and Pump Station	1	Construct a pump station with six 15-horsepower pumps along Silverleaf Lane to pull water from Oceanside's Robert A. Weese Water Treatment Plant into the District's South Zone. Also includes approximately 124 feet of pipeline to connect to the existing water line.	2022
600051	North Feeder and Rainbow Hills Water Line Replacements	5	Replace 3,788 feet of 30-inch and 27-inch pipelines. The existing pipelines are corroded and have suffered several breaks and the goal is fewer service outages and repairs.	2024
600060	Via Monserate Water Main Replacement	2	Replace 138 feet of 8-inch diameter PVC waterline.	2028
600061	Rice Canyon Road Water Main Replacement	5	Replace 2,160 feet of 8-inch diameter steel waterline.	2028
600063	North River Road Water Main Replacement	2	Replace 2,600 feet of 10-inch diameter steel waterline.	2028
600065	Rainbow Glen Water Main Replacement	5	Replace 379 feet of 12-inch diameter PVC waterline.	2028
600069	Wilt Road (1331)	3	Upsize 2,200 feet of existing 6-inch water main to 10-inch along Wilt Road. Project is intended to increase pressures and improve functionality of PRS into Pala Mesa Tank.	2027

Project #	Title	Division	Description	Construction (Fiscal Year)
600078	Wilt Road Feeder (16 inch New Water Line)	3	Construct new 16-inch water line from Canonita Drive along Wilt Road, cut across onto Peony Drive and down Citrus Drive until Citrus Drive and Vern Drive and then T into the existing 42-inch and 14-inch pipelines.	2022
600071	Del Rio Estates Line Extension 503	2	Replace or rehabilitate 1,056 feet of 6-inch pipe on Calle Del Vuelta.	2024
600072	East Heights Line 147L	5	Replace or rehabilitate 1,056 feet of 14-inch pipe on Rancho Heights Road.	2024
600080	Los Alisos South 243L	3/5	Replace or rehabilitate 2,112 feet of 8-inch pipe on Los Alisos South.	2024
600073	East Heights Line 147A	5	Repair several small portions of 14-inch cement mortar lined and coated steel pipe (CMLC) pipe with high break history on Rancho Heights Road.	2025
600074	Via Zara 320	5	Replace or rehabilitate 528 feet of 6-inch pipe on Via Zara.	2024
600075	Roy Line Extension	1	Replace or rehabilitate 1,056 feet of 6-inch pipeline on Emerald Hill Road near North River Road.	2025
600002	Gird to Monserate Hill Water Line	4	Replace and upsize 2,075 feet of a 16-inch waterline which is currently out of service to increase fire flow to Monserate Hill.	2024
600026	Camino Del Rey Waterline Relocation	1	County of San Diego is relocating Camino Del Rey out of a flood zone. This project will relocate our waterline into the new roadway alignment.	2022
600030	Corrosion Prevention Program Development & Implementation	District Wide	Involves the installation of anodes and impressed current systems for cathodic protection of existing pipelines.	Annual
600050	Lookout Mountain PS Upgrades	5	Upgrades to all electrical and pumps at the Lookout Mountain Pump Station.	2024
600055	Pipe Lining Pilot Project	District Wide	Demo and Training on new technologies - No Map	2022
600066	Thibido Water Main Replacement (PUP2)	1	Replace 940 feet of a 6-inch waterline identified by the Condition Assessment as High Risk.	2026
600067	Pala Mesa Fairways 383 A and C (PUP3)	4	Replace 1,500 feet of an 8-inch waterline identified by the Condition Assessment as High Risk.	2024
600068	Sarah Ann Dr. Line 400A (PUP3)	3	Replace 3,100 feet of an 8-inch waterline identified by the Condition Assessment as High Risk.	2022
600070	Katie Lendre Drive Line (PUP3)	3	Replace 1,000 feet of an 8-inch waterline identified by the Condition Assessment as High Risk.	2022

Project #	Title	Division	Description	Construction (Fiscal Year)
600084	Morro Pump Station Upgrades	2	Replace existing pump station. New pump station to include two variable frequency drive (VFD) pumps, one as primary, one as redundant, each with 2,250 GPM pumping capacity. Pump station to include on site generator and building, approximately 500 square feet. Current pump station is in disrepair and oversized for existing pumping conditions.	2023
Sewer Projects				
530020	Rancho Viejo Lift Station Wet Well Expansion	4	Increase the size of the wet wells and replace the pumps at the existing Rancho Viejo Lift Station on Lake Circle Drive.	2022
530018	Fallbrook Oaks Lift Station Rehabilitation and Force Main Replacement	3	Replace pumps, suction piping, and 800 feet of 6-inch diameter force main line at the Fallbrook Oaks Lift Station.	2023
530023	Replace Rancho Monserate LS Emergency Generator	1	Replace the obsolete emergency generator at the Rancho Monserate Lift Station with a generator of the same size.	2023
5300XX-1	Pala Mesa/Palomar CIPP Lining	3/4	Cured-in-place pipe (CIPP) lining 660 feet of an existing 10-inch vitrified clay pipe (VCP) gravity sewer line which crosses under Interstate 15 near Pala Mesa/Palomar. The lining will both extend the useful life of the gravity main and decrease the required ongoing maintenance costs.	2024
5300XX-2	Pala Mesa Sewer CIPP Lining	5	CIPP lining 4,000 feet of an existing 10-inch VCP gravity sewer line located in a creek. The lining will both extend the useful life of the gravity main and decrease the required ongoing maintenance costs. The lining will also reduce inflow and infiltration which is prevalent on this stretch of pipe due to the location in a waterway.	2024
5300XX-3	Oakcliff Sewer CIPP Lining	3	CIPP lining 530 feet of an existing 8-inch VCP gravity sewer line located in Oakcliff Drive. The lining will both extend the useful life of the gravity main and decrease the required ongoing maintenance costs. The lining will also reduce inflow and infiltration which is prevalent on this stretch of pipe due to the proliferation of tree roots on Oakcliff Drive.	2024
5300XX-4	HQ-B Plant Dry Well	1	Rehabilitation existing drywell and reorganization of pipes within the Drywell at the B-Plant Lift Station.	2025

Project #	Title	Division	Description	Construction (Fiscal Year)
5300XX-5	HQ-B Plant Generator Replacement	1	The existing generator is outdated and maintenance has become difficult due to the availability of replacement parts. Replace existing generator with new generator of the same size and power.	2025
5300XX-6	Old Hwy 395 Lift Station (Campus Park West)	4	Construct a new Sewer lift station two pumps with approximately 350 GPM pumping capacity each, one primary and one redundant. Lift station to include onsite generator and building for electrical components, approximately 500 square feet. Project will also include 2,200 ft of sewer force main constructed in Old Highway 395. Lift Station just north of the intersection of Pala Mesa Road and Old Highway 395 near the end of Almendra Court Force Main to extend from Lift Station to the intersection of Old Highway 395 and Mohegan Lane.	TBD
5300XX-7	North River Road Sewer Outfall Expansion	2	Convert 16,000 feet of 16-inch gravity main to force main in North River Road between Old River Lift Station and Stallion Drive. The project will increase the capacity of the sewer collection system and extend the useful life of the facility.	TBD

3.5 CONSTRUCTION METHODS

Construction activities associated with CIP projects would include a range of methods, depending on the activity involved. Pipeline construction and replacement projects would utilize open trenching or trenchless methods (such as micro-tunneling, jack-and-bore, slip-lining, and cured-in-place lining). Open trench pipeline construction would require trenches varying in width and depth from 2 feet to 12 feet, depending on the diameter of the pipe. Pipe excavation would primarily occur within previously disturbed soil horizons for replacement projects; however, excavations could occur in areas where native soils have not been previously disturbed. Slip lining and other methods may require access pits to be dug along the pipeline. Construction staging may also be required, though locations are unknown at this time.

Disturbed areas would be watered during grading activities to retain dust within the property line in compliance with San Diego Air Pollution Control District (SDAPCD) Rule 55, Fugitive Dust Control.

Additionally, in accordance with the County's Vector Control Program, the construction activities would:

- Be conducted in a manner that minimizes standing water resulting from construction-related depressions created by grading activities and vehicle tires, tree pits, and landscaping.

- Involve best management practices (BMPs) and drainage areas so as not to create a potential mosquito breeding source (an area capable of holding at least a half-inch of water for more than 96 hours).

Construction of the proposed CIP projects would utilize typical equipment including excavators, loaders, forklifts, pavers, generators, rollers, air compressors, backhoes, dozers, graders, dump and haul trucks, compactors, welders, pumps, and cranes. The construction of pipeline projects and other improvements within roadways may, as deemed necessary, require a temporary lane or roadway closure during construction activities.

Minor improvements such as meter installations, access cover replacements, and pump replacements, would not require heavy construction equipment except for a crane to lift pumps and valves for removal and installation.

Construction of pump stations would generally be expected to take 18 to 24 months. Pipeline construction projects would vary depending on site conditions and length of the pipeline.

To reduce energy usage during construction, the District would implement the following measures:

- Enforce an idling time restriction of five minutes for construction vehicles;

- Utilize grid power for electric energy rather than operating temporary gasoline/diesel powered generators in areas where existing grid power is available, such as at existing pump stations and lift stations; and

- Increase use of electric and renewable fuel powered construction equipment and requiring renewable diesel fuel where commercially available.

3.6 CIP PHASING

Specific construction schedules are not yet known for the individual CIP projects but would be addressed as part of environmental review at the time that individual projects are proposed to be carried out by the District. Construction of the CIP projects listed in Table 3-1 would be implemented in the near term (through 2030). Phasing for individual projects could be accelerated or deferred as required to account for changes in development schedules, availability of land or rights-of-way for construction, funding limitations, and other considerations that cannot be predicted at this time.

3.7 ACTIVITIES NOT COVERED BY THIS PEIR

As described above, this PEIR covers CIP projects, ODP projects, and maintenance activities for existing facilities. This PEIR does not include future new facilities or improvements associated with existing District facilities such as pump stations, lift stations, pressure regulating stations, water storage facilities, or the District Headquarters that are not already included in the CIP. Future projects associated with such facilities would require separate environmental review.

4.0 ENVIRONMENTAL ANALYSIS

Chapter 4 of this PEIR contains a discussion of the potential environmental effects of the proposed Project, including the existing conditions, applicable regulatory framework, level of significance of direct, indirect and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid environmental impacts for each resource area that is addressed in the PEIR.

The environmental factors listed below would be potentially affected by implementation of the Project:

- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation
- Wildfire

The Project would not result in one or more potentially significant impacts on the following environmental factors: aesthetics, land use and planning, mineral resources, population and housing, public services, recreation, and utilities and service systems. The rationale for this determination is described in Chapter 5.0 of this PEIR.

The potentially significant environmental effects are analyzed by considering applicable conditions, principles, and standards, and by using the methodology set forth below.

Existing Conditions

As provided in Section 15125 of the CEQA Guidelines, the analysis includes a description of the existing physical environmental conditions in the vicinity of the proposed Project, as of the date that the NOP of this PEIR was published (May 27, 2021). The environmental baseline is the starting point for the analysis of the Project's environmental effects, and it enables a meaningful assessment of the significance of such effects.

Regulatory Framework

The analysis also provides a summary of applicable federal, state, and local laws, regulations, plans, and policies that are relevant to each environmental factor affected by the Project.

Thresholds of Significance

As the Lead Agency, the District is responsible for determining whether an adverse environmental effect identified in the PEIR is potentially significant or less than significant. Significance standards may vary depending on the nature of the area affected and, as a result, the definition of what is a significant environmental effect must be flexible. In determining standards of significance, Lead Agencies can

obtain assistance from experts, a Lead Agency's policies, performance standards adopted by regulatory agencies, significance standards recommended by regulatory agencies, and the Lead Agency's own judgment, among other things. In addition, Lead Agencies may use the standards set forth in Appendix G to the CEQA Guidelines as a basis for defining significance thresholds in an EIR.

The thresholds of significance used in this analysis are primarily based upon the recommendations provided in Appendix G of the CEQA Guidelines. The threshold of significance defines the type, amount, and/or extent of impact that would be considered a significant adverse change in the environment. The thresholds of significance for some environmental factors, such as air quality and noise, are quantitative, while those for other topics, such as aesthetics, are qualitative. The thresholds of significance are intended to assist the reader in understanding how and why an EIR determines whether an impact is potentially significant or less than significant.

Project Impacts and Mitigation

Impact Analysis

As required by CEQA Guidelines Section 15126.2, this PEIR identifies and focuses on the potentially significant direct and indirect effects of the proposed Project. The existing conditions described for purposes of each resource area were used as the baseline for assessing the significance of the Project's impacts on the environment for that resource area. Both direct and reasonably foreseeable indirect significant effects of the Project on the environment are identified and described, giving due consideration to both long-term and short-term effects.

The environmental analysis included in the PEIR is supported by substantial evidence, including but not limited to the discussion in the EIR and supporting technical appendices. Substantial evidence is defined as "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though another conclusion might also be reached" (CEQA Guidelines Section 15384(a)). Substantial evidence includes facts, reasonable assumptions predicated upon fact, and expert opinion supported by facts; it does not include argument, speculation, conjecture, or unsubstantiated opinion (California PRC Sections 21080(e) and 21082.2(c)).

This PEIR utilizes the following terms to describe the level of significance of impacts identified as part of the environmental analysis:

- ***Less than Significant:*** This term is used when an environmental effect would not exceed the defined thresholds of significance, namely (1) when the effect is not a substantial or potentially substantial adverse change to the environment, and (2) when potentially significant impacts are reduced to a level that is less than significant after implementation of mitigation measures.

- ***Potentially Significant:*** This term is used to refer to impacts on the environment resulting from implementation of the Project that exceed the defined thresholds of significance before identification of mitigation measures. A "significant effect" is defined by Section 15382 of the CEQA Guidelines as "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. An economic or social change by itself shall not be considered a significant effect on the environment [but] may be considered in determining whether the physical change is significant." For impacts that

exceed a threshold of significance, feasible mitigation measures that avoid or reduce the potential impact are identified.

- ***Significant and Unavoidable:*** This term is used to refer to significant impacts resulting from implementation of the proposed Project that cannot be eliminated or reduced to below thresholds of significance through implementation of all feasible mitigation measures.

Mitigation Measures

Section 15126.4 of the CEQA Guidelines requires a PEIR to "describe feasible measures which could minimize significant adverse impacts." The CEQA Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time taking into account economic, legal, social, technological, or other considerations." (CEQA Guidelines section 15364.) The PEIR identifies and describes mitigation measures that could reduce the severity of potentially significant impacts that are identified in the PEIR.

Cumulative Impact Analysis

Cumulative impacts are defined in the CEQA Guidelines as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Therefore, a cumulative impact is a change in the physical environment that results from the incremental effect of the project when added to other past, present, and reasonably foreseeable future projects. In determining whether a project's cumulative effects are significant, two determinations are required:

1. Is the combined impact of the project and other projects significant?

2. Cumulative impacts can result from individually minor but collectively significant project taking place over a period of time. Is the project's incremental effect cumulatively considerable? The CEQA Guidelines allow for a project's contribution to be rendered less than cumulatively considerable with implementation of mitigation measure(s) designed to alleviate the cumulative impacts.

An EIR's discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence. However, the discussion need not be as detailed as the discussion of environmental impacts attributable to a project alone and should be guided by the standards of practicality and reasonableness.

The geographic scope of the cumulative impact analysis varies depending upon the specific environmental topic being analyzed. In accordance with CEQA Guidelines Section 15130(b)(3), Table 4-1, *Geographic Scope of Cumulative Impact Analyses,* summarizes the geographic area within which past, present, and reasonably foreseeable future projects may contribute to a specific cumulative impact, when considered in conjunction with the impacts associated with implementation of the proposed Project.

Table 4-1
GEOGRAPHIC SCOPE OF CUMULATIVE IMPACT ANALYSES

Environmental Topic	Geographic Scope of Cumulative Impact Analyses
Air Quality	• *Consistency with Air Quality Plans* and *Conformance with Air Quality Standards*: the San Diego Air Basin • *Sensitive Receptors*: the areas in the vicinity of Project improvements. • *Odors*: the area immediately surrounding potential odor sources.
Biological Resources	• *Sensitive Species, Sensitive Habitats, Wetlands, Wildlife Movement, Local Policies,* and *Conservation Planning:* the District's service area and surrounding areas, particularly undeveloped lands that support native habitats, native plant and animal species, and potentially jurisdictional waters, as well as contiguous units of critical habitat.
Cultural Resources and Tribal Cultural Resources	• *Historical, Archaeological,* and *Tribal Cultural Resources:* areas with moderate and high cultural resource sensitivity within the District's service area. • *Human Remains:* the District's service area.
Energy	• *Energy Consumption and Conflict with Energy Plans*: the service area of the energy (electricity and natural gas) provider in the Project area, which is San Diego Gas & Electric (SDG&E).
Geology and Soils	• *Seismic and Geologic Hazards*: individual sites (i.e., not cumulative in nature). • *Erosion and Sedimentation*: the watersheds directly downstream from the Project's improvement sites. • *Septic Tanks*: individual sites (i.e., not cumulative in nature). • *Paleontological Resources*: the paleontologically sensitive geologic formations identified as occurring within the District's service area, which includes Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks.
Greenhouse Gas Emissions	• *Greenhouse Gas Emissions* and *Conflict with Plans or Policies:* the global atmosphere.
Hazards and Hazardous Materials	• *Transport, Use, and Disposal of Hazardous Materials, and Accidental Releases:* the Project improvement construction sites and operational facility sites that may involve the use of hazardous materials and the roadways and freeways used by vehicles transporting hazardous materials to and from these sites. • *Hazardous Materials Sites:* the area directly adjacent to a hazardous materials site. • *Airport Hazards:* within the AIA or two miles of a specific airport. • *Emergency Response and Evacuation:* the circulation network (i.e., roadways and freeways) within the District's service area. • *Wildland Fires:* the District's service area.
Hydrology and Water Quality	• *Water Quality* and *Drainage Patterns and Flooding*: the San Luis Rey Watershed and the Santa Margarita Watershed. • *Flood Hazard Areas*: individual sites (i.e., not cumulative in nature). • *Groundwater*: the San Luis Rey Valley Groundwater Basin.

Environmental Topic	Geographic Scope of Cumulative Impact Analyses
Noise	• *Increase in Ambient Noise and Vibration:* areas with sensitive uses surrounding temporary Project improvement areas (for construction-related impacts) and areas with sensitive uses surrounding permanent Project facilities (for operations-related impacts). • *Aircraft Noise:* areas within the Noise Impact Zone (defined as within the 55-Community Noise Equivalent Level contour) of Fallbrook Community Airpark.
Transportation	• *Traffic Circulation, Vehicle Miles Traveled, Hazardous Traffic Conditions,* and *Emergency Access*: the circulation network within the District's service area.
Wildfire	• *Impair Emergency Response or Evacuation Plan:* the circulation network (i.e., roadways and freeways) within the District's service area. • *Wildfire Pollutants and Spread:* the District's service area. • *Exacerbation of Fire Risk from Infrastructure:* the District's service area. • *Flooding and Landslides:* individual sites (i.e., not cumulative in nature).

CEQA Guidelines Section 15130(b) indicates the following approaches for identifying cumulative projects:

- A list of past, present, and probable future project producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or

- 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.

The cumulative analysis for this PEIR focuses on the latter of the two approaches listed above. For each environmental topic addressed in Chapter 4 of this PEIR, the regional or area-wide conditions and cumulative projects contributing to a particular cumulative impact (as identified and projected in the relevant general plan of jurisdictions located within adjacent to the District's service area) is considered as part of the baseline when evaluating the proposed Project's contribution to that cumulative impact. In accordance with CEQA Guidelines Section 15130(b)(5), a determination is made regarding the significance of the baseline cumulative impact (prior to considering the cumulative contribution of the Project) resulting from the full range of regional or area-wide conditions and cumulative projects that occur within the specific geographic areas described in Table 4-1.

Projections based on adopted general or regional plans were included in the consideration of cumulative projects for the Project. Cities and counties in California are required by State law to create and adopt a general plan that covers each jurisdiction's entire planning area. This plan must address a broad range of issues associated with development, including the identification of growth projections for future population and employment with the county or city. In San Diego County, SANDAG maintains the most current economic, demographic, land use, and transportation data projections for the County and incorporated cities, based on cities' general plan. The County General Plan and City of Oceanside General Plan were considered in the analysis of cumulative impacts.

1. The County General Plan is available for review at http://www.sandiegocounty.gov/pds/generalplan.html.

a. Significant impacts were identified for the following resources in the County General Plan EIR: aesthetics; agricultural resources; air quality; biological resources; hazards and hazardous materials; hydrology and water quality; mineral resources; noise; public services; transportation and traffic; utilities and service systems.

2. The Oceanside General Plan is available for review at https://www.ci.oceanside.ca.us/gov/dev/planning/general.asp.

    a. No CEQA document has been prepared for the Oceanside General Plan.

Table 4-2, *Anticipated Increase in Population (2012 – 2050),* Table 4-3, *Anticipated Increase in Jobs (2012 – 2050),* and Table 4-4, *Anticipated Increase in Housing Units (2012 – 2050),* provide a summary of population, employment, and housing projections for these jurisdictions based on the SANDAG Series 13 Regional Growth Forecast. The Regional Growth Forecast is based on land use inputs gathered from the region's 18 incorporated cities and the County.

Table 4-2
ANTICIPATED INCREASE IN POPULATION (2012 – 2050)

Jurisdiction	Existing Population (2012)	Forecasted Population (2050)	% Change (2012 – 2050)
Unincorporated County of San Diego	495,267	647,233	31
City of Oceanside	169,319	189,377	12

Source: SANDAG 2015a

Table 4-3
ANTICIPATED INCREASE IN JOBS (2012 – 2050)

Jurisdiction	Existing Jobs (2012)	Forecasted Jobs (2050)	% Change (2012 – 2050)
Unincorporated County of San Diego	160,562	208,227	30
City of Oceanside	41,974	53,992	29

Source: SANDAG 2015a

Table 4-4
ANTICIPATED INCREASE IN HOUSING (2012 – 2050)

Jurisdiction	Existing Housing Units (2012)	Forecasted Housing Units (2050)	% Change (2012 – 2050)
Unincorporated County of San Diego	171,863	222,932	30
City of Oceanside	65,469	70,942	8

Source: SANDAG 2015a

The cumulative impacts analysis also considers projects listed in SANDAG's Final San Diego Forward: The 2021 Regional Plan (Regional Plan) that are in the vicinity of the District's service area. The Regional Plan combines the Regional Transportation Plan (RTP), Sustainable Communities Strategy (SCS), and Regional Comprehensive Plan and was developed to meet San Diego's long-term mobility needs, better connect transportation and land use policy decisions, and create a transportation network that will serve the San

Diego region through 2050. Table 4-5, *San Diego Forward: The 2021 Regional Plan Projects*, presents the Regional Plan projects proposed within or near the District's service area that have been included for consideration in the cumulative analysis.

Table 4-5
SAN DIEGO FORWARD: THE 2021 REGIONAL PLAN PROJECTS

Project ID	Project Type	Year Built By
AT085	I-15 Bikeway – Country Club Land to Rainbow Valley Boulevard	2050
CC014	I-15 (Valley Parkway to SR 76) – 8 freeway lanes to 6 freeway lanes and 3 managed lanes	2050
CC015	I-15 (SR 76 to County Line) – 8 freeway lanes to 6 freeway lanes and 3 managed lanes	2050
CC058	SR 76 (Pala Casino to Rice Canyon Road) – Facilities Improvements	2035

Source: SANDAG 2021

In addition, past, present and reasonably foreseeable development projects within the District's service area, as outlined in the District's Water and Wastewater Master Plan Update (Atkins 2016), and projects being undertaken by the District are considered in the cumulative impacts analysis. The development projects are listed in Table 4-6, *Planned Major Developments,* and the District projects are listed in Table 4-7, *District Cumulative Projects.*

Table 4-6
PLANNED MAJOR DEVELOPMENTS

Development Name	Development Type	Number of Units/EDUs	Status
Horse Creek Ridge	Single Family Residential	751	Under construction
Horse Creek Ridge Business Center	Commercial	100	Under construction
Campus Park West	Mixed Use	538	Under construction
Pala Mesa Highlands	Single Family Residential	130	Under construction
Ocean Breeze Ranch	Single Family Residential	400	Not yet under construction
Bonsall Condos	Single Family Residential	76	Under construction

Source: Atkins 2016, as updated by review of Google Earth imagery
EDU = equivalent dwelling unit

Table 4-7
DISTRICT CUMULATIVE PROJECTS LIST

Project Name	Status
Gopher Canyon Water Pipeline Improvement Project	IS/MND adopted March 2021, not yet under construction
Lift Station No. 1 Replacement Project	IS/MND adopted January 2021, under construction
Rice Canyon Transmission Line	Under construction

REGULATORY STANDARDS AND REQUIREMENTS

Construction and operation of improvements would be conducted in compliance with applicable federal, state, and local laws and regulations, including a variety of environmental laws and regulations pertaining to various environmental topics that are described below.

California Government Code

Under Section 53091(d) of the California Government Code (State of California 2016), 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 or wastewater. Section (e) of the code states that 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. Consequently, zoning ordinances only apply to wastewater projects in the Plan.

Air Quality

During construction activities for proposed improvements within the Project, the District would comply with SDAPCD Rule 55, Fugitive Dust Control. Rule 55 requires the following:

1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period; and

2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of effective track-out/carry-out and erosion control measures listed in Rule 55 that apply to the project or operation. These measures include track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks.

Cultural Resources

During construction activities for the Project, the District would comply with Public Resources Code (PRC) Section 5097.98 and California State Health and Safety Code (HSC) 7050.5, upon unintentional discovery or disturbance of human remains. California State HSC Section 7050.5 dictates that no further disturbance will occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined by the County Coroner to be Native American, the NAHC will be notified within 24 hours, and the guidelines of the NAHC will be met in the treatment and disposition of the remains. A professional archaeologist with Native American burial experience will conduct a field investigation of the specific site and consult with the Most Likely Descendant (MLD), if any, identified by the NAHC. As necessary and appropriate, a professional archaeologist will be retained by the District to provide technical assistance to the MLD, including but not limited to the excavation and removal of the human remains.

Geology

The District would implement relevant regulatory requirements and industry standards into the design and construction of applicable improvements, including current versions of the following, as appropriate: (1) International Building Code (IBC); (2) California Building Code (CBC); (3) Standards and Specifications for Public Works Construction (Greenbook); (4) California Seismic Hazards Mapping Act and related guidelines; (5) Alquist-Priolo Earthquake Fault Zoning Act; (6) excavation safety standards of OSHA and Cal-OSHA; and (7) associated local standards, as applicable.

Specifically, the IBC provides standard specifications for engineering and construction activities, including measures related to seismic standards. The CBC, which is derived from the IBC, includes criteria specific to California such as geologic and seismic characteristics. The Greenbook provides standard specifications for public works projects, including measures related to geologic issues. The Seismic Hazards Mapping and Alquist-Priolo Earthquake Fault Zoning acts (along with related guidelines) provide guidance for the evaluation and mitigation of earthquake-related hazards in California. In addition, construction activities are also subject to federal and state occupational safety standards for excavation, shoring, and trenching, as specified in Title 29 of the Code of Federal Regulations (CFR), Title 8 of the California Code of Regulations (CCR), and Chapter 33 of the CBC. Additional descriptions of these and other applicable regulatory and industry standards related to geotechnical concerns are provided in Section 4.5, *Geology and Soils*.

Hazards and Hazardous Materials

Construction and operation of the Project facilities would be conducted in compliance with all applicable federal, state, and local laws and regulations governing the use, management, handling, storage, release reporting and response actions, transportation, treatment, and disposal of hazardous materials, hazardous substances, and hazardous waste. During construction, these laws govern the manner in which hazardous materials may be transported, used, stored, and disposed of as well as the handling and disposal of demolition debris containing hazardous waste. During operations, these laws govern the use, management, storage, and transportation of hazardous materials and the management, handling, storage, transportation, and disposal of hazardous wastes. These laws include:

- U.S. Resource Conservation and Recovery Act (42 U.S.C. Section 6901 et seq.), which provides the 'cradle to grave' regulation of hazardous wastes; the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. Section 9601 et seq.), commonly known as the "superfund" law addressing remediation of contaminated sites.

- U.S. Emergency Planning and Community Right-to-Know Act (42 U.S.C. Section 11001 et seq.), which establishes reporting requirements for facilities storing hazardous materials and is designed to help local communities protect public health, safety, and the environment from chemical hazards.

- U.S. Hazardous Materials Transportation Act (49 U.S.C. Section 5101 et seq.), which governs hazardous materials transportation on U.S. roadways.

- California Hazardous Waste Control Law (Health and Safety Code Section 25100 et seq.) and Hazardous Substances Account Act (Health and Safety Code Sections 25300 et seq.), which

impose regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

- California Proposition 65, formally known as "The Safe Drinking Water and Toxic Enforcement Act of 1986" (Health and Safety Code, Chapter 6.6, Sections 25249.5 through 25249.13), requiring persons and entities doing business in California using specific listed chemicals known to the state to cause cancer or reproductive harm or birth defects to provide a clear and reasonable warning to individuals entering the site regarding the presence of such chemicals, and the implementing regulations for such laws.

- County of San Diego Consolidated Fire Code, which regulates the use, handling, and storage requirements for hazardous materials at fixed facilities.

Hydrology and Water Quality

Construction and operational activities related to the proposed Project would require conformance with applicable requirements of the federal Clean Water Act (CWA), National Pollutant Discharge Elimination System (NPDES), California Porter-Cologne Water Quality Control Act, CCR, associated implementing regulations of the SWRCB and RWQCB, and related local standards, as applicable.

These requirements are primarily intended to protect water resources and address potential concerns related to drainage systems, at a watershed-level or hydrologic area (e.g., drainage alteration), water quality, flood-related hazards, and groundwater. Specifically, this may include conformance with the applicable NPDES permits and related standards: (1) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit, Order No. 2009-0009 DDDWQ)); (2) General Permit for Waste Discharge Requirements for Storm Water Discharges From Small Municipal Separate Sewer Systems (MS4; MS4 Permit, Order No. R9-2015-0100); (3) RWQCB Basin Plan beneficial uses and water quality objectives; and (4) associated local standards, including the County's Grading Ordinance and Watershed Protection Ordinance, as applicable. Additional descriptions of these and other pertinent regulatory and industry standards are provided in Section 4.8 *Hydrology and Water Quality*.

4.1 AIR QUALITY

This section addresses the potential air quality impacts of the Project. The following discussion includes (1) a description of existing conditions as related to air quality, (2) a summary of applicable regulations, and (3) an evaluation of the Project's potential environmental effects associated with conflict with an air quality plan, criteria pollutant emissions, exposure of sensitive receptors to substantial pollutant concentrations, and other emissions such as odors. This section is based in part on air quality emissions modeling conducted for the Project. The model output files are included as Appendix B.

4.1.1 Existing Conditions

4.1.1.1 Climate and Meteorology

Regional climate and local meteorological conditions influence ambient air quality. The District's service area is in the SDAB. The climate of the SDAB is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. It also drives the dominant onshore circulation and helps create two types of temperature inversions, subsidence, and radiation, which contribute to local air quality degradation.

Subsidence inversions occur during warmer months, as descending air associated with the Pacific high-pressure cell comes into contact with cool marine air. The boundary between the two layers of air represents a temperature inversion that traps pollutants below it. Radiation inversions typically develop on winter nights with low wind speeds, when air near the ground cools by radiation, and the air aloft remain warm. A shallow inversion layer that can trap pollutants is formed between the two layers.

The highest monthly average maximum temperature (83.0°F) in the Project area, as measured at the Vista 2 NNE climatic station, occurs in August, and the lowest monthly average minimum temperature (44.0°F) occurs in January and December. The average annual precipitation is approximately 13 inches, most of which occurs in the winter months (Western Regional Climate Center 2016).

4.1.1.2 Existing Air Quality

Historically, air quality laws and regulations have divided air pollutants into two broad categories: "criteria air pollutants" and "toxic air contaminants." Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient standards based on criteria regarding health and/or environmental effects of pollution. Toxic air contaminants (TACs) are often referred to as "non-criteria" air pollutants because ambient air quality standards have not been established for them. Under certain conditions, TACs may cause adverse health effects, including cancer and/or acute and chronic noncancerous effects. The following sections provide a description of relevant criteria air pollutants and TACs, in addition to summarizing the existing air quality of the area covered by the Project.

Criteria Air Pollutants

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public. In general, air pollutants include the following compounds:

- Ozone (O_3)
- Reactive Organic Gases (ROGs) or Volatile Organic Compounds (VOCs)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO_2)
- Respirable Particulate Matter (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$)
- Sulfur Dioxide (SO_2)
- Lead (Pb)

The following specific descriptions of health effects for each air pollutant associated with Project construction and operation are based on information available through U.S. Environmental Protection Agency (USEPA; 2021a) and California Air Resources Board (CARB; 2021a).

Ozone (O_3)

Ozone is considered a photochemical oxidant, which is a chemical that is formed when VOCs and nitrogen oxides (NO_X), both by-products of fuel combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

Reactive Organic Gases (ROGs)

Reactive organic gases (ROGs; also known as VOCs) are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as ozone.

Carbon Monoxide (CO)

Carbon monoxide (CO) is a product of fuel combustion. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease and can also affect mental alertness and vision.

Nitrogen Dioxide (NO_2)

Nitrogen dioxide (NO_2) is also a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness.

Respirable Particulate Matter (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$)

Respirable Particulate Matter (PM_{10}) refers to particulate matter (PM) with an aerodynamic diameter of 10 microns or less. Fine Particulate Matter ($PM_{2.5}$) refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a

variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations, and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs. Diesel particulate matter (DPM) is classified a carcinogen by CARB.

Sulfur Dioxide (SO_2)

Sulfur dioxide (SO_2) is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Lead (Pb)

Lead in the atmosphere occurs as particulate matter. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney, and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen. Because emissions of lead are found only in projects that are permitted by the local air district, lead is not an air pollutant of concern for the proposed Project.

Toxic Air Contaminants (TACs)

Toxic air contaminants (TACs) are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. Air toxics are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as farms, landfills, construction sites, and residential areas. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) non-carcinogenic.

The District facilities do not currently generate substantial sources of TAC emissions that could pose or contribute to a health risk. Although some TACs could potentially be generated by District facilities in small quantities, no water or sewer water facilities are currently listed within the *2018 Air Toxics "Hot Spots" Program Report for San Diego County* (SDAPCD 2019a). This document lists the facilities in San Diego County that are required to prepare health risk assessments (HRA) due to their generation of TACs, as well as the results of their annual HRAs. Companies and organizations listed within the report are those considered to pose possible health risks to the community of San Diego with regard to TACs.

Air Quality Monitoring Data

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of air pollutants and determine whether the ambient air quality meets the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). The closest ambient monitoring station to the District's service area for which recent data on ozone, NO_2, and $PM_{2.5}$ is available is the Camp Pendleton monitoring station. The closest ambient monitoring station for which recent data on PM_{10} is available is

the El Cajon–Lexington Elementary School monitoring station. No data is available for CO and SO_2 in San Diego County over the last three years (2018 to 2020). Table 4.1-1, *Air Quality Monitoring Data*, presents a summary of the ambient pollutant concentrations monitored at the Camp Pendleton and El Cajon monitoring stations.

As shown in Table 4.1-1, the state 8-hour ozone standard was exceeded three times in 2020. No other exceedances of state or federal standards occurred.

Table 4.1-1
AIR QUALITY MONITORING DATA

Pollutant	2018	2019	2020
Ozone (O_3) – Camp Pendleton Monitoring Station			
Maximum 1-hour concentration (ppm)	0.084	0.075	0.094
Days above 1-hour state standard (>0.090 ppm)	0	0	0
Maximum 8-hour concentration (ppm)	0.068	0.064	0.074
Days above 8-hour state standard (>0.070 ppm)	0	0	3
Days above 8-hour federal standard (>0.075 ppm)	0	0	0
Respirable Particulate Matter (PM_{10}) – El Cajon – Lexington Elementary School			
Peak 24-hour concentration (mg/m^3)	43.0	38.7	N/A
Days above state standard (>50 mg/m^3)	0	0	0
Days above federal standard (>150 mg/m^3)	0	0	0
Fine Particulate Matter ($PM_{2.5}$) – Camp Pendleton Monitoring Station			
Peak 24-hour concentration (mg/m^3)	30.5	13.8	61.1
Days above federal standard (>35 mg/m^3)	N/A	N/A	N/A
Nitrogen Dioxide (NO_2) – Camp Pendleton Monitoring Station			
Peak 1-hour concentration (ppm)	0.048	0.053	0.058
Days above state 1-hour standard (0.18 ppm)	0	0	0

Source: CARB 2021b
ppm = parts per million, mg/m^3 = micrograms per cubic meter. N/A = data not available in the County for these years

4.1.2 Regulatory Framework

4.1.2.1 Federal

Federal Clean Air Act

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the public. The USEPA is responsible for enforcing the Federal Clean Air Act (CAA), first enacted in 1963 and amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The CAA mandates the USEPA to establish NAAQS, which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants, which are introduced above. Table 4.1-2, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards for these pollutants.

Table 4.1-2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	–	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	No Federal Standards

Source: CARB 2020

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

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

AAM = Annual Arithmetic Mean; CO = carbon monoxide; km = kilometer; mg/m^3 = milligrams per cubic meter; NO_2 = nitrogen dioxide; O_3 = ozone; ppm = parts per million; PM_{10} = respirable particulate matter 10 microns or less in diameter; $PM_{2.5}$ = fine particulate matter 2.5 microns or less in diameter; SO_2 = sulfur dioxide; – = No Standard; µg/m^3 = micrograms per cubic meter

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. CARB has established the more stringent CAAQS for the six criteria pollutants described in Section 4.1.1.2 through the California Clean Air Act of 1988, and has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H_2S), vinyl chloride,

and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant.

The USEPA has classified air basins (or portions thereof) as being in "attainment," "non-attainment," or "unclassified" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a non-attainment or attainment designation. Table 4.1-3, *San Diego Air Basin Attainment Status*, lists the federal attainment status of the SDAB for the criteria pollutants. The USEPA classifies the SDAB as in attainment for carbon monoxide, NO_2, lead, $PM_{2.5}$ and sulfur dioxide, and unclassifiable for PM_{10} with respect to federal air quality standards.

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

Table 4.1-3
SAN DIEGO AIR BASIN ATTAINMENT STATUS

Pollutant	State Status	Federal Status
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Ozone (1-hour)	Non-attainment	(No federal standard)
Ozone (8-hour)	Non-Attainment	Non-attainment
Lead (Pb)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Non-attainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Non-attainment	Attainment

Source: SDAPCD 2019b

4.1.2.2 State

California Clean Air Act

The federal CAA allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, 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. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

In addition to standards set for the six criteria pollutants, California has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles (see Table 4.1-2). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Further, in addition to primary and secondary ambient air quality standards, California has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Table 4.1-3 lists the state attainment status of San Diego County for the criteria pollutants.

Toxic Air Contaminants

California's air toxics control program began in 1983 with the passage of the Toxic Air Contaminant Identification and Control Act, better known as Assembly Bill (AB) 1807 or the Tanner Bill. When a compound becomes listed as a TAC under the Tanner process, CARB normally establishes minimum statewide emission control measures to be adopted by local air pollution control districts (APCDs). Later legislative amendments (AB 2728) required CARB to incorporate all 189 federal hazardous air pollutants (HAPs) into the state list of TACs.

Supplementing the Tanner process, AB 2588—the Air Toxics "Hot Spots" Information and Assessment Act of 1987—currently regulates over 600 air compounds, including all of the Tanner-designated TACs. Under AB 2588, specified facilities must quantify emissions of regulated air toxics and report them to the local APCD. If the APCD determines that a potentially significant public health risk is posed by a given facility, the facility is required to perform an HRA and notify the public in the affected area if the calculated risks exceed specified criteria.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is known as DPM. Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, the CARB identified DPM as a toxic air contaminant based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a significant impact on California's population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2018).

In September 2000, CARB approved the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (Diesel Risk Reduction Plan; CARB 2000). The Diesel Risk Reduction Plan outlined a comprehensive and ambitious program that included the development of numerous new control measures over the next several years aimed at substantially reducing emissions from new and existing on-road vehicles (e.g., heavy-duty trucks and buses), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps), and stationary engines (e.g., stand-by power generators). These requirements are now in force on a statewide basis.

4.1.2.3 Local

San Diego County Clean Air Plans

The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County, including the sewer, water, and recycled water service areas. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircrafts, and

agricultural equipment, which are regulated by the CARB or the USEPA. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD. Additionally, the SDAPCD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The current regional air quality plan for the NAAQS is SDAPCD's 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (Attainment Plan; SDAPCD 2020). The current regional air quality plan for the CAAQS is SDAPCD's 2016 Revision to the Regional Air Quality Strategy for San Diego County (RAQS; SDAPCD 2016). These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the NAAQS and CAAQS. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and RAQS.

The Attainment Plan and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of their respective general plans. Projects which are consistent with the growth assumptions used in the Attainment Plan and RAQS and do not conflict with the control measures in the Attainment Plan and RAQS, and which do not result in criteria pollutant and precursor emissions in excess of the SDAPCD thresholds (as described in Section 4.1.3, below), would not hinder the goals of the Attainment Plan and RAQS to bring the SDAB into compliance with the NAAQS and CAAQS for the protection of public health.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin.

San Diego Air Pollution Control District Rule 55, Fugitive Dust Control

The SDAPCD requires that construction activities implement the measures listed in Rule 55 to minimize fugitive dust emissions. Rule 55 requires the following:

- No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period; and

- Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of any of the equally effective track-out/carry out and erosion control measures listed in Rule 55 that apply to the project or operation. These measures include track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks. Erosion

control measures must be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations.

San Diego Air Pollution Control District Rule 51, Nuisance

SDAPCD Rule 51 prohibits nuisances, including objectionable odors. The SDAPCD responds to odor complaints by investigating the complaint determining whether the odor violates SDAPCD Rule 51. The inspector takes enforcement action if the source is not in compliance with the SDAPCD rules and regulations. In the event of enforcement action, odor-causing impacts must be mitigated by appropriate means to reduce the impacts to sensitive receptors to less than significant. Such means include shutdown of odor sources or requirements to control odors using add-on equipment.

4.1.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to air quality. The Project would have a significant impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan;

2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;

3. Expose sensitive receptors to substantial pollutant concentrations; or

4. Result in other emissions such as those leading to odors adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. Therefore, to determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, (b) result in a cumulatively considerable net increase of PM_{10}, PM_{10}, or exceed quantitative thresholds for ozone precursors (NO_X and VOCs), or (c) have an adverse effect on human health, project emissions are evaluated based on the quantitative emission thresholds established by the SDAPCD. As part of its air quality permitting process, the SDAPCD has established thresholds in Rules 20.2 and 20.3 for the preparation of Air Quality Impact Assessments. In the absence of a SDAPCD adopted thresholds for $PM_{2.5}$, the SCAQMD's screening threshold of 55 pounds per day or 10 tons per year is used.

The screening criteria were developed by SDAPCD and SCAQMD with the purpose of attaining the NAAQS and CAAQS. The NAAQS and CAAQS, as discussed in Section 4.1.2, identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. Therefore, for CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality or have an adverse effect on human health. The screening thresholds are included in Table 4.1-4, *Screening-level Thresholds for Air Quality Impact Analysis*.

Table 4.1-4
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS

Criteria Pollutant	Emission Threshold (pounds per day)	Emission Threshold (pounds per day)
	Construction	Operation
Particulate Matter (PM_{10})	100	100
Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Nitrogen (NO_X)	250	250
Oxides of Sulfur (SO_X)	250	250
Carbon Monoxide (CO)	550	550
Volatile Organic Compounds (VOCs)	75	75

Source: SDAPCD Rules 20.2 and 20.3; SCAQMD 2019

4.1.4 Project Impacts and Mitigation

4.1.4.1 Issue 1: Consistency with Air Quality Plans

Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis

The SDAPCD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SDAB is in nonattainment. Strategies to achieve these emissions reductions are developed in the Attainment Plan and RAQS, prepared by the SDAPCD for the region. Both the Attainment Plan and RAQS are based on SANDAG population projections, as well as land use designations and population projections included in general plans for cities located within San Diego County. Population growth is typically associated with the construction of residential units or large employment centers.

Projects that propose development that is consistent with the growth anticipated by the local jurisdictions' general plans would be consistent with the Attainment Plan and RAQS. In the event that a project proposes development that is less intensive than anticipated within the General Plan, the project would likewise be consistent with the Attainment Plan and RAQS. If a project proposes development that is greater than that anticipated in the General Plan and SANDAG's growth projections upon which the Attainment Plan and RAQS are based, the project would be in conflict with the Attainment Plan and RAQS and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine whether the project and the surrounding projects exceed the growth projections used in the Attainment Plan and RAQS for the specific subregional area.

The improvements included under the Project are proposed to meet the projected buildout demand and would be implemented concurrently with development, or as repairs are needed. The size and capacities of the projects are based on the projected growth to occur in the water and sewer service areas. The projects would not generate additional population and no unplanned growth would be served by the projects. The facilities included in the Project are community service facilities, providing the infrastructure necessary to support planned population growth. Therefore, the Project would not result in population growth that would exceed the population projections accounted for in the Attainment Plan and RAQS. Implementation of the Project would not conflict with or obstruct implementation of an applicable air quality plan and the impact would be less than significant.

Mitigation Measures

Impacts related to conflict with or obstruction of the applicable air quality plan would be less than significant; therefore, no mitigation is necessary.

4.1.4.2 Issue 2: Conformance with Air Quality Standards

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

Impact Analysis

The Project would generate criteria pollutants and ozone precursors during construction and operation of its various improvements, including CIP projects, ODP projects, and maintenance projects. Criteria pollutant and ozone precursor emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0 (California Air Pollution Control Officers Association [CAPCOA] 2021). CalEEMod is a computer model used to estimate criteria air pollutant emissions resulting from construction and operation of land development projects throughout the state of California.

Construction

Construction of individual Project improvements would involve the operation of heavy equipment and vehicles that would generate exhaust emissions from fuel combustion. Fugitive dust emissions would be generated from ground disturbance activities, such as grading and trenching, and from construction vehicles traveling on unpaved surfaces within and adjacent to construction sites. Heavy off-road equipment that would be used for Project construction activities includes excavators, loaders, forklifts, pavers, generators, rollers, air compressors, backhoes, dozers, graders, dump and haul trucks, compactors, welders, pumps, and cranes. On-road vehicles would include haul trucks, material delivery trucks, and worker commute vehicles.

To assess maximum daily emissions that could occur from Project construction, a conservative daily construction scenario has been developed that assumes the highest intensity of improvements that could occur simultaneously. The actual amount of construction activity that would occur within a given day would be much lower. In addition, many days or even weeks would not include any construction activities. The actual construction schedules of individual Project improvements would be dependent on several factors, including changes in development schedules, availability of rights-of-way for construction, funding considerations, the conditions of existing facilities, and other circumstances that cannot be predicted at this time. As such, construction would be expected to be more evenly spread out over Project development days and years, and this analyzed construction scenario represents a conservative estimate of daily emissions that would result from Project construction.

The conservative simultaneous daily construction scenario comprises CIP projects that are anticipated to occur in year 2024 (the year with the highest number of planned CIP projects; refer to Table 3-1 in Chapter 3.0 of this PEIR) plus CIP Project 600084, which involve replacement of an existing pump station scheduled to commence in 2023. While ODP projects would also involve construction, they would occur further in the future, as the CIP projects have been chosen as the facilities to be the highest priority for replacement and rehabilitation. Based on the priority of the CIP projects, it is more likely that construction of multiple CIP projects would occur simultaneously in the near term than multiple ODP projects occurring simultaneously over the life of the Project in the long term. Additionally, construction

activities occurring in the longer term would use equipment with cleaner, more efficient engines, assuming improved technologies and stricter regulations over time. Therefore, estimating emissions in the near term represents a more conservative scenario.

The conservative simultaneous daily construction scenario includes the following CIP projects:

- Replacement of 2,200 feet of the existing 6-inch Rainbow Hills Road pipeline with 12-inch pipe and installation of a new pressure reducing station (CIP Project 600048);
- Replacement of a total of 3,788 feet of the 30-inch North Feeder and the 27-inch Rainbow Hills Water Line (CIP Project 600051);
- Replacement or rehabilitation of 1,056 feet of 6-inch pipe on Calle Del Vuelta (CIP Project 600071);
- Replacement or rehabilitation of 1,056 feet of 14-inch pipe on Rancho Heights Road (CIP Project 600072);
- Replacement or rehabilitation of 2,112 feet of 8-inch pipe on Los Alisos South (CIP Project 600080);
- Replacement or rehabilitation of 528 feet of 6-inch pipe on Via Zara (CIP Project 600074);
- Replacement of upsizing of 2,075 feet of a 16-inch waterline (CIP Project 600002);
- Replacement of 1,500 feet of an 8-inch waterline (CIP Project 600067);
- Construction of a new pump with two pumps, an on-site generator, and 500-square-foot building to replace an existing pump station (CIP Project 600084);
- CIPP lining of 600 feet of a 10-inch gravity sewer line (CIP Project 5300XX-1);
- CIPP lining of 4,000 feet of a 10-inch gravity sewer line (CIP Project 5300XX-2); and
- CIPP lining of 530 feet of an 8-inch gravity sewer line (CIP Project 5300XX-3).

Equipment associated with construction of these improvements was estimated based on data from similar projects.

With the exception of the assumptions discussed above, CalEEMod default values were used to calculate emissions for the conservative construction scenario. Table 4.1-5, *Conservative Construction Scenario Daily Emissions,* presents the estimated maximum daily construction emissions associated with the conservative construction scenario, and compares these emissions levels to the SDAPCD thresholds. As noted in Chapter 4.0, *Environmental Analysis,* emissions calculations assume application of water twice per day during grading, a 15-miles per hour (mph) speed limit on unpaved surfaces, and a 12 percent moisture content on unpaved roads to ensure that dust does not track beyond the property line, in compliance with SDAPCD Rule 55, Fugitive Dust Control.

Table 4.1-5
CONSERVATIVE CONSTRUCTION SCENARIO DAILY EMISSIONS (pounds per day)

Project Improvement	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
CIP 600048 – Pipeline Replacement	<0.5	4	5	<0.5	<0.5	<0.5
CIP 600051 – Pipeline Replacement	<0.5	4	5	<0.5	<0.5	<0.5
CIP 600071 – Pipeline Replacement	<0.5	4	5	<0.5	<0.5	<0.5
CIP 600072 – Pipeline Replacement	<0.5	4	5	<0.5	<0.5	<0.5
CIP 600080 – Pipeline Replacement	<0.5	4	5	<0.5	<0.5	<0.5
CIP 600074 – Pipeline Replacement	<0.5	4	5	<0.5	<0.5	<0.5
CIP 600002 – Pipeline Replacement	<0.5	4	5	<0.5	<0.5	<0.5
CIP 600067 – Pipeline Replacement	<0.5	4	5	<0.5	<0.5	<0.5
CIP 600084 – Pump Station Construction	<0.5	5	5	<0.5	<0.5	<0.5
CIP 5300XX-1 – CIPP Lining	<0.5	4	5	<0.5	<0.5	<0.5
CIP 5300XX-2 – CIPP Lining	<0.5	4	5	<0.5	<0.5	<0.5
CIP 5300XX-3 – CIPP Lining	<0.5	4	5	<0.5	<0.5	<0.5
Maximum Daily Emissions	**5**	**46**	**65**	**<0.5**	**3**	**2**
SDAPCD Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix B)
VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides;
PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 4.1-5, the Project's construction emissions would not exceed the significance thresholds for the criteria pollutants or ozone precursors; therefore, construction emissions impacts would be less than significant.

Operations

Most Project improvements would consist of new, replaced, or upgraded pipelines that would be passive during operations and would not result in on-going operational emissions, or improvements to existing facilities that would not result in new sources of operational emissions. New, replaced, and rehabilitated pump stations and lift stations (CIP Projects 600040, 600008, 600050, 600084, 530018, and 5300XX-6) would include diesel-powered emergency generators that would be used for backup power during normal electric-supply power failure. Operation of these generators would result in emissions during regular testing and in backup power instances. While the existing pump stations and lift stations that would undergo improvements as part of the Project already include generators, it is possible that the new generators would be larger and result in more emissions than the existing generators; therefore, it is conservatively assumed for the purposes of this analysis that the generators associated with CIP Projects 600040, 600008, 600050, 600084, 530018, 5300XX-6 would be new generators and represent a new source of operational emissions.[1] Generator emissions were estimated in CalEEMod based on the monthly testing frequency and duration and the power output of the engines. Refer to Appendix B for details regarding the assumed number and sizes of generators.

The one proposed new pump station (CIP Project 600008) and one new lift station (CIP Project 5300XX-6) would result in new worker vehicle trips to and from the site. Based on data from similar projects, it is

[1] CIP Projects 530023 and 5300XX-5 would involve the replacement of generators; however, the new generators would be the same size and power as the existing generators and would not result in an increase in emissions.

assumed that the new pump station and new lift station would each involve two worker trips per day (one trip to the site and one trip from the site). Other Project improvements that include passive pipelines and/or upgrades to existing facilities are not anticipated to result in new vehicle trips beyond what currently occurs.

The Project would involve on-going maintenance activities as part of operations. Individual maintenance activities, such as valve installations, water meter relocations, and asphalt replacement, would be irregular and temporary, and most activities would not involve heavy equipment that would generate air pollutant emissions. To provide a conservative analysis, however, a backhoe/loader, which could be used for a variety of maintenance activities, has been included in the emissions modeling and is assumed to operate for four hours every day.

Landscape equipment would occasionally be used for maintenance activities; however, most above-ground improvements would be constructed at existing facilities. The improvements would not increase landscaping operations at these facilities. New landscaping maintenance may be required at new pump station. Once new landscaping is established, only periodic brush clearing, tree trimming, and weed abatement would be required. Due to the limited amount of equipment and time required for maintenance at each facility, equipment usage would not substantially increase compared to existing conditions.

Table 4.1-6, *Conservative Operational Scenario Daily Emissions,* presents the estimated maximum daily operation emissions associated with Project operations, and compares these emissions levels to the SDAPCD thresholds.

Table 4.1-6
CONSERVATIVE OPERATIONAL SCENARIO DAILY EMISSIONS (pounds per day)

Category	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	<0.5	0	<0.5	0	0	0
Energy	0	0	0	0	0	0
Mobile	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Off-road	<0.5	1	1	<0.5	<0.5	<0.5
Stationary	<0.5	1	1	<0.5	<0.5	<0.5
Total Daily Emissions	**1**	**2**	**3**	**<0.5**	**<0.5**	**<0.5**
SDAPCD Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix A)
VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide;
PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 4.1-6, the Project's operational emissions would not exceed the significance thresholds for the criteria pollutants or ozone precursors; therefore, operational emissions impacts would be less than significant.

Mitigation Measures

Impacts associated with air quality standards would be less than significant; therefore, no mitigation is necessary.

4.1.4.3 Issue 3: Sensitive Receptors

Would the Project expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis

Sensitive receptors (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than the general population. Land uses considered sensitive uses are those that accommodate sensitive receptors on a regular basis and for extended periods of time and typically include residences, schools, playgrounds, childcare centers, hospitals, convalescent homes, and retirement homes. Residential sensitive receptors are located throughout the District's service area and would be located near Project improvements.

Impacts to sensitive receptors are typically analyzed for exposure to toxic air contaminants (TACs) and operational period CO hotspots. CO hotspots occur as a result of idling vehicles in severe traffic congestion. Because the Project would generally be limited to temporary construction activities and periodic maintenance activities, it would not result in a substantial increase in vehicle trips; therefore, the Project would not contribute substantial traffic congestion or CO hotspots. An analysis of the Project's potential to expose sensitive receptors to TACs is provided below.

Construction

Construction activities would result in short-term, Project-generated emissions of diesel particulate matter (DPM) from the exhaust of off-road, heavy-duty diesel equipment used for the Project's various construction activities. CARB identified DPM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project.

Project construction and maintenance activities have the potential to occur near residential receptors located throughout the District's service area. Such residences could therefore be exposed to DPM emissions from the operation of diesel-powered equipment during construction and maintenance activities; however, individual Project improvements in proximity to a given sensitive receptor would be relatively short-term when compared to a 30-year exposure period. In addition, many of the Project improvements would be for pipeline replacement or rehabilitation. Under such improvements, construction would continuously move along the pipeline alignment and would not occur adjacent to a given receptor for an extended period of time. Combined with the highly dispersive properties of DPM, construction-related emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. Construction impacts to sensitive receptors would be less than significant.

Operations

CARB siting recommendations within the *Air Quality and Land Use Handbook* suggest a detailed health risk assessment should be conducted for sensitive receptors within 1,000 feet of a warehouse distribution center, within 300 feet of a large gas station (defined as a facility with a throughput of

3.6 million gallons per year or greater), 50 feet of a typical gas dispensing facilities, or within 300 feet of a dry cleaning facility that uses perchloroethylene, among other siting recommendations (CARB 2005). The Project does not include these types of sources and would not represent a substantial source of TACs. CIP Projects 600040, 600008, 600050, 600084, 530018, and 5300XX-6 would involve new or upgraded pump stations or lift stations that would include generators. Diesel generators can be a source of DPM; however, these facilities would not be located immediately adjacent to residential receptors. In addition, as shown above in Table 4.1.6, particulate matter emissions during Project operations would be well below SDAPCD screening level thresholds of 100 pounds per day for PM_{10} and 55 pounds per day for $PM_{2.5}$. Operational impacts to sensitive receptors would be less than significant.

Mitigation Measures

Impacts associated with exposure of sensitive receptors to substantial pollutant concentrations would be less than significant; therefore, no mitigation measures are necessary.

4.1.4.4 Issue 4: Odors

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

Impact Analysis

Construction

Project construction activities could result in emission-related odors from construction equipment/vehicles (particularly diesel exhaust) may occur temporarily in the immediately surrounding area. Specifically, construction equipment and vehicles could intermittently emit diesel exhaust perceptible by nearby receptors along roadways (i.e., from transport vehicles) and near the Project improvement areas during construction. These odors would not affect a substantial number of people, as construction activities (including vehicle trips) would be minor in duration and extent. Diesel-powered construction equipment and vehicles would also be required to comply with the State Airborne Toxic Control Measure standards for diesel particulate matter emissions. Impacts would be less than significant.

Operations

Based on CARB's list of common sources of odor complaints in its Air Quality and Land Use Handbook (CARB 2005), wastewater facilities would have the potential to generate substantial odors; however, new wastewater pipelines would be located belowground, would be sealed, and would not release odors to open air. Proposed wastewater pipelines that would replace or rehabilitate existing facilities would not result in a new source of odor. Similarly, CIP Projects 530020, 530018, and 530023 would upgrade existing lift stations and a new source of odor would not occur. One new lift station (CIP Project 5300XX-6) is proposed as part of the Project. In accordance with standard regulatory practices, the lift station facilities would be enclosed and would include an odor control system to limit off-site odor impacts, which would likely include scrubbers and/or ferric chloride treatment methods. As such, impacts related to operational odors would be less than significant.

Mitigation Measures

Impacts related to odors affecting a substantial number of people would be less than significant; therefore, no mitigation measures are required.

4.1.5 Cumulative Impact Analysis

4.1.5.1 Consistency with Air Quality Plans

The geographic scope for the analysis of cumulative impacts relative to consistency with air quality plans is the SDAB. The Attainment and RAQS are intended to address cumulative impacts in the SDAB based on future growth predicted by SANDAG. SANDAG uses growth projections from the local jurisdictions' adopted general plans; therefore, development consistent with the applicable general plan would be generally consistent with the growth projections in the air quality plans and would not result in a cumulative impact. Cumulative development in the SDAB is not expected to result in a significant impact in terms of conflicting with the Attainment Plan or RAQS because the majority of cumulative projects would involve development that is consistent with the applicable projections included in the Attainment Plan and RAQS. In addition, as discussed in Section 4.1.4.1, the Project's improvements are proposed to meet projected buildout demand and would not result in the generation of unplanned population growth or accommodate unplanned growth. As such, the Project, in combination with cumulative development, would not result in a significant cumulative impact relative to conflict with or obstruction of the applicable air quality plans.

4.1.5.2 Conformance with Air Quality Standards

The geographic scope for the analysis of cumulative impacts relative to consistency with air quality standards in the SDAB. The SDAB is in nonattainment for ozone, PM_{10}, and $PM_{2.5}$, and the baseline cumulative impact is therefore considered significant.

As evaluated in Section 4.1.4.2, the Project would not result in emissions of PM_{10}, $PM_{2.5}$, or the ozone precursors NO_X and VOCs during construction or operations that would exceed regional thresholds. In addition, as discussed above, the Project would not conflict with the Attainment Plan or RAQS. As such, the Project would comply with applicable air quality standards and air quality plans. The potential air pollutant emissions associated with construction and operation of the Project would not adversely affect the ability for the SDAB to meet the NAAQS and CAAQS. The Project would therefore not result in a cumulatively considerable contribution to a significant cumulative impact.

4.1.5.3 Sensitive Receptors

The geographic scope for the analysis of cumulative impacts relative to sensitive receptors is the areas in the vicinity of the Project improvements. Construction of multiple cumulative development projects in addition to the proposed Project improvements could combined to generate emissions of criteria pollutants and TACs that could affect nearby sensitive receptors. This would only happen, however, if construction of one or more cumulative projects would emit substantial emissions, occur adjacent to and simultaneously with the proposed Project construction activities, and occur in proximity to sensitive receptors. Based on the temporary nature of the Project's construction activities and large area over which they would occur (i.e., the District's service area), it is unlikely all three of these conditions would take place. Therefore, the baseline cumulative impact relative to sensitive receptors is considered less than significant.

4.1.5.4 Odors

The geographic scope for the analysis of cumulative impacts relative to odors is the area immediately surrounding potential odor sources. Because odors rapidly disperse beyond their source, associated impacts are generally not cumulative in nature. Additionally, as discussed in Section 4.1.4.4, the Project would not result in substantial odor generation during construction or operation and would therefore not combine with other cumulative projects to result in a cumulatively significant impact associated with objectionable odors.

4.2 BIOLOGICAL RESOURCES

This section addresses the potential biological resources impacts of the Project. The following discussion includes (1) a description of existing conditions as related to biological resources, (2) a summary of applicable regulations, and (3) an evaluation of the Project's potential environmental effects associated with biological resources, including special-status species, sensitive natural communities, wetlands, wildlife movement, and local policies and plans protecting biological resources. This section is based on the *Biological Technical Report* (BTR) prepared for the Project by HELIX Environmental Planning, Inc. (HELIX; 2022a; Appendix C).

4.2.1 Existing Conditions

4.2.1.1 Regional Biological Context

The District's service area is generally a semi-arid environment and supports a wide range of habitats and biological communities that vary greatly depending on the eco-region, soils and substrate, elevation, and topography. Representative habitats within the service area include coastal sage scrub, chaparral, grassland, riparian scrub, forests and woodlands, and oak woodlands, throughout the lowlands and foothills and mixed chaparral, oak woodlands associated with the higher elevation mountain ranges in the northern portion of the District's service area. These communities provide habitat for a vast assemblage of flora and fauna, many of which are endemic to California.

U.S. Fish and Wildlife Services (USFWS)-designated critical habitats for arroyo toad (*Bufo californicus*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), San Diego ambrosia (*Ambrosia pumila*), and southwestern willow flycatcher (*Empidonax traillii extimus*) within the service area are shown on Figure 4.2-1, *USFWS Critical Habitat*. The USFWS critical habitat includes specific areas that contain physical and biological features essential to the conservation and recovery of federally listed species.

4.2.1.2 General Land Uses

The bioregion that generally defines the District's service area is influenced by a coastal Mediterranean climate. The area's climate, coupled with regional geological formations and land features, give rise to an array of habitat types and species that are unique to southern California. Although past agricultural practices and urbanization have resulted in the conversion of land within portions of the service area, there are a few larger blocks and linkages of undeveloped land, particularly northern and southern areas of the service area, that provide important habitat for plant and wildlife species that reside in and migrate to and from the area. Grasslands, coastal sage scrub, chaparral, oak woodlands, riparian woodlands and forests, and riverine habitats all contribute to the overall biological value of the service area.

The District's service area is primarily comprised of valleys, canyons, and low mountains. The area is characterized by agriculture, single-family residential development, and undeveloped lands, with additional land uses within the service area including small areas of commercial development, parks, schools, transportation infrastructure, water conveyance infrastructure, and golf courses.

4.2.1.3 Vegetation Communities/Land Cover

Vegetation communities present within the District's service area, as mapped on a regional scale, can be separated into three categories: wetlands and waters; sensitive uplands; and non-sensitive uplands. Sensitive vegetation communities found within the service area include chamise chaparral, coast live oak woodland, coastal scrub, Diegan coastal sage scrub, Engelmann oak woodland, freshwater marsh, maritime succulent scrub, mule fat scrub, native grassland, non-native grassland, non-native riparian, open water, scrub oak chaparral, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern maritime chaparral, southern mixed chaparral, southern riparian forest, southern riparian woodland, southern sycamore-alder riparian woodland, and southern willow scrub. Non-sensitive vegetation communities include disturbed habitat, developed, eucalyptus woodland, non-native vegetation, and agriculture/orchard. Potential jurisdictional features generally include wetland and riparian habitat types, as well as both vegetated and unvegetated drainages or streambeds. Refer to Appendix C of this PEIR for further discussion of these vegetation communities and land cover types.

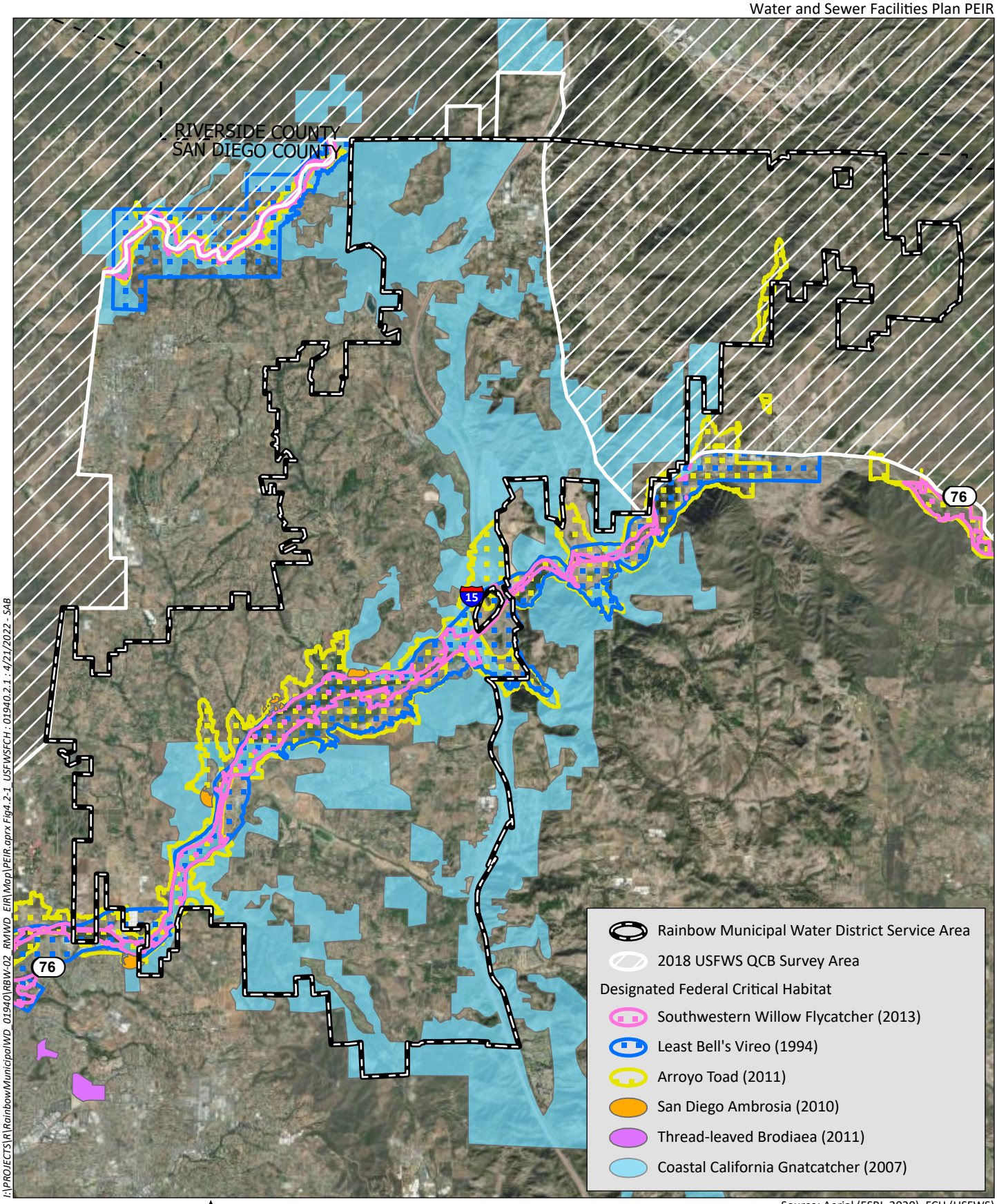
4.2.1.4 Jurisdictional Wetlands/Waters

There are numerous waters and wetlands within the District's service area which support Waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE), pursuant to Section 404 of the federal CWA; Waters of the State, subject to the regulatory jurisdiction of the RWQCB, pursuant to Section 401 of the CWA and/or Porter-Cologne Water Quality Act; and unvegetated stream channels and riparian habitat, subject to the regulatory jurisdiction of the CDFW to Section 1600 *et seq*. of California Fish and Game (CFG) Code. Potential Waters of the U.S., Waters of the State, and CDFW jurisdictional habitat are present within the District's service area. Freshwater marsh, mule fat scrub, non-native riparian, open water, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern maritime chaparral, southern mixed chaparral, southern riparian forest, southern riparian woodland, southern sycamore-alder riparian woodland, and southern willow scrub are considered potentially jurisdictional to the USACE, RWQCB, and/or CDFW. The District's service area contains several waterways including the San Luis Rey River, Rainbow Creek, Pala Creek, Trujillo Creek, as well as several ephemeral concrete and earthen-lined drainages. Agricultural ditches, erosional features, and areas of open water that function as holding basins for the District are regularly maintained, lack vegetation, lack connectivity to other jurisdictional drainage courses, and would not be considered to be under jurisdiction of USACE, RWQCB, and/or CDFW.

4.2.1.5 Sensitive Biological Resources

Sensitive biological resources include special-status plant and animal species that have been recognized by federal or state resource agencies, conservation organizations such as the California Native Plant Society (CNPS), or regional planning documents as having special management needs due to limited distribution, limited numbers, or significant population declines associated with natural or man-made causes. Special-status species include those designated as endangered, threatened, rare, protected, sensitive, or species of special concern according to the USFWS, CDFW, or applicable regional plans, policies, or regulations.

In general, the principal reason an individual taxon (species, subspecies, or variety) is given special-status recognition is the documented or perceived decline or limitation of its population size or



Source: Aerial (ESRI, 2020), FCH (USFWS)

HELIX Environmental Planning

USFWS Critical Habitat

Figure 4.2-1

geographical extent and/or distribution, resulting in most cases from habitat loss. Sensitive biological resources also include natural vegetation communities that are either unique, of relatively limited distribution in the region, or of particularly high biological function and value. These resources have been defined by federal, state, and local government conservation programs.

Sensitivity Designations

Federal listing of endangered and threatened wildlife and plants is administered by the USFWS. The USFWS also recognizes species of special concern that are candidates for listing. Before a plant or animal species can receive protection under the Federal Endangered Species Act (ESA), it must first be placed on the federal list. The program follows a strict legal process to determine whether to list a species. An endangered species is defined as one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. The USFWS also maintains a list of plants and animals native to the U.S. that are species of special concern for possible addition to the federal list but that are not currently regulated.

The CDFW implements the California Endangered Species Act (CESA), which is a program that is similar in structure to, but different in detail from, the USFWS program implementing the ESA. The CDFW maintains a list of designated endangered, threatened, and rare plant and animal species. In addition to recognizing three levels of endangerment, the CDFW affords interim protection to candidate species while they are being reviewed by the Fish and Game Commission. The CDFW also maintains a list of Species of Special Concern, most of which are species whose breeding populations in California are threatened by local extinction and additional data is required to fully determine their endangerment. Although these species have no legal status under CESA, the CDFW recommends their consideration in order to protect declining populations and avoid the need to list them as threatened or endangered in the future.

Under the provisions of Section 15380(d) of the CEQA Guidelines, the Lead Agency, in making a determination of significance, must treat rare non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFW considers California Rare Plant Rank (CRPR) species on CRPR Lists 1A, 1B, or 2 of the CNPS Inventory of Rare and Endangered Vascular Plants of California as qualifying for consideration under this CEQA provision. Species on the CRPR List 3 or 4 may, but generally do not, qualify for protection under this provision as impacts to these species would not be expected to jeopardize their population or long-term survival. Species on CRPR List 1A are “presumed extinct in California.” Species on CRPR List 1B are “rare or endangered in California and elsewhere.” Species on CRPR List 2 are “rare or endangered in California and are more common elsewhere.” Species on CRPR Lists 3 and 4 are those which require more information to determine status and plants of limited distribution, respectively.

Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the CEQA Guidelines.

CDFW evaluates the rarity of natural communities using the NatureServe’s Heritage Methodology (Faber-Langendoen et. al 2012) in which communities are given a G (global) and S (State) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities are assigned an

overall rank of 1 through 5, with 1 being considered very rare and threatened and 5 being considered demonstrably secure. Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by the CDFW.

Table 4.2-1, *Vegetation Communities Within the District's Service Area*, provides a summary table of the ten wetland and waters communities and ten sensitive natural upland communities with the potential to occur within the District's service area, along with their corresponding global and state sensitivity rank, as designated by the CDFW and reported by the CNDDB.

Table 4.2-1
VEGETATION COMMUNITIES WITHIN THE DISTRICT'S SERVICE AREA

Community	Global Rank[1]	State Rank[2]
Wetlands and Waters		
Freshwater marsh	G3	S2.1
Mule fat scrub	G4	S4
Non-native riparian forest	G4	S4
Open Water	--	--
Southern arroyo willow riparian forest	G2	S2.1
Southern coast live oak riparian forest	G3	S4
Southern cottonwood willow riparian forest	G3	S3.2
Southern riparian forest/woodland	G4	S4
Southern sycamore-alder riparian woodland	G3	S3
Southern willow scrub	G3	S2.1
Sensitive Uplands		
Chamise chaparral	G4	S4
Coast live oak woodland	G5	S4
Diegan coastal sage scrub	G3	S3.1
Engelmann oak woodland	G3	S3
Maritime succulent scrub	G2	S1.1
Native grassland	G3	S3.1
Non-native grassland	G4	S4
Scrub oak chaparral	G4	S4
Southern maritime chaparral	G1	S1.1
Southern mixed chaparral	G4	S4

Community	Global Rank[1]	State Rank[2]
Non-Sensitive Upland		
Developed	--	--
Disturbed Habitat	--	--
Non-native vegetation	--	--
Agriculture	--	--

Source: HELIX 2022a

[1] **Global Rank–**The global rank reflects of the overall status of an element throughout its global range. **G1 = Critically Imperiled**–At very high risk of extinction due to extreme rarity, very steep declines, or other factors. Less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000 acres. **G2 = Imperiled**–At high risk of extinction due to very restricted range, very few populations, steep declines, or other factors. Estimated 6-20 viable occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **G3 = Vulnerable**–At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres. **G4 = Apparently Secure**–Uncommon but not rare; some cause for long-term concern due to declines or other factors. This rank is clearly lower than G3 but factors exist to cause some concern, i.e., there is some threat, or somewhat narrow habitat.

[2] **State Rank–**The state rank refers to the imperilment status only within California's State boundaries. **S1 = Critically Imperiled**–Critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. Less than 6 occurrences or less than 1,000 individuals or less than 2,000 acres. **S1.1** = very threatened; **S1.2** = threatened; **S1.3** = no current threats known. **S2 = Imperiled**–Imperiled in the state because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. Estimated 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **S2.1** = very threatened; **S2.2** = threatened; **S2.3** = no current threats known. **S3 = Vulnerable**–Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000 -50,000 acres. **S3.1** = very threatened; **S3.2** = threatened; **S3.3** = no current threats known; **S4 = Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

Special-Status Species

The potential for special-status plant and animal species to occur within the District's service area and vicinity of CIP, ODP, and maintenance projects was determined primarily based on database review and habitat assessment surveys at select locations in the field. Protocol-level surveys for special-status species were not conducted because the exact timing of specific projects is not yet known and may occur over multiple years. As such, protocol-level surveys undertaken at this time may underestimate project impacts. For information disclosure purposes, this analysis provides a comprehensive assessment of the potential presence of special-status species within the District's service area, including prior known occurrences of special-status species within the Project disturbance area.

Special-Status Plant Species

Fifty-four special-status plant species have the potential to occur with the District's service area (refer to Appendix C of this PEIR for the complete listing). Of the 54 special-status plant species, five species are recognized under the ESA as federally endangered and three are federally threatened. Six of the special-status plant species are recognized under the CESA as state endangered and one is state rare. All of the special-status plant species are designated as CRPR List species, including 44 CRPR List 1B species, seven (7) CRPR List 2 species, and three CRPR List 4 species. In addition, portions of the District's service area occur within the designated critical habitat for San Diego ambrosia.

The following federally and/or state-listed plant species occur within chaparral and coastal scrub habitats:

- Gander's ragwort (*Packera ganderi*; State rare)
- Nevin's barberry (*Berberis nevinii*; Federally endangered, State endangered)
- San Diego ambrosia (*Ambrosia pumila*; Federally endangered)
- Slender-horned spineflower (*Dodecahema leptoceras*; Federally endangered, State endangered)
- Thread-leaved brodiaea (*Brodiaea filifolia*; Federally threatened, State endangered)
- Vail Lake ceanothus (*Ceanothus ophiochilus;* Federally threatened, State endangered)

The following federally and/or state-listed plant species occur within vernal pool habitats:

- San Diego button-celery (*Eryngium aristulatum* var. *parishii*; Federally endangered, State endangered)
- San Diego thorn-mint (*Acanthomintha ilicifolia;* Federally threatened, State endangered)
- Spreading navarretia (*Navarretia fossalis;* Federally endangered)

Special-Status Animal Species

Fifty-four special-status wildlife species are known or have the potential to occur within the District's service area (refer to Appendix C of this PEIR for the complete listing). Of the 54 special status animal species, four are invertebrates, two are fishes, two are amphibians, 12 are reptiles, 22 are birds, and 12 are mammals. Under the ESA, 11 of the special-status wildlife species are federally endangered, two are federally threatened, and one is a candidate for federal listing. Three of the special-status wildlife species are recognized under the CESA as state endangered and three are state threatened. Thirty-two are designated as state species of special concern, seven are designated as watch list species by the CDFW, and three are fully protected in the state. In addition, portions of the service area occur within the designated critical habitat for arroyo toad, coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher.

The following federally and/or state-listed animal species have the potential to occur within chaparral, coastal scrub, and grassland habitats for breeding and/or essential foraging:

- American peregrine falcon (*Falco peregrinus anatum*; Candidate for federal listing, State threatened) – foraging only
- Black-tailed jackrabbit (*Lepus californicus*; State species of special concern)
- Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; State species of special concern)
- Coastal California gnatcatcher (*Polioptila californica*; Federally threatened, State species of special concern)
- Dulzura pocket mouse (*Chaetodipus californicus femoralis*; State species of special concern)
- Golden eagle (*Aquila chrysaetos*; State fully protected and watchlist) – foraging only
- Quino checkerspot butterfly (*Euphydryas editha quino*; Federally endangered)
- Swainson's hawk (*Buteo swainsoni*; State threatened) – foraging only

- Stephens' kangaroo rat (*Dipodomys stephensii*; Federally endangered, State threatened)

The following federally and/or state-listed animal species have the potential to occur within riparian areas for breeding and/or essential foraging:

- California black rail (*Laterallus jamaicensis coturniculus*; State fully protected)
- Least Bell's vireo (*Vireo bellii pusillus;* Federally endangered, State endangered)
- Southwestern willow flycatcher (*Empidonax traillii extimus;* Federally endangered, State endangered)
- Yellow-billed cuckoo (*Coccyzus americanus*; Federally threatened, State endangered)

The following federally and/or state-listed animal species have the potential to occur within vernal pool habitats for breeding:

- Riverside fairy shrimp (*Streptocephalus woottoni;* Federally endangered)
- San Diego fairy shrimp (*Branchinecta sandiegonensis*; Federally endangered)
- Western spadefoot toad (*Spea hammondii*; State species of special concern)

The following federally and/or state-listed animal species have the potential to occur within aquatic habitats including washes, rivers, streams, and ponds for breeding and/or essential foraging:

- Arroyo toad (*Anaxyrus californicus;* Federally endangered, State species of special concern)

The following federally and/or state-listed animal species occur within marine, coastal, and estuarian habitats including saltmarshes, lagoons, estuaries, and beaches:

- California least tern (*Sternula antillarum browni*; Federally endangered, State fully protected)
- Light-footed Ridgeway's rail (*Rallus obsoletus levipes*; Federally endangered, State fully protected)
- Tidewater goby (*Eucyclogobius newberryi*; Federally endangered)

Critical Habitat

The USFWS has designated critical habitat for several federally listed species, including coastal California gnatcatcher, arroyo toad, San Diego ambrosia, least Bell's vireo, and southwestern willow flycatcher within portions of the District's service area.

CDFW Ecological Reserves

CDFW Ecological Reserves are protected areas managed by CDFW. The only Ecological Reserve within the District's service area is the Mount Olympus Ecological Preserve, located near the northwestern boundary of the District's service area.

Wildlife Movement Corridors and Linkages

Several wildlife movement corridors and linkages occur within the District's service area. These biological linkages provide a north-to-south and east-to-west link between biological core areas. The primary linkages run along the San Luis Rey River and I-15 corridor providing a north-to-south linkage within the District's service area. Smaller corridors within the service area include Gomez Creek, Keys Creek, Pala Creek, Rainbow Creek, and the San Diego aqueduct, as well as many unnamed streams and tributaries to the San Luis Rey River. Furthermore, undeveloped lands within the service area, including the Santa Margarita Ecological Reserve, Monserate Mountain, and Mount Olympus, also provide suitable wildlife corridors and linkages. Generally, lands designated as a Pre-Approved Mitigation Area within the Draft North County Plan are proposed for preservation to maintain wildlife corridors and linkages.

4.2.2 Regulatory Framework

Biological resources in the District's service area are subject to regulatory review by federal, State, and local agencies.

Under CEQA, impacts associated with a proposed project are assessed with regard to significance criteria determined by the Lead Agency (in this case, the District) pursuant to the *CEQA Guidelines*. Biological resources-related laws and regulations that apply to the Project include the ESA, Migratory Bird Treaty Act (MBTA), CWA, CEQA, CESA, and CFG Code.

4.2.2.1 Federal

Federal Endangered Species Act

Administered by the USFWS, the ESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered take under the ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Identified by the USFWS, critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitat, so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the ESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat.

Section 7 of the Federal Endangered Species Act

Section 7 of the ESA provides that each federal agency undertaking a federal action which could significantly affect ESA species shall consult with the Secretary of Interior or Commerce, that any actions authorized, funded, or carried out by the agency are "not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of lands determined to be critical habitat" (16 U.S.C. Section 1536(a)(2)). The consultation requirement of

Section 7 is triggered upon a determination that a proposed action "may affect" a listed species or designated critical habitat (50 CFR Section 402.14(a)). If the proposed action is a "major construction" activity, the federal agency proposing the action must prepare a biological assessment to include with its request for the initiation of Section 7 consultation.

Section 9 of the Federal Endangered Species Act

Section 9 of the ESA prohibits any person from "taking" an endangered animal species. Regulations promulgated by USFWS and National Oceanic and Atmospheric Administration (NOAA) make the "take" prohibition generally applicable to threatened animal species as well (50 CFR 17.71). Section 9 thus prohibits the clearing of habitat that results in death or injury to members of a protected species.

An authorization or permit to incidentally take listed species can be obtained either through the Section 7 consultation process or through the Section 10 Incidental Take Permit (ITP) process. In the context of Section 7, incidental take is authorized through an Incidental Take Statement (ITS) that is issued consistent with a Biological Opinion. Measures required to conform to the ITS are contained in "reasonable and prudent measures," as are the terms and conditions necessary to implement those measures. Measures contained in the Section 10(a)(1)(B) ITP reflect the measures set out in a habitat conservation plan developed by the applicant in conjunction with the USFWS, as discussed below.

Section 10 of the Federal Endangered Species Act

Under Section 10(a)(1)(B) of the ESA, the USFWS may permit the incidental take of listed species that may occur as a result of an otherwise lawful activity. In the context of Section 10, incidental take is authorized through an ITP issued pursuant to Section 10(a)(1)(B). To obtain a Section 10(a)(1)(B) ITP, an applicant must prepare a habitat conservation plan that meets the following five criteria: (1) the taking will be incidental to an otherwise lawful activity; (2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; 3) the applicant will ensure that adequate funding for the plan will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and, (5) other measures, if any, that the USFWS requires as being necessary or appropriate for purposes of the plan will be met (16 U.S.C. Section 1539(a)(2)(A)).

Migratory Bird Treaty Act

The MBTA of 1918 (16 U.S.C. 703-711) implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. It is enforced in the U.S. by the USFWS, and makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a "take" and is potentially punishable by fines and/or imprisonment. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species.

Clean Water Act and Rivers and Harbors Act

Section 404 of the Clean Water Act

Section 404 of the CWA requires that a permit be obtained from the USACE prior to the discharge of dredged or fill materials into any Waters of the U.S., including wetlands. Waters of the U.S. are broadly

defined in the USACE's regulations (33 CFR 328) to include navigable waterways, their tributaries, lakes, ponds, and wetlands. Wetlands are defined as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Such permits often require mitigation to offset losses of these habitat types so there is no net loss. Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land and isolated wetlands) are considered to be jurisdictional wetlands. Under certain circumstances where multiple resources are impacted and interagency consultation is required, the USACE may consult with the USEPA, USFWS, CDFW, SWRCB, and the various RWQCBs throughout the state in carrying out its discretionary authority under Section 404.

Section 401 of the CWA

A Section 401 Water Quality Certification, or waiver thereof, is required from the SWRCB or RWQCB before a Section 404 permit becomes valid. The RWQCB reviews projects for consistency with the achievement of water quality objectives and the reasonable protection of beneficial uses designated in the Water Quality Control Plan. In reviewing projects, the RWQCB considers impacts to Waters of the U.S., in addition to filling of isolated wetlands, riparian areas, and headwaters (i.e., areas of high resource value), hydromodification, applicable water quality objectives and designated beneficial uses, and special-status species, among other things. Collectively, wetland and water resources regulated by the SWRCB and RWQCB are referred to as Waters of the State, and these resources may or may not include Waters of the U.S. Usually, mitigation is required (if not already a condition of the 404 permit) in the form of replacement or restoration of adversely impacted Waters of the U.S.

4.2.2.2 State

California Environmental Quality Act

CEQA applies to discretionary public agency actions which result in direct or reasonably foreseeable indirect changes to the environment. CEQA and its implementing regulations (State CEQA Guidelines) require the preparation of an EIR where there is a fair argument based on substantial evidence that a project may result in a potentially significant impact on the environment. Where an EIR has been prepared, CEQA further requires the public agency to find that all feasible mitigation and avoidance measures have been incorporated into the project prior to approving or adopting the project.

California Endangered Species Act

CESA conserves and protects plant and animal species at risk of extinction. Under state law, plant and animal species may be formally designated as rare, threatened, or endangered through official listing by the California Fish and Game Commission. A CESA-listed species, or any part or product of the plant or animal, may not be imported into the state, exported out of the state, "taken", possessed, purchased, or sold without proper authorization. Section 2081 of the Fish and Game Code allows CDFW to authorize take of species listed as endangered or threatened, candidate, or a rare plant, if that take is incidental to otherwise lawful activities and if certain conditions are met.

California Fish and Game (CFG) Code

Sections 1600 to 1603 of the CFG Code

Under Section 1600 of the CFG Code, any entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel or bank of any river, stream or lake, or deposit or dispose of debris, waste or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless CDFW determines that activity will not substantially adversely affect an existing fish and wildlife resource. If CDFW determines that the activity may have that effect, CDFW may authorize such activities pursuant to the terms of a Streambed Alteration Agreement describing the fish and wildlife resources that may be threatened and requiring the implementation of reasonable measures necessary to protect those resources.

Sections 3503, 3503.5, and 3800 of the CFG Code

These sections of the Fish and Game Code prohibit the take or possession of birds, their nests, or eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a take. Such a take would also violate federal law protecting migratory birds. ITPs are required from the CDFW for projects that may result in the incidental take of species listed by the state as endangered, threatened, or candidate species. The wildlife agencies require that impacts to protected species be minimized to the extent possible and mitigated to a level of insignificance.

Native Plant Protection Act

Sections 1900–1913 of the CFG Code (Native Plant Protection Act) direct the CDFW to carry out the state legislature's intent to "…preserve, protect, and enhance endangered or rare native plants of this state." The Native Plant Protection Act gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

4.2.2.3 Local

County of San Diego Multiple Species Conservation Plan (MSCP)

The District's service area falls within the boundaries of the County of San Diego Multiple Species Conservation Plan (MSCP), specifically within the North County Subarea (NCS; refer to Figure 4.2-2, *MSCP Boundary*). The MSCP is a long-term regional conservation plan designed to establish connected preserve systems to ensure the long-term survival of sensitive plant and animal species and to protect the native vegetation found throughout portions of San Diego County (County 1998). The MSCP addresses the potential impacts of urban growth, natural habitat loss, and species endangerment and creates a plan to mitigate for the potential loss of sensitive species and their habitats. The MSCP covers 582,243 acres over 12 jurisdictions. Each jurisdiction has its own Subarea Plan, which describes specific implementing mechanisms for the MSCP. Any habitat set aside for the protection of biological resources in accordance with the MSCP is considered sensitive. The MSCP divides habitats into tiers based on sensitivity, with habitat rankings from Tier 1 (most sensitive) to Tier IV (least sensitive, includes disturbed land). The combination of the MSCP Subregional Plan and Subarea Plans serves as a multiple species habitat conservation plan (pursuant to Section 10(a)(1)(B) of the ESA and the California NCCP Act of 1991 and CESA). The conservation measures specified in the MSCP provide for coverage of 85 species of plants and animals (called covered species) under these state and federal endangered species laws.

MSCP North County Subarea Plan (NCS Plan)

The NCS Plan includes areas within north San Diego County. Within the 24,570 acres of the NCS Plan, the open space includes about 8,800 acres. The native vegetation of the NCS Plan is dominated by coastal sage scrub and chaparral vegetation. The NCS Plan is still in draft form and has not yet been approved or adopted.

The District is not a participating entity of the MSCP or Draft NCS Plan. Reference herein to the MSCP is provided for regional context and programmatic assessment of how the District's project would not conflict with the overall MSCP conservation goals and objectives and would not preclude the establishment of the NCS Plan and related regional conservation planning efforts.

County of San Diego Regulatory Code Sections 86.601-86.608, Resource Protection Ordinance

The Resource Protection Ordinance (RPO) was adopted in 1989 and later amended in 1991 and 2007. The RPO limits impacts to natural resources including environmentally sensitive lands such as wetlands, wetland buffers, floodplains, steep slopes, sensitive habitat lands, and historical sites. Certain discretionary permit types are subject to the requirement to prepare Resource Protection Studies under the RPO. The RPO requires the protection and avoidance of wetlands and adjacent wetland buffer areas. It also sets forth certain allowable uses within such areas. The RPO also requires the protection of sensitive habitat lands. Sensitive habitat lands include unique vegetation communities and/or the habitat that is either necessary to support a viable population of sensitive species, is critical to the proper functioning of a balanced natural ecosystem, or which serves as a functioning wildlife corridor.

4.2.3 Thresholds of Significance

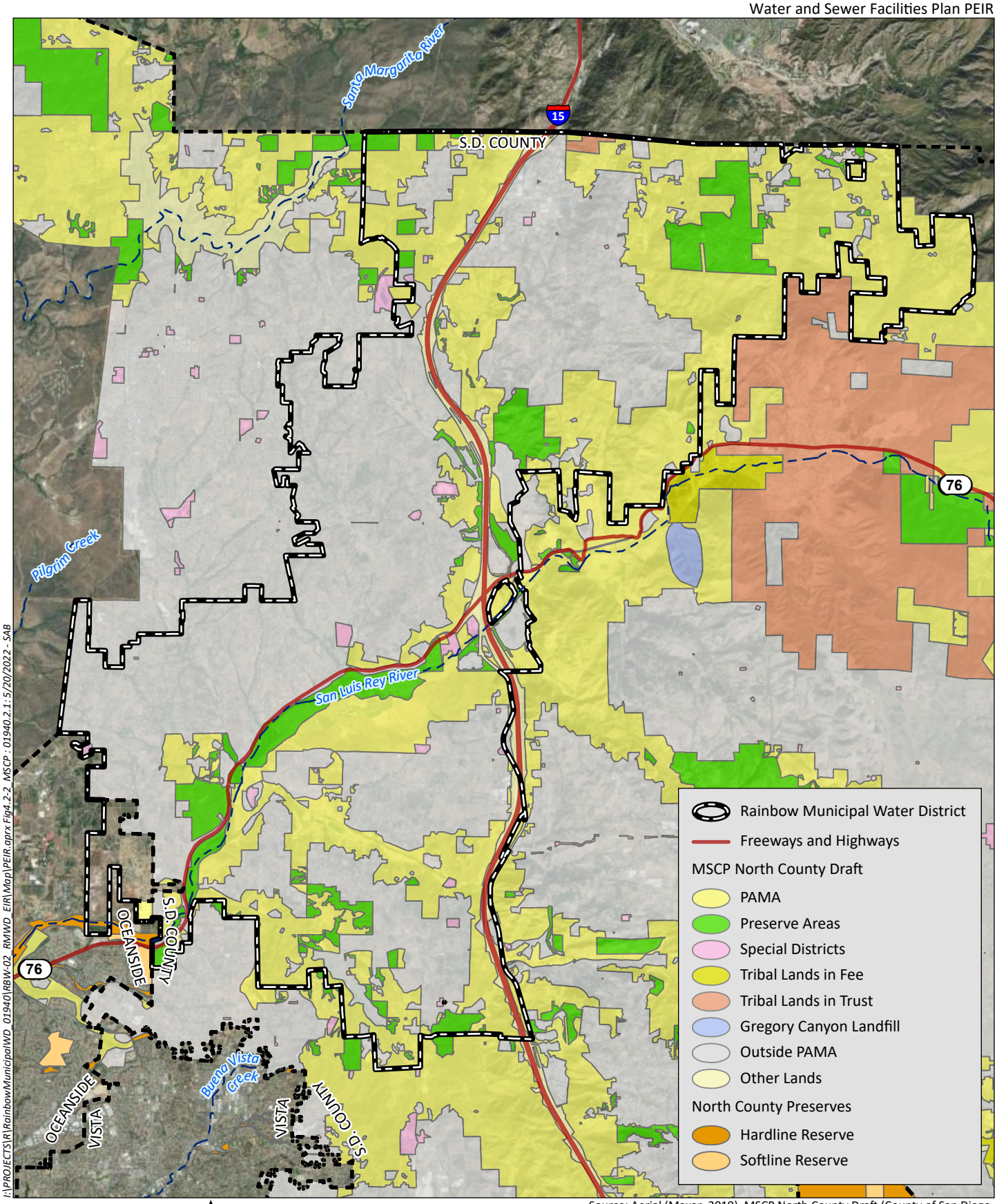
The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to biological resources. The Project would have a significant impact if it would:

1. Result in a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

2. Result in 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 the U.S. Fish and Wildlife Service;

3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;



Source: Aerial (Maxar, 2019), MSCP North County Draft (County of San Diego, 2017), North County Preserves (Focused Planning Areas, MHCP, 2003)

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MSCP Boundary

Figure 4.2-2

5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.2.4 Project Impacts and Mitigation

4.2.4.1 Issue 1: Sensitive Species

Would the Project result in a substantial adverse impact, 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?

Impact Analysis

Direct impacts to special-status species include the direct take, removal, or displacement of species and their habitat through activities such as clearing, grubbing, grading, and other land disturbance activities. Removal of habitat could result in displacement of special-status species and less available habitat within a species' range to carry out vital life history requirements such as breeding, foraging, dispersal, migration, aestivation (i.e., underground dormancy or torpor during the summer) and predator evasion. Indirect impacts could occur in cases where activities would not directly impact sensitive species or their habitat but could indirectly affect life history requirements through activities adjacent to occupied habitat, resulting in impacts such as additional noise, lighting, erosion/sedimentation, and fugitive dust. Sensitive species known to occur within the District's service area include, but are not limited to, arroyo toad, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, Quino checkerspot butterfly (*Euphydryas editha quino*), and numerous special-status plant species. Potential direct and indirect impacts related to the Project's proposed CIP projects, ODP projects, and maintenance projects are assessed below.

Capital Improvement Program Projects

CIP projects listed below in Table 4.2-2, *CIP Projects with Potential to Result in Significant Direct and Indirect Impacts to Sensitive Species*, occur on and/or in the immediate vicinity of an undeveloped area that may support special-status plant and wildlife species (refer to Figure 4.2-3, *CIP Project Vegetation and Sensitive Resources Impacts – Overview*). Project construction could therefore result in potentially significant direct and/or indirect impacts on special-status plant and animal species.

Table 4.2-2
CIP PROJECTS WITH POTENTIAL TO RESULT IN SIGNIFICANT DIRECT AND INDIRECT IMPACTS TO SENSITIVE SPECIES

CIP Project Number[3]	Special Status Species[1,2]													
	ARTO		CAGN		LBVI		SWFL		QCB		SKR		Rare Plants	
	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect
Water Projects														
600002	FCH	HAB	SR FCH HAB	HAB	SR	HAB		HAB			HAB	HAB	HAB	HAB
600008				HAB								HAB		
600026	HAB	HAB			HAB	HAB	HAB	HAB			SR	HAB		
600040			HAB	HAB							HAB	HAB	HAB	HAB
600048			FCH	HAB								HAB		
600050			FCH										HAB	HAB
600051			FCH	HAB		HAB		HAB				HAB		
600061	HAB	HAB	FCH HAB	HAB	HAB	HAB	HAB	HAB			HAB	HAB	HAB	HAB
600063	SR FCH	HAB		HAB	SR	HAB		HAB				HAB		
600065				HAB								HAB		
600066	FCH HAB	HAB	FCH		HAB	HAB	HAB	HAB					HAB	HAB
600067			SR	HAB								HAB		
600068	FCH	HAB	FCH	HAB		HAB		HAB				HAB		
600069				HAB		HAB		HAB				HAB		
600070	FCH	HAB	FCH			HAB		HAB						
600071	FCH	HAB			SR	HAB		HAB					SR FCH HAB	HAB
600072		HAB				HAB		HAB	SA	SA HAB				
600073						HAB		HAB	SA	SA HAB				
600078		HAB		HAB		HAB		HAB				HAB		
600080					HAB	HAB	HAB	HAB						
600084						HAB		HAB						

Rainbow Municipal Water District Service Area

Proposed CIP Sites

- Generator
- Interconnection
- Lift Station
- Pressure Reducing Station
- Pump Station
- Storage Tank

Proposed CIP Pipes

- Sewer Projects
- Water Projects

Historical Vegetation

Other Mapped Areas

- Open Water
- Unvegetated Habitat
- Disturbed Habitat
- Urban/Developed

Shrub and Chaparral

- Ceanothus crassifolius Chaparral
- Chamise Chaparral
- Coastal Scrub
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Montane Buckwheat Scrub
- Non-Native Grassland
- Valley and Foothill Grassland
- Valley Needlegrass Grassland
- Scrub Oak Chaparral
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Agriculture

- General Agriculture
- Field/Pasture
- Orchards and Vineyards

Forest and Woodlands

- Engelmann Oak Woodland
- Eucalyptus Woodland
- Dense Coast Live Oak Woodland
- Open Coast Live Oak Woodland
- Coast Live Oak Woodland
- Coast Live Oak Forest
- Douglas-Fir Forest

Riparian and Wet Habitats

- Coastal and Valley Freshwater Marsh
- Mule Fat Scrub
- Non-Native Riparian
- Southern Arroyo Willow Riparian For
- Southern Arroyo Willow Riparian Forest
- Southern Coast Live Oak Riparian Fo
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Riparian Woodland
- Southern Sycamore-Alder Riparian Wo
- Southern Willow Scrub
- Non-Vegetated Channel or Floodway

* Projects #600007, 600009, 600030, 600055 are in multiple locations district wide and are not depicted here.

600073 600072 600065 600040 600050 600073 600048 600051 600048 600074 5300XX-2 600080 600061 5300XX-1 600069 600078 600067 5300XX-3 5300XX-6 5300XX-6 600068 5300XX-4 600070 5300XX-5 530020 530018 530018 600060 530023 600002 600084 600071 600026 5300XX-7 600075 600063 600066 600008 600008 76 76

0 1.5 Miles

Source: Aerial (Maxar, 2020), Vegetation (SanGIS, 2012)

I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\PEIR.aprx Fig4.2-3_CIPOverview : 01940.2.1 : 5/23/2022 - SAB

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CIP Project Vegetation and Sensitive Resources Impacts - Overview

Figure 4.2-3

CIP Project Number	Special Status Species[1,2]													
	ARTO		CAGN		LBVI		SWFL		QCB		SKR		Rare Plants	
	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect
Sewer Projects														
530018	FCH HAB	HAB	FCH	HAB	HAB	HAB	HAB	HAB				HAB		
530020	SR FCH	HAB	SR FCH		SR FCH	HAB		HAB						
5300XX-1	HAB	HAB	FCH		HAB	HAB	HAB	HAB						
5300XX-4	FCH		FCH		FCH									
5300XX-5	FCH		FCH		FCH									
5300XX-6	FCH		SR FCH	HAB								HAB		
5300XX-7	FCH SR	HAB			FCH	HAB SR		HAB						

[1] ARTO=arroyo toad; CAGN=coastal California gnatcatcher; LBVI=least Bell's vireo; SKR = Stephens' kangaroo rat; SWFL=southwestern willow flycatcher; QCB=Quino checkerspot butterfly.

[2] FCH = occurs within federal critical habitat of the species; HAB = occurs within or adjacent to suitable habitat for the species; SA = USFWS Quino checkerspot butterfly recommended survey area; SR = species record occurs within 500 feet of the proposed project.

[3] CIP Projects 600060, 600074, 600075, 600070, 530023, 5300XX-2, and 5300XX-3 do not propose direct or indirect impacts to any sensitive plant or animal species and are not included in the table. CIP Projects 600007, 600009, 600030, and 600055 are district-wide and do not yet have specific locations; thus, they are not included in the table.

CIP = Capital Improvement Program

Direct Impacts

Until project-level survey data becomes available, CIP Projects 600002, 600026, 600040, 600050, 600066, 600071, 600080, 530018, and 5300XX-1, listed in Table 4.2-2, are conservatively assumed to have the potential to result in direct impacts to special-status plant and animal species. In the event of an impact, special-status species could be inadvertently killed, trapped, trampled, or otherwise harmed by the construction of these projects. Such impacts would be considered potentially significant.

The following sections provide specific analyses of the CIP project potential impacts on special-status plant and wildlife species.

Special-Status Plant Species

CIP Projects 600002, 600040, and 600061 have the potential to impact coastal sage scrub habitat and CIP Projects 600050 and 600066 have the potential to impact chaparral habitats. CIP Project 600071 has the potential to impact San Diego ambrosia and the associated designated critical habitat. Thread-leaved brodiaea, San Diego ambrosia, Gander's ragwort, Nevin's barberry, Slender-horned spineflower, and Vail Lake ceanothus occur in coastal sage scrub and chaparral habitat and, therefore, could be impacted through the implementation of CIP Projects 600002, 600040, 600050, 600061, 600066, and 600071. These impacts would be potentially significant.

Special-Status Animal Species

As mentioned above, CIP Projects 600002, 600040, and 600061 have the potential to impact coastal sage scrub habitat and CIP Projects 600002, 600066, and 5300XX-2 have the potential to impact chaparral habitat, coast live oak woodland, and non-native grassland. Additionally, CIP Project 600050 has the potential to impact chamise chaparral habitat. Coastal California gnatcatcher, Dulzura pocket mouse, Quino checkerspot butterfly, black-tailed jackrabbit, Stephens' kangaroo rat, and Swainson's hawk occur in coastal sage scrub and chaparral habitats and could be directly affected through the implementation of CIP Projects 600002, 600040, 600050, 600061, 600066, and 5300XX-2, in which case impacts would be potentially significant. As shown in Table 4.2-2, coastal California gnatcatcher have been historically observed within 500 feet of CIP Projects 600002, 600067, 530020, and 5300XX-6, and CIP Projects 600002,600048, 600050, 600051, 600061, 600066, 600068, 600070, 530018, 530020, 5300XX-1, 5300XX-4, 5300XX-5, and 5300XX-6 occur within designated critical habitat. Dulzura pocket mouse has been historically observed within 500 feet of CIP Project 600051. Stephens' kangaroo rat have been historically observed in the southern half of the service area within 500 feet of CIP Project 600026. The USFWS Quino checkerspot butterfly recommended survey area overlaps with CIP Projects 600072 and 600073; however, all three projects occur within developed areas. Black-tailed jackrabbit are known throughout the service area within coastal sage scrub, chaparral, grasslands, croplands, and open, and disturbed habitats. No CIP project occurs within 500 feet of historical Swainson's hawk observations.

CIP Projects 600066 and 600080 have the potential to impact southern coast live oak riparian forest habitat, and CIP Projects 600026, 600051, 600061, 530018, and 5300XX-1 have the potential to impact southern cottonwood-willow riparian forest habitat. Least Bell's vireo and southwestern willow flycatcher occur in riparian forests and woodlands and arroyo toad occur near washes, river, and streams and, therefore, could be directly affected through the implementation of CIP Projects 600026, 600051, 600061, 600066, 600080, 530018, and 5300XX-1, in which case impacts would be potentially significant. As shown in Table 4.2-2, least Bell's vireo have been historically observed within 500 feet of CIP Projects 600002, 600063, 600071, 530020, and 5300XX-7, and CIP Projects 530020, 5300XX-4, 5300XX-5, and 5300XX-7 occur within designated critical habitat. Arroyo toad have been historically observed within 500 feet of CIP Projects 600063, 530020, and 5300XX-7, and CIP Projects 600002, 600063, 600066, 600068, 600070, 600071, 530018, 530020, 5300XX-4, 5300XX-5, 5300XX-6, 5300XX-7 occur within designated critical habitat. No CIP projects occur within southwestern willow flycatcher designated critical habitat or within 500 feet of historical observations.

No CIP project proposes impacts to freshwater marsh habitat; therefore, no impacts to California black rail are anticipated. In addition, CIP projects do not occur adjacent to cliff areas near grasslands; therefore, no impacts to American peregrine falcon or golden eagle are anticipated. Tall stands of cacti were not identified within or immediately adjacent to any of the CIP projects; therefore, impacts to coastal cactus wren are not anticipated. Yellow-billed cuckoo are also known to occur within riparian woodlands and forests; however, this species has only been detected four times within San Diego County since 1980 and is not anticipated. The service area does not contain marine or coastal habitats; therefore, implementation of CIP projects would not result in impacts to California least tern, light-footed Ridgeway's rail, or tidewater goby. Vernal pools were not identified within or immediately adjacent to any of the CIP projects; therefore, impacts to western spadefoot toad, San Diego fairy shrimp, and Riverside fairy shrimp are not anticipated.

In addition, the CIP projects listed in Table 4.2-2 occur on or in the immediate vicinity of areas that contain trees, shrubs, and man-made structures (e.g., buildings) that provide suitable nesting habitat for a variety of bird species, including raptors, protected under the MBTA and CFG Code. Construction activities could result in the removal or trimming of trees and shrubs during the general bird nesting season (February 1 to September 30), and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. Additional direct impacts could occur as a result of removal of vegetation supporting an active nest. As specified in mitigation measures MM-BIO-4, MM-BIO-10, and MM-BIO-11, projects that abut sensitive biological resources, including special-status species, would avoid nesting birds and raptors, implement noise attenuation as necessary, and be conducted under the supervision of a biological monitor to avoid potentially significant impacts related to inadvertent encroachment outside of work limits. These impacts would be considered less than significant with the implementation of the listed mitigation measures.

Indirect Impacts

Potential indirect impacts to special-status species and their habitat from construction of CIP projects listed within Table 4.2-2 could include those resulting from temporary increases in noise and vibration, which could adversely affect special-status plant and wildlife species occupying adjacent habitats. Night lighting is also a typical indirect impact of construction; however, night lighting would not be required often and would be shielded from natural, open areas to reduce impacts. CIP construction activities could also result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones that may support special-status species. These indirect impacts are considered potentially significant.

The Project area, including staging areas, contains and is adjacent to suitable nesting habitat for multiple common and sensitive bird species, including raptors, protected under the MBTA and CFG Code. Potential nesting habitat occurs along developed roadways in ornamental plantings, in undeveloped habitat, including sensitive habitat communities, and in eucalyptus trees. Indirect impacts to nesting birds and raptors within these areas from Project implementation would be potentially significant.

Construction activities within 500 feet of coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher locations could result in noise levels that exceed 60 dBA, which could adversely affect breeding gnatcatchers, vireos, and flycatchers where existing ambient noise levels are below 60 dBA. If construction activities at these locations occur during the respective breeding seasons, noise levels that exceed an hourly average of 60 dBA or the ambient noise level generated from construction work areas could adversely affect breeding of these species, which would result in significant impacts.

The specific breeding seasons for listed species are listed below:

- General (including raptors) = February 1 to September 30
- Coastal California gnatcatcher = February 15 to August 30
- Least Bell's vireo = March 15 to September 15
- Southwestern willow flycatcher = May 15 to July 17

Construction activities outside of developed land and within 50 feet of Quino checkerspot butterfly suitable habitat could result in the disruption of Quino checkerspot butterfly movement and breeding. If construction activities at these locations must occur during the Quino checkerspot butterfly season (third week of February to the second Saturday in May), potentially significant impacts could occur.

Construction activities outside of developed land and within 1,200 feet of potential breeding pools within arroyo toad designated critical habitat could result in the disruption of arroyo toad breeding if construction occurs during the arroyo toad breeding season (March 1 to May 31). Such impacts would be potentially significant.

Construction activities for CIP projects would comply with the federal CWA, California's Porter-Cologne Water Quality Control Act, the implementing regulations of the SWRCB and RWQCB, and the NPDES Program, which would include the preparation of Erosion Control Plans and Storm Water Pollution Prevention Plans, and the implementation of prescribed BMPs, thereby avoiding and minimizing potential indirect impacts to special-status species and their habitat from water pollution during CIP project construction. In addition, BMPs would be implemented to minimize fugitive dust emissions and other criteria pollutant emissions during construction of CIP projects, thereby reducing potential indirect impacts associated with fugitive dust to less than significant levels.

Other District Pipeline Projects

ODP projects could occur on and/or in the immediate vicinity of an undeveloped area that may support special-status plant and wildlife species, and, therefore, could result in potentially significant direct and/or indirect impacts on special-status species and their habitat (refer to Figure 4.2-4, *ODP Project Vegetation and Sensitive Resources Impacts – Overview*). For analysis purposes, ODP projects have been categorized as follows:

- Category A: ODP Projects with high to moderate potential to result in significant direct and indirect impacts to biological resources (refer to Figure 4.2-5, *Vegetation and Sensitive Resources for Category A ODP Projects*, and BTR Appendices C-1, *ODP Water Projects with High to Moderate Potential to Result in Significant Direct and Indirect Impacts to Biological Resources* and C-2, *ODP Sewer Projects with High to Moderate Potential to Result in Significant Direct and Indirect Impacts to Biological Resources*);

- Category B: ODP projects with high to moderate potential to result in significant indirect impacts to biological resources (refer to Figure 4.2-6, *Vegetation and Sensitive Resources for Category B ODP Projects*, and BTR Appendices D-1, *ODP Water Projects with High to Moderate Potential to Result in Significant Indirect Impacts to Biological Resources* and D-2, *ODP Sewer Projects with High to Moderate Potential to Result in Significant Indirect Impacts to Biological Resources*); and

- Category C: ODP projects with no potential to result in significant direct and/or indirect impacts to biological resources (refer to Figure 4.2-7, *Vegetation and Sensitive Resources for Category C ODP Projects*, and BTR Appendices E-1, *ODP Water Projects with No Potential to Result in Significant Direct and Indirect Impacts to Biological Resources* and E-2, *ODP Sewer Projects with No Potential to Result in Significant Direct and Indirect Impacts to Biological Resources*).

The complete listing of each ODP project within the District, identified by project number and name, can be found in the appendices of the BTR, attached to this PEIR as Appendix B (BTR Appendices C, D, and E).

Rainbow Municipal Water District Service Area
ODP Sewer Lines
ODP Water Lines

Historical Vegetation

Other Mapped Areas
- Open Water
- Unvegetated Habitat
- Disturbed Habitat
- Urban/Developed

Shrub and Chaparral
- Ceanothus crassifolius Chaparral
- Chamise Chaparral
- Coastal Scrub
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Montane Buckwheat Scrub
- Non-Native Grassland
- Valley and Foothill Grassland
- Valley Needlegrass Grassland
- Scrub Oak Chaparral
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Agriculture
- General Agriculture
- Field/Pasture
- Orchards and Vineyards

Forest and Woodlands
- Engelmann Oak Woodland
- Eucalyptus Woodland
- Dense Coast Live Oak Woodland
- Open Coast Live Oak Woodland
- Coast Live Oak Woodland
- Coast Live Oak Forest
- Douglas-Fir Forest

Riparian and Wet Habitats
- Coastal and Valley Freshwater Marsh
- Mule Fat Scrub
- Non-Native Riparian
- Southern Arroyo Willow Riparian For
- Southern Arroyo Willow Riparian Forest
- Southern Coast Live Oak Riparian Fo
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Riparian Woodland
- Southern Sycamore-Alder Riparian Wo
- Southern Willow Scrub
- Non-Vegetated Channel or Floodway

0 1.5 Miles

Source: Aerial (ESRI, 2020)

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ODP Project Vegetation and Sensitive Resources Impacts - Overview

Figure 4.2-4

Rainbow Municipal Water District Service Area
ODP Sewer Lines
ODP Water Lines

Historical Vegetation

Other Mapped Areas
- Open Water
- Unvegetated Habitat
- Disturbed Habitat
- Urban/Developed

Shrub and Chaparral
- Ceanothus crassifolius Chaparral
- Chamise Chaparral
- Coastal Scrub
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Montane Buckwheat Scrub
- Non-Native Grassland
- Valley and Foothill Grassland
- Valley Needlegrass Grassland
- Scrub Oak Chaparral
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Agriculture
- General Agriculture
- Field/Pasture
- Orchards and Vineyards

Forest and Woodlands
- Engelmann Oak Woodland
- Eucalyptus Woodland
- Dense Coast Live Oak Woodland
- Open Coast Live Oak Woodland
- Coast Live Oak Woodland
- Coast Live Oak Forest
- Douglas-Fir Forest

Riparian and Wet Habitats
- Coastal and Valley Freshwater Marsh
- Mule Fat Scrub
- Non-Native Riparian
- Southern Arroyo Willow Riparian For
- Southern Arroyo Willow Riparian Forest
- Southern Coast Live Oak Riparian Fo
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Riparian Woodland
- Southern Sycamore-Alder Riparian Wo
- Southern Willow Scrub
- Non-Vegetated Channel or Floodway

0 1.5 Miles

Source: Base Layer (ESRI, 2020)

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Vegetation and Sensitive Resources for Category A ODP Projects

Figure 4.2-5

Rainbow Municipal Water District Service Area
ODP Sewer Lines
ODP Water Lines

Historical Vegetation

Other Mapped Areas
- Open Water
- Unvegetated Habitat
- Disturbed Habitat
- Urban/Developed

Shrub and Chaparral
- Ceanothus crassifolius Chaparral
- Chamise Chaparral
- Coastal Scrub
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Montane Buckwheat Scrub
- Non-Native Grassland
- Valley and Foothill Grassland
- Valley Needlegrass Grassland
- Scrub Oak Chaparral
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Agriculture
- General Agriculture
- Field/Pasture
- Orchards and Vineyards

Forest and Woodlands
- Engelmann Oak Woodland
- Eucalyptus Woodland
- Dense Coast Live Oak Woodland
- Open Coast Live Oak Woodland
- Coast Live Oak Woodland
- Coast Live Oak Forest
- Douglas-Fir Forest

Riparian and Wet Habitats
- Coastal and Valley Freshwater Marsh
- Mule Fat Scrub
- Non-Native Riparian
- Southern Arroyo Willow Riparian For
- Southern Arroyo Willow Riparian Forest
- Southern Coast Live Oak Riparian Fo
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Riparian Woodland
- Southern Sycamore-Alder Riparian Wo
- Southern Willow Scrub
- Non-Vegetated Channel or Floodway

0 1.5 Miles

Source: Base Layer (ESRI, 2020)

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Vegetation and Sensitive Resources for Category B ODP Projects

Figure 4.2-6

Rainbow Municipal Water District Service Area
ODP Sewer Lines
ODP Water Lines

Historical Vegetation

Other Mapped Areas
- Open Water
- Unvegetated Habitat
- Disturbed Habitat
- Urban/Developed

Shrub and Chaparral
- Ceanothus crassifolius Chaparral
- Chamise Chaparral
- Coastal Scrub
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Montane Buckwheat Scrub
- Non-Native Grassland
- Valley and Foothill Grassland
- Valley Needlegrass Grassland
- Scrub Oak Chaparral
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Agriculture
- General Agriculture
- Field/Pasture
- Orchards and Vineyards

Forest and Woodlands
- Engelmann Oak Woodland
- Eucalyptus Woodland
- Dense Coast Live Oak Woodland
- Open Coast Live Oak Woodland
- Coast Live Oak Woodland
- Coast Live Oak Forest
- Douglas-Fir Forest

Riparian and Wet Habitats
- Coastal and Valley Freshwater Marsh
- Mule Fat Scrub
- Non-Native Riparian
- Southern Arroyo Willow Riparian For
- Southern Arroyo Willow Riparian Forest
- Southern Coast Live Oak Riparian Fo
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Riparian Woodland
- Southern Sycamore-Alder Riparian Wo
- Southern Willow Scrub
- Non-Vegetated Channel or Floodway

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0 1.5 Miles

Source: Base Layer (ESRI, 2020)

HELIX Environmental Planning

Vegetation and Sensitive Resources for Category C ODP Projects

Figure 4.2-7

Direct Impacts

Construction of the ODP Category A Projects included in BTR Appendices C-1 and C-2 would have the potential to result in direct impacts to special-status plant and wildlife species. Special-status species could be inadvertently killed, trapped, trampled, or otherwise harmed by construction activities of these projects. Such impacts would be considered potentially significant.

The following sections provide specific analyses of the ODP project potential impacts on special status plant and wildlife species.

Special-Status Plant Species

ODP Category A Projects included in BTR Appendices C-1 and C-2 have the potential to impact coastal sage scrub and chaparral habitats. Thread-leaved brodiaea, San Diego ambrosia, Gander's ragwort, Nevin's barberry, Slender-horned spineflower, and Vail Lake ceanothus occur in coastal sage scrub and chaparral habitats and could be affected through the implementation of ODP projects. These impacts would be potentially significant.

Impacts to vernal pools and vernal pool species would be avoided and are not proposed for the ODP projects; therefore, impacts to spreading navarretia, San Diego button-celery, and San Diego thorn-mint are not anticipated.

Special-Status Animal Species

As mentioned above, ODP Category A Projects included in BTR Appendices C-1 and C-2 have the potential to impact coastal sage scrub, chaparral, and non-native grassland habitats. Coastal cactus wren, coastal California gnatcatcher, Dulzura pocket mouse, Quino checkerspot butterfly, and Stephens' kangaroo rat, occur in coastal sage scrub, chaparral, and non-native grassland habitats which could be directly affected through the implementation of ODP projects, in which case impacts would be significant. American peregrine falcon and golden eagle are also known to occur in coastal sage scrub, chaparral, and non-native grassland habitats; however, these species only have the potential to forage and suitable breeding habitat is not present within the Service Area.

ODP Category A Projects included in BTR Appendices C-1 and C-2 also have the potential to impact riparian and wetland habitats. Least Bell's vireo and southwestern willow flycatcher occur in riparian forests and woodlands, California black rail occur in marsh habitats, and arroyo toad occur near washes, river, and streams which could be directly affected through the implementation of ODP projects, in which case impacts would be potentially significant.

Swainson's hawk are also known to occur within coastal sage scrub, chaparral, and non-native grassland habitats; however, this species has only been detected once within Service Area since 1933. Yellow-billed cuckoo are also known to occur within riparian woodlands and forests; however, this species has only been detected four times within San Diego County since 1980. The service area does not contain marine or coastal habitats; therefore, implementation of ODP projects would not result in impacts to California least tern, light-footed Ridgeway's rail, or tidewater goby. Impacts to vernal pools and vernal pool species would be avoided and are not proposed for any of the ODP projects; therefore, impacts to western spadefoot toad, San Diego fairy shrimp and Riverside fairy shrimp are not anticipated.

Similar to CIP projects, the ODP Category A Projects included in BTR Appendices C-1 and C-2 could occur on or in the immediate vicinity of areas that contain trees, shrubs, and man-made structures (e.g., buildings) that provide suitable nesting habitat for a variety of bird species, including raptors, protected under the MBTA and CFG Code. Construction activities occurring during the general birds nesting season (January 15 to September 15) could result in impacts to nesting birds in violation of the MBTA and CFG Code. Additional direct impacts could occur as a result of removal of vegetation supporting an active nest. As specified in mitigation measure MM BIO-12, projects that abut sensitive biological resources, including special-status species, would avoid nesting birds and raptors, implement noise attenuation as necessary, and be conducted under the supervision of a biological monitor to avoid potentially significant impacts related to inadvertent encroachment outside of work limits. These impacts would be considered less than significant.

Indirect Impacts

Potential indirect impacts to special-status species and their habitat from construction of the ODP Category B Projects included in BTR Appendices D-1 and D-2 could include those resulting from temporary increases in noise and vibration, which could adversely affect special-status wildlife species occupying adjacent habitats. Night lighting is also a typical indirect impact of construction; however, night lighting would not be required often and would be shielded from natural, open areas to reduce impacts. ODP construction activities could also result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones that may support special-status species. These indirect impacts are considered potentially significant.

The Project area, including staging areas, contains and is adjacent to suitable nesting habitat for multiple common and sensitive bird species, including raptors, protected under the MBTA and CFG Code. Potential nesting habitat includes ornamental plantings along the developed roadways, in undeveloped habitat including sensitive habitat communities, and in eucalyptus trees. Indirect impacts to nesting birds and raptors during the breeding season (February 1 to September 30) within these areas from Project implementation would be potentially significant.

Construction activities within 500 feet of coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher locations could result in noise in excess of a 60 dBA hourly average generated from construction work areas could adversely affect breeding gnatcatchers, vireos, and flycatchers where existing ambient noise levels are not already in exceedance of a 60 dBA hourly average or the ambient noise level. If construction activities at these locations occur during the breeding season (February 15 to August 30 for coastal California gnatcatcher; March 15 to September 15 for least Bell's vireo; May 15 to July 17 for southwestern willow flycatcher), noise in excess of a 60 dBA hourly average or the existing ambient noise generated from construction work areas could adversely affect breeding of these species, which would result in significant impacts.

Construction activities outside of developed land and within 50 feet of Quino checkerspot butterfly suitable habitat could result in the disruption of Quino checkerspot butterfly movement and breeding. If construction activities at these locations must occur during the Quino checkerspot butterfly season (third week of February to the second Saturday in May), potentially significant impacts could occur.

Construction activities outside of developed land and within 1,200 feet of potential breeding pools within arroyo toad designated critical habitat could result in the disruption of arroyo toad breeding if

construction occurs during the arroyo toad breeding season (March 1 to May 31). Such impacts would be potentially significant.

Construction activities for ODP projects would comply with the federal CWA, California's Porter-Cologne Water Quality Control Act, the implementing regulations of the SWRCB and RWQCB, and the NPDES Program, which would include the preparation of Erosion Control Plans and Storm Water Pollution Prevention Plans, and the implementation of prescribed BMPs, thereby avoiding and minimizing potential indirect impacts to special-status species and their habitat from water pollution during project construction. In addition, BMPs would be implemented to minimize fugitive dust emissions and other criteria pollutant emissions during construction of ODP projects, thereby reducing potential indirect impacts associated with fugitive dust to less than significant levels.

Maintenance Projects

Maintenance projects consist of existing and future water and sewer pipelines and facility components within and under the jurisdiction of the District that would require routine and regular maintenance to maintain proper function. These projects include the replacement or reconstruction of existing structures and facilities in the same site as the structure being replaced. Examples may also include activities such as access cover replacements or rehabilitation; installation of valves, fire hydrants, air/vacuum relief assemblies, and blow off assemblies; relocation of water meters; asphalt pavement replacement; pipeline abandonment; street improvements such as landscaping; or vegetation trimming and brush management within a District easement.

Direct Impacts

No direct impacts to undeveloped areas or special status plant or wildlife species are anticipated due to the disturbed and developed nature of maintenance projects. As a result, maintenance projects are not expected to have direct impacts on special-status species and their habitat.

Indirect Impacts

Due to previous disturbance and development, maintenance projects are not expected to result in direct impacts to undeveloped areas; however, these projects could occur in the immediate vicinity of an undeveloped area that may support special-status plant and wildlife species. As a result, maintenance projects could result in potentially significant indirect impacts on special-status species and their habitat.

Potential indirect impacts to special-status species and their habitat from maintenance projects could include those resulting from temporary increases in noise and vibration, which could adversely affect special-status wildlife species occupying adjacent habitats. Night lighting is also a typical indirect impact of construction; however, night lighting would not be required often and would be shielded from natural, open areas to reduce impacts. Maintenance activities could also result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones that may support special-status species. These indirect impacts are considered potentially significant. Due to the highly disturbed and developed nature of maintenance projects, indirect impacts to Quino checkerspot butterfly or arroyo toad or their suitable habitats are not anticipated.

The Project area, including staging areas, contains and is adjacent to suitable nesting habitat for multiple common and sensitive bird species, as well as raptors, protected under the MBTA and CFG Code. Potential nesting habitat includes ornamental plantings along the developed roadways, in undeveloped

habitat including sensitive habitat communities, and in native and non-native trees. Indirect impacts to nesting birds and raptors during the general breeding season (February 1 to September 30) within these areas from Project implementation would be potentially significant.

Construction activities within 500 feet of coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher occupied habitats could result in noise in excess of 60 dBA or the ambient noise level generated from construction work areas which could adversely affect breeding gnatcatchers, vireos, and flycatchers during the respective breeding season where existing ambient noise levels are not already in exceedance of 60 dBA or the ambient noise level. If construction activities at these locations occurs during the breeding season (February 15 to August 30 for coastal California gnatcatcher; March 15 to September 15 for least Bell's vireo; May 15 to July 17 for southwestern willow flycatcher), noise in excess of 60 dBA or the existing ambient noise generated from construction work areas could adversely affect breeding of these species. These potential indirect impacts would be considered significant.

Activities for maintenance projects would comply with the federal CWA, California's Porter-Cologne Water Quality Control Act, the implementing regulations of the SWRCB and RWQCB, and the NPDES Program, which would include implementation of prescribed BMPs, thereby avoiding and minimizing potential indirect impacts to special-status species, their habitat, and potentially jurisdictional areas from water pollution during maintenance activities.

Mitigation Measures

The following mitigation measures would be implemented to address potential impacts to sensitive plant and wildlife species.

MM BIO-1 **Project-Specific Biological Resource Surveys**. Prior to construction of CIP Projects listed in Table 4.2-2, Table 4.2-3, district-wide CIP Projects (CIP Projects 600007, 600009, 600030, and 600055), and ODP Category A Projects and ODP Category B Projects included in BTR Appendices C-1, C-2, D-1, and D-2 that will be sited within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District shall retain a qualified biologist to perform a pre-construction survey to verify existing biological resources on and adjacent to the project construction areas. The District shall provide the biologist with a copy of the CIP and ODP project plans that clearly depict the construction work limits, including construction staging and storage areas, to determine which specific portion(s) of the project will require inspection of adjacent open space areas during the pre-construction survey. The surveys shall verify whether the project would occur on or in the immediate vicinity of sensitive natural communities, including habitat suitable for special-status species, in addition to potential jurisdictional aquatic resources. The surveys shall also verify whether the project could result in direct or indirect impacts to sensitive natural communities, special-status species, and potential jurisdictional aquatic resources. The survey results shall be submitted to the District to determine the need for additional environmental compliance actions. If suitable habitat for special-status plant species is confirmed within or immediately adjacent to potential impact areas of the projects, then the District shall implement mitigation measure MM BIO-2. If suitable habitat for special-status wildlife species is confirmed within or immediately adjacent potential impact areas of the projects, then the District shall

implement mitigation measure MM BIO-3. If potential impacts to sensitive natural communities are identified, then the District shall implement mitigation measure MM BIO-15A and MM BIO-15B. If potential jurisdictional aquatic resources are identified within areas proposed to be impacted, then the District shall implement mitigation measure MM BIO-16.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District.

MM BIO-2 **Rare Plant Surveys, Avoidance, and Mitigation.** If it is confirmed through the implementation of mitigation measure MM BIO-1 that the CIP and ODP project components could impact suitable habitat for special-status (rare) plant species, the District shall retain a qualified biologist to conduct focused presence/absence surveys for rare plants prior to project construction. Surveys shall follow protocols and guidelines approved by the USFWS, CDFW, and CNPS, and shall be conducted by qualified biologists.

If a significant population of rare plant species with CNPS California Rare Plant Rank 1A, 1B, 2A, or 2B is identified within a project impact area, then to the extent feasible to implement the project, the District shall avoid impacts to the population through project-level design changes and/or construction methods (e.g., trenchless installation of pipelines) in consultation with the USFWS and CDFW.

Prior to initiating construction activities, the District shall require that the rare plant locations detected during project-specific rare plant surveys are clearly shown on final construction plans. The District shall further require that the locations are demarcated in the field by a qualified biologist and protected-in-place through the installation of temporary construction fencing or alternative means that are approved by the qualified biologist. The qualified biologist shall monitor construction activities, as appropriate, to help ensure avoidance of the areas. A final compliance report shall be prepared by the qualified biologist and submitted to the District, CDFW, and USFWS for record, verifying that no impacts occurred to the species. Any inadvertent and unavoidable impacts shall be mitigated as specified below.

If complete avoidance is determined not to be feasible, then the District shall restrict and minimize impacts to no more than 20 percent of the population, which is consistent with regional conservation standards. Mitigation for unavoidable impacts shall include one or a combination of the following and occur at a minimum ratio of 1:1, as determined by the District in consultation with the CDFW and USFWS:

a. Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and CDFW;

b. Acquisition and preservation of off-site mitigation land containing occupied habitat; and/or

c. Preparation and implementation of a rare plant salvage and relocation plan, to include the following requirements, at a minimum:

i. Evaluation of options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within existing or proposed preserved lands;

ii. Seed collection and/or transplantation to a suitable receptor site based on the most reliable methods of successful relocation;

iii. Recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success; and

iv. Implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

MM BIO-3 **Special-Status Wildlife Species Surveys, Avoidance, and Mitigation.** If it is confirmed through the implementation of mitigation measure MM BIO-1 that the CIP and ODP project components could directly or indirectly impact suitable habitat for special-status wildlife species, the District shall retain a qualified biologist to conduct focused, protocol-level surveys for special-status wildlife species prior to project implementation. Surveys shall follow protocols and guidelines approved by the USFWS and CDFW and shall be conducted by qualified biologists permitted by the USFWS and CDFW, as applicable. Impacts to federally listed species shall require consultation with the USFWS, and impacts to state-listed species shall require consultation with the CDFW as specified below.

If special-status wildlife species are identified within a project impact area, the District shall, in coordination with the CDFW and USFWS, as applicable, avoid impacts to occupied habitat through project-level design changes and/or construction methods (e.g., trenchless installation of pipelines) prior to project implementation.

If complete avoidance is determined not to be feasible, then the District shall compensate for the loss of occupied habitat through one or a combination of the following at a minimum ratio of 1:1, as determined by the District in consultation with the CDFW and USFWS, as applicable:

a. Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and CDFW;

b. Acquisition and preservation of off-site mitigation land containing occupied habitat; and

c. Where species protected under Federal law may be impacted, the District shall either consult directly with the USFWS to develop and implement a habitat conservation plan and obtain an Incidental Take Permit pursuant to the Federal Endangered Species Act Section 10(a), obtain take coverage in coordination with

the County of San Diego, if applicable, or in the case of projects with a federal action agency, the District shall adhere to the requirements of Federal Endangered Species Act Section 7, which requires the federal action agency to consult with the USFWS to obtain a Biological Opinion and Incidental Take Statement for the project; or

Where species protected under state law may be impacted, the District shall either consult with the CDFW pursuant to Sections 2081 or 2080.1 of the California Endangered Species Act. For projects with direct or indirect impacts to species that are only State-listed and not federally-listed as endangered or threatened, the District shall obtain a California Endangered Species Act Section Incidental Take Permit from CDFW. For projects with impacts to species that are both state- and federally-listed as endangered or threatened, the District shall obtain a California Endangered Species Act Section 2080.1 Consistency Determination from the CDFW, unless otherwise required by the CDFW.

Off-site mitigation for impacts to special-status wildlife may also be used for off-site mitigation of impacts to sensitive communities and jurisdictional waters.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, USACE, and/or CDFW.

MM BIO-4 **Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the District shall enforce the following:

Project activities requiring the removal and/or trimming of vegetation suitable for nesting birds shall occur outside of the general bird breeding season (February 1 to September 30) to the extent feasible. If the activities cannot avoid the general bird breeding season, a qualified biologist with experience in conducting bird breeding surveys shall be retained to conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed with the reassurance that no violation to the MBTA and CFG Code would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Avoidance buffers should start at 300 feet for passerine birds and 500 feet for raptors. The buffer should be demarcated by temporary fencing and remain in effect until the nest is no longer active. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, and other factors as determined by the qualified biologist.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

MM BIO-5 **Coastal California Gnatcatcher Pre-Construction Surveys and Avoidance.** CIP projects listed in Table 4.2-2 are located within and adjacent to suitable coastal California gnatcatcher habitat. CIP Projects 600002, 600067, 530020, and 5300XX-6 are located within 500 feet of historical observations. In addition, CIP Projects 600002, 600048, 600050, 600051, 600061, 600066, 600068, 600070, 530018, 530020, 5300XX-1, 5300XX-4, 5300XX-5, and 5300XX-6 are located within designated critical habitat.

If construction activities are planned to occur during the coastal California gnatcatcher breeding season (February 15 to August 30), then prior to initiating construction activities on or within 500 feet of off-site suitable coastal California gnatcatcher habitat, the District shall retain a USFWS-permitted biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The survey efforts shall consist of three surveys spaced one week apart, with the final survey occurring no more than three days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If gnatcatchers are confirmed to be absent on and within 500 feet of planned construction areas, then no additional measures shall be required. If gnatcatchers are confirmed to be present, then the District shall mitigate as specified below or unless otherwise prescribed by the USFWS through the implementation of mitigation measure MM BIO-3:

If the results of pre-construction surveys determine the presence of coastal California gnatcatcher within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the gnatcatcher breeding season (February 15 to August 30). If activities at these locations cannot avoid the gnatcatcher breeding season, then the District shall implement required monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11, unless otherwise prescribed by the USFWS through the implementation of mitigation measure MM BIO-3. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13.

If, after implementation of mitigation measures MM BIO-10 and MM BIO-11, construction noise levels during the gnatcatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied gnatcatcher habitat, then the District shall implement mitigation measure MM BIO-3 or complete the remainder of construction activities outside of the gnatcatcher breeding season.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

MM BIO-6 **Stephens' Kangaroo Rat Pre-construction Surveys and Avoidance.** CIP Projects 600002, 600040, and 600061 are located within potentially suitable Stephens' kangaroo rat habitat, and CIP Project 600026 is located within 500 feet of a historical Stephens' kangaroo rat observation.

Prior to initiating construction activities within potentially suitable Stephens' kangaroo rat habitat, the District shall retain a USFWS-permitted biologist to conduct protocol surveys to confirm the presence or absence of the species. The survey efforts shall

consist of live trapping within suitable habitat over five consecutive nights. If Stephens' kangaroo rat are confirmed to be absent on and within 500 feet of planned construction areas, then no additional measures shall be required. If kangaroo rats are confirmed to be present, then the District shall mitigate as specified below unless otherwise prescribed by the USFWS through the implementation of mitigation measure MM BIO-3:

If the results of the protocol surveys determine the presence of Stephens' kangaroo rat, then the District shall implement required monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11, unless otherwise prescribed by the USFWS through the implementation of mitigation measure MM BIO-3. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

MM BIO-7 **Least Bell's Vireo Pre-construction Surveys and Avoidance.** CIP projects listed in Table 4.2-2 are located within and adjacent to suitable least Bell's vireo habitat. CIP Projects 600002, 600063, 600071, 530020, and 5300XX-7 are located within 500 feet of historical observations. In addition, CIP Projects 530020, 5300XX-4, 5300XX-5, and 5300XX-7 are located within designated critical habitat.

If construction activities are planned to occur during the least Bell's vireo breeding season (March 15 to September 15), then prior to initiating construction activities in any project construction areas within 500 feet of least Bell's vireo critical habitat or suitable habitat, the District shall retain a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If vireos are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If vireo are confirmed to be present, then the District shall mitigate as specified below.

If the results of pre-construction surveys determine the presence of least Bell's vireo within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the vireo breeding season (March 15 to September 15). If activities at these locations cannot avoid the vireo breeding season, then the District shall implement required monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13.

If, after implementation of mitigation measures MM BIO-10 and MM BIO-11, construction noise levels during the vireo breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied vireo habitat, then the District shall implement mitigation measure MM BIO-3 or complete the remainder of construction activities outside of the vireo breeding season.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

MM BIO-8 **Southwestern Willow Flycatcher Pre-Construction Surveys and Avoidance.** CIP projects listed in Table 4.2-2 are located within and adjacent to suitable southwestern willow flycatcher habitat. No CIP projects are located within 500 feet of a historical observation or within designated critical habitat.

If construction activities are planned to occur during the southwestern willow flycatcher breeding season (May 15 and July 17), then prior to initiating construction activities in any project construction areas within 500 feet of southwestern willow flycatcher critical habitat or suitable habitat, the District shall retain a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If flycatcher are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If flycatcher are confirmed to be present, then the District shall mitigate as specified below:

If the results of pre-construction surveys determine the presence of southwestern willow flycatcher within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the flycatcher breeding season (May 15 and July 17). If activities at these locations cannot avoid the flycatcher breeding season, then the District shall implement required monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13.

If, after implementation of mitigation measures MM BIO-10 and MM BIO-11, construction noise levels during the flycatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied flycatcher habitat, then the District shall implement mitigation measure MM BIO-3 or complete the remainder of construction activities outside of the flycatcher breeding season.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

MM BIO-9 **Pre-Construction Biological Resource Surveys.** Prior to construction of ODP projects included in BTR Appendices C-1, C-2, D-1, and D-2 that will be sited adjacent to or within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District shall retain a qualified biologist to perform a pre-construction survey to verify existing biological resources adjacent to the project construction areas. The District shall provide the biologist with a copy of the ODP project plans that clearly depict the construction work limits, including construction staging and storage areas, to determine which specific portion(s) of the project will require inspection of adjacent open space areas

during the pre-construction survey. At minimum, the biologist shall perform a visual inspection of the adjacent open space area to characterize the existing habitat types and determine the likelihood for special-status species to occur, including the Quino checkerspot butterfly, arroyo toad, western spadefoot toad, San Diego fairy shrimp, Riverside fairy shrimp, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, migratory songbirds, and other bird species with the potential to breed in the area. The biologist's inspection shall include all potential habitat for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher that occurs within 500 feet of construction areas. The pre-construction survey results shall be submitted to the District prior to construction to verify the need for the additional construction measures proposed within MM BIO-10 through MM BIO-13, below.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District.

MM BIO-10 **Construction-Related Noise**. Construction noise created during the general bird breeding season (February 1 to September 30) that could affect the breeding of the coastal California gnatcatcher, least Bell's vireo and/or southwestern willow flycatcher, associated with adjacent undeveloped areas shall be avoided. No loud construction noise (exceeding a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average, adjusted for ambient noise levels, at the nesting site) may take place within 500 feet of active nesting sites during the general breeding season (February 1 to September 30).

If it is confirmed through the implementation of mitigation measures MM BIO-1, MM BIO-3, MM BIO-5 through MM BIO-9 that the CIP and ODP project could generate construction-related noise in excess of a 60 dBA hourly average or the ambient noise level if it already exceeds 60 dBA hourly average at the location of suitable nesting habitat during the general breeding season for coastal California gnatcatcher, least Bell's vireo, and/or southwestern willow flycatcher, the District shall retain a qualified biologist to monitor the construction operations. The biological monitor shall be present to monitor construction activities that occur adjacent to the undeveloped open space area potentially supporting breeding birds. The monitor shall verify that construction noise levels do not exceed a 60 dBA hourly average or the ambient noise level if it already exceeds 60 dBA hourly average and shall have the ability to halt construction work, if necessary, and confer with the District, and if applicable, USFWS and CDFW, to ensure no breeding birds are adversely affected and additional protection measures are properly implemented during construction. The biologist shall report any violation to the USFWS and CDFW within 24 hours of its occurrence.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

MM BIO-11 **Biological Construction Monitoring and Temporary Construction Fencing**. If it is confirmed through the implementation of mitigation measures MM BIO-1, MM BIO-2, and/or MM BIO-3 that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, then

the District shall retain a qualified biologist to monitor construction activities and supervise the installation of temporary construction fencing, which clearly delineates the edge of the approved limits of grading and clearing, and the edges of environmentally sensitive areas that occur beyond the approved limits. This fencing shall be installed prior to construction and maintained for the duration of construction activity. Fencing shall be installed in a manner that does not impact habitats to be avoided. Once fencing is installed, the District and qualified biologist shall determine the need for additional inspections and monitoring activities throughout the duration of construction. If determined necessary by the District and qualified biologist, the monitoring shall include inspection of construction work areas, including staging and storage areas, to confirm that activities are kept within the approved limits and that Best Management Practices are in place to prevent incidental animal entrapment and burrow and nest establishment within equipment and staged materials. If work occurs beyond the fenced or demarcated limits of impact, or if a trapped animal or burrow or nest is found, work in the affected areas shall cease until the problem has been remedied and mitigation identified by the District and qualified biologist. Temporary construction fencing shall be removed upon completion of construction of the project. The District shall verify the implementation of this measure prior to and concurrent with construction.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District.

MM BIO-12 **Construction Staging Areas***.* If it is confirmed through the implementation of mitigation measures MM BIO-1, MM BIO-2, and/or MM BIO-3 that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, the District shall design the final project construction staging areas such that no staging areas shall be located within sensitive habitat areas. The construction contractor shall receive approval by the District prior to mobilization and staging of equipment outside of the project boundaries.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District.

MM BIO-13 **Contractor Training.** If it is confirmed through the implementation of mitigation measures MM BIO-1, MM BIO-2, and/or MM BIO-3 that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, the District shall retain a qualified biologist to attend pre-construction meetings to conduct a WEAP training to inform construction crews of the sensitive resources and associated avoidance and/or minimization requirements.

Contractor must ensure that equipment shall be free of any weed seeds, contaminants, or pollutants to reduce the potential of non-native and invasive species spread. Prior to work within sage scrub and/or chaparral habitats, equipment and work boots will be disinfected with 10 percent bleach solution to help prevent the spread of Rabbit hemorrhagic disease.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District.

MM BIO-14 **Maintenance Project Compliance.** Maintenance activities shall occur within existing or previously disturbed or developed areas such as a facility easement, facility maintenance easement, and/or developed facility footprint. Vegetation clearing and removal shall be limited to non-native and invasive species to the extent feasible; however, trimming of native species is allowable. Additional studies, as specified in mitigation measure MM BIO-1, may be required for impacts outside of existing facility footprints. Furthermore, maintenance projects shall implement appropriate BMPs where applicable to avoid and minimize potential indirect impacts to special-status species, their habitat, and potentially jurisdictional areas from water pollution during project activities.

Maintenance activities shall occur outside of the general breeding season (February 1 to September 30). In addition, maintenance activities will occur outside of the coastal California gnatcatcher (February 15 to August 30), least Bell's vireo (March 15 to September 15), and southwestern willow flycatcher (May 15 to July 17) breeding seasons. If activities cannot avoid the gnatcatcher breeding season and occur within 500 feet of suitable gnatcatcher habitats (i.e., Diegan coastal sage scrub), the District shall implement mitigation measure MM BIO-5. If activities cannot avoid the vireo, and/or flycatcher breeding seasons and occur within 500 feet of suitable vireo and flycatcher habitat (i.e., riparian scrub, woodland, and forest), the District shall implement mitigation measures MM BIO-7 and MM BIO-8.

Timing/Implementation: Prior to and during maintenance activities.

Enforcement/Monitoring: District.

Significance After Mitigation

With implementation of mitigation measures MM BIO-1 through MM-BIO-14, potential impacts to sensitive species would be avoided or reduced to less than significant levels.

4.2.4.2 Issue 2: Sensitive Habitats

Would the Project result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Impact Analysis

Direct impacts to sensitive habitats include the direct removal or disturbance of riparian habitat or other sensitive natural communities through activities such as clearing, grubbing, grading, and other land disturbance activities. Potential indirect impacts could include those resulting from inadvertent storm water runoff and fugitive dust.

Capital Improvement Program Projects

The CIP projects listed below within Table 4.2-3, *Estimated CIP Project Temporary Impacts on Sensitive Natural Communities*, and Table 4.2-4, *Estimated CIP Project Permanent Impacts on Sensitive Natural Communities,* occur on and/or in the immediate vicinity of undeveloped land that supports riparian habitat and/or other sensitive natural communities. These CIP projects could result in potentially significant direct and/or indirect impacts on riparian habitat and/or other sensitive natural communities (refer to Figure 4.2-3).

The CIP projects have been designed to avoid and minimize impacts to sensitive natural communities and other sensitive biological resources to the extent feasible. Where feasible, CIP projects have been designed to occur in developed areas, employ trenchless construction techniques, minimize the proposed work area, and/or scheduled to occur outside of the bird breeding season. In addition, CIP projects will implement standard BMPs to avoid and minimize impacts to adjacent sensitive biological resources.

As currently proposed, CIP Projects 600002, 600026, 600040, 600050, 600051, 600061, 600066, 600080, 530018, 5300-1, and 5300XX-2 would result in significant direct impacts to sensitive natural communities, as shown in Tables 4.2-3 and 4.2-4. The remaining CIP projects are located entirely within disturbed and developed lands.

Potential short-term, construction-related indirect impacts could result from construction of CIP projects listed in Table 4.2-2 that occur adjacent to riparian habitat and sensitive natural communities. These indirect impacts would be considered potentially significant. As described above, the District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat storm water runoff, fugitive dust, and other pollutants at each project construction site; however, impacts are still considered potentially significant.

Regarding operational impacts, pipelines would be mostly buried under ground and would not be a source of runoff. However, aboveground facilities such as pump stations, lift stations, and pressure reducing stations could increase storm water runoff to adjacent wetlands and sensitive natural communities, which could cause indirect impacts to wetlands. Impacts from operation of CIP projects are generally small, less than 0.1 acre, and are less than significant.

Table 4.2-3
ESTIMATED CIP PROJECT TEMPORARY IMPACTS ON SENSITIVE NATURAL COMMUNITIES (acres) [1, 2]

Sensitive Natural Community[3]	530018	5300XX-1	5300XX-2	600002	600026	600051	600061	600066	600080	TOTAL
Sensitive Wetland/Riparian										
Southern Coast Live Oak Riparian Forest	--	--	--	--	--	--	--	0.04	0.14	**0.18**
Southern Cottonwood-Willow Riparian Forest	0.01	0.06	--	--	0.24	0.01	0.04	--	--	**0.36**
Streambed/Open Water	--	0.02	--	--	--	--	--	--	--	**0.02**
Subtotal Sensitive Wetland/Riparian	**0.01**	**0.08**	--	--	**0.24**	**0.01**	**0.04**	**0.04**	**0.14**	**0.56**

Sensitive Natural Community[3]	530018	5300XX-1	5300XX-2	600002	600026	600051	600061	600066	600080	TOTAL
Sensitive Uplands										
Coast Live Oak Woodland	--	--	0.1	--	--	--	--	0.1	--	**0.2**
Coastal Sage Scrub	--	--	--	0.3	--	--	0.1	--	--	**0.4**
Non-Native Grassland	--	--	--	0.5	--	0.0	--	--	--	**0.5**
Southern Mixed Chaparral	--	--	--	--	--	--	--	0.2	--	**0.2**
Subtotal Sensitive Uplands	--	--	**0.1**	**0.8**	**--**	**0.0**	**0.1**	**0.2**	--	**1.3**
TOTAL	***0.01***	***0.08***	***0.1***	***0.8***	***0.24***	***0.05***	***0.10***	***0.3***	***0.14***	***1.85***

[1] Vegetation categories are from Holland (1986) and Oberbauer (2008).
[2] All data is in acres rounded to the nearest tenth (0.1) for uplands and thousandth (0.01) for wetlands. Totals reflect rounding. -- equals no impact.
[3] Assumes no direct impacts to sensitive natural communities for projects located within roads.
CIP = Capital Improvement Program

Table 4.2-4
ESTIMATED CIP PROJECT PERMANENT IMPACTS ON SENSITIVE NATURAL COMMUNITIES (acres) [1,2]

Sensitive Natural Community[3]	600040	600050	TOTAL
Sensitive Uplands			
Chamise Chaparral	--	0.1	0.1
Coastal Sage Scrub	0.1	--	0.1
TOTAL	***0.1***	***0.1***	***0.2***

[1] Vegetation categories are from Holland (1986) and Oberbauer (2008).
[2] All data is in acres rounded to the nearest tenth (0.1) for uplands and thousandth (0.01) for wetlands. Totals reflect rounding. -- equals no impact.
[3] Assumes no direct impacts to sensitive natural communities for projects located within roads.
CIP = Capital Improvement Program

Other District Pipeline Projects

The ODP projects included in ODP Category A and ODP Category B listed in Appendices C-1, C-2, D-1, and D-2 of Appendix C of the PEIR, could occur on and/or in the immediate vicinity of undeveloped land that may support riparian habitat and/or other sensitive natural communities. These projects could result in potentially significant direct and/or indirect impacts on riparian habitat and/or other sensitive natural communities (refer to Figures 4.2-4 and 4.2-5).

Construction of the ODP Category A Projects have the potential to result in direct impacts to riparian habitat and several types of sensitive natural communities. Habitat loss or disturbance as a consequence of these ODP project construction activities could result in diminishing and degrading of open space areas, reductions or eliminations of habitat functions and values, and impacts to species, among other adverse impacts. These direct impacts would be considered potentially significant.

Potential short-term, construction-related indirect impacts could result from construction of ODP Category B Projects that occur adjacent to riparian habitat and sensitive natural communities. These indirect impacts would be considered potentially significant. The District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat storm water runoff, fugitive dust, and other pollutants at each project construction site, which would minimize the potential for

significant indirect impacts. However, if construction activities inadvertently encroach into or otherwise impact sensitive natural communities occurring adjacent to ODP project sites, significant impacts could occur.

Regarding operational impacts, pipelines, with the exception of lift and pump station piping, would be buried under ground and would not be a source of runoff. However, aboveground facilities such as pump stations, reservoirs, and pressure reducing stations have the potential to increase storm water runoff to adjacent wetlands and sensitive natural communities, which could cause indirect impacts to sensitive natural communities. Impacts from operation of ODP projects are generally small, less than 0.1 acre, and assessed as not significant.

Maintenance Projects

No direct impacts to riparian habitat and/or other sensitive natural communities are anticipated due to the disturbed and developed nature of maintenance projects; however, maintenance projects could occur in the immediate vicinity of these habitats and communities. Nesting birds, including sensitive species, could occur adjacent to maintenance projects; however, these potential, construction-related indirect impacts would be short-term and would be considered potentially significant if activities occurred during the general bird breeding season (February 1 to September 30).

The District would be required to implement BMPs to minimize, control, and treat storm water runoff, fugitive dust, and other pollutants at each maintenance site, which would minimize the potential for significant indirect impacts.

Mitigation Measures

The following mitigation measures, in addition to mitigation measures MM BIO-1 and MM BIO-11 through MM BIO-14, would be implemented to address potential impacts to riparian habitat and other sensitive natural communities.

MM BIO-15A **Compensatory Mitigation for CIP Project Impacts to Sensitive Upland Communities.** If it is demonstrated through the implementation of mitigation measure MM BIO-1 that the project, CIP or ODP, could directly impact sensitive upland communities, the District shall mitigate for the loss of habitat according to the ratios provided in Table 4.2-5*, Estimated Mitigation for CIP Project Impacts to Sensitive Upland Communities within the Service Area*, and Table 4.2-6*, Estimated Mitigation for ODP Project Impacts to Sensitive Upland Communities within the Service Area,* below, unless otherwise specified in the required agency permits and approvals. Off-site mitigation for impacts to special-status wildlife may also be used for off-site mitigation of impacts to sensitive upland communities.

Table 4.2-5
ESTIMATED MITIGATION FOR CIP PROJECT IMPACTS TO SENSITIVE UPLAND COMMUNITIES WITHIN THE SERVICE AREA

Sensitive Upland Communities	Estimated Impacts[1]	Mitigation Ratio	Estimated Mitigation[1]
Chamise chaparral	0.1	1:1	0.1
Coast live oak woodland	0.2	3:1	0.5
Diegan coastal sage scrub	0.5	1:1	0.5
Non-native grassland	0.5	0.5:1	0.3
Southern mixed chaparral	0.2	1:1	0.2
TOTAL	**1.5**	**--**	**1.6**

Source: HELIX 2022a

[1] All data is in acres rounded to the nearest tenth (0.1) for uplands. Totals reflect rounding. -- equals no impact under the impact column, or not applicable where under the mitigation.

Table 4.2-6
ESTIMATED MITIGATION FOR ODP PROJECT IMPACTS TO SENSITIVE UPLAND COMMUNITIES WITHIN THE SERVICE AREA

Sensitive Upland Communities	Global Rank[1]	State Rank[2]	Estimated Impacts[3]	Mitigation Ratio[4]	Estimated Mitigation[3,4]
Chamise chaparral	G4	S4	3.5	1:1	3.5
Coast live oak woodland	G5	S4	7.9	3:1	23.7
Diegan coastal sage scrub	G3	S3.1	44.6	1:1	44.6
Engelmann oak woodland	G3	S3	0.8	2:1	1.6
Maritime succulent scrub	G2	S1.1	--	3:1	--
Native grassland	G3	S3.1	--	1:1	--
Non-native grassland	G4	S4	26.5	0.5:1	13.3
Scrub oak chaparral	G4	S4	2.0	2:1	4.0
Southern maritime chaparral	G1	S1.1	2.2	3:1	6.6
Southern mixed chaparral	G4	S4	7.1	1:1	7.1
TOTAL	**--**	**--**	**94.6**	**--**	**104.4**

Source: HELIX 2022a

[1] **Global Rank–**The global rank reflects the overall status of an element throughout its global range. **G1 = Critically Imperiled**–At very high risk of extinction due to extreme rarity, very steep declines, or other factors. Less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000 acres. **G2 = Imperiled**–At high risk of extinction due to very restricted range, very few populations, steep declines, or other factors. Estimated 6-20 viable occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **G3 = Vulnerable**–At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres. **G4 = Apparently Secure**–Uncommon but not rare; some cause for long-term concern due to declines or other factors. This rank is clearly lower than G3 but factors exist to cause some concern, i.e., there is some threat, or somewhat narrow habitat.

[2] **State Rank–**The state rank refers to the imperilment status only within California's State boundaries. **S1 = Critically Imperiled**–Critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. Less than 6 occurrences or less than 1,000 individuals or less than 2,000 acres. **S1.1** = very threatened; **S1.2** = threatened; **S1.3** = no current threats known. **S2 = Imperiled**–Imperiled in the state because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. Estimated 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **S2.1** = very threatened; **S2.2** = threatened; **S2.3** = no current threats known. **S3 = Vulnerable**–Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000 -50,000 acres. **S3.1** = very threatened; **S3.2** = threatened; **S3.3** = no current threats known; **S4 = Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

[3] All data is in acres rounded to the nearest tenth (0.1) for uplands. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column.
[4] Mitigation ratios included in the table are typically required by agency permits and approvals, but may increase or decrease depending on the resources present and where the impact and mitigation is proposed within the planning area, as approved by the regulatory agencies and/or local jurisdiction in which the impact and mitigation occurs.
ODP = Other District Pipeline

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

MM BIO-15B **Compensatory Mitigation for Project Impacts to Sensitive Wetland/Riparian Communities**. If it is demonstrated through the implementation of mitigation measure MM BIO-1 that the project, CIP or ODP, could directly impact sensitive wetland/riparian communities, the District shall mitigate for the loss of habitat according to the ratios provided in Table 4.2-7, *Estimated Mitigation for CIP Project Impacts to Sensitive Wetland/Riparian Communities within the Service Area,* and Table 4.2-8, *Estimated Mitigation for ODP Project Impacts to Sensitive Wetland/Riparian Communities within the Service Area,* below, unless otherwise specified in the required agency permits and approvals.

Table 4.2-7
ESTIMATED MITIGATION FOR CIP PROJECT IMPACTS TO SENSITIVE WETLAND/RIPARIAN COMMUNITIES WITHIN THE SERVICE AREA

Sensitive Wetland/Riparian Communities	Estimated Impacts[1]	Mitigation Ratio	Estimated Mitigation[1]
Southern coast live oak riparian forest	0.18	3:1	0.53
Southern cottonwood willow riparian forest	0.36	3:1	1.07
Streambed/Open Water	0.02	1:1	0.02
TOTAL	**0.56**	**--**	**1.63**

Source: HELIX 2022a
[1] All data is in acres rounded to the nearest thousandth (0.01) for wetlands. Totals reflect rounding. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column.
CIP = Capital Improvement Program

Table 4.2-8
ESTIMATED MITIGATION FOR ODP PROJECT IMPACTS TO SENSITIVE WETLAND/RIPARIAN COMMUNITIES WITHIN THE SERVICE AREA

Sensitive Wetland/Riparian Communities	Global Rank[1]	State Rank[2]	Estimated Impacts[3]	Mitigation Ratio[4]	Estimated Mitigation[3,4]
Freshwater marsh	G3	S2.1	--	3:1	--
Mule fat scrub	G4	S4	0.28	2:1	0.56
Non-native riparian forest	G4	S4	--	3:1	--
Open Water/Stream	--	--	0.49	1:1	0.49
Southern arroyo willow riparian forest	G2	S2.1	2.14	3:1	6.45
Southern coast live oak riparian forest	G3	S4	10.04	3:1	30.12
Southern cottonwood willow riparian forest	G3	S3.2	1.72	3:1	5.16
Southern riparian forest/woodland	G4	S4	15.48	3:1	46.44
Southern sycamore-alder riparian woodland	G3	S3	0.56	3:1	1.68

Sensitive Wetland/Riparian Communities	Global Rank[1]	State Rank[2]	Estimated Impacts[3]	Mitigation Ratio[4]	Estimated Mitigation[3,4]
Southern willow scrub	G3	S2.1	0.85	3:1	2.55
TOTAL	**--**	**--**	**31.19**	**--**	**93.45**

Source: CDFW 2021d; HELIX 2021

[1] **Global Rank–**The global rank reflects the overall status of an element throughout its global range. **G1 = Critically Imperiled**–At very high risk of extinction due to extreme rarity, very steep declines, or other factors. Less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000 acres. **G2 = Imperiled**–At high risk of extinction due to very restricted range, very few populations, steep declines, or other factors. Estimated 6-20 viable occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **G3 = Vulnerable**–At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres. **G4 = Apparently Secure**–Uncommon but not rare; some cause for long-term concern due to declines or other factors. This rank is clearly lower than G3 but factors exist to cause some concern, i.e., there is some threat, or somewhat narrow habitat.

[2] **State Rank–**The state rank refers to the imperilment status only within California's State boundaries. **S1 = Critically Imperiled**–Critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. Less than 6 occurrences or less than 1,000 individuals or less than 2,000 acres. **S1.1** = very threatened; **S1.2** = threatened; **S1.3** = no current threats known.
S2 = Imperiled–Imperiled in the state because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. Estimated 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **S2.1** = very threatened; **S2.2** = threatened; **S2.3** = no current threats known.
S3 = Vulnerable–Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000 -50,000 acres. **S3.1** = very threatened; **S3.2** = threatened; **S3.3** = no current threats known;
S4 = Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

[3] All data is in acres rounded to the nearest thousandth (0.01) for wetlands. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column.

[4] Mitigation ratios included in the table are typically required by agency permits and approvals, but may increase or decrease depending on the resources present and where the impact and mitigation is proposed within the planning area, as approved by the regulatory agencies and/or local jurisdiction in which the impact and mitigation occurs.

ODP = Other District Pipeline

To comply with state and federal regulations for impacts to jurisdictional resources regulated by the United States and the State of California, prior to project approval or implementation, the District shall either obtain the following permits and agreements or evidence from the respective agency that such permit or agreement is not required if development activities are proposed within jurisdictional waters:

A Clean Water Act section 404 permit issued by the U.S. Army Corps of Engineers for all project-related disturbances of jurisdictional non-wetland waters.

A Clean Water Act section 401 permit issued by the Regional Water Quality Control Board for all project-related disturbances of jurisdictional non-wetland waters.

A Section 1602 Streambed Alteration Agreement issued by the California Department of Fish and Wildlife for all project-related disturbances of any streambed and associated riparian habitat.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, USACE, RWQCB, and/or CDFW.

Significance After Mitigation

With implementation of mitigation measures MM BIO-1 and MM BIO-11 through MM BIO-15B, potential direct and/or indirect impacts on riparian habitat and/or other sensitive natural communities would be avoided or reduced to less than significant levels.

4.2.4.3 Issue 3: Wetlands

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

Impact Analysis

Direct impacts to wetlands include those which pertain to the direct dredge, fill, or discharge into jurisdictional waters and wetlands through activities such as clearing, grubbing, grading, and other land disturbance activities, construction access and staging, and removal and replacement of existing facilities. Potential indirect impacts could include those resulting from inadvertent storm water runoff from construction sites, staging areas, and above-ground facilities.

Capital Improvement Program Projects

CIP projects would occur within areas potentially containing wetlands or other jurisdictional resources whereby project activities occurring within them would be regulated by the USACE, RWQCB, and/or CDFW. CIP Projects 600026, 600051, 600061, 600066, 600080, 530018, and 5300XX-1 occur in the immediate vicinity of areas potentially containing wetlands or other jurisdictional resources regulated by the USACE, RWQCB, and/or CDFW. These projects could result in potentially significant impacts to wetlands or other jurisdictional resources.

Direct Impacts

Construction of the CIP projects listed in Table 4.2-9, *Estimated CIP Project Impacts on Jurisdictional Wetlands and Waterways*, could result in direct impacts to riparian and wetland habitat types that could support jurisdictional waters and wetlands. Activities associated with construction of these CIP projects would be subject to regulation by the USACE, RWQCB, and/or CDFW. To the extent possible, the District would avoid potential jurisdictional resources through modifications to project design, trenchless construction methods, or other avoidance measures determined during project-level analyses; however, impacts to jurisdictional waters may occur if avoidance measures are not feasible. Impacts to jurisdictional waters were therefore determined to be potentially significant.

Table 4.2-9
ESTIMATED CIP PROJECT IMPACTS ON JURISDICTIONAL WETLANDS AND WATERWAYS (acres) [1]

Sensitive Wetland/Riparian Communities [2]	530018	5300XX-1	600026	600051	600061	600066	600080	TOTAL
Southern Coast Live Oak Riparian Forest	--	--	--	--	--	0.04	0.14	**0.18**
Southern Cottonwood-Willow Riparian Forest	0.01	0.06	0.24	0.01	0.04	--	--	**0.36**
Streambed/Open Water	--	0.02	--	--	--	--	--	**0.02**
Total	**0.01**	**0.08**	**0.24**	**0.01**	**0.04**	**0.04**	**0.14**	***0.56***

[1] All data is in acres rounded to the nearest thousandth (0.01) for wetlands. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column. All impacts are temporary. CIP Projects not listed do not propose impacts to wetland/riparian communities.
[2] Vegetation categories are from Holland (1986) and Oberbauer (2008).
CIP = Capital Improvement Program

Indirect Impacts

Potential short-term, construction-related indirect impacts could result from construction of the CIP Projects 600002, 600026, 600051, 600061, 600066, 600068, 600069, 600070, 600072, 600078, 600080, 600084, 530018, 530020, and 5300XX-1 which occur adjacent to potential jurisdictional waters and wetlands. Indirect impacts to jurisdictional waters and wetlands would be considered significant.

As previously discussed, the District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat storm water runoff, fugitive dust, and other pollutants at each project construction site, which would minimize the potential for significant indirect impacts. Regarding operational impacts, pipelines would be buried underground and would not be a source of runoff. However, aboveground facilities such as pump stations, lift stations, and pressure reducing stations could increase storm water runoff to adjacent wetlands, which could cause indirect impacts to wetlands. Indirect impacts from operation of CIP projects are anticipated to be less than significant.

Other District Pipeline Projects

ODP Category A Projects and ODP Category B Projects listed in BTR Appendices C-1, C-2, D-1, and D-2, could occur on or in the immediate vicinity of areas potentially containing wetlands or other jurisdictional resources whereby project activities occurring within them would be regulated by the USACE, RWQCB, and/or CDFW. Therefore, these projects could result in potentially significant impacts to wetlands or other jurisdictional resources. ODP Category C Projects with no direct or indirect impacts are included in Appendices E-1 and E-2.

Direct Impacts

Construction of the ODP Category A Projects listed in BTR Appendices C-1 and C-2 would have the potential to result in direct impacts to riparian and wetland habitat types that could support jurisdictional waters and wetlands. Activities associated with construction of these ODP projects could be subject to regulation by the USACE, RWQCB, and/or CDFW. For example, some of the ODP projects involve pipelines or access roads that may require the crossing of drainage features or temporary construction activities within areas potentially supporting jurisdictional waters and wetlands. While impacts to sensitive areas potentially supporting wetland habitats may be avoided through project-level

siting during project design and trenchless pipeline installation methods (e.g., jack and bore, horizontal directional drilling) during project construction, impacts could still occur and are therefore potentially significant.

Indirect Impacts

Potential short-term, construction-related indirect impacts could result from construction of the ODP Category B Projects occur adjacent to potential jurisdictional waters and wetlands (Appendices D-1 and D-2). Indirect impacts to jurisdictional waters and wetlands would be considered significant.

The District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat storm water runoff, fugitive dust, and other pollutants at each project construction site, which would minimize the potential for significant indirect impacts. Regarding operational impacts, pipelines would be mostly buried underground and would not be a source of runoff. However, aboveground facilities such as pump stations, lift stations, and pressure reducing stations could increase storm water runoff to adjacent wetlands, which could cause indirect impacts to wetlands. Impacts from operation of ODP projects would be less than significant.

Maintenance Projects

No direct impacts to potential jurisdictional waters and wetlands are anticipated due to the fact that the areas where maintenance projects would occur are already disturbed and developed. Potential short-term, construction-related indirect impacts, including pollutants, toxins, and sediment entering the adjacent aquatic resources, could result from maintenance projects that occur adjacent to potential jurisdictional waters and wetlands habitats. Indirect impacts to jurisdictional waters and wetlands would be considered significant.

The District would be required to implement BMPs to minimize, control, and treat storm water runoff, fugitive dust, and other pollutants at each maintenance site, which would minimize the potential for significant indirect impacts.

Mitigation Measures

The following mitigation measures, in addition to MM BIO-1 and MM BIO-11 through MM BIO-14, would be implemented to address potential impacts to wetlands and other jurisdictional resources.

MM BIO-16 **Project-Level Jurisdictional Delineations**. If it is demonstrated through the implementation of mitigation measure MM BIO-1 that a CIP and/or ODP project could impact potential jurisdictional waters and/or wetlands, the District shall retain a qualified biologist to perform formal jurisdictional delineations of the project sites prior to project approval and implementation. If the formal jurisdictional delineations determine that there are no resources present that could be subject to the regulatory jurisdiction of the USACE, RWQCB, or CDFW, then no further action shall be required. However, if the formal jurisdictional delineations determine that the features are subject to USACE, RWQCB, and/or CDFW jurisdiction, then the District shall avoid and/or minimize impacts through redesign and/or implementing trenchless construction methods (i.e., jack-and-bore or horizontal directional drilling) and obtain USACE, RWQCB, and/or CDFW concurrence prior to project implementation that impacts have

been avoided. If concurrence is not obtained, the District shall implement mitigation measure MM BIO-17.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USACE, RWQCB, and/or CDFW

MM BIO-17 **Compensatory Mitigation for Impacts to Jurisdictional Resources**. Compensatory mitigation in accordance with the permit conditions imposed by USACE, RWQCB, and CDFW, for the unavoidable impacts to jurisdictional waters and wetlands, which would include one or a combination of the following measures:

- Purchase of preservation, establishment, re-establishment, rehabilitation and/or enhancement credits from a mitigation bank approved by the USACE and CDFW, such as the San Luis Rey Mitigation Bank, Brook Forest Conservation and Mitigation Bank, or another approved mitigation bank in the region; or

- Implement Permittee-responsible preservation, establishment, re-establishment, rehabilitation and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.

- Plans for restoration or revegetation should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation.

A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. Off-site mitigation for impacts to jurisdictional waters may also be used for off-site mitigation of impacts to sensitive communities and special-status wildlife.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, USACE, RWQCB, and/or CDFW.

Significance After Mitigation

Implementation of mitigation measures MM BIO-16 and MM BIO-17 would reduce potential impacts to wetlands and other jurisdictional features to less-than-significant levels. Implementation of mitigation measures MM BIO-11 through MM BIO-13 would ensure that construction activities remain within the approved limits of work and avoid unauthorized direct and indirect impacts to jurisdictional resources.

4.2.4.4 Issue 4: Wildlife Movement

Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact Analysis

Capital Improvement Program Projects

CIP Projects 600002, 600026, 600040, 600050, 600061, 600066, 600080, 530018, 5300XX-1, and 5300XX-2 listed in Tables 4.2-3 and 4.2-4 would result in impacts to sensitive natural communities; however, impacts related to these projects would be localized, and the individual project areas would be restricted to the greatest extent feasible such that the width of existing wildlife corridors and linkages would not be affected or reduced. CIP Projects 600002, 600026, 600066, 600080, 5300XX-1, and 5300XX-2 are underground pipeline utilities. CIP Projects 600026, 600061, 5300XX-1, and 5300XX-2 are located primarily within an existing roadway but may result in impacts to adjacent habitat; however, the proximity to the existing roadway would likely discourage wildlife movement within the proposed impact area for this project. CIP Projects 600002, 600066, and 600080 would bisect open, undeveloped habitat. These projects would have the potential to temporarily disrupt local wildlife movement areas; however, disruptive effects would be minimal, and wildlife would be expected to move back into the area once activities have ceased. Existing wildlife corridors and linkages would continue to function in their current capacity; therefore, impacts would be less than significant, and no additional mitigation is required.

CIP Projects 600040, 600050, and 530018 are small, aboveground pump stations located adjacent to existing development. The above ground pump stations are small, generally less than 0.1 acre in size and would allow continued access to open habitat surrounding the pump stations. The pump stations would not act as major impediments to wildlife movement, including access to nursery sites, foraging habitat, breeding habitat, water sources, or other areas necessary for their life history; therefore, impacts would be less than significant, and no additional mitigation is required.

Other District Pipeline Projects

ODP Category A Projects listed in BTR Appendices C-1 and C-2 have the potential to result in direct impacts to sensitive natural communities; however, these impacts would be localized, and the individual project areas would be restricted to the greatest extent feasible such that the width of existing wildlife corridors and linkages would not be affected or reduced. Because ODP project components are underground utilities, impacts within sensitive natural communities would be temporary without permanent obstacles or impediments to wildlife. Furthermore, the components are generally located within and/or adjacent to existing disturbed lands or development reducing the potential for wildlife use. ODP project activities have the potential to temporarily disrupt local wildlife movement areas. These potential disruptive effects would be minimal, and wildlife would be expected to move back into the area once activities have ceased. Existing wildlife corridors and linkages would continue to function in their current capacity; therefore, impacts would be less than significant, and no additional mitigation is required.

Maintenance Projects

Maintenance projects would occur on, within, and/or immediately surrounding existing District facilities, pipelines, and components primarily located within disturbed habitat or developed lands; therefore, impacts to wildlife corridors and linkages are not expected. Maintenance projects would be localized, and the individual project areas would be restricted to the greatest extent feasible such that the width of existing wildlife corridors and linkages would not be affected or reduced. Maintenance activities would not alter wildlife movement, including access to nursery sites, foraging habitat, breeding habitat, water sources, or other areas necessary for their life history, due to the disturbed and developed nature of these project sites. Existing wildlife corridors and linkages would continue to function in their current capacity; therefore, impacts would be less than significant, and no additional mitigation is required.

Mitigation Measures

Impacts related to wildlife corridors would be less than significant; therefore, no mitigation is required.

4.2.4.5 Issue 5: Local Policies

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

Impact Analysis

Most Project CIP projects, ODP projects, and maintenance projects are either below-ground facilities, such as pipelines, or improvements or upgrades to existing infrastructure. Underground facilities, improvements to existing facilities, replacement of existing structures, and construction of new facilities on sites would not conflict with local policies or ordinances. Further, mitigation measures MM BIO-1 through MM BIO-17 would be implemented which would avoid and minimize impacts to biological resources. Therefore, Project implementation would not conflict with local policies or ordinances protecting biological resources.

Mitigation Measures

No impacts related to local policies would occur; therefore, no additional mitigation is required.

4.2.4.6 Issue 6: Conservation Planning

Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact Analysis

The Project CIP projects, ODP projects, and maintenance projects would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, and other approved local, regional, or state habitat conservation plan as the service area does not occur within an adopted plan. Further, mitigation measures MM BIO-1 through MM BIO-17 would be implemented which would avoid and minimize impacts to biological resources. No impacts associated with conservation planning would occur.

Mitigation Measures

No impacts related to conservation planning would occur; therefore, no additional mitigation is required.

4.2.5 Cumulative Impact Analysis

The geographic scope for the cumulative analysis of biological resources is the District's service area and surrounding areas, particularly undeveloped lands that support native habitats, native plant and animal species, and potentially jurisdictional waters, as well as contiguous units of critical habitat.

4.2.5.1 Sensitive Species

Numerous special-status plant and animal species have the potential or are known to occur within the District's service area. The proposed Project in combination with cumulative development would have the potential to combine to directly and/or indirectly affect special-status species throughout and surrounding the service area, particularly in previously undeveloped and undisturbed areas. As such, cumulative impacts related to sensitive species are considered potentially significant.

For proposed Project improvements with potential to directly or indirectly impact sensitive natural communities with the potential to support special-status species, individual project-level surveys would be required to confirm the direct and indirect impacts to special-status plant and animal species and guide the implementation of required avoidance, minimization, and mitigation measures (presented herein) to ensure the impacts are avoided or reduced to less than significant levels. Therefore, with implementation of mitigation measures MM BIO-1 through MM BIO-14, the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact related to sensitive plant and animal species.

4.2.5.2 Sensitive Habitats

The District's service area supports numerous sensitive vegetation communities, including chamise chaparral, coast live oak woodland, Diegan coastal sage scrub, Engelmann oak woodland, freshwater marsh, maritime succulent scrub, mule fat scrub, native grassland, non-native grassland, non-native riparian, open water, scrub oak chaparral, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern maritime chaparral, southern mixed chaparral, southern riparian forest/woodland, southern sycamore-alder riparian woodland, and southern willow scrub. The proposed Project in combination with cumulative development would have the potential to combine to directly and/or indirectly affect sensitive habitats throughout and surrounding the service area, particularly in previously undeveloped and undisturbed areas. As such, cumulative impacts related to sensitive habitats are considered potentially significant.

For Project improvements that result in direct impacts to sensitive habitats, mitigation measures MM BIO-15A and MM BIO-15B would ensure that impacts are compensated for in accordance with regional standards for mitigation ratios and methods. To address potential indirect impacts to sensitive habitats from Project implementation, the District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat storm water runoff, fugitive dust, and other pollutants at each construction site. In addition, implementation of mitigation measures MM BIO-11 through MM BIO-13 would ensure that construction activities do not inadvertently encroach into or otherwise impact sensitive natural communities occurring adjacent to construction sites, thereby further reducing

potential indirect impacts to a less than significant level. Therefore, with implementation of mitigation measures MM BIO-11 through MM BIO-13, MM BIO-15A, and MM BIO-15B, the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact related to sensitive habitats.

4.2.5.3 Wetlands

Potential Waters of the U.S., Waters of the State, and CDFW jurisdictional habitat are present within the service area. Freshwater marsh, mule fat scrub, non-native riparian, open water, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern maritime chaparral, southern mixed chaparral, southern riparian forest, southern riparian woodland, southern sycamore-alder riparian woodland, and southern willow scrub are considered potentially jurisdictional to the USACE, RWQCB, and/or CDFW. The service area contains several waterways including the San Luis Rey River, Rainbow Creek, Pala Creek, Trujillo Creek, as well as several ephemeral concrete and earthen-lined drainages. The proposed Project in combination with cumulative development would have the potential to combine to directly and/or indirectly affect wetlands and other jurisdictional features throughout and surrounding the service area, particularly in previously undeveloped and undisturbed areas. As such, cumulative impacts related to wetlands are considered potentially significant.

The proposed Project improvements could result in direct and/or indirect impacts to riparian and wetland habitat types that could support jurisdictional waters and wetlands. Such activities associated with construction would be subject to regulation by the USACE, RWQCB, and/or CDFW. Mitigation measure MM BIO-16 would require individual project-level jurisdictional delineations to verify the presence or absence of potential jurisdictional resources, determine extent of jurisdictional resources, and determine whether or not the project could be constructed to avoid potential jurisdictional resources. To the extent possible, the District would avoid potential jurisdictional resources through modifications to project design, trenchless construction methods, or other avoidance measures determined during project-level analyses. If impacts to jurisdictional features cannot be avoided, they would be mitigated in accordance with mitigation measures MM BIO-17, which would involve regulatory permitting and compensatory mitigation. Indirect impacts would be avoided through implementation of MM BIO-11 through MM BIO-13. With these measures, the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact related to wetlands and other jurisdictional features.

4.2.5.4 Wildlife Movement

Several wildlife movement corridors and linkages occur within the District's service area, most notably the San Luis Rey River and I-15 corridor providing a north-to-south linkage. Extensive cumulative development within undeveloped lands within the District's service area that currently provide movement corridors could result in significant impacts. The baseline cumulative impact to wildlife corridors is significant.

The Project's potential impacts from individual improvements would be localized, and the individual project areas would be restricted to the greatest extent feasible such that the width of existing wildlife corridors and linkages would not be affected or reduced. Most Project improvements would be under ground and/or at existing facilities, which would not result in new impediments to wildlife movement. Further, Project impacts to habitats would primarily be temporary, thus not causing permanent

disruptions to wildlife corridors. As such, the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact related to wildlife movement.

4.2.5.5 Local Policies

Cumulative development projects would be subject to applicable local ordinances regarding biological resources on an individual basis. In addition, the proposed Project would not conflict with local policies. Therefore, there would be no cumulative impact.

4.2.5.6 Conservation Planning

Cumulative development projects would be subject to applicable regulations in applicable conservation plans on an individual basis. In addition, the proposed Project would not conflict with a conservation plan. Therefore, there would be no cumulative impact.

4.3 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

This section addresses the potential impacts of the Project to cultural resources and tribal cultural resources (TCRs). The following discussion includes (1) a description of existing conditions as related to cultural resources and TCRs, (2) a summary of applicable regulations, and (3) an evaluation of the Project's potential environmental effects associated with an adverse change in historical, archaeological, and TCRs, and the disturbance of human remains. This section is based on the *Cultural Resources Technical Report* prepared for the Project by HELIX (2022b; Appendix D).

4.3.1 Existing Conditions

4.3.1.1 Cultural Setting

Ethnohistory

By the time Spanish colonists began to settle California in the eighteenth century, the Project area was within the traditional territorial boundary of the cultural group historically known as the Luiseño, the name deriving from their historic affiliation with Mission San Luis Rey. The Luiseño spoke a Takic language, differentiating them from their nearby neighbors to the south, the Yuman-speaking Kumeyaay (Tipai-Ipai) or Northern Diegueño. The Luiseño followed a seasonal gathering cycle, with bands occupying a series of campsites within their territory, which was subdivided and occupied by different families or bands with family groups known as *tunglam*. A predominant determining factor for the placement of villages and campsites was where water was readily available, preferably on a year-round basis, and the Luiseño lived in semi-sedentary villages usually located along major drainages, in valley bottoms, at springs, and on the coastal strand, with each family controlling gathering areas. As such, many of the major known Luiseño settlements in San Diego County area are located along the Santa Margarita River Valley and the San Luis Rey River Valley. In the Project area, the San Luis Rey River Valley, which extends northeast-southwest across the south-central Project area, in addition to being a prime location for settlement, was also an important resource area for the Luiseño.

Archaeological Record

Early Prehistoric Period

The Early Prehistoric Period represents the time period of the first known inhabitants in California. In some areas of California, it is referred to as the Paleo-Indian period and is associated with the big game hunting activities of the peoples of the last Ice Age, occurring during the Terminal Pleistocene (pre-10,000 years ago) and the Early Holocene, beginning circa 10,000 years ago. In the western United States, most evidence for the Paleo-Indian or Big-Game-Hunting peoples during this time period derives from finds of large, fluted spear and projectile points (Fluted-Point Tradition) in places such as Clovis and Folsom in the Great Basin and the Desert Southwest. While a few isolated fluted points or point fragments have been found in San Diego County, the earliest well-documented sites in the San Diego area belong to the San Dieguito Tradition, now documented to be close to 10,000 years old. The San Dieguito Tradition, with an artifact assemblage distinct from that of the Fluted Point Tradition, has been documented mostly in the coastal and near coastal areas in San Diego County, as well as in the southeastern California deserts.

Archaic Period

The Archaic Period in the southern California coastal region dates from circa 8,600 years before present (B.P.) to circa 1,500 years ago. A large number of archaeological site assemblages dating to this period have been identified at a range of coastal and inland sites. This appears to indicate that relatively stable, sedentary complexes, apparently focused during the early half of the period more on gathering than hunting. These complexes, designated as the La Jolla/Pauma complexes and possibly associated with one people, were present in the coastal and immediately inland areas of what is now San Diego County for more than 7,000 years. During the latter half of the Archaic Period, beginning approximately 5,500 B.P., a major shift in the subsistence system to an increase in hunting activity and the gathering and processing of acorns for subsistence appears to have occurred.

Late Prehistoric Period

The Late Prehistoric Period (1,500 B.P. to 200 B.P.) is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period, with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive but effective technological innovations. Archaeological research has identified two district archaeological complexes for the Late Prehistoric Period in what is now San Diego County: the Cuyamaca complex in southern San Diego County and the San Luis Rey complex in northern San Diego County. The northerly location of the Project area in the county means it is most likely to contain archaeological evidence of the San Luis Rey complex.

Historical Background

Spanish Period

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769. In the mid-eighteenth century, Spain had escalated its involvement in California from exploration to colonization and in that year, a Spanish expedition headed by Gaspar de Portolá and Junípero Serra established the Royal Presidio of San Diego. Portolá then traveled north from San Diego, seeking suitable locations to establish military presidios and religious missions in order to extend the Spanish Empire into Alta California.

Initially, both a mission and a military presidio were located on Presidio Hill overlooking the San Diego River. A small pueblo, now known as Old Town San Diego, developed below the presidio. The Mission San Diego de Alcalá was constructed in its current location five years later. In 1798, the Mission San Luis Rey De Francia was founded in northern San Diego County. Covering almost 950,400 acres, the Mission raised about 26,000 cattle, as well as other livestock.

The missions and presidios stood, literally and figuratively, as symbols of Spanish colonialism, importing new systems of labor, demographics, settlement, and economies to the area. Cattle ranching, animal husbandry, and agriculture were the main pursuits of the missions. In the years that followed, the population of the Luiseño people declined rapidly.

Mexican Period

Although Mexico gained its independence from Spain in 1821, Spanish patterns of culture and influence remained for a time. The missions continued to operate as they had in the past, and laws governing the

distribution of land were also retained in the 1820s. Following the secularization of the missions in 1834, large ranchos were granted to prominent and well-connected individuals, ushering in the Rancho Era, with the society making a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With the numerous new ranchos in private hands, cattle ranching expanded and prevailed over agricultural activities.

American Period

American governance began in 1848, when Mexico signed the Treaty of Guadalupe Hidalgo, ceding California to the United States at the conclusion of the Mexican–American War. A great influx of settlers to California and the San Diego region occurred during the American Period, resulting from several factors, including the discovery of gold in the state in 1848, the end of the Civil War, the availability of free land through the passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. The increase in American and European populations quickly overwhelmed many of the Spanish and Mexican cultural traditions, and greatly increased the rate of population decline among Native American communities.

The District's Service Area includes the communities of Rainbow and Bonsall, as well as portions of Fallbrook and Oceanside, all of which developed between the 1870s and 1880s.

4.3.1.2 Identification of Cultural Resources

Records Search

A records search of the California Historical Resources Information System (CHRIS) was conducted for the District's service area at the South Coastal Information Center (SCIC) on June 30, 2020. A review of the State Office of Historic Preservation's (OHP's) historic properties directory and the National Register of Historic Places (NRHP) was also conducted. The SCIC has a record of 235 previously recorded cultural resources within the District's service area (refer to Appendix D for the complete listing of resources). These resources include 156 prehistoric resources (123 prehistoric sites and 33 prehistoric isolates), 75 historic-period resources (31 buildings or structures, 2 utility district complexes, 4 transportation routes, 27 archaeological sites, and 11 features or isolates), and four multicomponent sites with both prehistoric and historic components. Three of the resource numbers on file at the SCIC have been combined with other sites, and a fourth number has no descriptive information (site form) on file at the center. In general, a variety of types of prehistoric sites have been recorded within the Project area, including large habitation or village sites, small habitation or campsites, bedrock milling stations, artifact scatters, rock art sites, rock shelters, rock walls, and marine shell scatters. Of note for these prehistoric sites is the substantial presence of bedrock milling features among the sites, with 75 of the 121 sites containing one or more of these features. Also of note is that a large majority of the prehistoric sites, and in particular the more substantial habitation sites, are located along the San Luis Rey River Valley and some of the river's more well-water tributaries, such as the Moosa Canyon and Gopher Canyon drainages. The four multi-component sites generally consist of scatters of both prehistoric artifacts and historic refuse materials. The 67 historic resources include ranch complexes, a public utility complex district, various individual buildings and structures, adobe structures, survey markers, refuse scatters, and historic roadways or routes. Isolates generally consist of one or two historic or prehistoric artifacts with no other associated materials or features observed at the location.

No unrestricted historic properties listed in the NRHP are within the District's service area. Likewise, a review of OHP's historic properties directory does not indicate that resources within the District's

service area are State Landmarks, listed in the California Register of Historical Resources (CRHR), or are a dedicated Point of Interest.

As described in the County General Plan Update EIR, Highway 395 (P-37-033557) is an important roadway; the highway travels north-south through the District's service area:

> U.S. Highway 395, also known as the "Three Flags Highway," is a 1,305-mile road running through some of the most scenic areas in the western U.S. At one time it stretched 1,490 miles in length, all the way from San Diego Bay near the U.S./Mexico international border to the Canadian border in Washington State. U.S. Highway 395 earned its name as the "Three Flags Highway" because it (almost) touched all three nations. Despite being reduced in 1969 for the improved I-15, it still maintains its importance as a major north-south route along the eastern Sierra Nevada Mountains (County 2011b).

The CRHR-eligible Rainbow Compressor Station Historic District (P-37-038846), which is a public utility complex owned by San Diego Gas & Electric (SDG&E), is situated within the very northern portion of the District's service area. The Rainbow Compressor Station Historic District comprises four contributing elements constructed between 1952 and 1963: Compressor Building 1, Compressor Building 2, the Induced Draft Cooler, and a Storage Building/Well.

In addition to these two specific historic-period resources, it is noted that the San Luis Rey and Santa Margarita watersheds are important to the Luiseño people, with many of the major known Luiseño settlements in the San Diego County area being located along the Santa Margarita River Valley and the San Luis Rey River Valley. Many significant or potentially prehistoric cultural resources are located within the District's service area.

Other Archival Research

Various archival sources were also consulted, including historic topographic maps, aerial imagery, and the Bureau of Land Management General Land Office Records. Historic aerials from between 1938 and 1971 and several historic U.S. Geological Survey (USGS) topographic maps, including the 1901 San Luis Rey, the 1948 Temecula and Bonsall, and the 1949 Pala and Pechanga topographic maps were reviewed. The purpose of this research was to identify historic structures and land use in the area.

Early plat maps from 1870 to 1915, show the Project area as having numerous roads and trails throughout the area, connecting small ranches and homesteads to small towns, as well as more established and larger towns outside of the Project area. There are also several areas marked "Indian Rancheria" or "Indian huts" closer to the San Luis Rey River. Several structures and roads are visible on the 1901 San Luis Rey quadrangle, as is the Pala Indian Reservation. The 1948 quadrangles for Bonsall and Temecula, and the 1949 quadrangles for Pala and Pechanga, show some roads and mines, but the only structures present on these maps, outside of towns like Pala and Rainbow Valley, are scattered—which is indicative of the rural nature of the area. The historic aerials also reflect the slow, rural development of the Project area.

Highway 395 was recorded on the 1947 Santa Ana topographic map as traversing the Project area in a northeast-southwest direction. Initially constructed prior to 1910, this highway was the primary inland transportation route that connected downtown San Diego with much of the northern county, as well as Temecula and Riverside County. The original alignment of the highway is visible on the 1938 aerial photograph. Between 1946 and 1950, the highway was realigned to follow the current I-15 route

between Miramar and Rainbow. The segments of the realignment within the Project area are visible on the 1946 aerial photograph and are first recorded on the 1948 Bonsall and Temecula topographic maps. Some original segments of Highway 395 that were left in place were later repurposed; for example, East Mission Road and South Mission Road were portions of the original alignment of the highway in the western portion of the Project area. The construction of I-15 between the 1960s and 1980s consumed large portions of the alignment of Highway 395—this construction is apparent on the 1978 and 1980 aerial photographs of the region. While the 1982 Oceanside topographic map records I-15 in its modern alignment, segments of I-15 south of the San Luis Rey River and south of Gopher Canyon are recorded as being under construction. Aerial photographs from 1982 depict this construction; by the time the 1984 aerial was taken, construction on this segment of I-15 had been completed.

These aerial photographs also depict the development of the area; following the realignment of Highway 395 and the construction of I-15, small clusters of houses are seen in the communities of Fallbrook and Bonsall. In the following aerial photographs from the 1980s, 1990s, and 2000s, these clusters are seen expanding away from the Interstate.

Native American Consultation

The District contacted the NAHC on March 25, 2021, for a Sacred Lands File search and list of Native American consultation contacts for the Project area. The NAHC indicated in a response dated May 19, 2021, that the result of the Sacred Lands File check was positive for the Project area. The NAHC further indicated that the positive results were obtained from the Pala Band of Mission Indians, the Rincon Band of Luiseño Indians, the San Luis Rey Band of Mission Indians, and the Kwaaymii Laguna Band of Mission Indians. Project notification letters were sent by the District on May 27, 2021 to the identified representatives within culturally-affiliated Tribal governments who have been designated to initiate and conduct formal government-to-government consultation; follow-up emails were sent by the District on August 29, 2021.

Tribal consultation under AB 52 was initiated by District staff with the following tribes: Pala Band of Mission Indians, Rincon Band of Luiseño Indians, San Luis Rey Band of Mission Indians, and San Pasqual Band of Diegueno Mission Indians. Initial meetings with these tribes were held in September and November 2021. The Cultural Resources Technical Report prepared for the Project (HELIX 2022b) was provided to the tribes on April 29, 2021. Consultation is ongoing.

Cultural Sensitivity

The District's service area has been categorized into three cultural resource sensitivity levels rated low, moderate, or high based on the results of the records search, archival research, the NAHC Sacred Lands File check, regional environmental factors (e.g., slope, geology, proximity to rivers and creeks), and the amount of modern development that has occurred. Figure 4.3-1, *Cultural Sensitivity Areas,* illustrates the relative sensitivity of the District's service area with regard to cultural resources.

The majority of the District's service area is composed of valleys, canyons, and low mountains, with rural development characterized by agriculture and single-family residential development. Smaller portions of the District's service area include commercial development, parks, schools, transportation infrastructure, water conveyance infrastructure, and golf courses.

Areas identified as high sensitivity indicate areas where cultural resources have been documented or would have the high potential to be identified, such as areas underlain by young alluvium deposits and

within canyon areas along rivers and creeks. A moderate sensitivity indicates areas of lower slopes (less than 10 percent) or within the Bonsall, Fallbrook, or Rainbow community areas. In these areas, the potential for cultural resources to be present would be moderate. A low cultural resources sensitivity rating indicates areas where there is a high slope, and no previously recorded resources have been documented. Within these areas, the potential for additional resources to be identified is low.

4.3.2 Regulatory Framework

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, traditional, religious, and/or scientific importance. Resource importance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of the region in history, architecture, archaeology, engineering, and culture. Significant cultural resources are those resources which have been found eligible to the CRHR or NRHP, as applicable.

4.3.2.1 Federal

The National Historic Preservation Act

Federal regulations that would be applicable to the Project if there is a federal nexus for a CIP project (e.g., permitting or funding from a federal agency) consist of the National Historic Preservation Act (NHPA) and its implementing regulations (16 United States Code 470 et seq., 36 CFR Part 800). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on "historic properties"; that is, properties (either historic or archaeological) that are eligible for the NRHP. To be eligible for the NRHP, a historic property must be significant at the local, state, or national level under one or more of the following four criteria:

A. associated with events that have made a significant contribution to the broad patterns of our history;

B. associated with the lives of persons significant in our past;

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

D. has yielded or may be likely to yield, information important in prehistory or history.

The federal lead agency uses the definition of adverse effect in the regulations implementing Section 106, found at 36 CFR 800, to assess impacts of the undertaking on cultural resources that have been identified as historic properties. An adverse effect is an effect that may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR 800.5(a)(1)). Adverse effects include, but are not limited to:

- Physical destruction, damage, or alteration of all or part of a property;

- Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the NRHP; and

Rainbow Municipal Water District Service Area

Cultural Resource Sensitivity

- High
- Moderate
- Low

Murrieta Creek
Temecula Creek
Santa Margarita River
Pilgrim Creek
San Luis Rey River
Buena Vista Creek
Agua Hedionda Creek
15
76
78

I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\PEIR.aprx Fig4.3-1_CRSensitivity : 01940.2.1 : 4/21/2022 - SAB

0 1.5 Miles

N

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Cultural Sensitivity Areas

Figure 4.3-1

- Introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting.

4.3.2.2 State

California Environmental Quality Act

CEQA PRC 21084.1, and CCR Title 14 Section 15064 discuss significant cultural resources as "historical resources," which are defined as:

- Resource(s) listed or determined eligible by the State Historical Resources Commission for listing in the CRHR (14 CCR Section 15064.5[a][1]);

- Resource(s) either listed in the NRHP or in a "local register of historical resources" or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (14 CCR Section 15064.5[a][2]); or

- Resource(s) determined by the Lead Agency to meet the criteria for listing on the CRHR (14 CCR Section 15064.5[a][3]).

For listing in the CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

(1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

(2) It is associated with the lives of persons important to local, California, or national history;

(3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values;

(4) It has yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

Under 14 CCR Section 15064.5(a)(4), a resource may also be considered a "historical resource" for the purposes of CEQA at the discretion of the lead agency.

All resources that are eligible for listing in the CRHR must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination.

According to CEQA (Section 15064.5b), a project with an effect 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. CEQA defines a substantial adverse change as:

(1) Substantial adverse change in the significance of a historical resource means 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.

(2) The significance of a historical resource is materially impaired when a project:

(a) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(b) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, 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) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Section 15064.5 of CEQA applies to effects on archaeological sites and contains additional provisions regarding archaeological sites. If an archaeological site does not meet the criteria defined in subsection (a) as a historical resource, but does meet the definition of a unique archaeological resource in Section 21083.2 of the PRC, the site shall be treated in accordance with the provisions of section 21083.2. 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. It shall be sufficient that both the resource and the effect on it are noted in the environmental document, but they need not be considered further in the CEQA process.

California Assembly Bill 52

California AB 52 revised PRC Section 21074 to include TCRs as an area of CEQA environmental impact analysis. Further, per new PRC Section 21080.3, a CEQA lead agency must consult with any California Native American tribe that requests consultation, and that is traditionally and culturally affiliated with the geographic area of a proposed project, to identify resources of cultural or spiritual value to the tribe, even if such resources are already eligible as historical resources as a result of cultural resources studies. A TCR may be considered significant if it is (i) included in a local or state register of historical resources; (ii) determined by the lead agency to be significant pursuant to criteria set forth in PRC Section 5024.1; (iii) a geographically defined cultural landscape that meets one or more of these criteria; (iv) a historical resource described in PRC Section 21084.1 or a unique archaeological resource described in PRC Section 21083.2; or (v) a non-unique archaeological resource if it conforms with the above criteria.

Health and Safety Code Sections 7050.5 - Human Remains

Health and Safety Code (HSC) Section 7050.5(b) specifies protocol when human remains are discovered. The code states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in section 5097.98 of the PRC.

Native American Heritage Values

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the cultural sensitivity of the project area has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the Project.

Potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties (TCPs) in discussions of cultural resource management performed under federal auspices or TCRs under CEQA. “Traditional” in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices.

Cultural resources can include TCRs, such as gathering areas, landmarks, and ethnographic locations, in addition to archaeological districts. Generally, a TCR may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance.

4.3.2.3 Local

County of San Diego Local Register of Historical Resources

The County requires that resource importance be assessed not only at the state level as required by CEQA but at the local level as well. If a resource meets any one of the following criteria as outlined in the Local Register, it would be considered an important resource.

1. It is associated with events that have made a significant contribution to the broad patterns of San Diego County’s history and cultural heritage;

2. It is associated with the lives of persons important to the history of San Diego County or its communities;

3. It embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. It has yielded, or may be likely to yield, information important in prehistory or history.

The purpose of the San Diego County Local Register of Historical Places is to develop and maintain "an authoritative guide to be used by State agencies, private groups, and citizens to identify the County's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Sites, places, or objects that are eligible to the NRHP or the CRHR are automatically included in the San Diego County Local Register of Historical Places.

City of Oceanside Regulations

The City of Oceanside's General Plan is currently undergoing an update; the existing General Plan has as one of its stated goals, "Encourage the conservation and protection of significant cultural resources for future scientific, historic, and educational purposes."

Chapter 14A of the City's Municipal Code addresses historic preservation. Sec. 14A.2 – Policy and purpose states:

> It is hereby declared as a matter of public policy that the recognition, preservation, enhancement, perpetuation and use of structures, landscape features, sites and areas within the City of Oceanside having historical, architectural, archeological, cultural, or aesthetic significance is required in the interest of the economic prosperity, cultural enrichment, and general welfare of the people [City of Oceanside Code of Ordinances, Sec. 14A.2].

4.3.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to cultural resources and TCRs. The Project would have a significant impact if it would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5;

2. Cause a substantial adverse change in the significance of an archaeological resources pursuant to §15064.5;

3. Disturb human remains, including those interred outside of formal cemeteries; or

4. Cause a substantial change in the significance of a tribal cultural resource, defined in PRC §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:

    a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC §5020.1(k), or

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC §5024.1. In applying the criteria set forth in subdivision (c) of PRC §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.3.4 Project Impacts and Mitigation

4.3.4.1 Issue 1: Historical and Archaeological Resources

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

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

Impact Analysis

State CEQA Guidelines Section 15064.5(b)(1) defines a substantial adverse change as one that would materially impair the significance of a historical resource. According to Section 15064.5(2)(C), "the significance of a historic resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA." Historical resources include both archaeological sites and built environment resources determined significant under CEQA.

Proposed CIP projects and other Project improvements at structures such as pump stations generally involve installation or replacement of emergency generators, solar panels, and battery backup, or upgrades to electrical or pumping equipment. Two pump stations, Vallecitos Pump Station (CIP Project 600040) and Morro PS (CIP Project 600084), are proposed for replacement. Based on a review of aerial photographs, the existing Vallecitos Pump Station structure was constructed in the 1990s and the Morro PS was constructed in the 1970s. As such, the Morro PS has met the 45-year-old threshold that requires evaluation pursuant to the CEQA process. If the Morro PS is evaluated and found to be a significant historical resource, the Project may constitute an adverse impact.

As described in Section 4.3.1.2, over 200 known cultural resources exist within the District's service area, most of them consisting of prehistoric and historic-period archaeological sites. Known resources qualifying as significant historical resources have been have recorded within the specific study areas of CIP Projects 600040 (U.S. Highway 395 [P-37-033557]) and 600051 (prehistoric lithic scatter [P-37-007315]). While these CIP projects would occur at existing facilities and no impacts to these resources are anticipated, a site-specific project-level analysis would be required to fulfill CEQA requirements at these sites. Unevaluated cultural resources may require research or testing programs to determine their eligibility for inclusion in registers of significant resources. In addition to CIP projects that are in close proximity to known cultural resources, there is a potential for other Project improvements, including CIP projects, ODP projects, and maintenance projects, to encounter unrecorded cultural resources due to the frequency of known and recorded archaeological sites throughout the District's service area. Lastly, ground-disturbing activities associated with CIP projects, ODP projects, and maintenance projects, such as clearing, trenching, and grading, have the potential to damage or destroy archaeological resources that may be present on or below the ground surface. Adverse effects to known significant or unique

archaeological resources may result in a loss of valuable information that could be gained from the resources or prevent potentially eligible sites from being listed on a register of cultural resources.

As such, the Project may potentially cause a substantial adverse change in the significance of a historical and/or archaeological resource pursuant to §15064.5 of the State CEQA Guidelines and result in a potentially significant impact.

Mitigation Measures

The following measures would be implemented to address potentially significant impacts related to historical and archaeological resources.

MM CUL-1 **Project-specific Cultural Resource Procedures.** Project-specific cultural resources analysis is required for Project improvements, including CIP projects, ODP projects, and maintenance projects that involve (a) demolition of an aboveground built environment resource that is more than 45 years in age or (b) ground disturbance in areas of moderate or high cultural sensitivity, as depicted on Figure 4.3-2, *Cultural Sensitivity Mitigation*. This requirement does not apply to improvements that involve the ongoing operation, repair, and/or maintenance of existing aboveground District facilities and/or equipment, or those that are necessary to remedy an emergency condition that poses an imminent threat to health and safety, or property.

The following framework is provided to guide the identification, evaluation, and mitigation of potential impacts to cultural resources. Each of the following sections serves as a necessary step to the next section and is dependent upon meeting the criteria of each previous section. The District shall retain a qualified Project cultural resources management professional (Principal Investigator) to carry out the following procedures:

1. The Principal Investigator shall conduct a Project-specific cultural resources analysis to determine if significant cultural resources are within, or likely to be within, the Project improvement area. The analysis shall include conducting background research, including a focused CHRIS record search update at the SCIC, a review of site photographs and existing historic information, and a field survey including a Native American monitor. Prior to field reconnaissance, a review of the Sacred Lands File maintained by the NAHC shall also be conducted. If no known or potentially significant cultural resources are identified within the Project improvement area, and site conditions are determined to be such that there is low potential for subsurface cultural resources to be present within the Project improvement area, then no further action is required beyond (1) the preparation of a Cultural Resources Technical Report documenting the methods and results of the Project-specific cultural resources analysis, and (2) the implementation of mitigation measure MM CUL-3, presented herein.

2. If avoidance is not possible, cultural resource significance evaluations shall be required when new resources are identified as a result of a survey, or when previously recorded resources that have not been previously evaluated are reidentified during a survey. Significance evaluations shall not be required if the

Rainbow Municipal Water District Service Area

Cultural Resource Sensitivity
- High
- Moderate
- Low

- CIP Sewer Project
- CIP Water Project

CIP Sites
- Generator
- Lift Station
- Pressure Reducing Station
- Pump Station

- ODP Water Lines
- ODP Sewer Lines

Murrieta Creek
Temecula Creek
Santa Margarita River
Pilgrim Creek
San Luis Rey River
Buena Vista Creek
Agua Hedionda Creek

600065
600040
600073
600072
600051
600050
600048
600048
600074
600080
5300XX-2
600061
600069
5300XX-1
600078
600067
5300XX-3
5300XX-6
5300XX-6
600068
600070
530018
5300XX-5
530020
5300XX-4
530023
600060
600002
600084
600071
600026
600063
600075
600066
5300XX-7
600008
600008

76
15
76
78

0 1.5 Miles

Source: Aerial (NearMap, 2019)

I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\PEIR.aprx Fig4.3-2_CRSensMit : 01940.2.1 : 4/21/2022 - SAB

HELIX Environmental Planning

Cultural Sensitivity Mitigation

Figure 4.3-2

resource has been evaluated for CEQA significance or for NRHP eligibility previously and if there has been no change in the conditions that contributed to the determination of significance or eligibility. A resource shall be reevaluated if its condition or setting has either improved or deteriorated, if new information is available, or if the resource is becoming increasingly rare due to the loss of other similar resources.

a. An archaeological testing program shall be required for potentially significant archaeological sites in need of cultural resource significance evaluation. Archaeological testing programs include evaluating the horizontal and vertical dimensions of a site, the chronological placement, site function, artifact/ecofact density and variability, presence/absence of subsurface features, and research potential. Tribal representatives and/or Native American monitors shall be involved in making recommendations regarding the significance of prehistoric archaeological sites during this phase of the process. The testing program may require reevaluation of the proposed Project improvement, which could result in a combination of project redesign to preserve significant resources, as well as mitigation in the form of data recovery and monitoring (as recommended by the qualified Project archaeologist and Native American representative).

b. For above-ground historic period structures, buildings, or objects, the evaluation program shall include the development of an appropriate research design and methodological approach to the resource. Evaluation methods shall include literature review and research, the development of a historic context, documentation and photography of existing conditions and alterations over time, and historical significance evaluation under the NRHP and CRHR criteria.

3. Resources found to be non-significant as a result of a survey and/or testing will require no further work beyond documentation of the resources on the appropriate California Department of Parks and Recreation site forms and inclusion of results in the survey and/or assessment report. If no significant resources are identified within the Project improvement area but results of the initial survey or and testing/evaluation phase indicate there is a potential for unknown subsurface cultural resources to be present in the Project improvement area, then the implementation of mitigation measure MM CUL-2, presented herein, is required.

4. Preferred treatment for significant cultural resources is preservation. Pursuant to California Public Resources Code Section 21083.2(b), avoidance through project redesign is the preferred method of preservation. If a significant resource cannot be entirely avoided, all prudent and feasible measures to minimize adverse impacts shall be taken.

a. For archaeological resources for which preservation is not an option, a research design for a data recovery program shall be prepared. The data recovery program shall be based on a written research design and is subject to the provisions as outlined in CEQA Section 21083.2. Materials collected

during the Data Recovery Program shall be processed and curated at a San Diego County facility that meets federal standards per 36 Code of Federal Regulations Part 79 unless, in the case of prehistoric or tribal cultural resources, other appropriate treatment measures such as the reburial of recovered cultural material are agreed upon by the District and tribal representative(s). Upon completion of the data recovery program, implementation of mitigation measure MM CUL-2 will be required. Such measures may also be required during building demolition and/or construction grading when significant cultural resources are known or suspected to be present on a site but cannot be recovered prior to grading due to obstructions such as existing development or dense vegetation.

b. For non-archaeological significant resources, the development and implementation of a Historical Resources Treatment Plan shall be prepared to provide for appropriate treatments measures to mitigate adverse impacts. The Historical Resources Treatment Plan shall be approved by the District prior to the implementation of any treatment measures.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, Principal Investigator

MM CUL-2 **Cultural Resources Monitoring Program**. If significant cultural resources have been identified within the proposed Project improvement area where ground disturbance is proposed, or the Project archaeologist has determined that there is the potential for subsurface cultural resources to occur within a proposed Project improvement area, as identified during the implementation of mitigation measure MM CUL-1, a cultural resources monitoring program shall be implemented.

1. The District shall retain a qualified Project archaeologist and Native American monitor(s) associated with a tribe that is traditionally and culturally affiliated (TCA) with the Project Location ("TCA Tribe") to implement the monitoring program.

2. The District shall enter into a Tribal Cultural Resource Treatment and Monitoring Agreement (also known as a pre-excavation agreement) with the TCA Tribe, if requested by the TCA Tribe. The purposes of the agreement are (1) to provide the District with clear expectations regarding tribal cultural resources; and (2) to formalize protocols and procedures between the District and the TCA Tribe for the protection and treatment of, including but not limited to, Native American human remains; funerary objects; cultural and religious landscapes; ceremonial items; traditional gathering areas; and cultural items located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, and all other ground-disturbing activities.

3. The qualified Project archaeologist and a Native American monitor shall attend the pre-grading meeting with the grading contractors to explain and coordinate the requirements of the monitoring program.

4. During the initial grubbing, site grading, excavation, trenching, or disturbance of the ground surface, an archaeological monitor and a Native American monitor shall be on-site full-time. The frequency of inspections shall depend on the rate of excavation, the materials excavated, and any discoveries of tribal cultural resources as defined in California Public Resources Code Section 21074. Archaeological and Native American monitoring will be discontinued when the depth of grading and soil conditions no longer retain the potential to contain cultural deposits. The qualified Project archaeologist, in consultation with the Native American monitor, shall be responsible for determining the duration and frequency of monitoring.

5. If unevaluated potentially significant cultural resources are discovered, construction activities shall be diverted away from the discovery until significance evaluation can be conducted, as described in mitigation measure MM CUL-1, and the appropriate preservation or treatment actions can be taken. Construction activities would be allowed to resume after the completion of mitigation measure MM CUL-1, along with the continuation of monitoring. All cultural material collected during monitoring would be processed and curated at a San Diego County facility that meets federal standards per 36 Code of Federal Regulations Part 79 unless, in the case of Native American cultural material, other appropriate treatment measures such as the reburial of recovered cultural material are agreed upon by the District and the TCA Tribe.

6. After the completion of monitoring, an appropriate report shall be prepared. If no significant cultural resources are discovered, a brief letter shall be prepared. If significant cultural resources are discovered, a report with the results of the monitoring and any data recovery (including the interpretation of the data within the research context) shall be prepared.

Timing/Implementation: Prior to, during, and after construction.

Enforcement/Monitoring: District, Project Archaeologist, Native American Monitor(s)

MM CUL-3 **Procedure for Project Improvements with no Archaeological Monitoring Program.** In cases where proposed ground-disturbing Project improvements are located within moderate or high cultural sensitivity areas, and the implementation of mitigation measure MM CUL-2 is not required, as specified in mitigation measure MM CUL-1, the District shall retain a qualified Project archaeologist, defined as meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior 2008) to ensure no inadvertent impacts occur to significant cultural resources occur during the implementation of an individual Project improvement.

1. Prior to construction activities, the selected Project archaeologist or their designee will provide a Worker Environmental Awareness Program (WEAP) training to construction crews that provides information on regulatory requirements for the protection of cultural resources. As part of the WEAP training, construction crews shall be briefed on proper procedures to follow should unanticipated cultural resources discoveries be made during construction. In addition, workers will be shown examples of the types of resources that would require the notification of the Project archaeologist.

2. In the event that cultural resource(s) are inadvertently unearthed during ground-disturbing activities, construction activities shall be diverted away from the discovery until the Project archaeologist is contacted, a significance evaluation can be conducted, and the appropriate actions can be taken as described in mitigation measure MM CUL-1. Construction activities would be allowed to resume in the area of the discovery only after the completion of the significance evaluation and treatment measures defined in mitigation measure MM CUL-1.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, Project Archaeologist

Significance After Mitigation

With implementation of MM CUL-1, MM CUL-2, and MM CUL-3, potential impacts to historical and archaeological resources would be less than significant.

4.3.4.2 Issue 2: Human Remains

Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Impact Analysis

Pursuant to State CEQA Guidelines Section 15064.5, a project must be evaluated for its potential to disturb any human remains, including those interred outside of formal cemeteries. A project that would have an adverse impact (direct, indirect, or cumulative) on human remains as defined by this guideline would be considered a significant impact. Human burials have occurred outside of formal cemeteries within the District's service area, usually associated with archaeological resource sites and prehistoric people. As such, the potential exists for unknown burials to be present within Project improvement areas. Ground-disturbing activities associated with the implementation of the Project could have the potential to disturb human remains and result in a potentially significant impact.

Mitigation Measures

The following measure would be implemented to address potentially significant impacts related to human remains.

MM CUL-4 **Identification of Human Remains**. As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her

authorized representative, shall immediately notify the San Diego County Coroner's office. Determination of whether the remains are human shall be conducted on-site and in situ where they were discovered by a forensic anthropologist, unless the forensic anthropologist and the Native American monitor agree to remove the remains to an off-site location for examination. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition. A temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains in accordance with California Public Resources Code section 5097.98. The Native American remains shall be kept in situ, or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of a Native American monitor.

Timing/Implementation: During construction.

Enforcement/Monitoring: District, Construction Contractor, San Diego County Coroner

Significance After Mitigation

With implementation of MM CUL-4, potential impacts to human remains would be less than significant.

4.3.4.3 Issue 3: Tribal Cultural Resources

Would the Project cause a substantial change in the significance of a tribal cultural resource, defined in Public Resources Code §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:

a. 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 §5020.1(k), or

b. 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 §5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Impact Analysis

A project would have a potentially significant environmental impact (direct, indirect, or cumulative) if it would cause a substantial adverse change in the significance of a TCR, defined as 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 may be considered significant if it is (1) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources; or (2) a resource determined by the lead agency, in its discretion

and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1.

Ground-disturbing or other activities associated with Project improvements have the potential to affect TCRs, including archaeological sites, traditional gathering areas, or other areas of traditional use. As discussed in Section 4.3.1.2, the Sacred Land File search conducted by the NAHC was returned with positive results, indicating that sacred lands or Native American cultural resources may be present within the Project area. Per AB 52, the District sent Project notification letters to identified representatives within culturally-affiliated Tribal governments who are on file with the NAHC as individuals designated to initiate and conduct formal government-to-government consultation. The Pala Band of Mission Indians, Rincon Band of Luiseño Indians, San Luis Rey Band of Mission Indians, and San Pasqual Band of Diegueno Mission Indians requested consultation. Tribal consultation under AB 52 has occurred beginning in September 2021 and has been ongoing with these tribes.

It is anticipated that ground-disturbing activities associated with the implementation of the CIP projects, ODP projects, and maintenance could have the potential to cause a substantial adverse change in the significance of a TCR pursuant to §21074 of the State CEQA Guidelines, and result in a potentially significant impact. CIP projects involving excavation or ground disturbance in areas of moderate or high cultural sensitivity would be required to prepare a site-specific project-level analysis to fulfill CEQA requirements, which may include additional consultation and/or outreach with the culturally affiliated Native American tribes that could lead to the identification of TCRs.

Mitigation Measures

MM CUL-1, MM CUL-2, and MM CUL-3 would be implemented to address potential impacts to TCRs.

Significance After Mitigation

With implementation of MM CUL-1, MM CUL-2, and MM CUL-3, potential impacts to TCRs would be less than significant.

4.3.5 Cumulative Impact Analysis

4.3.5.1 Historical and Archaeological Resources

The geographic scope for the cumulative analysis related to historical and archaeological resources includes areas with moderate and high cultural resource sensitivity within the District's service area. Construction associated with the implementation of cumulative development in combination with the proposed Project could have significant impacts to historical resources depending on the extent of disturbance associated with construction and its effect on local historical resources. Similarly, ground disturbance (e.g., grading, trenching, excavation) associated with implementation of cumulative project development in combination with the proposed Project could have significant impacts on archaeological resources. Therefore, the baseline cumulative impact to historical and archaeological resources is considered potentially significant.

As discussed above in Section 4.3.4.1, the Project would have the potential to impact historical and archaeological resources during ground-disturbing activities associated with implementation of CIP projects, ODP projects, and maintenance projects. However, implementation of MM CUL-1, MM CUL-2, and MM CUL-3 would reduce these potential impacts to a less-than-significant level. As such, the Project

would not result in a cumulatively considerable contribution to the potentially significant cumulative impact related to historical and archaeological resources.

4.3.5.2 Human Remains

The geographic scope for the cumulative analysis related to human remains is the District's service area. Ground disturbance (e.g., grading, trenching, excavation) associated with implementation of cumulative project development in combination with the proposed Project could have significant impacts on unknown human remains. Therefore, the baseline impact to human remains is considered potentially significant.

As discussed above in Section 4.3.4.2, to avoid significant impacts to human remains, the Project would implement MM CUL-4. As such, the Project would not result in a cumulatively considerable contribution to the potentially significant cumulative impact related to human remains.

4.3.5.3 Tribal Cultural Resources

The geographic scope for the cumulative analysis related to TCRs includes areas with moderate and high cultural resource sensitivity within the District's service area. Ground disturbance (e.g., grading, trenching, excavation) associated with implementation of cumulative project development in combination with the proposed Project could have significant impacts on unknown TCRs. Therefore, the baseline impact to TCRs is considered potentially significant.

As discussed above in Section 4.3.4.3, the Project would have the potential cause a substantial adverse change in the significance of a TCR pursuant to §21074 of the State CEQA Guidelines during ground-disturbing activities associated with implementation of CIP projects, ODP projects, and maintenance projects. However, implementation of MM CUL-1, MM CUL-2, and MM CUL-3 would reduce these potential impacts to a less-than-significant level. As such, the Project would not result in a cumulatively considerable contribution to the potentially significant cumulative impact related to TCRs.

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4.4 ENERGY

This section addresses the potential energy-related impacts of the Project. The following discussion includes (1) a description of existing conditions as related to energy, (2) a summary of applicable regulations, and (3) an evaluation of the Project's potential environmental effects associated with the wasteful, inefficient, or unnecessary consumption of energy resources and conflict with plans for renewable energy or energy efficiency.

4.4.1 Existing Conditions

4.4.1.1 Existing Energy Consumption and Generation

Units of Measure

The units of energy used in this section are the British thermal units (BTU), kilowatt hours[2] (kWh), therms, and gallons. A BTU is the quantity of heat required to raise the temperature of one pound of water one °F at sea level. Because the other units of energy can all be converted into equivalent BTU, the BTU is used as the basis for comparing energy consumption associated with different resources. A kWh is a unit of electrical energy, and one kWh is equivalent to approximately 3,413 BTU, taking into account initial conversion losses (i.e., from one type of energy, such as chemical, to another type of energy, such as mechanical) and transmission losses. Natural gas consumption is described typically in terms of cubic feet or therms; one cubic foot of natural gas is equivalent to approximately 1,050 BTU, and one therm represents 100,000 BTU. One gallon of gasoline/diesel is equivalent to approximately 125,000/139,000 BTU, respectively, taking into account energy consumed in the refining process.

State Energy Overview

Electricity

California's electricity needs are satisfied by a variety of entities, including investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators.[3] As of 2019, in-state generating facilities accounted for about 82 percent of the total electric power produced in California, with the remaining electricity coming from out-of-state imports (U.S. Energy Information Administration 2021). California is the fourth-largest electricity producer in the nation and accounted for about 5 percent of U.S. utility-scale (1 megawatt [MW] and larger) electricity net generation in 2019. Renewable resources, including hydropower and small-scale (less than 1 megawatt), customer-sited solar photovoltaic systems, supplied more than half of California's in-state electricity generation, and natural gas-fired power plants provided two-fifths.

On the demand side, Californians consumed 284,060 gigawatt hours (GWh) of electricity in 2017; this is a decrease from the 285,434 GWh demanded in 2016 (California Energy Commission [CEC] 2018). CEC staff forecasts of future electricity demand anticipate that consumption will grow by between 0.99 and

[2] Kilowatt hours is the most commonly used measure of electrical consumption; however, due to the scope of this analysis, gigawatt hours (GWh; equivalent to one million kWh) is also used.

[3] Community choice aggregation is authorized in California by AB 117 (Chapter 836, Statutes of 2002), which allows cities, counties, and groups of cities and counties to aggregate the electric load of the residents, businesses and institutions within their jurisdictions to provide them electricity.

1.59 percent per year from 2017 to 2030, with peak demand forecasts growing by 0.30 to 1.52 percent annually from 2017 to 2030 (CEC 2018).

Natural Gas

Natural gas continues to play an important and varied role in California. Nearly 45 percent of the natural gas burned in California was used for electricity generation, and much of the remainder was consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors (CEC 2021). Natural gas supplies are currently plentiful and relatively inexpensive as a result of technological advances that allow recovery of natural gas from formations such as shale reservoirs that were previously inaccessible. However, potential environmental concerns are causing decision makers to reexamine the development of shale resources and consider tighter regulations, which could affect future natural gas supplies and prices.

Transportation Fuels

Transportation accounts for a major portion of California's energy budget. Automobiles and trucks consume gasoline and diesel fuel, which are nonrenewable energy products derived from crude oil. Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and SUVs. In 2015, 15.1 billion gallons of gasoline were sold in California (CEC 2021). Diesel fuel is the second most consumed fuel in California, used by heavy-duty trucks, delivery vehicles, buses, trains, ships, boats, and farm and construction equipment. In 2015, 4.2 billion gallons of diesel were sold in California (CEC 2021).

Regional Energy Overview

SANDAG's 2009 Regional Energy Strategy (RES; SANDAG 2009) serves as the energy policy blueprint for the San Diego region through 2050. The RES identifies priority early implementation actions, essential to meeting the region's energy goals:

- Pursue a comprehensive building retrofit program to improve efficiency and install renewable energy systems;
- Create financing programs to pay for projects and improvements that save energy;
- Utilize the SANDAG-SDG&E Local Government Partnership to help local governments identify opportunities and implement energy savings at government facilities and throughout their communities;
- Support land use and transportation planning strategies that reduce energy use and GHG emissions;
- Support planning of electric charging and alternative fueling infrastructure; and
- Support use of existing unused reclaimed water to decrease the amount of energy needed to meet the water needs of the San Diego region.

The RES identified the main drivers of the strategy, including the state's preferred loading order for meeting new energy needs and global climate change and its policy implications. The California Public

Utilities Commission (CPUC) and CEC adopted a preferred loading order to meet the goals for satisfying the state's growing demand for electricity, which would place top priority on increasing energy efficiency and demand response (i.e., temporary reduction or shift in energy use during peak hours), generating new energy from renewable and distributed generation resources, and improvements to clean fossil-fueled generation and infrastructure. Environmental changes caused by climate change are anticipated to have an increasing impact on energy production and peak demand for electricity. Global climate change is discussed in detail in Section 4.6, *Greenhouse Gas Emissions*, of this PEIR.

In 2014, a technical update of the RES was completed to inform development of San Diego Forward: The Regional Plan. The technical update demonstrated progress toward attaining the RES goals, updated existing conditions and future projections data, and recommended priorities for moving forward.

The major sources of energy in the San Diego region include electricity, natural gas, and petroleum. Electricity and natural gas are primarily provided to the San Diego region, including the District's service area, by SDG&E. The SDG&E service area covers 4,100 square miles within San Diego and southern Orange counties. Energy is provided by SDG&E to 3.6 million customers through 1.4 million electric meters and 873,000 natural gas meters (SDG&E 2021). The following discussion outlines consumption rates for these various energy sources in San Diego.

Electricity

San Diego County's electricity consumption over the five-year period of 2016 through 2020 is shown in Table 4.4-1, *San Diego County Electricity Consumption 2016-2020.* As shown in Table 4.4-1, electricity consumption within San Diego County was relatively consistent between 2016 and 2018 and then decreased in 2019.

Table 4.4-1
SAN DIEGO COUNTY ELECTRICITY CONSUMPTION 2016-2020

Year	Electricity Consumption (GWh)
2016	19,642
2017	19,362
2018	19,480
2019	18,989
2020	19,045

Source: CEC 2016a
GWh = gigawatt hours

The California Energy Demand (CED) 2018-2030 Revised Forecast presents three demand scenarios: high, mid, and low. The high demand scenario is characterized by low electricity rates, high population growth, low levels of efficiency, and low self-generation. Inversely, the low demand scenario is characterized by high electricity rates, low population growth, high levels of efficiency, and high self-generation. The mid demand scenario uses assumptions in between the high and low scenarios. The CED 2018-2030 Revised Forecast estimates that annual electricity consumption for San Diego County would reach between 24,000 and 27,000 GWh by 2030, depending on which demand scenario is realized (CEC 2018). Projections are shown to increase toward the end of the forecast period (2026) as a result of consumption from electric vehicles. By 2030, per capita electricity consumption is projected to range between approximately 7,400 and 8,200 kWh per person (CEC 2018).

Several major generating plants were implemented in the last two decades in San Diego County, including the 90-MW Larkspur Energy Facility in Chula Vista in 2001; the 550-MW Palomar Power Plant in Escondido in 2006; the 513-MW Otay Mesa Center power plant near the U.S.-Mexico border in 2009; and the 558-MW Carlsbad Energy Center in Carlsbad in 2018.

Natural Gas

San Diego County's gas consumption over the five-year period of 2016 through 2020 is shown in Table 4.4-2, *San Diego County Gas Consumption 2016-2020.* As shown in Table 4.4-2, gas consumption within San Diego County was relatively consistent from 2016 to 2018, increased in 2019, and then decreased in 2020.

Table 4.4-2
SAN DIEGO COUNTY NATURAL GAS CONSUMPTION 2016-2020

Year	Gas Consumption (millions of therms)
2016	473
2017	480
2018	483
2019	534
2020	505

Source: CEC 2016b

The majority of natural gas uses are for residential and commercial purposes. Currently, California imports 87 percent of natural gas needs from out of state, while in-state natural gas production is decreasing. Regional gas consumption is expected to increase to 660 million Therms (MMTh) in 2020 and 730 MMTh in 2030 (SANDAG 2009).

Transportation Fuels

As previously mentioned, automobiles and trucks consume gasoline and diesel fuel, which are nonrenewable energy products derived from crude oil, which in turn is derived from petroleum. In addition to energy consumption associated with on-road vehicle use, energy is consumed in connection with construction and maintenance of transportation infrastructure. Passenger cars and light-duty trucks are by far the largest consumers of transportation fuel, accounting for approximately 1.6 billion gallons of gasoline and diesel fuel per year (SANDAG 2009).

Based on the CARB EMFAC Emissions Database, the average fuel economy of the 2018 vehicle fleet in San Diego County was estimated as 23 mpg for gasoline and 10 mpg for diesel. Based on the CARB EMFAC2017 vehicle fleet type breakdown for San Diego County, approximately 94 percent of the vehicle miles traveled (VMT) is from gasoline-powered vehicles and approximately 6 percent is from diesel-powered trucks. The energy consumption rates for gasoline- and diesel-powered vehicles are 5,378 and 14,183 BTU per VMT, respectively. The total automobile and truck-related energy usage in San Diego County in 2018 was approximately 207 trillion BTU per year.

Water-related Energy

The District receives imported potable water from the aqueduct systems owned and operated by SDCWA and The Metropolitan Water District of Southern California. Before it reaches the District's service area, this imported water is pumped hundreds of miles from either the Sacramento-San Joaquin

Bay Delta in northern California or from the Colorado River. Energy is used in the conveyance, treatment, and distribution of water; therefore, there is a certain amount of energy use associated with every unit of water utilized by a consumer. This is known as "embedded" energy. Each unit of water may have a different amount of embedded energy in it depending on how much it is processed or conveyed before it is delivered to the user. For example, this energy is quite different in northern California compared to southern California, because it depends on pumping requirements related to distance and topography. The pumping of water along the Federal and State Water projects and across the Tehachapi Mountains into the Los Angeles Basin account for the higher energy embedded in consumption of water in southern California.

In California, the pumping, treating, and heating of water accounts for approximately 20 percent of the statewide electricity use (Public Policy Institute of California 2016).

4.4.2 Regulatory Framework

Energy generation is a significant source of GHG emissions. As such, federal, state, regional, and local regulations adopted for the purpose of reducing GHG emissions include policies and goals related to energy consumption. Such regulations, policies and goals applicable to the Project (most notably Corporate Average Fuel Economy [CAFE] standards; CCR, Title 24, Part 6 [California Energy Code]; CCR, Title 24, Part 11 [California Green Building Standards Code]; Executive Order [EO] S-3-05; EO B-30-15; Senate Bill [SB] 32; AB 1493; SB 100; CARB Scoping Plan; and SANDAG's Regional Plan) are detailed in Chapter 4.6, *Greenhouse Gas Emissions*. Additional energy-related regulations not included in Chapter 4.6 are discussed below.

4.4.2.1 Federal Energy Regulations

Energy Independence and Security Act of 2007

House of Representatives Bill 6, the federal Energy Independence and Security Act of 2007, established new standards for a few equipment types not already subjected to a standard, and updated some existing standards. Perhaps the most substantial new standard that this bill established is for general service lighting that is being deployed in two phases. First, phased in between 2012 through 2014, common light bulbs were required to use about 20 to 30 percent less energy than previous incandescent bulbs. Second, by 2020, light bulbs were required to consume 60 percent less energy than previous incandescent bulbs; this requirement will effectively phase out the incandescent light bulb.

4.4.2.2 California Energy Regulations

California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the fewest environmental and energy costs. To further this policy, the plan identifies a number of strategies, including providing assistance to public agencies and fleet operators.

Integrated Energy Policy Report

SB 1389 (Chapter 568, Statutes of 2002; PRC 25300–25323) required CEC to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop and evaluate energy policies and programs that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety" (PRC Section 25301[a]). This work culminated in the Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every two years and an update every other year. The 2019 IEPR is the most recent IEPR, which was updated in 2020. The 2019 IEPR provides a summary of priority energy issues currently facing the state, outlining strategies and recommendations to further the state's goal of ensuring reliable, affordable, and environmentally responsible energy sources. Energy topics covered in the IEPR include progress toward statewide renewable energy targets, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the preliminary transportation energy demand forecast, renewable gas, updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

Senate Bill 1078: California Renewables Portfolio Standard Program

SB 1078 (Chapter 516, Statutes of 2002) establishes a Renewable Portfolio Standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. This target date was moved forward in 2006 under SB 107 to require compliance by 2010. In addition, electricity providers subject to the RPS must increase their renewable share by at least 1 percent each year. The outcome of this legislation will impact regional transportation powered by electricity. As of 2016, the state has reported that a minimum of 25 percent of electricity has been sourced from certified renewable sources.

Senate Bill X1-2: California Renewable Energy Resources Act

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011–2013 compliance period, at least 65 percent for the 2014–2016 compliance period, and at least 75 percent for 2016 and beyond.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) extended the RPS target and requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. This act also requires doubling of the

energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statues of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with CARB and in consultation with other state, federal, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The SAF Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Executive Order S-06-06

EO S-06-06, signed on April 25, 2006, by former Governor Arnold Schwarzenegger, establishes targets for the use and production of biofuels and biopower, and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The EO also calls for the state to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies those barriers and recommends actions to address them so that the state can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 plan and provides a more detailed action plan to achieve the following goals:

- Increase environmentally and economically sustainable energy production from organic waste;
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications;
- Create jobs and stimulate economic development, especially in rural regions of the state; and
- Reduce fire danger, improve air and water quality, and reduce waste.

4.4.2.3 Regional Energy Regulations

SDG&E Long Term Procurement Plan

As required by the CPUC, utility companies such as SDG&E must prepare a Long Term Procurement Plan (LTPP) to ensure that adequate energy supplies are available to maintain a reserve margin of 15 percent above the estimated energy demand. These plans outline any future energy needs and how those needs can be met. In December 2006, SDG&E filed its LTPP with the CPUC, which included a 10-year energy resource plan that details its expected portfolio of energy resources over the planning horizon of 2007 through 2016. The projections included in the current LTPP were based on the CEC's CED 2008-2018

Forecast, dated November 2007. The 2016-2026 CEC CED projections are now lower than what was anticipated in 2007.

County of San Diego General Plan

The Conservation and Open Space Element of the County General Plan contains goals and policies for energy conservation and sustainable development. Because the Project does not include a residential component or permanent structures, most of the General Plan goals and polices for energy conservation and sustainable land use development are not directly applicable to the Project. Goals and policies relevant to the Project involve air pollutant and/or GHG reduction, which in turn would reduce energy consumption. Such policies include the following:

- COS-14.4, Sustainable Technology and Projects: Require technologies and projects that contribute to the conservation of resources in a sustainable manner, that are compatible with community character, and that increase the self-sufficiency of individual communities, residents, and businesses.

- COS-14.10, Low-Emission Construction Vehicles and Equipment: Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.

City of Oceanside General Plan

The City's General Plan takes steps to address energy by including policies for improving energy efficiency, reducing waste, recycling, and managing water use. The City's General Plan also seeks to reduce energy consumption through minimizing VMT; creating increased opportunities for transit, pedestrians, and bicycles; and encouraging and approving green building and land development conservation initiatives. Such policies are generally not applicable to the proposed Project:

4.4.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to energy. The Project would have a significant impact if it would:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

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

4.4.4 Project Impacts and Mitigation

4.4.4.1 Issue 1: Energy Consumption

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

Impact Analysis

Construction

Construction of Project improvements would result in the consumption of diesel fuel, gasoline, and other fuels associated with the operation of off-road construction equipment and on-road construction vehicles. Off-road equipment anticipated to be used during Project construction includes excavators, loaders, forklifts, pavers, generators, rollers, air compressors, backhoes, dozers, graders, dump trucks, compactors, welders, pumps, and cranes. On-road construction vehicles would consist of haul trucks for soil import and/or export, vendor trucks for material deliveries, and worker commute vehicles.

To assess the maximum annual energy usage that could occur from Project construction, a conservative annual construction scenario has been developed that assumes the highest intensity of improvements that could occur in one year. The actual amount of construction that would occur would likely be less than assumed in this one year and would be much lower in other development years. The conservative annual construction scenario is comprised of CIP projects that would occur in the near term (2024), including CIP Projects 600048, 600051, 600071, 600072, 600080, 600074, 600002, 600067, 600084, 5300X-1, 5300XX-2, and 530XX-3. Construction of each of these projects is conservatively assumed to occur simultaneously for approximately five months within the year 2024. Equipment was estimated based on data from similar projects. Refer to Section 4.6, *Greenhouse Gas Emissions,* for additional detail regarding the conservative annual construction scenario used in this assessment.

The anticipated types and quantities of heavy-off road equipment by construction activity, the diesel fuel gallons required, and calculated energy demand are shown in Table 4.4-3, *Estimated Energy Consumption from Construction Equipment and Vehicles.* As shown therein, the total maximum annual energy usage from Project construction is estimated to be 3,559 million BTU.

Table 4.4-3
ESTIMATED ENERGY CONSUMPTION FROM CONSTRUCTION EQUIPMENT AND VEHICLES

Construction Activity	Equipment	Qty	Diesel Fuel (gallons)	MMBtu
CIP 600048 – Pipeline Replacement	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 600051 – Pipeline Replacement	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 600071 – Pipeline Replacement	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 600072 – Pipeline Replacement	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 600080 – Pipeline Replacement	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 600074 – Pipeline Replacement	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108

Construction Activity	Equipment	Qty	Diesel Fuel (gallons)	MMBtu
CIP 600002 – Pipeline Replacement	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 600067 – Pipeline Replacement	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 600084 -Pump Station Construction	Tractor/Loader/Backhoe	1	605	84
	Crane	1	439	61
	Forklift	2	490	68
CIP 5300XX-1 – CIPP Lining	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 5300XX-2 – CIPP Lining	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
CIP 5300XX-3 – CIPP Lining	Tractor/Loader/Backhoe	1	454	63
	Roller	1	398	55
	Paver	1	776	108
Construction Equipment Total			18,462	2,557
On-road Construction Vehicles			1,707 (diesel) 6,482 (gasoline)	1,042
Maximum Annual Construction Energy Expenditure				3,559

MMBtu = 1 million BTU

Project energy usage would be limited to that necessary to carry out construction activities. In addition, as discussed in Section 3.5, the Project would incorporate measures to reduce energy usage during construction, including: enforcing an idling time restriction of five minutes for construction vehicles; utilizing grid power for electric energy rather than operating temporary gasoline/diesel powered generators in areas where existing grid power is available, such as at existing pump stations and lift stations; and increasing use of electric and renewable fuel powered construction equipment and requiring renewable diesel fuel where commercially available. Further, construction equipment would be maintained in accordance with applicable CARB off-road diesel equipment regulations to ensure efficient operations. As such, the Project would not consume energy during construction in a wasteful, inefficient, or unnecessary manner, and impacts would be less than significant.

Operations

Most projects would consist of new, replaced, or upgraded pipelines that would be passive during operations and would not result in on-going operational energy usage, or improvements to existing facilities that would not result in new operational energy usage. New, replaced, and rehabilitated pump stations and lift stations proposed as CIP projects, as well as on-going maintenance activities, could involve new or increased energy usage compared to existing conditions. Operational energy usage associated with CIP projects and maintenance activities was estimated assuming full buildout of CIP Projects. The primary operational electricity usage would be associated with operation of new and/or rehabilitated/upgraded pump stations and lift stations, and to a much lesser extent emergency generators at pump stations and lift stations, maintenance-related vehicle trips, and maintenance-related use of heavy equipment.

CIP Projects 600008 and 5300XX-6 would involve the construction of a new pump station and new lift station, respectively, that would require electricity for operations. CIP Projects 600040, 600050, 600084, and 530018 would involve rehabilitation/upgrades to existing pump or lift stations. While the existing pump and lift stations associated with CIP Projects 600040, 600050, 600084, and 530018 already use electricity, it is possible that the improvements would result in additional electricity usage. It is therefore conservatively assumed that electricity usage from these four CIP projects, in addition to the electricity usage associated with CIP Projects 600008 and 5300XX-6, is new electricity usage. Annual electricity usage for each of these four pump stations and lift stations was estimated based on a typical rate of 1,500 kWh per one MG of water pumped (Water & Wastes Digest 2020). To calculate the total water pumped in a year, each pump/lift station was assumed to be operating constantly at full capacity for the entire duration of the year. Based on this assumption and the capacities of the pump and lift stations, electricity usage associated with operation of CIP Projects 600040, 600008, 600050, 600084, 530018, and 5300XX-6 is calculated to be 5,041,030 kWh per year. This is a highly conservative estimate, as the pump/lift stations would not operate constantly. Rather, operations fluctuate based on demand and flow conditions. Some pumps are only operated during certain hours to take advantage of off-peak electricity charges.

Diesel-powered emergency generators that would be used for backup power during normal electric-supply power failure at various pump stations and lift stations would not result in substantial energy consumption due to their infrequent and short-term usage. Similarly, the occasional vehicle trips and heavy equipment usage as part of general Project maintenance would not result in substantial energy consumption.

Overall, because most Project improvements would consist of new, replaced, or upgraded pipelines that would be passive during operations and would not result in on-going operational energy usage, or improvements to existing facilities that would not result in new operational energy usage, it is not expected that the Project would require additional energy generation capacity. The operation of new or more powerful pumps, generators, and/or other equipment associated with CIP and maintenance projects could result in an increased energy demand; however, several CIP projects would replace older equipment with newer models that would be expected to operate more efficiently, thus reducing energy usage per amount of work performed. For example, CIP Project 600084 involves the replacement of existing pump station pumps with variable frequency drive (VFD) pumps that enable pumps to operate at less than full speed, resulting in decreased energy consumption. In addition, as mentioned above, pumps may operate during off-peak electricity usage hours, which would minimize effects on peak-period demand. Further, the Project improvements would not be considered wasteful or unnecessary because identified improvements are needed to provide adequate water and wastewater services within the District's service area. The energy used would be limited to the energy necessary for operation of the facilities. As such, impacts related to energy consumption from operation of the Project would be less than significant.

Mitigation Measures

Impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources during construction and operations would be less than significant; therefore, no mitigation is necessary.

4.4.4.2 Issue 2: Conflict with Energy Plans

Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Impact Analysis

As discussed in Section 4.4.2, because energy consumption is a significant source of GHGs, many plans adopted for the purpose of reducing GHG emissions inherently include policies and goals related to energy renewable energy and/or energy efficiency. Such plans include CARB's Scoping Plan at the statewide level, SANDAG's 2021 Regional Plan at the regional level, and the County of San Diego and City of Oceanside general plans at the local level.

Goals, policies, and recommended local actions set forth in the Scoping Plan and 2021 Regional Plan primarily focus on the reduction of energy use associated with transportation and land use, and to a lesser extent from green buildings, which incorporate energy reductions through measures such as the use of efficient appliances, the provision of on-site renewables, and cool roofs. Energy use reductions associated with transportation and land use are generally achieved through the provision of an integrated, multi-modal transportation system that provides residents with transportation options other than single-occupant automobiles. The proposed Project would provide water and wastewater infrastructure improvements to adapt to future supply and demand conditions. It would not facilitate unplanned growth and would therefore not influence land use or transportation patterns that would affect the energy usage. In addition, the facility improvements that would occur under the Project would primarily be associated with the rehabilitation of existing belowground infrastructure; the Project would not result in the development of uses that would generate high levels of VMT that would consume energy in the forms of gasoline and diesel. Such infrastructure improvements would also not have the capability of implementing green building features as they would not use energy (e.g., passive pipelines) or not include structures that could incorporate energy-saving features. As such, the Project would not conflict with CARB's Scoping Plan or SANDAG's 2021 Regional Plan, which are the two principal statewide and region-wide plans adopted for the purpose of reducing energy usage.

Local plans and policies, including those set forth in the County of San Diego General Plan and City of Oceanside General Plan Update, have also been adopted for the purpose of reducing energy at the local level. While the Project is not subject to local land use controls, as the District is a public agency, discussion on the Project's consistency with local plans and policies is provided for informational purposes. Similar to the discussion above, local plans place on emphasis on reducing energy use through smart growth and land use planning/transportation principles that will reduce VMT and through sustainable building design and practices. Such policies are not relevant to the Project, which involves improvements to water and wastewater infrastructure, most of which is already existing.

Mitigation Measures

Impacts related to conflict with or obstruction of state or local plans addressing energy efficiency and increased reliance on renewable energy would be less than significant; therefore, no mitigation measures are required.

4.4.5 Cumulative Impact Analysis

The geographic scope for the cumulative analysis relative to energy is the service area of the energy (electricity and natural gas) provider in the Project area, which is SDG&E.

4.4.5.1 Energy Consumption

When combined, cumulative projects within this geographic scope could contribute to a regional increase in energy use through their use of electricity, natural gas, gasoline, and diesel during construction and/or operations. Cumulative projects, however, would be required to comply with the Title 24 Building Energy Efficiency Standards, including the California Energy Code (CCR Title 24, Part 6) and CALGreen (CCR Title 24, Part 11), that would limit energy and natural gas usage. Vehicles associated with cumulative projects would be subject to CAFE standards that would limit fuel consumption. Such regulations and policies would ensure the cumulative projects would not use energy in a wasteful, inefficient, or unnecessary manner.

Construction and maintenance of Project facilities would consume energy in the forms of gasoline and diesel for off-road equipment and on-road vehicles. Construction energy use would be limited to that which is necessary to complete construction and maintenance activities and the Project would incorporate measures to reduce energy usage during construction. Operationally, most Project facilities would either be passive (i.e., pipelines) and would not consume energy or be replacements of existing facilities that would not result in new energy consumption. Such improvements would not affect energy supplies or require additional energy generation capacity. Energy usage associated with new and/or upgraded active facilities (e.g., pump stations, lift stations, pressure-reducing stations) would be limited to that necessary for operation of the facilities. In addition, these improvements would replace older equipment with newer models that would be expected to operate more efficiently, thus reducing energy usage per amount of work performed. As such, the combined effects from cumulative projects within the geographic scope related to energy would be less than significant.

4.4.5.2 Conflict with Energy Plans

As discussed above in Section 4.4.4.2, the primary plans related to energy usage are those aimed at reducing GHG emissions and include CARB's Scoping Plan at the statewide level, SANDAG's 2021 Regional Plan at the regional level, and the County of San Diego and City of Oceanside general plans at the local level. Large-scale plans and policies related to transportation and land use are developed and carried out at the state, regional, or local level by the relevant agency (e.g., CARB or SANDAG) or jurisdiction (e.g., the County of San Diego or City of Oceanside). Individual cumulative development projects would be subject to these overarching plans and policies and would thus be required to be in compliance. Actions specific to a given development project, such as implementation of green building standards, would also be required per these state, regional, and local plans. Cumulative new development would also be required to comply with applicable standards related to energy use, most notably the Title 24 Building Energy Efficiency Standards and fuel efficiency standards for vehicles, including CAFE standards. As such, the combined effects from cumulative projects within the geographic scope related to consistency with energy plans would not be cumulatively significant.

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4.5 GEOLOGY AND SOILS

This section addresses the potential geology and soils impacts of the Project. The following discussion includes (1) a description of existing conditions as related to geology, soils, seismicity, and paleontology; (2) a summary of applicable regulations; and (3) an evaluation of the Project's potential environmental effects associated with geology, soils, seismic, and paleontological conditions. The geologic and palaeontologic settings are based on the Paleontological Resources Technical Report prepared for the project (Department of PaleoServices, San Diego Natural History Museum 2021; Appendix E).

4.5.1 Existing Conditions

4.5.1.1 Geologic Setting

The District's service area straddles the boundary between the coastal plain and mountain foothills within the Peninsular Ranges Geomorphic Province of California. The area is characterized by a fairly rugged topography of steep-sided hills and deep, narrow canyons that expose Jurassic and Cretaceous crystalline basement rocks including plutonic igneous rocks, metavolcanic rocks, and metasedimentary rocks. Limited exposures of Eocene non-marine sedimentary rocks also occur in the service area as erosional remnants preserved beneath more resistant Miocene volcanic rocks. In addition, Pliocene and early Pleistocene fluvial and alluvial fan geologic units extend from Pauba Valley into the extreme northeastern corner of the service area. Younger Pleistocene fluvial and alluvial sediments occur along the floor of the San Luis Rey River Valley and associated tributaries. These Pleistocene sediments have in turn been dissected by modern streams and backfilled with Holocene sediments. Sedimentary rocks are more extensively exposed to the west of the service area, in the San Diego Coastal Plain, where they completely blanket the older underlying Mesozoic crystalline basement rocks. This coastal area is characterized by a stair-step series of elevated Quaternary marine and fluvial terraces that have been dissected by modern west-flowing streams and rivers.

The geologic history of the Peninsular Ranges Geomorphic Province is dominated by events associated with subduction of the Farallon Plate beneath the North American Plate beginning approximately 125 million years ago. As the leading edge of the descending plate reached critical depths below the Earth's surface, the rocks melted and began ascending up through the overlying, older pre-existing rocks as a series of magmatic masses called plutons. Over the next 35 million years, individual plutons continued to be generated, and coalesced and cooled as an Andean-style magmatic arc that eventually formed what geologists today call the Peninsular Ranges Batholith—a complex assortment of plutonic igneous rocks of varying composition (gabbro, granodiorite, tonalite, and monzogranite). During this extended subduction period, the older pre-existing rocks that were intruded by the plutons became metamorphosed and altered from limestones to marbles, from sandstones to quartzites, and from shales to schists. These protoliths, as they are called, originally formed as marine sediments between approximately 230 and 160 million years ago on the ancient sea floor. Beginning about 80 million years ago, uplift of the Peninsular Ranges Batholith resulted in the removal by erosion of a majority of the metamorphic rocks and the exposure of the batholithic rocks as a linear, back-arc mountain range. Subsequent erosion during the early Cenozoic reduced the elevation of the Cretaceous ancestral Peninsular Ranges, and produced a topographically complex coastline that, during the following Eocene Epoch, was inundated by warm tropical ocean waters that formed prominent headlands, broad lagoons, and shallow bays. Much later, as tectonic forces associated with subduction gave way to those associated with transform faulting, a series of regional depositional basins formed that received great volumes of land-derived sediments from adjacent local river systems. By Pliocene time, the transform

faulting regime had evolved to one of transpressional tectonics as the San Andreas Fault Zone and related faults (e.g., the Elsinore Fault and San Jacinto Fault) were born and sliced up the province to create its characteristic landforms of high peaks and steep slopes (e.g., Palomar Mountain, Vulcan Mountain, Laguna Mountains, and Cuyamaca Mountains), upland valleys (e.g., Warner Valley), and desert peaks (e.g., Vallecito Mountains and Fish Creek Mountains).

The geography of the service area is characterized by hills and valleys, with a mix of intermittent streams and some perennial streams and rivers. The topography ranges from 150 to 2,200 feet above mean sea level (AMSL).

4.5.1.2 Stratigraphy

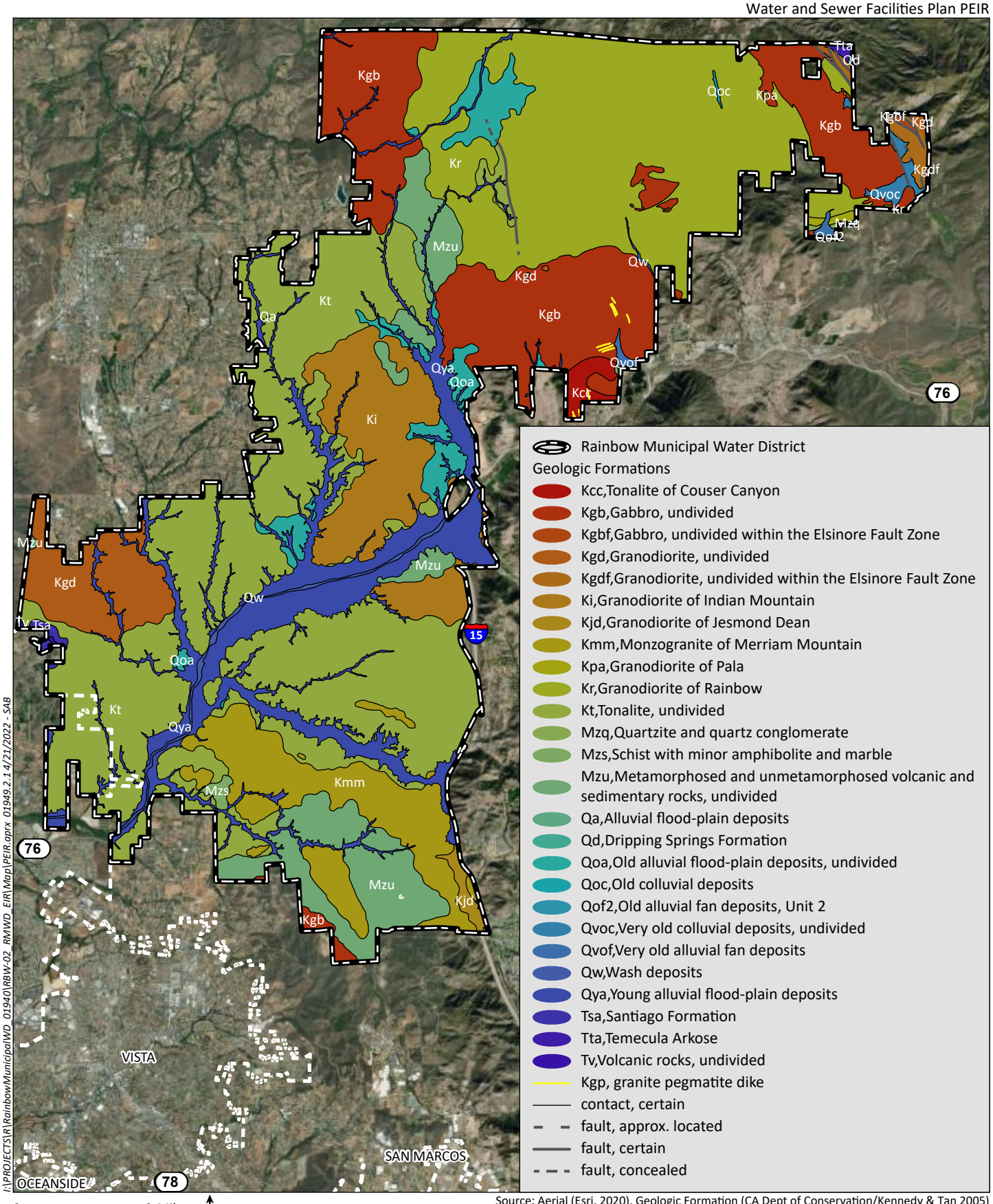
Existing published geologic mapping indicates that the District's service area is underlain by a series of geologic units including, in order of increasing age: Holocene-age young wash and alluvial flood plain deposits; Pleistocene-age old and very old alluvial flood plain, alluvial fan, and colluvial deposits; the early Pleistocene-age Dripping Springs Formation; the late Pliocene- to early Pleistocene-age Temecula Arkose; Miocene-age volcanic rocks; the middle Eocene-age Santiago Formation; Cretaceous-age intrusive igneous rocks; Mesozoic metasedimentary and metavolcanic rocks; and Mesozoic quartzite and quartz conglomerate (refer to Figure 4.5-1, *Geologic Units*). In addition, artificial fill related to previous development within the service area is likely present throughout but is not mapped.

A field survey was conducted within the District's service area along existing roadways that provided good exposures of native geologic units, such as those roadways that occur within road cuts and unvegetated or sparsely vegetated natural hillsides and slopes. The resulting windshield survey generally confirmed the geologic conditions summarized in the various published geologic maps that cover the District's service area. Based on a review of the published work and the results of the field survey, the majority of the service area was determined to be underlain by crystalline basement rocks of the Peninsular Ranges Batholith, with more limited exposures of older Mesozoic metavolcanic and metasedimentary rocks. Isolated patches of Eocene sedimentary and Miocene volcanic rocks are confined to the extreme western corner of the District's service area, while Pliocene and early Pleistocene sedimentary rocks only occur in the extreme northeastern corner of the District's service area. Quaternary alluvium and colluvium are generally confined to the San Luis Rey River Valley and its tributaries, as well as the upland valley floor of Rainbow Valley.

The geologic units present within the service area are summarized below. For the purpose of identifying the portions of the District's service area where geologic units occur, locations within the District are described by the five Divisions of the District, previously described in Chapter 1 of this PEIR and shown on Figure 1-2. The following section also summarizes the appearance of these geologic units as noted in the field during the survey.

Unmapped Artificial Fill

Artificial fill typically consists of disturbed deposits associated with human activities and is often composed of sedimentary materials mined in close vicinity to a project site (e.g., adjacent hillslopes). However, artificial fill is also frequently imported to a project site and may be from a distant location. Artificial fill is typically placed to change the topography of a location, such as during the creation of level building pads for new housing developments or to construct level streets.



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Source: Aerial (Esri, 2020), Geologic Formation (CA Dept of Conservation/Kennedy & Tan 2005)

HELIX Environmental Planning

Geologic Units

Figure 4.5-1

The volume of artificial fill in western San Diego County is expected to be large, given the extensive amount of urbanization and construction of supporting infrastructure that has gone on in the area over the last 150 years. At this time there is no available mapping or geotechnical data that summarizes the extent or location of artificial fill within the District's service area; however, the presence of artificial fill is assumed to occur throughout the District service area and was observed in areas along SR 76 where the roadway has been improved and widened during the last decade.

Young Wash and Alluvial Flood Plain Deposits (Qw, Qa, Qya)

Young Quaternary alluvium consists of poorly consolidated clays, silts, sands, and gravels that have been deposited by local creeks, streams, and rivers in their respective drainages. Alluvial sediments have been derived from bedrock sources that occur in the various watersheds that feed these drainages. Colluvial deposits derived by local slope wash processes typically interfinger with alluvial deposits along the lower slopes of drainages. As a result, alluvium and colluvium are often mapped together as a single geologic unit. When undissected by modern erosion, such deposits are typically considered to be Holocene in age (i.e., younger than approximately 11,700).

Deposits of Quaternary alluvium occur in all of the modern stream channels and valley floors of western San Diego County. Exposures of young Quaternary alluvium and wash deposits have been mapped in the service area along the axis of the San Luis Rey River Valley in District Divisions 1, 2 and 4, as well as along the axis of tributaries to the San Luis Rey River in all District Divisions. Holocene alluvial deposits were observed within the District's service area in road cut exposures along Gopher Canyon Road in District Division 1 and along Gird Road in District Division 3.

Old and Very Old Alluvial Flood Plain, Alluvial Fan, and Colluvial Deposits (Qa, Qoc, Qof2, Qvoc, Qvof)

Old and very old Quaternary alluvial floodplain, alluvial fan, and colluvial deposits as mapped by Kennedy and Tan (2007) generally consist of moderately to well-consolidated sediments that have been moderately to deeply dissected by modern stream channels. Typically, the upper surfaces of landforms underlain by these deposits are capped by moderately- to well-developed pedogenic soils. Alluvial flood plain deposits generally consist of clays, silts, and fine-grained sands, while alluvial fan deposits more typically consist of coarse-grained and poorly sorted sands and conglomerates. These older Quaternary deposits are considered to range from late to early Pleistocene in age (ranging from old, 11 to 500 thousand years ago, to very old, 500 thousand years ago to 2.5 million years ago).

Deposits of old and very old Quaternary alluvium occur along the margins of all of the major river valleys of western San Diego County, including the valleys of the Santa Margarita River, San Luis Rey River, Buena Vista Creek, Aqua Hedionda Creek, San Marcos Creek, Escondido Creek, San Dieguito River, Peñasquitos Creek, San Diego River, Sweetwater River, Otay River, and Tijuana River. Exposures of old and very old Quaternary alluvium and wash deposits have been mapped in the District's service area along the axis of the San Luis Rey River Valley in District Divisions 1, 2, and 4, as well as along the axis of tributaries to the San Luis Rey River in all District Divisions. Pleistocene sediments were observed in road cut exposures along SR 76 in District Division 5 and near the mouth of Gird Valley in District Division 5.

Dripping Springs Formation (Qd)

The Dripping Springs Formation consists of surficial, coarse-grained fanglomerates exposed along SR 79 in the area around and south of Vail Lake. It has been suggested that the Dripping Springs Formation

was deposited as a thin sequence of locally derived alluvial fan sediments in arroyos eroded into older fanglomerates of the Pauba Formation and coarse-grained sandstones of the Temecula Arkose. Others have considered the Dripping Springs Formation to be early Pleistocene in age and described exposures of this geologic unit along the Elsinore Fault Zone as consisting of "pebble, cobble, and boulder fanglomerate in a reddish-brown, poorly consolidated, poorly sorted sandstone matrix."

Deposits of the Dripping Springs Formation have a very limited distribution and are confined to areas generally south of Temecula Creek, northeast of the Elsinore Fault Zone, and west of Radec Valley. Exposures of the Dripping Springs Formation are confined to the extreme northeast corner of District Division 5. Heavy vegetation and steep topography in this area made it impossible to examine these deposits during the field survey.

Temecula Arkose (Tta)

The Temecula Arkose formation contains extensive deposits of arkosic sandstone that crop out southeast of Temecula, on the Pechanga Reservation in southern Riverside County. Typical exposures consist of buff-to-white, friable, medium- to coarse-grained sandstones and siltstones. Claystones, paleosols (ancient soils), tuffaceous sandstones, and pebble and cobble conglomerates also occur in this geologic unit. The Temecula Arkose ranges in thickness from over 1,500 feet on the Pechanga Reservation to less than 300 feet near Radec, east of Vail Lake. Sediments of the Temecula Arkose appear to have been deposited in a variety of depositional settings ranging from quiet lacustrine paleoenvironments near Radec and Vail Lake to high-energy fluvial or distal alluvial fan paleoenvironments near Pechanga. The strata of this geologic unit have been deformed by faulting, and are unconformably overlain by flat-lying sediments of the Pauba Formation and Dripping Springs Formation. This area has been assigned an age of Pliocene to early Pleistocene (approximately 4.6 to 1.9 million years ago) to the Temecula Arkose based on biochronological studies of fossil land mammals.

Deposits of the Temecula Arkose occur throughout the Elsinore Fault Zone from Wildomar in the north to Temecula in the south and east along the SR 79 corridor at least to Aguanga. Exposures of the Temecula Arkose are confined to the extreme northeast corner of District Division 5.

Miocene Volcanic Rocks (Tv)

Isolated occurrences of post-Eocene age volcanic rocks are mapped in the vicinity of Morro Hill in and north of the extreme northeastern corner of the city of Oceanside. The flows, agglomerates, and tuffs occur on several low-lying hills to the east and south of Morro Hill and may represent lava and ejecta derived from the presumed volcanic vent represented by the Morro Hill plug. These volcanic rocks intrude and/or overlie older Eocene sedimentary rocks mapped as the Santiago Formation. Although the precise age of the volcanic rocks in this area of northern San Diego County is unknown, most authors have suggested that they are Miocene in age, largely based on the reported occurrence of other isolated volcanic rocks in southern California that have been radiometrically dated as Miocene.

The Miocene volcanic rocks are confined to the Morro Hill-Sleeping Indian Hill area that occurs at the boundary between the city of Oceanside, Marine Corps Base Camp Pendleton, and the Fallbrook Community Planning Area of San Diego County. Exposures of the Miocene volcanic rocks are confined to the extreme western border of District Division 2, and specifically to the Morro Hill-Sleeping Indian Hill area. Good exposures of volcanic vent rocks occur on the flanks of Morro Hill, while residential and

agricultural development and landscaping has covered and obscured all or most of the former exposures of flow and pyroclastic rocks.

Santiago Formation (Tsa)

The middle Eocene-age (approximately 49 to 40 million years old) Santiago Formation are deposits exposed in the foothills of the Santa Ana Mountains in Orange County, generally consisting of a basal conglomerate layer overlain by a gray to buff, micaceous, feldspathic sandstone with siltstone interbeds, and massive buff to yellow sandstone, and includes both marine and nonmarine strata. In addition, three informal members of the Santiago Formation have been recognized in the Encinitas-Carlsbad-Oceanside-Vista area of San Diego County, and are referred to as members "A," "B," and "C." The lowest, member "A" of the Santiago Formation, is composed predominantly of green mudstone and sandy mudstone interbedded with blue, tuffaceous sandstone and lenticular, concretionary sandstone. The middle member "B" consists of continental, estuarine, and marine deposits composed of green and gray, very fine- to medium-grained, arkosic sandstone with calcitic concretions and interbeds of clayey sandstone and claystone. The upper member "C" unconformably overlies member "B," and consists of continental and paralic deposits composed of white to gray-white, friable, cross-bedded, fine- to very coarse-grained, arkosic sandstone with green to green-brown siltstone, silty mudstone, and claystone interbeds. The Santiago Formation is poorly exposed in the service area and consists of an interbedded sequence of well-indurated olive green claystones, tan to gray siltstones, and light gray to white sandstones. The Santiago Formation strata in the Morro Hill Sleeping Indian Hill area of the service area has been assigned to member "A."

Sedimentary rocks of the Santiago Formation crop out over a large area extending from the western foothills of the Santa Ana Mountains in Orange County, south through the western portion of Marine Corps Base Camp Pendleton to the narrowed coastal plain portion of the City of Encinitas. Outcrops of the Santiago Formation are confined to the extreme western border of District Division 2, and specifically to the Morro Hill-Sleeping Indian Hill area where sandstones of this geologic unit are preserved beneath resistant rocks of the Indian Hills Volcanics and nonconformably overlie crystalline basement rocks of the Bonsall tonalite. Residential development and landscaping in this area has covered and obscured all or most of these exposures.

Cretaceous Plutonic Rocks of the Peninsular Ranges Batholith (Kcc, Kgb, Kgp, Ki, Kjd, Kmm, Kpa, Kr, Kt)

The Peninsular Ranges Batholith is a composite batholith composed of several hundred or even several thousand individual plutons and extending several hundred miles from Riverside County south into Baja California, Mexico. Batholithic rocks in San Diego County range in composition from granite to gabbro, and primarily formed during the Cretaceous starting around 125 million years ago extending to about 86 million years ago. These plutonic rocks formed during the development of a major subduction zone off the west coast of the North American continent during the Mesozoic. Oceanic crust was thrust below continental crust, and as the cold, water-saturated oceanic crust descended into the earth's mantle, it became superheated and melted into buoyant magma bodies called plutons, which then rose (intruded) through the overlying crust and slowly cooled several miles below the Earth's surface to form the plutonic rocks (granodiorite and gabbro) now exposed at the surface. Plutonic rocks exposed in the service area represent a range of compositions and include quartz-rich rocks (e.g., monzogranite, granodiorite, and tonalite) and quartz-poor rocks (e.g., gabbro). Pegmatite dike rocks in the Pala area represent a special type of gem-bearing plutonic rock.

Rocks of the Peninsular Ranges Batholith crop out over a large linear area measuring up to approximately 60 miles wide and extending approximately 500 miles from Riverside County south into Baja California, Mexico. Exposures of the Peninsular Ranges Batholith have been mapped extensively throughout the service area and represent the dominant geologic unit throughout the service area. Granodiorite and tonalite make up the majority of plutonic rocks in District Divisions 1, 2, 3, and 4, while granodiorite and gabbro are the dominant rock types in District Division 5.

Mesozoic Metasedimentary and Metavolcanic Rocks (Mzu)

Unnamed Mesozoic metamorphic rocks presumably represented by both metavolcanics and metasediments have been mapped as a composite geologic unit in northern San Diego County and southern Riverside County. These rocks are presumably late Jurassic to early Cretaceous in age and are considered to represent a wide variety of low- to high-grade metamorphic rocks. Metavolcanic rocks are the dominant rock type and primarily consist of volcaniclastic breccias and metaandesitic flows, tuffs and tuff-breccias, while metasedimentary rocks are poorly documented. Elsewhere in the western foothills of San Diego County, similar metavolcanic rocks have been assigned to the early Cretaceous Santiago Peak Volcanics.

Mesozoic metavolcanic and metasedimentary rocks have a consistent but patchy distribution in the western foothills of the Peninsular Ranges from Riverside County south through San Diego County and into Baja California. Exposures of Mesozoic-age metavolcanic and metasedimentary rocks in the District service area occur as isolated roof pendants along a roughly north-south linear band from just south of Rainbow Valley in District Division 5 through Pala Mesa in District Division 3 to the hills around Gopher Canyon in District Division 1.

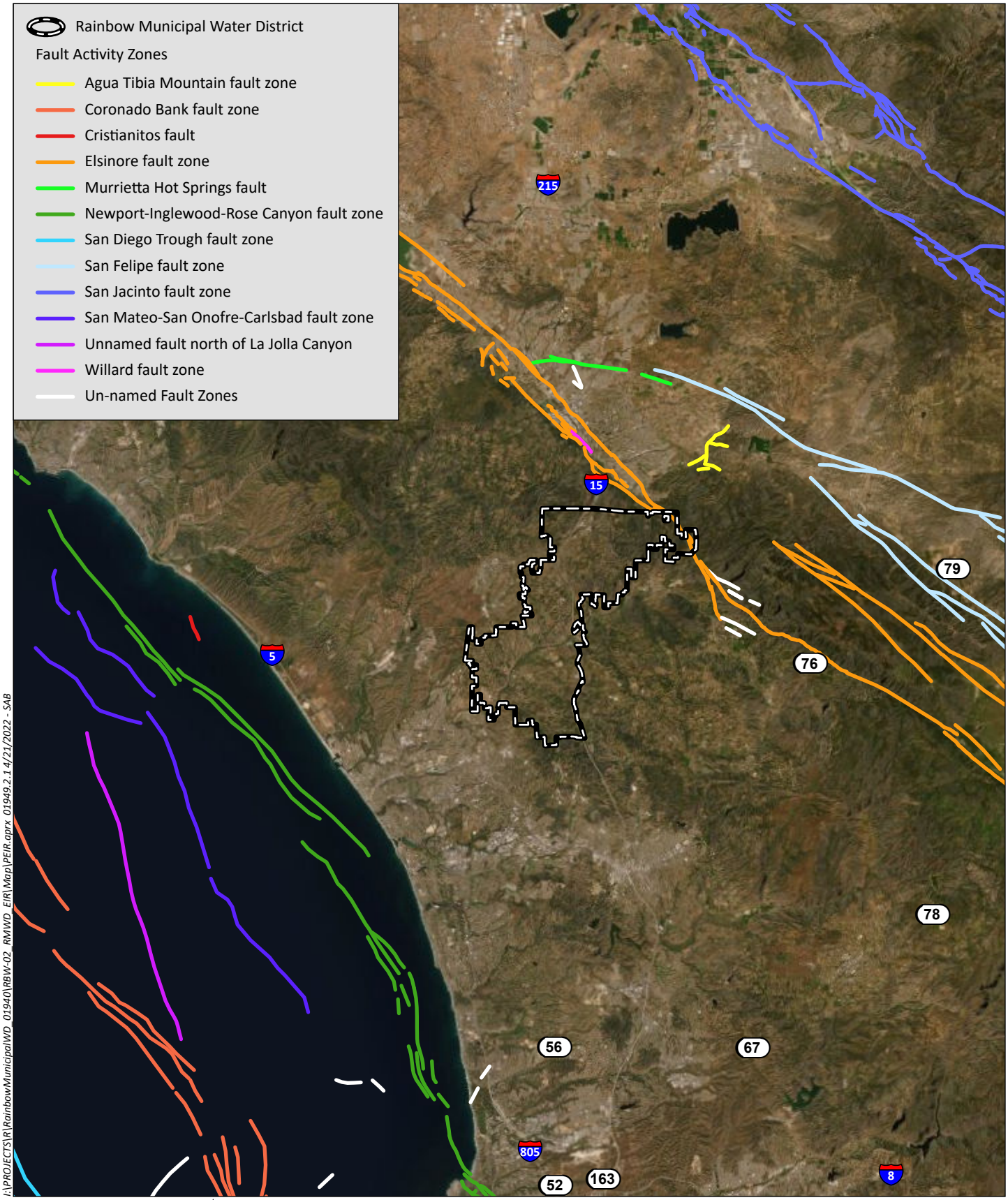
Mesozoic Quartzite and Quartz Conglomerate (Mzq)

Unnamed metasedimentary rocks near Pala have been mapped as a deformed sequence of banded quartzites, quartz conglomerates, and meta-arkoses. These rocks occur in close proximity to a linear zone of granodiorites and gabbros that have been intruded by gembearing pegmatite dikes. The quartzites and related metasedimentary rocks represent roof pendants of pre-existing sedimentary sandstones that were metamorphosed during emplacement of the plutons of the Peninsular Ranges Batholith. These metasedimentary rocks are considered to be late Jurassic and/or early Cretaceous in age. It should be noted that quartzites associated with metasediments of Julian Schist that occur in the higher portions of the Peninsular ranges are generally considered to be late Triassic to mid Jurassic in age.

Unnamed quartzites and related metasedimentary rocks have a very limited area of outcrop in the western foothills of the Peninsular Ranges. However, lithologically similar rocks associated with schists and marbles occur farther to east where they are typically mapped as the Julian Schist. Exposures of Mesozoic-age metasedimentary rocks have a very limited distribution within the service area and are confined to the extreme southeastern corner of District Division 5.

4.5.1.3 Structure/Seismicity

The District's service area, like much of southern California, is within a broad, seismically active region characterized by a series of northwest-trending faults associated with the Elsinore Fault Zone (refer to Figure 4.5-2, *Regional Faults*). As shown on Figure 4.5-2, known faults within the District's service area include the Temecula section of the Elsinore Fault Zone. Additionally, several major active faults and



Source: Aerial (Esri, 2020), Faults (Fault Activity Map of California, CA Geological Survey, 2010)

HELIX Environmental Planning

Regional Faults

Figure 4.5-2

fault zones are present within San Diego County, including the San Jacinto Fault Zone (including Coyote Creek Fault); the Elsinore Fault Zone and the nearby Earthquake Valley Fault; and the Rose Canyon Fault Zone, which includes a series of unnamed faults trending from downtown San Diego across San Diego Bay to the City of Coronado (County 2011b); refer to Table 4.5-1, *Fault Zones in the Region*. Additionally, the San Andreas Fault, which is not located within San Diego County, is a major fault through California, with a length of approximately 900 miles. The San Andreas Fault has the potential to result in ground shaking within the service area during a seismic event. The closest mapped active faults are associated with the Elsinore Fault Zone (with the Temecula Section of the Elsinore Fault Zone traversing through the District's service area), the Rose Canyon Fault Zone approximately 13 miles west of the District's service area, and the San Jacinto Fault Zone approximately 39 miles east of the District's service area. Active faults are generally defined as exhibiting historic seismicity or displacement of Holocene materials, while potentially active faults have no historic seismicity and displace Pleistocene (between approximately 11,000 and 2 million years old) but not Holocene strata. The noted California Geological Survey (CGS) Earthquake Fault Zone designations are generally intended to "[r]egulate development near active faults so as to mitigate the hazard of surface fault rupture" (CGS 2007). The closest Earthquake Fault Zone designations to the District's service area are located along the described proximal portions of the Elsinore fault zone.

Table 4.5-1
FAULT ZONES IN THE REGION

Fault	Distance (miles)[1]	Direction	Maximum Probable Earthquake
Elsinore	Temecula section traverses District service area	Temecula section traverses District service area	7.1
Rose Canyon	10	West	6.9
San Jacinto	39	East	7.2

Source: CDC 2015

[1] Closest distance to the District's service area

4.5.1.4 Geologic Hazards

The District's service area may be subject to a number of potential geologic hazards related to seismic and non-seismic conditions, as outlined below.

Seismic Hazards

Ground Rupture

Ground rupture from fault displacement and related effects such as lurching (i.e., the rolling motion of surface materials associated with passing seismic waves) can adversely affect surface and subsurface facilities such as pump stations, pipelines, storage facilities, and other infrastructure. As previously described, the Temecula section of the Elsinore Fault Zone traverses the northeastern corner of the service area. No other known active/potentially active faults or associated CGS Earthquake Fault Zones are located within or adjacent to the District's service area (refer to Figure 4.5-2). Accordingly, the potential for earthquake-related ground rupture and/or related effects is considered generally low, although such potential cannot be completely eliminated as the service area could encompass currently

unknown active or potentially active faults, and site-specific geotechnical investigations have not been conducted.

Ground Acceleration (Ground Shaking)

The principal seismic hazard that could affect the service area is seismic ground shaking associated with earthquake events along one or more regional active faults as previously described in Section 4.5.1.3. Ground shaking can affect the integrity of surface and subsurface facilities such as pump stations, pipelines, storage facilities, and other infrastructure, either directly from vibration-related damage to rigid structures, or indirectly through associated hazards including liquefaction (as described below).

Liquefaction and Related Hazards

Liquefaction is the phenomenon whereby soils subjected to seismic (or other) ground shaking effects exhibit a loss of shear strength and demonstrate fluid-like flow behavior due to excess pore pressure. Loose, granular (low clay/silt content) and saturated soils with relative densities of less than approximately 70 percent are most susceptible to these effects, with liquefaction potential greatest at depths of less than approximately 50 feet. Surface and near surface manifestations from these events can include loss of support for structures/foundations, pavement, and utilities; dynamic settlement (including volume reductions in dry soils); lateral spreading (i.e., horizontal displacement on sloped surfaces as a result of underlying liquefaction), and ground lurching (a permanent displacement or shift of the ground surface). Liquefaction is not known to have occurred historically in San Diego County, although there may be a potential for liquefaction is areas with loose sandy soils combined with a shallow groundwater table, which typically are located in alluvial river valleys/basins and floodplains (County 2011b). Portions of the service area are identified in the County General Plan EIR as areas of potential liquefaction. These areas generally surrounded the San Luis Rey River and Moosa Canyon Creek as they extend through the service area (County 2011b).

Landslides/Slope Instability

The occurrence of landslides and other types of slope failures (e.g., rock falls and mudflows) is influenced by a number of factors, including slope grade, geologic and soil characteristics, moisture levels and vegetation cover. Landslides can be triggered by a variety of potentially destabilizing conditions or events, such as gravity, fires, precipitation, grading and seismic activity. The County Multi-Jurisdictional Hazard Mitigation Plan (MHMP) identifies areas prone to rain-induced landslides (County 2017). While the service area does not contain areas identified in the MHMP as “most susceptible” or “marginally susceptible” to landslides, the service area contains large areas of steep slopes (25 percent or greater) throughout. Additionally, gabbroic soils with slopes greater than 15 percent are mapped in the northern and westernmost portions of the service area. Gabbroic soils on slopes greater than 15 percent are identified by the County as slide-prone material (County 2011b). Based on the described conditions, the potential for hazards from seismic-related landslides and other slope failures in the service area is considered generally moderate, although such potential could vary substantially based on site-specific conditions.

Non-seismic Hazards

Manufactured Slope Instability

In addition to potential seismically-induced landslide/slope failure hazards as noted above, implementation of certain Plan projects could entail the construction of manufactured (cut/fill) slopes that could be subject to instability and associated slope failure issues (e.g., manufactured slopes associated with reservoirs and related access roads). While the potential for manufactured slope instability is generally considered low due to associated regulatory standards (refer to Section 4.5.2), improperly designed, constructed, or maintained slopes can generate hazards such as undermining adjacent structures/facilities, blocking access roads, and erosion/off-site sediment transport (sedimentation).

Subsidence/Compression

Potential hazards related to regional subsidence are typically associated with conditions such as karst/limestone terrain (i.e., the formation of subsurface cavities by dissolution of soluble rocks), subsurface mining, large-scale groundwater or oil and gas withdrawal, or decomposition of thick organic (peat) layers. Subsidence can result in a loss of support capability within the associated soil or formational materials, potentially resulting in damage to surface and subsurface structures such as buildings, pavement, pipelines, and utilities. The Multi-Jurisdictional Hazard Mitigation Plan (County 2017) indicates that underlying geologic formations in San Diego County are mostly granitic, which have a very low potential of subsidence.

A number of local surficial materials may potentially be subject to localized subsidence/compression under loading, including non-engineered fill, topsoil, and alluvial deposits. The potential occurrence of compressible materials and localized subsidence from structural loading could result in hazards such as differential settlement (different degrees of settlement over relatively short distances), with associated potential effects to structures, pavement, foundations/footings, pipelines, and utilities.

Collapsible Soils

Surficial materials including non-engineered fill, topsoil, and alluvial deposits may be susceptible to hydro-collapse, a process in which loose, dry soils undergo rapid consolidation (collapse) when wetted. This phenomenon is most common in arid and semi-arid areas, with the associated effects generally localized but potentially substantial and including differential settlement as noted above for compression.

Expansive Soils

Expansive (or shrink-swell) behavior in soils is attributable to the water-holding capacity of clay minerals, and can adversely affect the integrity of facilities such as foundations, pavement, and underground pipelines. A number of native topsoils within the service area are identified as containing potentially expansive soils (County 2011b). Potentially expansive soils are mapped throughout the District's service area, including parge portions in Rainbow, Fallbrook, and the Bonsall areas.

Corrosive Soils

Surficial materials, such as topsoil and fill, may exhibit corrosive properties related to factors such as pH, chloride or soluble sulfate levels, and resistivity values (i.e., the ability to restrict, or resist, electric current). Long-term exposure to corrosive soils can result in significant impacts related to deterioration and eventual failure of concrete (from sulfate) and metal (from pH, chloride, and resistivity) structures, including foundations, reinforcing steel and subsurface pipelines or other utilities. There is potential for corrosive soils to occur within the District's service area.

Trench Excavations

The proposed Project improvements would require the excavation of trenches, varying in width from 2 feet to 12 feet. Trench excavations associated with larger pipelines (and potentially excavation for other facilities) could result in potential hazards related to trench wall instability/collapse and associated worker safety.

4.5.1.5 Paleontological Setting

The geologic units (described in detail in Section 4.5.1.2) have been assigned various levels of sensitivity for paleontological resources, which are summarized in Table 4.5-2, *Summary of Paleontological Sensitivity by Geologic Unit*. Table 4.5-2 also contains a summary of fossils recovered from the specific geologic units (or details regarding lack of fossils recovered). Additional information regarding recovered fossils and their general location are contained in the Paleontological Resources Technical Report prepared for the Project (Appendix E).

Table 4.5-2
SUMMARY OF PALEONTOLOGICAL SENSITIVITY BY GEOLOGIC UNIT

Geologic Unit	Age	Paleontological Sensitivity	Recovered Fossils
Unmapped artificial fill	Recent	Zero	Due to previous disturbance and relocation, any fossils in artificial fill may contain have lost their original context and are not considered to be scientifically significant.
Young wash and alluvial flood plan deposits	Holocene	Low	No fossils are known, primarily due to the relatively young geologic age of these deposits.
Old and very old alluvial fan deposits; old and very old alluvial flood plain and colluvial deposits	Pleistocene	Moderate; High	Freshwater invertebrates and vertebrates; terrestrial plants and land mammals.
Dripping Springs Formation	Early Pleistocene	Low	No fossils are known, likely due to the coarse-grained nature of this geologic unit and the implied high energy depositional conditions of its formation.
Temecula Arkose	Late Pleistocene	High	Vertebrate fossils consisting of 27 different species, including rabbits, rodents, wolf, badger, bobcat, elephant, horse, camel, deer, and antelope; the occurrence of freshwater diatoms and snails have been reported.

Geologic Unit	Age	Paleontological Sensitivity	Recovered Fossils
Miocene volcanic rocks	Miocene	Zero	No fossils are known.
Santiago Formation	Eocene	High	Members "B" and "C" of the Santiago Formation have produced scientifically important marine and estuarine invertebrate fossil remains, as well as terrestrial vertebrate fossil remains. No fossils have been reported to date from member "A" of the Santiago Formation.
Intrusive igneous rocks	Cretaceous	Zero	Plutonic igneous rocks do not preserve fossils.
Metasedimentary and metavolcanic rocks	Mesozoic	Zero	No fossils are known.
Quartzite and related metasedimentary rocks	Mesozoic	Marginal	No fossils are known; however, because these rocks originally formed as sediments that were likely deposited in a marine paleoenvironment, there is the possibility that they could contain fossils.

Source: Department of PaleoServices, San Diego Natural History Museum 2021

4.5.2 Regulatory Framework

Implementation of individual improvements under the Project would be subject to a number of regulatory requirements and industry standards related to potential geologic hazards. These requirements and standards typically involve measures to evaluate risk and mitigate potential hazards through design and construction techniques. Specific guidelines encompassing geologic criteria that may be applicable to the design and construction of proposed Project improvements include the following: (1) the International Code Council, Inc. (ICC) IBC; (2) the CBC; CCR, Title 24, Part 2); (3) the Public Works Standards, Inc. "*Greenbook" Standard Specifications for Public Works Construction* (Greenbook); (4) the California Seismic Hazards Mapping Act (PRC Division 2, Chapter 7.8, Section 2690 et seq.) and related guidelines; (5) the Alquist-Priolo Earthquake Fault Zoning Act (PRC Division 2, Chapter 7.5, Section 2621 et seq.); and (6) excavation safety standards of the U.S. Occupational Safety and Health Administration (OSHA, CFR Title 29), and the California Occupational Safety and Health Administration (Cal-OSHA, CCR Title 8). Summary descriptions of the noted standards are provided below and are incorporated into the discussion of impacts in Section 4.5.4 as appropriate. Proposed Project improvements would be designed and implemented to conform to local geotechnical standards where applicable and feasible (with local requirements typically based on the standards outlined below).

Erosion-related issues and associated requirements under applicable regulatory standards (including the NPDES) are discussed briefly below and in Section 4.5.4, with more detailed information provided in Section 4.8*, Hydrology and Water* Quality, of this PEIR, due to the relationship between erosion and storm water/water quality concerns.

4.5.2.1 Federal

International Building Code

The IBC is the building code that must be implemented throughout the United States and its territories, and is an essential tool to preserve public health and safety that provides safeguards from hazards associated with the built environment. It addresses design and installation of innovative materials that

meet or exceed public health and safety goals. Provisions within the IBC are intended to ensure that structures can adequately resist seismic forces during earthquakes. These seismic provisions represent the best available guidance on how structures should be designed and constructed to limit seismic risk (Federal Emergency Management Agency [FEMA] 2016).

OSHA Standards

OSHA provides construction safety standards related to excavation and trenching. Specifically, these include requirements related to excavation/trenching dimensions, slope grades, shoring, shielding, and benching, and adjacent uses.

4.5.2.2 State

California Building Code

The CBC, which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings 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. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The CBC provides requirements for general structural design and includes means for determining earthquake loads. Seismic design provisions of the building code generally prescribe minimum lateral forces applied statically to the structure, combined with the gravity forces of the dead and live loads of the structure, which the structure then must be designed to withstand. According to the CBC, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Although no guarantees can be made, 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 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), loadbearing of soils (Section 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.

Greenbook Standard Specifications for Public Works Construction

The Greenbook provides standard specifications for public works projects, including measures related to geologic issues such as soil testing, grading and excavation, pipeline construction and joints, and design/construction of concrete and masonry features. Similar to the IBC and CBC, the Greenbook is regularly updated to reflect current industry standards and practices.

Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act)

The Alquist-Priolo Act was passed in 1972 to provide a mechanism for reducing losses from surface fault rupture on a statewide basis. The main intent of the Alquist-Priolo Act is to ensure public safety by preventing the construction of buildings used for human occupancy on the surface trace of active faults. The Alquist-Priolo Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The law requires the State Geologist to establish regulatory zones, known as Earthquake Fault Zones, around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones.

Construction General Permit

The NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, otherwise referred to as 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 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 (LUP), including installation of water pipelines and other utility lines.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that includes specific BMPs designed to prevent pollutants from contacting stormwater and keep sediment and other chemicals or pollutants from moving offsite into receiving waters. Types of BMPs include, but are not limited to, erosion control, sediment control, waste management, and good housekeeping. The Construction General Permit also includes post-construction requirements for construction projects that state post-project hydrology must match pre-project hydrology; however, LUPs including pipelines are not subject to post-construction requirements due to the nature of their construction to return project sites to preconstruction conditions. For LUPs, the permit states that one of the following conditions must be met: (1) at least 70 percent of pre-existing vegetative cover is reestablished following construction; (2) in areas that were not previously vegetated, sites must be returned to original grade and/or soils must be compacted; or (3) or equivalent measures such as blankets, soil cement or geotextiles have been. 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.

Cal-OSHA Standards

As discussed above for OSHA, Cal-OSHA also provides construction safety standards related to excavation and trenching, including requirements related to excavation/trenching dimensions, slope grades, shoring, shielding, and benching, and adjacent uses.

4.5.2.3 Local

Multi-Jurisdictional Hazard Mitigation Plan

The MHMP was developed for San Diego County in 2004 and was last updated in 2018. The MHMP is a countywide plan that identifies risks and ways to minimize damage by natural and manmade disasters. The plan is a comprehensive resource document that serves many purposes such as enhancing public awareness, creating a decision tool for management, promoting compliance with State and Federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination. The MHMP discusses a number of hazards associated with geology and soils, including earthquakes, rain-induced landslide, and liquefaction.

4.5.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to geology and soils. The Project would have a significant impact if it would:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides;

2. Result in substantial soil erosion or the loss of topsoil;

3. Result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse by being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project;

4. Create substantial direct or indirect risks to life or property by being located on expansive soil;

5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or

6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.5.4 Project Impacts and Mitigation

4.5.4.1 Issue 1: Seismic Hazards

Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides?

Impact Analysis

Ground Rupture

As previously described, known active/potentially active earthquake faults or associated CGS Earthquake Fault Zones within the District's service area consist of the Temecula Section of the Elsinore Fault Zone (refer to Figure 4.5-2). The Project includes CIP projects in the vicinity of the mapped fault; specifically, CIP Projects 600072 and 600073 are mapped in proximity to the known fault. ODP and maintenance projects have the potential to occur in the vicinity of the known fault. Additionally, there is some minor potential for earthquake-related ground rupture and/or related effects may exist in association with currently unknown faults. Assessment of potential site-specific ground rupture hazards would be assessed as part of the initial project-specific screening conducted by the District for individual improvement projects. However, prior to initial project-level ground rupture risk screening, impacts are conservatively assessed as potentially significant.

Ground Acceleration (Ground Shaking)

Based on regional/local seismicity and related hazards, proposed Project improvements would potentially be subject to moderate to severe ground shaking hazards from earthquake events along major regional faults. Accordingly, ground shaking could potentially result in significant impacts to proposed facilities such as structures and pipelines.

Liquefaction and Related Hazards

As previously described, the District's service area includes several locations with designated potential for the occurrence of liquefaction and related effects in association with seismic activity along major regional faults. As such, impacts associated with liquefaction and related hazards would be potentially significant.

Landslides/Slope Instability

The District's service area contains large areas of steep slopes (25 percent or greater) throughout and gabbroic soils with slopes greater than 15 percent are mapped in the northern and westernmost portions of the service area. Gabbroic soils on slopes greater than 15 percent are identified by the County as slide-prone material (County 2011b). Based on the described conditions, the potential for hazards from seismic-related landslides and other slope failures in the service area is considered generally moderate, although such potential could vary substantially based on site-specific conditions. Subsurface facilities would generally not be subject to effects regarding landslides or slope instability; however, prior to initial project-level landslide and slope instability risk screening, impacts would be potentially significant.

Mitigation Measures

The following mitigation measure would be implemented to address potentially significant impacts associated with seismic hazards.

MM GEO-1 **Conduct Site-Specific Geotechnical Investigations**. All improvement projects that include excavation shall be subject to initial screening by the District to determine their site-specific geologic conditions, potential susceptibility to geologic hazards, and related

requirements for an individual geotechnical evaluation. Based on the results of the initial screening, site-specific geotechnical investigations shall be completed for applicable improvement projects prior to final project design and construction. These investigations will identify site-specific criteria related to considerations such as grading, excavation, fill, and structure/facility design. All applicable results and recommendations from the geotechnical investigations shall be incorporated into the associated individual project design and construction documents to address identified potential geologic and soil hazards, including but not necessarily limited to: (1) seismic hazards including ground rupture, ground acceleration (ground shaking), soil liquefaction (and related issues such as dynamic settlement and lateral spreading), and landslides/slope instability; and (2) non-seismic hazards including manufactured slope instability, subsidence/compressible soils, expansive or corrosive soils, and trench/excavation instability. The final project design and construction documents shall also encompass applicable standard design and construction practices from established regulatory/ industry sources including the CBC, IBC, CGS, Greenbook and District standards, as well as the results/recommendations of geotechnical review and field observations/testing to be conducted during project excavation, grading and construction activities (with all related requirements to be included in applicable engineering/design drawings and construction contract specifications).

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, Project Engineer, Construction Contractor

Significance After Mitigation

With implementation of MM GEO-1 as well as required conformance with associated regulatory standards, potential impacts associated with seismic-related hazards would be reduced to a less-than-significant level.

4.5.4.2 Issue 2: Erosion and Sedimentation

Would the Project result in substantial soil erosion or the loss of topsoil?

Impact Analysis

Implementation of the proposed Project improvements would increase the potential for erosion, soil loss, and sedimentation both within and downstream of the site during and after construction. Specifically, proposed activities may involve: (1) removal of surface stabilizing features (e.g., vegetation); (2) excavation of compacted materials; and (3) redeposition of excavated and/or imported material as backfill in proposed development areas. While graded/excavated areas and fill materials would ultimately be stabilized through efforts such as compaction and installation of structures/hardscape and landscaping, erosion potential would be higher in the short-term than for existing conditions. Developed areas would be especially susceptible to erosion between the beginning of grading/construction and the installation of pavement or establishment of permanent cover in landscaped areas. The off-site transport of sediment could also potentially result in effects to downstream receiving water quality, such as increased turbidity and the provision of a transport mechanism for other contaminants that tend to adhere to sediment particles (e.g., hydrocarbons). Therefore, impacts are assessed as potentially significant.

Mitigation Measures

Mitigation measure MM HYD-1, as outlined in Section 4.8, *Hydrology and Water Quality,* of this PEIR would be implemented to address potentially significant impacts related to erosion and sedimentation from implementation of the proposed Project improvements.

Significance After Mitigation

With implementation of MM HYD-1 as well as required conformance with associated regulatory standards, potential impacts associated with erosion and sedimentation would be reduced to a less-than-significant level.

4.5.4.3 Issue 3: Geologic Instability

Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Impact Analysis

Manufactured Slope Instability

While requirements for large or extensive manufactured slopes are not anticipated for implementation of the proposed Project, which primarily includes improvements associated with existing facilities, some cut and fill slopes may potentially be constructed. If not properly designed, constructed, and maintained, manufactured slopes could result in impacts such as undermining adjacent structures/facilities, blocking access roads, and erosion/sedimentation. Impacts are therefore considered potentially significant.

In addition to manufactured slopes, excavations associated with Project improvements, such as larger diameter pipelines, could potentially be subject to instability impacts, with related effects to worker safety, resulting in a potentially significant impact.

Subsidence/Compression

Based on the information outlined above in Section 4.5.1.4, potential subsidence impacts related to Project implementation would be less than significant for regional conditions including karst/limestone terrain, subsurface mining, large-scale groundwater or oil and gas withdrawal, and decomposition of organic material. Specifically, the described conditions/activities do not exist or are not proposed as part of Project improvements. However, a number of local surficial materials may potentially be subject to localized subsidence/compression, resulting in a potential significant impact.

Collapsible Soils

While the potential for soil collapse in the District's service area is generally considered low, individual improvements located in areas with deposits such as non-engineered fill, topsoils, and alluvium could be subject to potentially significant impacts if collapsible soils are present.

Corrosive Soils

There is potential for the presence of corrosive soils within the District's service area, which could result in potentially significant impacts from deterioration and eventual failure of concrete and metal structures, including foundations, reinforcing steel, and subsurface pipelines or other proposed facilities.

Mitigation Measures

Mitigation measure MM GEO-1 would be implemented to address potentially significant impacts related to geologic instability, including manufactured slope instability, subsidence/compression, collapsible soils, and corrosive soils.

Significance After Mitigation

With implementation of MM GEO-1, as well as required conformance with associated regulatory standards, potential impacts associated with geologic instability would be reduced to less than significant.

4.5.4.4 Issue 4: Expansive Soil

Would the Project be located on expansive soil creating substantial direct or indirect risks to life or property?

Impact Analysis

A number of soils within the District's service area have been identified as potentially expansive, which could result in potentially significant impacts related to the integrity of facilities such as foundations, pavement, and underground pipelines.

Mitigation Measures

Mitigation measure MM GEO-1 would be implemented to address potentially significant impacts related to geologic instability.

Significance After Mitigation

With implementation of MM GEO-1, as well as required conformance with associated regulatory standards, potential impacts associated with geologic instability would be reduced to a less-than-significant level.

4.5.4.5 Issue 5: Septic Tanks

Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Impact Analysis

The District's service area is characterized by low density residential development and agricultural operations. Due to the rural nature of much of the service area, the District's wastewater is primarily treated and disposed of via on-site septic systems. The Plan consists of CIP, ODP, and maintenance

projects to improve the existing District-owned water and sewer facilities. The Plan does not include components related to the use of septic tanks or components that would require the placement of new septic tanks. No impact associated with septic tanks or alternative wastewater disposal systems would occur.

Mitigation Measures

No impact related to septic tanks or alternative wastewater disposal systems would occur; therefore, no mitigation measures are required.

4.5.4.6 Issue 6: Paleontological Resources

Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact Analysis

As shown in Figure 4.5-3, *Paleontological Sensitivity*, large portions of the District's service area occur in formations determined to have zero paleontological sensitivity. Project improvements occurring within these areas would not result in impacts to paleontological resources. Project improvements occurring within portions of the District's service area designated as low sensitivity for paleontological resources would have less than significant impacts to paleontological resources.

For Project improvements that would occur in geologic units identified as having marginal, moderate, or high sensitivity, impacts to paleontological resources would be potentially significant. Geological units identified as having marginal, moderate, or high paleontological sensitivity include Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks (refer to Table 4.5-2). Table 4.5-3, *Summary of CIP Projects by Paleontological Sensitivity,* identifies the paleontological sensitivity of formations and the location of the identified CIP projects included in the Project. In addition to the CIP projects identified as occurring in areas of marginal, moderate, or high sensitivity for paleontological resources, CIP Projects 600007, 600009, 600030, and 600055, which would occur throughout the District, have the potential to impact sensitive formations resulting in potentially significant impacts to paleontological resources. Additionally, ODP projects and maintenance projects occurring within Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks would result in potentially significant impacts to paleontological resources.

Table 4.5-3
SUMMARY OF CIP PROJECTS BY PALEONTOLOGICAL SENSITIVITY

Paleontological Sensitivity	CIP Projects
High	600007[a], 600009, 600040, 600051[b], 600067[b], 600068[b], 600030[a], 600055[a], 5300XX-1[b], 5300XX-2[b], 5300XX-6[b]
Moderate	600007[a], 600009, 600030[a], 600055[a]
Marginal	600007[a], 600009, 600030[a], 600055[a]
Low	600007[a], 600009, 600051[b], 600071, 600080[b], 600002[b], 600026, 600063[b], 600066, 600067[b], 600068[b], 600070, 600030[a], 600055[a] 530020, 530018, 530023, 5300XX-1[b], 5300XX-2[b], 5300XX-3b, 5300XX-4, 5300XX-5, 5300XX-6[b]
Zero	600007[a], 600009, 600048, 600008, 600051[b], 600060, 600061, 600063[b], 600065, 600069, 600078, 600072, 600080[b], 600084, 600073, 600074, 600075, 600002[b], 600050, 600068[b], 600030[a], 600055[a], 5300XX-2b, 5300XX-3[b], 5300XX-6[b]

[a] CIP Projects 600007, 600009, 600030, and 600055 are not mapped, but would occur throughout the District's service area. Thus, they have been listed as (potentially) occurring in locations throughout the District's service area for each paleontological sensitive rating.

[b] Some projects overlap more than one paleontological sensitivity designation, and are listed in more than one category.

CIP = Capital Improvement Program

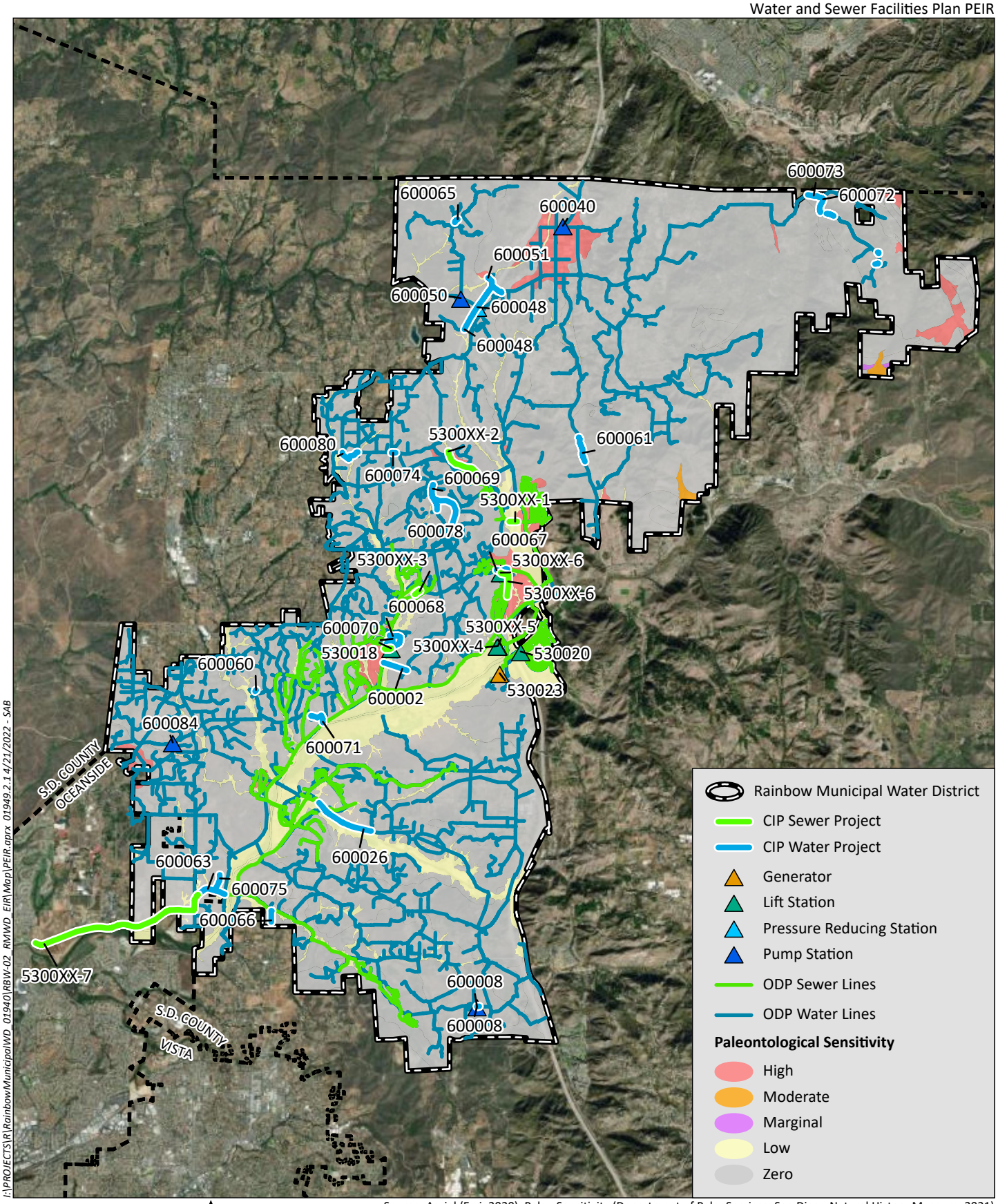
Mitigation Measures

Mitigation measure MM GEO-2 would be implemented to address potentially significant impacts related to paleontological sensitivity.

MM GEO-2 **Paleontological Construction Monitoring in Sensitive Areas.** Project improvements that involve excavation activities in areas identified as having marginal, moderate, or high paleontological sensitivity, as depicted on Figure 4.5-3, shall implement a paleontological construction monitoring program. Areas identified as having marginal, moderate, or high paleontological sensitivity are underlain by Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks. The paleontological monitoring program shall include the following components:

a. Pre-construction (personnel and repository): Prior to the commencement of construction, a qualified Project Paleontologist shall be retained to oversee the mitigation program. The County of San Diego defines a Project Paleontologist as a person with a Ph.D. or master's degree in Paleontology or related field, and who has knowledge of San Diego County paleontology and documented experience in professional paleontological procedures and techniques. In addition, a regional fossil repository shall be designated to receive any discovered fossils. Because the District service area is in San Diego County, the recommended repository is the San Diego Natural History Museum.

b. Pre-construction (meeting): The Project Paleontologist shall attend the pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues.



Source: Aerial (Esri, 2020), Paleo Sensitivity (Department of PaleoServices, San Diego Natural History Museum, 2021)

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Paleontological Sensitivity

Figure 4.5-3

c. Pre-construction (training): The Project Paleontologist shall conduct a paleontological resource contractor awareness training workshop to be attended by earthwork personnel.

d. During construction (monitoring): A paleontological monitor (working under the direction of the Principal Paleontologist) shall be on-site on a full-time basis during all original cutting of previously undisturbed Pleistocene-age old and very old alluvial flood plain and colluvial deposits, previously undisturbed strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and previously undisturbed Mesozoic-age quartzites and related metasedimentary rocks to inspect fresh exposures for unearthed fossils. The County of San Diego defines a paleontological monitor as an individual with at least one year of experience in field identification and collection of fossil materials under the supervision of a Project Paleontologist.

e. During construction (fossil recovery): If fossils are discovered, the Principal Paleontologist (or paleontological monitor) shall recover them. Bulk sedimentary matrix samples may also be collected from stratigraphic horizons that appear likely to contain microvertebrate fossils. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens (e.g., a bone bed or a complete large mammal skeleton) may require an extended salvage period. In these instances, the Principal Paleontologist (or paleontological monitor) has the authority to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner.

f. Post-construction (treatment): Fossil remains collected during monitoring and salvage shall be prepared (including washing of bulk sediment matrix samples to recover microvertebrate fossils), repaired, sorted, and cataloged as part of the mitigation program.

g. Post-construction (curation): Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited (as a donation) in the designated fossil repository. Donation of the fossils shall be accompanied by financial support for initial specimen storage.

h. Post-construction (final report): A final summary paleontological mitigation report shall be completed that outlines the results of the mitigation program. This report shall include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, inventory lists of catalogued fossils, and significance of recovered fossils.

Timing/Implementation: Prior to, during, and after construction.

Enforcement/Monitoring: District, Project Paleontologist

Significance After Mitigation

With implementation of MM GEO-2, potential impacts associated with paleontological resources would be reduced to a less-than-significant level.

4.5.5 Cumulative Impact Analysis

4.5.5.1 Seismic and Geologic Hazards

Local events such as ground shaking, fault rupture, ground failure, subsidence, lateral spreading, liquefaction, and landslides can be directly caused by wide-spread seismic events, and are not cumulative in nature. Likewise, exposure to expansive soils is site specific. The location of one cumulative project in a seismic or geologic potential hazard area would not have an effect on potential hazards to a cumulative project at another location. The amount of damage caused by each of these events would be very site-specific due to various factors such as the type of base rock and soils each of the sites are located on. Also due to the narrow focus of most seismic events, the amount of stress given to the various areas will vary from place to place. As a result, the amount of damage caused by a seismic or geologic event will vary between locations. As discussed in Section 4.5.4, potentially significant impacts from exposure to seismic and geologic hazards would be mitigated with mitigation measure MM GEO-1, which would conduct site-specific geotechnical investigations for each component, as determined necessary through an initial screening process for individual projects. Therefore, the Project, in combination with other cumulative projects, would not result in a cumulatively significant increase in exposure to seismic and geologic hazards. Impacts would be less than significant.

4.5.5.2 Erosion and Sedimentation

The geographic context for the analysis of cumulative impacts relative to soil erosion encompasses the watersheds directly downstream from the Project's proposed CIP, ODP, and maintenance improvement sites. This is because rainfall erosion of soils exposed by land disturbance activities can lead to downstream sedimentation effects, as sediment-laden runoff is carried along drainage facilities and natural water courses by storm water flows. Cumulative land disturbance activities may include agricultural practices and land development (e.g., vegetation clearing, grading, excavation, trenching), and these activities are expected to continue in the District's service area. Even with the promulgation of storm water regulations, land disturbance associated with development activities throughout these watersheds continues to contribute, however incrementally, to the overall sedimentation issues in runoff flows that discharge into watercourses and eventually the Pacific Ocean. Therefore, the baseline cumulative impact to the local watersheds caused by downstream sedimentation effects from soil erosion associated with basin-wide land disturbance activities is significant.

As described in Section 4.5.4.2, construction and operational activities associated with the Project could result in soil erosion or loss of topsoil. Compliance with the applicable elements of the NPDES and related storm water standards as outlined in Section 4.8.2, as well as mitigation measure HYD-1, would result in less than significant impacts. Therefore, the Project would not result in a cumulatively considerable contribution to downstream sedimentation effects from soil erosion within the local cumulative impact areas.

4.5.5.3 Septic Tanks

Impacts related to septic systems are site specific and not cumulative in nature. The location of one project in an area not served by a wastewater district would not affect whether another proposed project would be located within a wastewater service district. Additionally, the Project does not include impacts associated with septic tanks, and it would not contribute to a cumulative impact associated with the use of septic tanks or alternative wastewater disposal.

4.5.5.4 Paleontological Resources

The geographic scope for the cumulative analysis of paleontological resources is the paleontologically sensitive geologic formations identified as occurring within the District's service area, which includes Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks. Projects have the potential to impact paleontological resources to varying degrees. Due to the presence of marginal, moderate, and high paleontological sensitivity occurring in areas proposed for Project improvements, potential impacts to paleontological resources from the cumulative projects are considered cumulatively significant. As discussed in Section 4.5.4.6, the proposed Project has the potential to affect unknown paleontological resources during excavation in Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks, which could contribute to a cumulatively significant impact; however, mitigation measure MM GEO-2, which includes implementation of a paleontological resources mitigation and monitoring plan for proposed improvements that would excavate in Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks, would reduce the Project's contribution to a regional impact to paleontological resources to less than cumulatively considerable.

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4.6 GREENHOUSE GAS EMISSIONS

This section addresses the potential GHG emissions impacts of the Project. The following discussion includes (1) a description of existing conditions as related to GHGs, (2) a summary of applicable regulations, and (3) an evaluation of the Project's potential environmental effects associated with the generation of GHGs and conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHGs. This section is based in part on GHG emissions modeling conducted for the Project. The model output files are included as Appendix B.

4.6.1 Existing Conditions

4.6.1.1 Global Climate Change Overview

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere. These gases allow solar radiation (sunlight) into the Earth's atmosphere but prevent radiative heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The temperature record shows a decades-long trend of warming, with 2016 global surface temperatures ranking as the warmest year on record since 1880. The latest news release of long-term warming trends announced 2020 ranked as tied with 2016 for the warmest year on record with an increase of 1.02 degrees Celsius (1.84°F) compared to the 1951 to 1980 mean temperature (National Aeronautics and Space Administration [NASA] 2021). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

4.6.1.2 Types of GHGs

The GHGs, as defined under California's AB 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Although water vapor is the most abundant and variable GHG in the atmosphere, it is not considered a pollutant; it maintains a climate necessary for life.

Carbon Dioxide. CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores

indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (approximately 280 ppm in 1750). In August 2021, the CO_2 concentration was 414 ppm, an 89 percent increase since 1750 (National Oceanic and Atmospheric Administration [NOAA] 2021).

Methane. CH_4 is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

Nitrous Oxide. N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Hydrofluorocarbons. Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). Chlorofluorocarbons were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the 1989 Montreal Protocol.

Sulfur Hexafluoride. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHG emissions to disperse around the globe. Because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, because methane and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). Estimates of GHG emissions are often presented in CO_2e, which weigh each gas by its GWP. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. Emissions of CO_2e are commonly presented in metric tons (MT; 1 MT equals approximately 2,205 pounds). The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4.6-1, *Global Warming Potentials and Atmospheric Lifetimes*.

Table 4.6-1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES OF COMMON GREENHOUSE GASES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-134a	14	1,430
PFC: Tetraflouromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

4.6.1.3 GHG Emissions Inventories

In an effort to evaluate and reduce the potential adverse impact of global climate change, international, state, and local organizations have conducted GHG inventories to estimate their levels of GHG emissions and removals. The following summarizes the results of these global, national, state, and countywide GHG inventories.

Worldwide and National GHG Emissions Inventory

In 2013, total GHG emissions worldwide were estimated at 48,892 million metric tons (MMT) of CO_2e emissions (World Resource Institute [WRI] 2021). The U.S. contributed the second largest portion (13 percent) of global GHG emissions in 2014. The total U.S. GHG emissions was 6,319 MMT CO_2e in 2014, of which 82 percent was CO_2 emission (WRI 2021). On a national level, approximately 27 percent of GHG emissions were associated with transportation and about 38 percent were associated with electricity generation (WRI 2021).

California GHG Emissions Inventory

CARB prepared its most recent California GHG emissions inventory as part of the *California Greenhouse Gas Emissions for 2000 to 2019, Trends of Emissions and Other Indicators* report released on July 28, 2021. The emissions inventory provides Statewide emissions for the years 2000 through 2019 from six sectors, including transportation, electric power, industrial, commercial, and residential, agriculture, high GWP, and recycling and waste. Table 4.6-2, *California Greenhouse Gas Emissions by Sector,* presents emissions data for the years 2000, 2010, and 2019.

Table 4.6-2
CALIFORNIA GREENHOUSE GAS EMISSIONS
BY SECTOR (MMT CO_2e)

Sector	2000	2010	2019
Transportation	178 (38%)	165 (37%)	166 (40%)
Electric Power	105 (22%)	90 (20%)	59 (14%)
Industrial	96 (21%)	91 (20%)	88 (21%)
Commercial & Residential	44 (9%)	46 (10%)	44 (10%)
Agriculture	31 (7%)	34 (8%)	32 (8%)
High GWP	6 (1 %)	14 (3%)	21 (5%)
Recycling & Waste	7 (2%)	7 (2%)	9 (2%)
TOTAL	**468**	**448**	**418**

Source: CARB 2021c

As shown in Table 4.6-2, total Statewide GHG emissions have steadily declined from 2000 to 2019. Transportation emissions consistency contribute the most GHG emissions, following by electric power and industrial emissions.

Regional GHG Inventory

A San Diego regional emissions inventory that was prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC) accounted for the unique characteristics of the region. Its 2012 emissions inventory for San Diego is presented in Table 4.6-3, *San Diego County Greenhouse Gas Emissions by Sector in 2012*. The sectors included in this inventory are somewhat different from those in the statewide inventory. Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

Table 4.6-3
SAN DIEGO COUNTY GREENHOUSE GAS EMISSIONS BY SECTOR IN 2012

Sector	2012 Emissions MMT CO_2e (% of total)[1]
Passenger Cars & Light Duty Vehicles	13.14 (37.2%)
Electricity	7.97 (22.6%)
Natural Gas	2.84 (8.0%)
Heavy Duty Trucks & Vehicles	1.89 (5.4%)
Solid Waste	1.75 (4.9%)
Other Fuels	1.64 (4.6%)
Industrial	1.43 (4.1%)
Aviation	1.37 (3.9%)
Off-Road	0.92 (2.6%)
Wildfire	0.81 (2.3%)
Other – Thermal Cogeneration	0.64 (1.8%)
Water	0.52 (1.5%)
Wastewater	0.16 (0.5%)

Sector	2012 Emissions MMT CO_2e (% of total)[1]
Rail	0.11 (0.3%)
Agriculture	0.08 (0.2%)
Marine Vessels (ocean-going vessels and harbor craft)	0.05 (0.1%)
Development and Sequestration	(-0.65)
TOTAL	**34.67**

Source: USD EPIC 2015

[1] Percentages may not total 100 due to rounding.

MMT = million metric tons; CO_2e = carbon dioxide equivalent

Existing Facility Sources of GHGs

Sources of GHGs from existing District facilities include indirect emissions from the consumption of electricity (pump and lift station operation, security lighting), direct emissions produced on property from stationary combustion sources (diesel-powered equipment), and mobile sources (District-owned vehicles).

4.6.2 Regulatory Framework

4.6.2.1 Federal

Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO_2 is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people.

Final Mandatory Reporting of GHG Rule

On January 1, 2010, the USEPA began requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. This program covers approximately 85 percent of the nation's GHG emissions and applies to roughly 10,000 facilities. Fossil fuel and industrial GHG suppliers, motor vehicle and engine manufacturers, and facilities that emit 25,000 MT or more of CO_2e per year are required to report GHG emissions data to the USEPA annually. This reporting threshold is equivalent to the annual GHG emissions from approximately 4,600 passenger vehicles.

Corporate Average Fuel Economy Standards

The USEPA and the NHTSA have been working together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established CAFE standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. On August 2, 2018, the agencies released a notice of proposed rulemaking—the Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The purpose of the SAFE Vehicles Rule is "to correct the national

automobile fuel economy and greenhouse gas emissions standards to give the American people greater access to safer, more affordable vehicles that are cleaner for the environment." The direct effect of the rule is to eliminate the standards that were put in place to gradually raise average fuel economy for passenger cars and light trucks under test conditions from 37 miles per gallon (mpg) in 2020 to 50 mpg in 2025. By contrast, the new SAFE Vehicles Rule freezes the average fuel economy level standards indefinitely at the 2020 levels. The new SAFE Vehicles Rule also results in the withdrawal of the waiver previously provided to California for that State's GHG and Zero-emission Vehicle programs under section 209 of the CAA. The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards. The SAFE Vehicles Rule Part I (SAFE-1), which withdraws the waiver, was published in September 2019 and Part II (SAFE-2), which finalizes the regulation, was published in April 2020. On April 26, 2021, the USEPA published the Notice of Reconsideration of Previous Withdrawal of a Waiver for California's Advanced Clean Car Program. The purpose of this Notice of Reconsideration is to seek comment on a number of issues in the SAFE-1 action including:

- Whether it was proper for the USEPA to reconsider a previously issued CAA waiver.
- Whether USEPA's actions to withdraw California's waiver was appropriate.
- Whether the SAFE-1 interpretation of the CAA that enabled USEPA to withdraw California's waiver was appropriate.

Whether the SAFE-1 interpretation of CAA section 177 that could disallow other states' ability to adopt California GHG emission standards was appropriate.

4.6.2.2 State

California Code of Regulations, Title 24, Part 6

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions.

The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest update to the Title 24 standards occurred in 2019 and went into effect on January 1, 2020. The Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential standards include improvements for attics, walls, water heating, and lighting. The standards are divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards—the energy budgets—that vary by climate zone (of which there are 16 in California) and building type; thus, the standards are tailored to local conditions. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that are basically a recipe or a checklist compliance approach.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen; CCR Title 24, Part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including industrial buildings) throughout California. The code is Part 11 of the California Building Standards Code in Title 24 of the CCR. The current 2019 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings went into effect on January 1, 2020.

The development of CALGreen is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

CALGreen contains requirements for stormwater control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. EOs are not laws and can only provide the governor's direction to state agencies to act within their authority. Legislation is required to enact the goals of EO S-3-05 and establish a framework for statewide implementation. AB 32, described below, mandates the 2020 GHG reduction goals of EO S-3-05. The 2050 GHG reduction goal of EO S-3-05 has not been enacted by any legislation and remains only a goal of the EO.

Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050. Senate Bill (SB) 32, described below, mandates the 2030 GHG reduction goals of EO B-30-15.

Assembly Bill 32 – Global Warming Solutions Act of 2006

The California Global Warming Solutions Act of 2006 (AB 32 and Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), widely known as AB 32, requires that the CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990

levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions. AB 32 enacts the goals of EO S-3-05.

Senate Bill 32

SB 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

Assembly Bill 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. However, as described previously, the adoption of the new SAFE Vehicles Rule results in the withdrawal of the waiver previously provided to California for that State's GHG and ZEV programs, freezing the average fuel economy level standards indefinitely at the 2020 levels.

Assembly Bill 75

AB 75 was passed in 1999 and mandates state agencies to develop and implement an integrated waste management plan to reduce GHG emissions related to solid waste disposal. In addition, the bill mandates that community service districts providing solid waste services report the disposal and diversion information to the appropriate city, county, or regional jurisdiction. The bill requires diversion of at least 50 percent of the solid waste from landfills and transformation facilities, and submission to the California Department of Resources Recycling and Recovery (CalRecycle; formerly known as California Integrated Waste Management Board) of an annual report describing the diversion rates.

Assembly Bill 341

The state legislature enacted AB 341 (California PRC Section 42649.2), increasing the diversion target to 75 percent statewide. AB 341 requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The final regulation was approved by the Office of Administrative Law on May 7, 2012 and went into effect on July 1, 2012.

Executive Order S-01-07

EO S-01-07, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a LCFS for transportation fuels be established for California and directs CARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB is therefore continuing to implement the LCFS statewide.

Senate Bill 100

Approved by Governor Brown on September 10, 2018, SB 100 increases the portion of California's electricity that must come from renewable sources from 50 percent (as mandated by SB 350) to 60 percent by 2030. The bill also establishes a goal of 100 percent of California's electricity sourced from renewable energy and other zero net GHG emissions resources (such as nuclear power) by 2045.

Senate Bill 97 – CEQA: Greenhouse Gas Emissions

SB 97 required the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, including but not limited to, effects associated with transportation or energy consumption. The Resources Agency certified and adopted the guidelines on December 31, 2009. The OPR guidance states that the lead agency can rely on qualitative or other performance-based standards for estimating the significance of GHG emissions, although the new *CEQA Guidelines* did not establish a threshold of significance.

Senate Bill 375

SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt an SCS, which allocates land uses in the MPOs' RTP. Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

California Air Resources Board: Climate Change Scoping Plan

In December 2008, CARB adopted its first version of its Climate Change Scoping Plan (Scoping Plan), which contained the main strategies California will implement to achieve the mandate of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping

Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program.

On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan (2017 Scoping Plan), which lays out the framework for achieving the mandate of SB 32 (2016) to reduce statewide GHG emissions to at least 40 percent below 1990 levels by the end of 2030 (CARB 2017).

The 2017 Scoping Plan includes guidance to local governments in Chapter 5, including plan-level GHG emissions reduction goals and methods to reduce communitywide GHG emissions. In its guidance, CARB recommends that "local governments evaluate and adopt robust and quantitative locally-appropriate goals that align with the statewide per capita targets and the State's sustainable development objectives and develop plans to achieve the local goals." CARB further states that "it is appropriate for local jurisdictions to derive evidence-based local per capita goals [or some other metric] that the local jurisdiction deems appropriate, such as mass emissions or per service population, based on local emissions sectors and population projections that are consistent with the framework used to develop the statewide per capita targets" (CARB 2017).

4.6.2.3 Regional

SANDAG's 2021 Regional Plan

SANDAG's 2021 Regional Plan (SANDAG 2021) is the planning document developed to meet the requirements of SB 375 and to provide a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources. Growth assumptions included in the 2021 Regional Plan are based on approved and allowable land uses identified by each jurisdiction in the region. The 2021 Regional Plan establishes a planning framework and implementation actions that increase the region's sustainability and encourage a complete and integrated transportation system to ensure that all San Diego County residents have access to safe transportation choices that protect the environment and support the regional economy. The 2021 Regional Plan incorporates the Sustainable Communities Strategy (SCS), which includes projects, policies, land use strategies, and programs that will achieve the vision and goals of the 2021 Regional Plan.

4.6.2.4 Local

County of San Diego General Plan

The County General Plan includes a plan to balance population growth and development with infrastructure needs and resource protection. The current General Plan is based on smart growth and land planning principles that will reduce VMT, and thus result in a reduction of GHGs. This will be accomplished by locating future development within and near existing infrastructure. The General Plan includes a number of policies in the Conservation Element that encourage the design of new buildings that incorporate principles of sustainability and reduce vehicle and utility usage. Two General Plan goals pertinent to water resources include COS-4, Water Management, and COS-5, Protection and Maintenance of Water Resources. COS-4 calls for a balanced and regionally integrated water management approach to achieve the long-term viability of the County's water quality and supply. COS-5 calls for the protection and maintenance of local reservoirs, watersheds, aquifer-recharge areas, and natural drainage systems to maintain high-quality water resources.

City of Oceanside General Plan Update

The City has held public workshops on the City's General Plan Update, which includes development of a Climate Action Plan (CAP) and a policy framework to the Energy and Climate Action Element (E-CAP). The E-CAP proactively supports statewide efforts to cut GHG emissions by expanding local renewable energy generation, reducing energy use, promoting recycling and reuse, facilitating active transportation, and encouraging other sustainable practices. As part of this effort to ensure a sustainable future, the City prepared a GHG emissions inventory and a CAP, both of which inform the E-CAP. The City's Final CAP was adopted on May 8, 2019. The City is currently in process of developing the CAP Consistency Checklist; thus, the City has established screening and efficiency metric thresholds, which projects are to use to evaluate impacts from GHG emissions, in order to help the City to meet state reduction targets for 2020 and 2030. Consistent with the California Air Pollution Control Officers Association interim screening level, the City has established a bright line threshold of significance for GHG emissions impacts: 900 MT annually, with construction-related emissions amortized over 20 years. Projects that fall under this threshold are not required to conduct analysis of GHG emissions impacts, and thus would not benefit from the Checklist. Should a project exceed the bright line threshold, it is required to meet an efficiency metric threshold of 4.0 MT CO_2e per service population per year (MT CO_2e/SP/year) for year 2020 and an efficiency metric threshold of 3.0 MT CO_2e/SP/year for year 2030 (City 2019). Projects that meet these thresholds would be considered consistent with the City's CAP.

4.6.3 Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Project as related to greenhouse gas emissions. The Project would have a significant impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The following section addresses potential impacts relating to GHG emissions that could result from implementation of the proposed Project. Climate change is a cumulative impact. Individual projects are generally of insufficient magnitude by themselves to influence climate change or result in a substantial contribution to the global GHG inventory. Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emissions impacts from a climate change perspective (CAPCOA 2008). Accordingly, discussion of the proposed Project GHG emissions and impact on global climate are addressed in terms of the proposed Project contributions to a cumulative impact on the global climate and its consistency with applicable adopted plans and policies for the reduction in emission of GHGs.

The County and City of Oceanside recommend the use of a screening-level emission threshold of 900 MT CO_2e based on the January 2008 California Air Pollution Control Officers Association (CAPCOA) report "CEQA & Climate Change." The screening threshold was developed by analyzing the capture of 90 percent or more of future discretionary development for residential and commercial projects. However, the Project does not include residential or commercial land use projects. The improvements included under the Project include water-related infrastructure improvements such as water and sewer

pipelines, pump stations, lift stations, and pressure reducing stations. Therefore, the CAPCOA screening level threshold is not directly applicable. CAPCOA does not include a screening level threshold for industrial or infrastructure facilities, nor does the County or any agency within San Diego County. The Padre Dam Municipal Water District, a water district that is located within San Diego County, used a threshold that was based on guidance established by the SCAQMD for the GHG analysis within the Comprehensive Facilities Master Plan Program EIR (PDMWD 2017). Because Padre Dam Municipal Water District is within the same county as Rainbow Municipal Water District, and includes similar types of facilities, a similar approach is used to assess the significance of GHG emissions for the proposed Project.

Beginning in April 2008, the SCAQMD convened a Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold of 10,000 MT CO_2e per year for industrial projects where the SCAQMD is the Lead Agency (SCAQMD 2008). In September 2010, the Working Group proposed extending the 10,000 MT CO_2e per year screening threshold applicable to industrial projects where the SCAQMD is the Lead Agency to other lead agency industrial projects (SCAQMD 2010). A project with emissions less than the applicable screening value would be considered to have less than significant GHG emissions.

The SCAQMD's 10,000-MT CO_2e screening threshold was developed to meet the year 2020 statewide GHG emissions targets as mandated by AB 32 and implemented by the CARB Scoping Plan. The SCAQMD has not proposed revised thresholds to account for GHG reduction targets beyond 2020. Accordingly, a threshold reduced by 4.98 percent for each year between 2020 and 2030 would meet the mandates of SB 32 for a 40 percent reduction in emissions by 2030. As discussed in greater detail below in Section 4.6.4.1, the analyzed construction scenario for the Project is assumed to occur in 2024; therefore, a threshold of 8,152 MT CO_2e per year for Project construction is used in this analysis. The analyzed operational scenario, which encompasses buildout of proposed CIP projects, is assumed to occur in 2028; therefore, a threshold of 6,645 MT CO_2e per year for Project operations is used.

4.6.4 Project Impacts and Mitigation

4.6.4.1 Issue 1: Greenhouse Gas Emissions

Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact Analysis

The Project would generate GHG emissions during construction and operation of its various improvements, including CIP projects, ODP projects, and maintenance projects. GHG emissions were calculated using CalEEMod, Version 2020.4.0 (CAPCOA 2021). CalEEMod is a computer model used to estimate GHG emissions resulting from construction and operation of land development projects throughout the state of California.

Construction

Construction of individual project improvements would involve the operation of heavy equipment and vehicles that would generate GHG emissions from fuel combustion. Heavy off-road equipment that would be used for Project construction activities includes excavators, loaders, forklifts, pavers,

generators, rollers, air compressors, backhoes, dozers, graders, dump and haul trucks, compactors, welders, pumps, and cranes. On-road vehicles would include haul trucks, material delivery trucks, and worker commute vehicles.

To assess maximum annual emissions that could occur from Project construction, a conservative annual construction scenario has been developed that assumes the highest intensity of improvements that could occur in one year. The actual amount of construction that would occur would likely be less than assumed in this one year and would be much lower in other development years. The actual construction schedules of individual Project improvements would be dependent on several factors, including changes in development schedules, availability of rights-of-way for construction, funding considerations, the conditions of existing facilities, and other circumstances that cannot be predicted at this time. As such, construction would be expected to be more evenly spread out between development years, and this analyzed construction scenario represents a conservative estimate of the maximum annual emissions that would result from Project construction.

The conservative annual construction scenario is comprised of CIP projects that would occur in the near term (2024). While ODP project would also involve construction, they would occur further in the future, as the CIP projects have been chosen as the facilities to be the highest priority for replacement and rehabilitation. Based on the priority of the CIP projects, it is more likely that construction of multiple CIP projects would occur within a given year in the near term than for multiple ODP projects to occur in a given year over the life of the Project in the long term. Additionally, construction activities occurring in the longer term would use equipment with cleaner, more efficient engines, assuming improved technologies and stricter regulations over time. Therefore, estimating emissions in the near term represents a more conservative scenario.

The conservative annual construction scenario includes the following CIP projects:

- Replacement of 2,200 feet of the existing 6-inch Rainbow Hills Road pipeline with 12-inch pipe and installation of a new pressure reducing station (CIP Project 600048);
- Replacement of a total of 3,788 feet of the 30-inch North Feeder and the 27-inch Rainbow Hills Water Line (CIP Project 600051);
- Replacement or rehabilitation of 1,056 feet of 6-inch pipe on Calle Del Vuelta (CIP Project 600071);
- Replacement or rehabilitation of 1,056 feet of 14- inch pipe on Rancho Heights Road (CIP Project 600072);
- Replacement or rehabilitation of 2,112 feet of 8- inch pipe on Los Alisos South (CIP Project 600080);
- Replacement or rehabilitation of 528 feet of 6-inch pipe on Via Zara (CIP Project 600074);
- Replacement of upsizing of 2,075 feet of a 16-inch waterline (CIP Project 600002); and
- Replacement of 1,500 feet of an 8-inch waterline (CIP Project 600067);

- Construction of a new pump with two pumps, an on-site generator, and 500-square-foot building to replace an existing pump station (CIP Project 600084);
- CIPP lining of 600 feet of a 10-inch gravity sewer line (CIP Project 5300XX-1);
- CIPP lining of 4,000 feet of a 10-inch gravity sewer line (CIP Project 5300XX-2); and
- CIPP lining of 530 feet of an 8-inch gravity sewer line (CIP Project 5300XX-3).

Construction of each of these projects is conservatively assumed to occur simultaneously for approximately five months within the year 2024. Equipment was estimated based on data from similar projects.

With the exception of the assumptions discussed above, CalEEMod default values were used to calculate emissions for the conservative construction scenario. The total estimated GHG emissions that would result from Project construction during the conservative annual construction scenario are provided in Table 4.6-4, *Project Construction Greenhouse Gas Emissions.* As shown therein, conservative annual construction emissions are estimated at 548 MT CO_2e. Annual emissions would be lower during years when Project construction involves a less intensive development schedule. Therefore, Project construction would not exceed the 8,152 MT CO_2e significance threshold and would result in a less-than-significant contribution to cumulative GHG emissions.

Table 4.6-4
PROJECT CONSTRUCTION GREENHOUSE GAS EMISSIONS

Project Improvement	Emissions (MT CO_2e)
CIP 600048 – Pipeline Replacement	45
CIP 600051 – Pipeline Replacement	45
CIP 600071 – Pipeline Replacement	45
CIP 600072 – Pipeline Replacement	45
CIP 600080 – Pipeline Replacement	45
CIP 600074 – Pipeline Replacement	45
CIP 600002 – Pipeline Replacement	45
CIP 600067 – Pipeline Replacement	45
CIP 600084 – Pump Station Construction	48
CIP 5300XX-1 – CIPP Lining	45
CIP 5300XX-2 – CIPP Lining	45
CIP 5300XX-3 – CIPP Lining	45
TOTAL	**548**
Screening Threshold	*8,152*
Significant Impact?	***No***

Source: CalEEMod (output data is provided in Appendix B)
MT = metric tons; CO_2e = carbon dioxide equivalent

Operations

Most Project improvements would consist of new, replaced, or upgraded pipelines that would be passive during operations and would not result in on-going operational emissions, or improvements to existing facilities that would not result in new sources of operational emissions. New, replaced, and rehabilitated pump stations and lift stations proposed as CIP projects, as well as on-going maintenance

activities, would involve new or increased GHG emissions compared to existing conditions. Operational emissions associated with CIP projects and maintenance activities were estimated assuming full buildout of CIP Projects, which is expected to be in 2026.[4] The primary operational sources of GHG emissions associated with the Project would include: (1) energy use (electricity); (2) vehicle use; (3) off road sources; and (4) stationary sources (emergency generators). The Project is anticipated to require minimal water and generate minimal solid waste; therefore, emissions from these sources are not considered further.

Energy Sources

Projects that increase electricity consumption also result in an indirect increase in GHG emissions. The generation of electricity through the combustion of fossil fuels typically yields CO_2, and to a much smaller extent, CH_4, and N_2O. CIP Projects 600008 and 5300XX-6 would involve the construction of a new pump station and new lift station, respectively, that would require electricity for operations. CIP Projects 600040, 600050, 600084, and 530018 would involve rehabilitation/upgrades to existing pump or lift stations. While the existing pump and lift stations associated with CIP Projects 600040, 600050, 600084, and 530018 already use electricity, it is possible that the improvements would result in additional electricity usage. It is therefore conservatively assumed that electricity usage from these four CIP projects, in addition to the electricity usage associated with CIP Projects 600008 and 5300XX-6, is new electricity usage.

Annual electricity usage for each of these six pump stations and lift stations was estimated based on a typical rate of 1,500 kWh per one MG of water pumped (Water & Wastes Digest 2020). To calculate the total water pumped in a year, each pump/lift station was assumed to be operating constantly at full capacity for the entire duration of the year. This is a highly conservative assumption, as the pump/lift stations would not operate constantly. Rather, operations fluctuate based on demand and flow conditions. Some pumps are only operated during certain hours to take advantage of off-peak electricity charges.

Vehicular (Mobile) Sources

The one proposed new pump station (CIP Project 600008) and one new lift station (CIP Project 5300XX-6) would result in new worker vehicle trips to and from the site. Based on data from similar projects, it is assumed that the new pump station and new lift station would each involve two worker trips per day (one trip to the site and one trip from the site). Other Project improvements that include passive pipelines and/or upgrades to existing facilities are not anticipated to result in new vehicle trips beyond what currently occurs.

Off-Road Sources

The Project would involve on-going maintenance activities as part of operations. Individual maintenance activities, such as valve installations, water meter relocations, and asphalt replacement, would be irregular and temporary, and for the majority of activities would not involve heavy equipment that would generate air pollutant emissions. To provide a conservative analysis, however, a backhoe/loader,

[4] While full buildout of ODP projects would not occur until 2050, ODP projects would involve passive pipelines that would not generate operational emissions; therefore, for analysis of the Project's operational emissions, a CIP project buildout year of 2026 is used.

which could be used for a variety of maintenance activities, has been included in the emissions modeling and is assumed to operate for four hours every day.

Stationary Sources

New, replaced, and rehabilitated pump stations and lift stations (CIP Projects 600040, 600008, 600050, 600084, 530018, and 5300XX-6) would include diesel-powered emergency generators that would be used for backup power during normal electric-supply power failure. Operation of these generators would result in emissions during regular testing and in backup power instances. While the existing pump stations and lift stations that would undergo improvements as part of the Project already include generators, it is possible that the new generators would be larger and result in more emissions than the existing generators; therefore, it is conservatively assumed for the purposes of this analysis that the generators associated with CIP Projects 600040, 600008, 600050, 600084, 530018, 5300XX-6 would be new generators and represent a new source of operational emissions.[5] Generator emissions were estimated in CalEEMod based on the monthly testing frequency and duration and the power output of the engines. Refer to Appendix B for details regarding the assumed number and sizes of generators.

Total Emissions

Table 4.6-5, *Project Annual Operational Greenhouse Gas Emissions,* presents the total estimated annual GHG emissions for Project buildout. Emissions are estimated at 1,261 MT CO_2e, which would be below the 6,645 MT CO_2e threshold. In addition, the GHG emissions are primarily associated with energy usage, which would occur from six pump/lift stations (CIP Projects 600040, 600008, 600050, 600084, 530018, 5300XX-6). As discussed above, CIP Projects 600040, 600050, 600084, and 530018 involve rehabilitation/upgrades to existing pump or lift stations; however, to provide a conservative estimate of GHG emissions, energy usage from these three facilities was assumed to be new energy usage. It is likely that the actual new energy usage (and thus new GHG emissions) from these three facilities would be much lower than considered herein, if there is an increase at all. Further, the pump/lift stations were conservatively assumed to be in constant operation at full capacity over the course of an entire year, whereas day-to-day operations more typically cycle on and off throughout the day based on demand and flow conditions. The emissions estimate provided herein is considered highly conservative. As such, emissions would not exceed the significance threshold being applied to this analysis and impacts would be less than significant.

Table 4.6-5
PROJECT ANNUAL OPERATIONAL GREENHOUSE GAS EMISSIONS

Emission Source	Emissions (MT CO_2e)
Energy	1,239
Vehicular (Mobile)	3
Off Road	18
Stationary	1
TOTAL	**1,261**
Screening Threshold	*6,645*
Significant Impact?	***No***

Source: CalEEMod (output data is provided in Appendix B)
MT = metric tons; CO_2e = carbon dioxide equivalent

[5] CIP Projects 530023 and 5300XX-5 would involve the replacement of generators; however, the new generators would be the same size and power as the existing generators and would not result in an increase in emissions.

Mitigation Measures

Impacts associated with GHG emissions from Project implementation would be less than significant; therefore, no mitigation is required.

4.6.4.2 Issue 2: Conflict with Plans or Policies

Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact Analysis

The California Global Warming Solutions Act of 2006 (AB 32) mandated CARB to promulgate a statewide Scoping Plan setting forth, inter alia, the policies and programs that would ensure attainment of the statewide GHG emissions targets. The Scoping Plan, the most recent of which was adopted in 2017, addresses GHG emissions from all sectors of the California economy. In addition to the Scoping Plan, pursuant to SB 375, SANDAG has adopted the 2021 Regional Plan, which includes a SCS, to demonstrates how the San Diego region will meet GHG targets adopted by CARB. Goals, policies, and recommended local actions set forth in the Scoping Plan and 2021 Regional Plan primarily focus on the reduction of GHG emissions associated with transportation and land use, and to a lesser extent from green buildings, which incorporate GHG emission reductions from reduced energy use, water use, and waste generation. GHG emissions reductions associated with transportation and land use are generally achieved through the provision of an integrated, multi-modal transportation system that provides residents with transportation options other than single-occupant automobiles. The proposed Project would provide water and wastewater infrastructure improvements to adapt to future supply and demand conditions. It would not facilitate unplanned growth and would therefore not influence land use or transportation patterns that would affect the generation of GHG emissions. In addition, the facility improvements that would occur under the Project would primarily be associated with the rehabilitation of existing belowground infrastructure; the Project would not result in the development of uses that would generate high levels of VMT. Such infrastructure improvements would also not have the capability of implementing green building features as they would not use energy (e.g., passive pipelines), use water, or generate waste. As such, the Project would not conflict with CARB's Scoping Plan or SANDAG's 2021 Regional Plan, which are the two principal statewide and region-wide plans adopted for the purpose of reducing GHG emissions.

Local plans and policies, including those set forth in the County of San Diego General Plan and City of Oceanside General Plan Update and CAP, have also been adopted for the purpose of reducing GHG emissions at the local level. Similar to the discussion above, local plans place an emphasis on reducing GHG emissions through smart growth and land use planning/transportation principles that will reduce VMT and through sustainable building design and practices. Such policies are not relevant to the Project, which involves improvements to water and wastewater infrastructure, most of which is already existing. Therefore, the Project would not conflict with local plans or policies adopted for the purpose of reducing GHG emissions.

Given the above discussion, implementation of the proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This would represent a less-than-significant impact.

Mitigation Measures

Impacts associated with conflict with plans or polices adopted for the purpose of reducing GHGs would be less than significant; therefore, no mitigation is necessary.

4.6.5 Cumulative Impact Analysis

Due to the nature of assessment of GHG emissions and the effects of climate change, impacts can currently only be analyzed from a cumulative context; therefore, the geographic scope for the cumulative analysis of GHG emissions is the global atmosphere. Refer to Section 4.6.4, above, for a cumulative analysis of GHG impacts.

4.7 HAZARDS AND HAZARDOUS MATERIALS

This section addresses the potential impacts of the Project related to hazards and hazardous materials. The following discussion includes (1) a description of existing conditions as related to hazards and hazardous materials, (2) a summary of applicable regulations, and (3) an evaluation of potential environmental effects associated with the use of hazardous materials, hazardous materials sites, airport hazards, emergency response and evacuation, and wildland fires.

4.7.1 Existing Conditions

4.7.1.1 Hazardous Materials

For purposes of this PEIR, a "hazardous material" is defined by the California Health and Safety Code Sections 25501(n) and (o), as: "any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment."

Hazardous Materials Associated with Existing District Facilities

Existing hazards associated with District sewer facilities include the potential for leaks or spills of raw sewage from pipelines or sewage conveyance facilities. The District regularly updates its Sewer System Management Plan (SSMP) which contains programs and policies aimed at preventing public health hazards associated with exposure to sewage. The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system (RMWD 2015).

The routine operation and maintenance of existing District facilities requires the storage and use of certain hazardous materials. Common hazardous materials at existing facilities include unleaded fuel used for District vehicles and diesel fuel for back-up generators. In compliance with California Environmental Protection Agency (CalEPA) requirements, Hazardous Materials Lists and Consolidated Emergency Response/Contingency Plans have been prepared for District facilities that use hazard materials. The plans are prepared in accordance with County Department of Environmental Health, Hazardous Materials Division (DEH) requirements and are submitted to the County for approval and recording. The DEH is the Certified Unified Program Agency (CUPA) for San Diego County and inspects businesses and facilities that handle or store hazardous materials, or generate hazardous waste. Refer to Section 4.7.2, *Regulatory Framework*, below, for additional information on regulatory oversight.

Listed Hazardous Materials Sites

A records search was conducted in October 2021 of the SSWRCB GeoTracker database (SWRCB 2021) to identify sites that generate, store, treat, and/or dispose of hazardous materials, or sites for which hazardous materials release or incident has occurred. The GeoTracker database includes listings of the following:

- Leaking Underground Storage Tank (LUST) Cleanup Sites: includes LUST sites that have had an unauthorized release (i.e., leak or spill) of a hazardous substance, usually fuel hydrocarbons, and area being (or have been) cleaned up.

- Cleanup Program Sites: includes non-federally owned sites that are regulated under the SWRCB's Site Cleanup Program and/or similar programs conducted by each of the nine RWQCBs. Cleanup Program Sites are varied and include, but are not limited to, pesticide and fertilizer facilities, rail yards, ports, equipment supply facilities, metals facilities, industrial manufacturing and maintenance sites, dry cleaners, bulk transfer facilities, refineries, mine sites, landfills, Resource Conservative and Recovery Act (RCRA)/Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) cleanups, and some brownfields. Unauthorized releases detected at Cleanup Program Sites are highly variable and include, but are not limited, to hydrocarbon solvents, pesticides, perchlorate, nitrate, heavy metals, and petroleum constituents.

- Military Cleanup Sites: includes cleanup sites that are located on existing military bases or those which are to be transferred. Military Cleanup Sites include a wide range of discharges but are primarily regulated under RCRA/CERCLA standards by each of the nine Regional Water Quality Control Boards.

The GeoTracker database also includes cleanup site listings compiled by the California Department of Toxic Substances Control (DTSC) on its EnviroStor database (DTSC 2021). Such cleanup sites include Federal Superfund sites; State Response sites, including Military Facilities and State Superfund sites; Voluntary Cleanup sites; School Cleanup sites; Evaluation sites; School Investigation Sites; Military Evaluation sites; Tiered Permit sites; and Corrective Action sites.

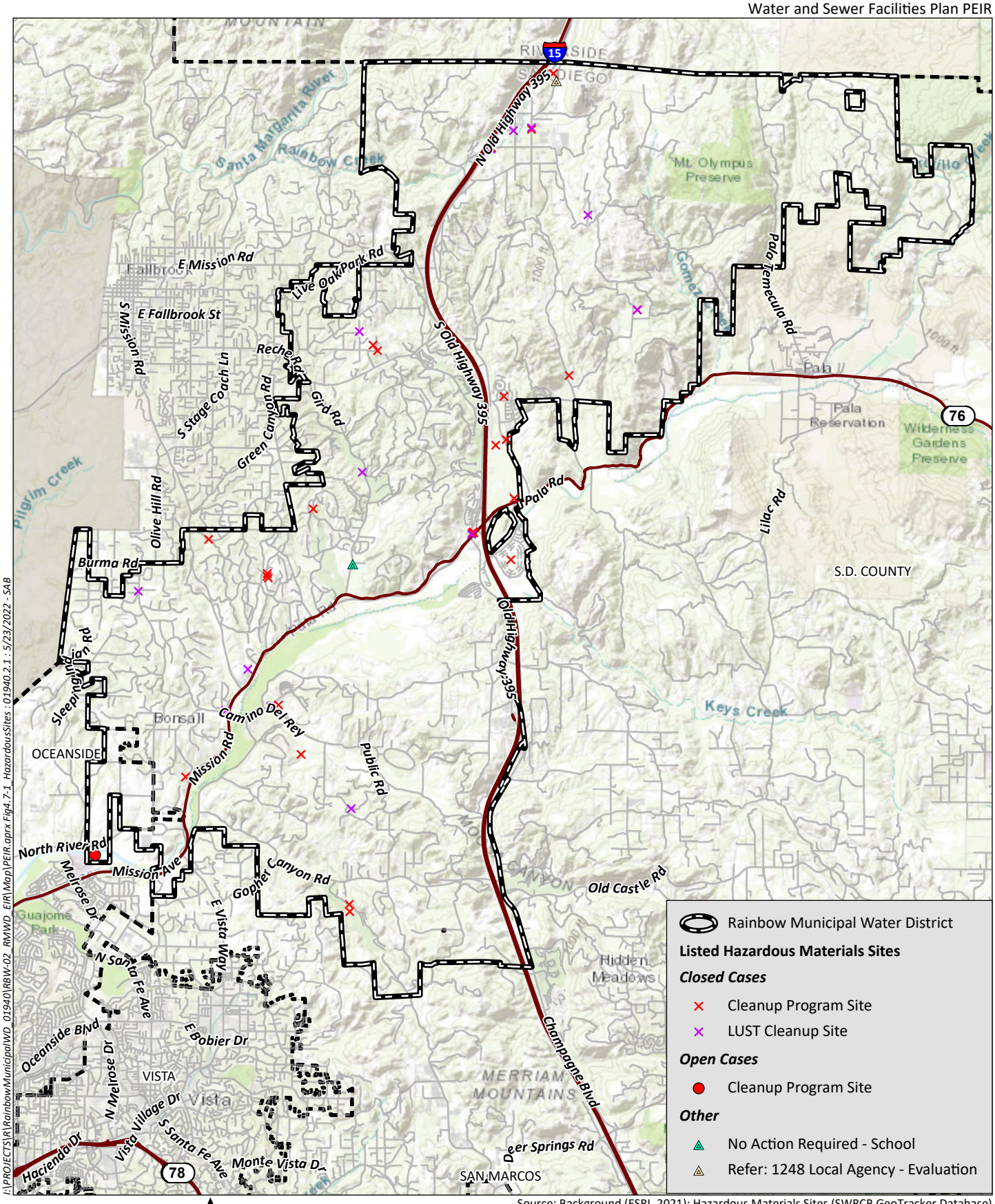
Listed sites within the District's service area are shown on Figure 4.7-1, *Listed Hazardous Materials Sites.* Sites predominantly consist of closed Cleanup Program Site and LUST Cleanup Site cases. There is one open Cleanup Program Site case located at the southwestern-most portion of the service area, near Mission Avenue and North River Road. This site is associated with the reuse of pesticide-impacted soil at the San Luis Rey Restoration/Mitigation Bank. Other listed sites include a School Investigation at Bonsall High School that has a no-action-required status and an Evaluation at the Rainbow Compressor Station that has a refer-to-local-agency status.

4.7.1.2 Airport Safety Hazards

Fallbrook Community Airpark is located approximately two miles west of the District's service area. It consists of one paved runway that is 2,160 feet long by 60 feet wide. The runway length and pavement strength limit the airpark's use to small airplanes only (San Diego County Regional Airport Authority [SDCRAA] 2006). Development in areas within the Airport Influence Area (AIA) of the airpark is subject to land use restrictions and requirements, as outlined below in Section 4.7.2.3. Refer to Figure 4.7-2, *Fallbrook Community Airpark Airport Influence Area.*

4.7.1.3 Emergency Response and Evacuation

Major hazards potentially requiring emergency response and evacuation within unincorporated portions of San Diego County include dam failure, earthquake, flood, tsunami, wildfire/structure fire, and terrorism (County 2018). Based on the inland location of the District's service area, tsunami events are



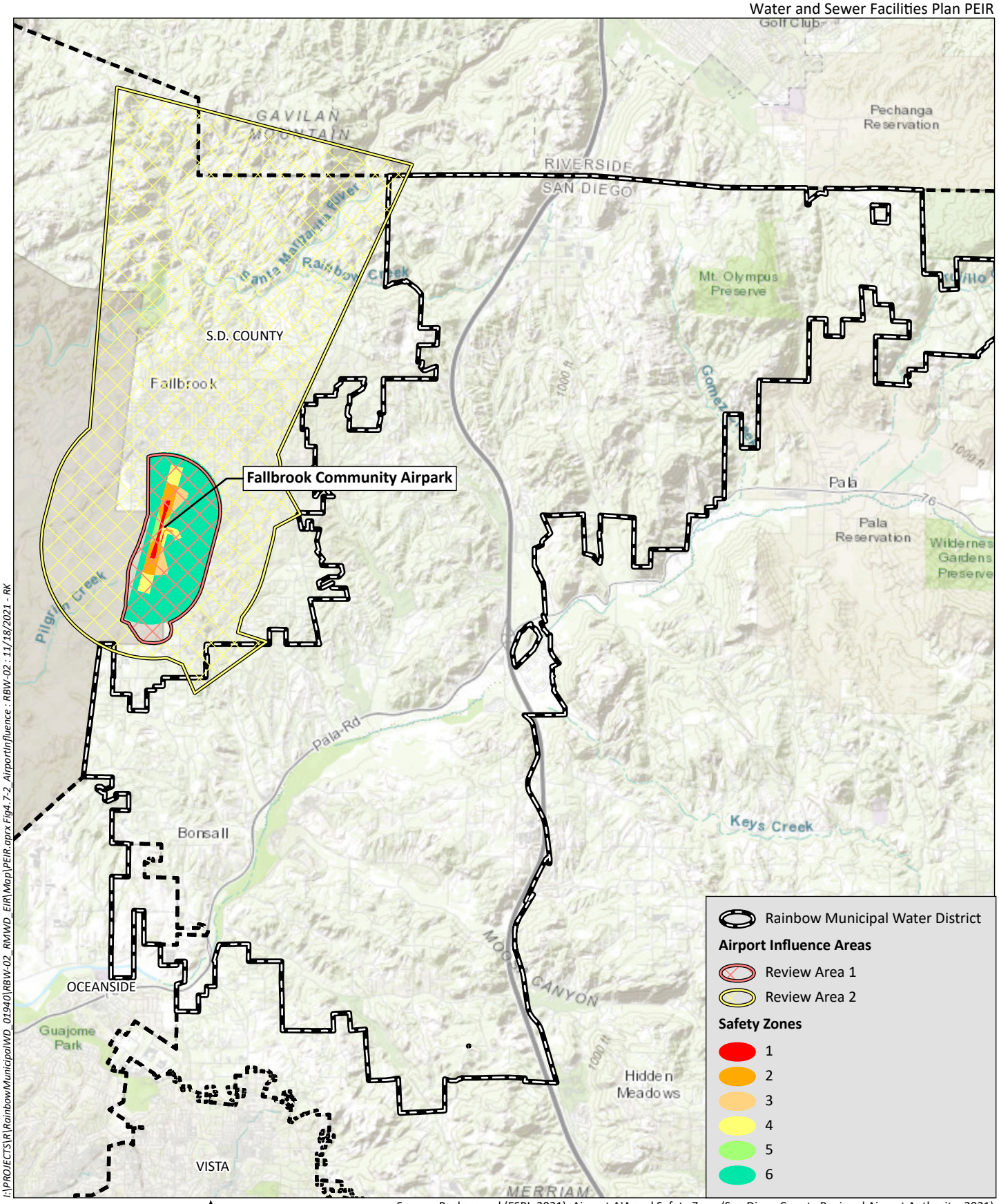
I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\PEIR_aprx Fig4.7-1_HazardousSites : 01940.2.1 : 5/23/2022 - SAB

Source: Background (ESRI, 2021); Hazardous Materials Sites (SWRCB GeoTracker Database)

HELIX Environmental Planning

Listed Hazardous Materials Sites

Figure 4.7-1



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0 2 Miles

Source: Background (ESRI, 2021), Airport AIA and Safety Zone (San Diego County Regional Airport Authority, 2021)

HELIX Environmental Planning

Fallbrook Community Airpark Airport Influence Area

Figure 4.7-2

unlikely. In the event of an evacuation effort in response to the other listed hazards, the primary evacuation routes in the vicinity of the District's service area would be major ground transportation corridors, including I-15 and SR 76.

4.7.1.4 Wildfire Hazards

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire hazard severity zones for San Diego County and identifies responsibility areas for fire protection, including Federal, State, and Local Responsibility Areas. Fire hazard severity zones include unzoned, moderate, high, and very high and are determined with a model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior, such as fire history, existing and potential fuel (i.e., natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area (CAL FIRE 2021). The majority of the District's service area is within a State Responsibility Area and contains land mapped as very high, high, and moderate fire hazard severity zones, as depicted on Figure 4.7-3, *Fire Hazard Severity Zones*.

4.7.2 Regulatory Framework

Laws and regulations that govern the generation, use, storage, transportation, and disposal of hazardous materials are described in the following sections. Federal agencies that regulate hazardous materials include the USEPA and the federal OSHA. State agencies such as the DTSC and Cal-OSHA also govern the use of hazardous materials. On the local level, the County DEH oversees the proper management of hazardous materials, coordinates emergency response through the Hazardous Incident Response Team, and conducts U.S./Mexico border inspections under contract with the DTSC.

4.7.2.1 Federal

Resource Conservation and Recovery Act of 1976

The RCRA is the predominant federal law governing the ongoing generation and management of hazardous waste. Regulations under RCRA are codified in Title 40 of the CFR, parts 260 through 282, and provide a framework for "cradle to grave" handling of hazardous waste. Specifically, this requires entities to track their hazardous waste management from the point of generation to the point of recycling, reuse, or permanent disposal. The Federal Hazardous and Solid Waste Amendments of 1984 called for waste minimization and phasing out disposal of hazardous wastes to landfills, developed standards for underground storage tanks, and prescribed the process for corrective action following releases. The USEPA has the primary role of implementing RCRA, although individual states (including California, as outlined below) are also authorized to carry out provisions of the law.

Hazardous Materials Transportation Act of 1975

The U.S. Department of Transportation has the authority to regulate the transportation of hazardous materials under Title 49 of the CFR. Last amended in 2005, the Hazardous Materials Transportation Act provides minimum regulations for the transport of hazardous materials by air, land, rail, or water. The four key provisions of the law are the establishment of procedures and policies, rules for material designations and labeling, packaging requirements, and operational rules. The California Highway Patrol and Caltrans are the state agencies with primary responsibility for governing hazardous materials transportation permits in California, enforcing federal and state regulations, and responding to hazardous materials transportation emergencies.

Comprehensive Environmental Response, Compensation, and Liability

The CERCLA, commonly known as Superfund, provides national guidelines for responding to releases or threatened releases of hazardous substances and maintains a trust fund to clean up known hazardous waste sites. Federal actions related to CERCLA are limited to sites on the National Priorities List (NPL) for cleanup activities, with NPL listings based on the USEPA Hazard Ranking System (HRS). The HRS is a numerical ranking system used to screen potential sites based on criteria such as the likelihood and nature of hazardous material release, and the potential to affect people or environmental resources. CERCLA was passed in 1980 and amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA).

Superfund Amendments and Reauthorization Act

SARA made the following changes and additions to the Superfund program under CERCLA:

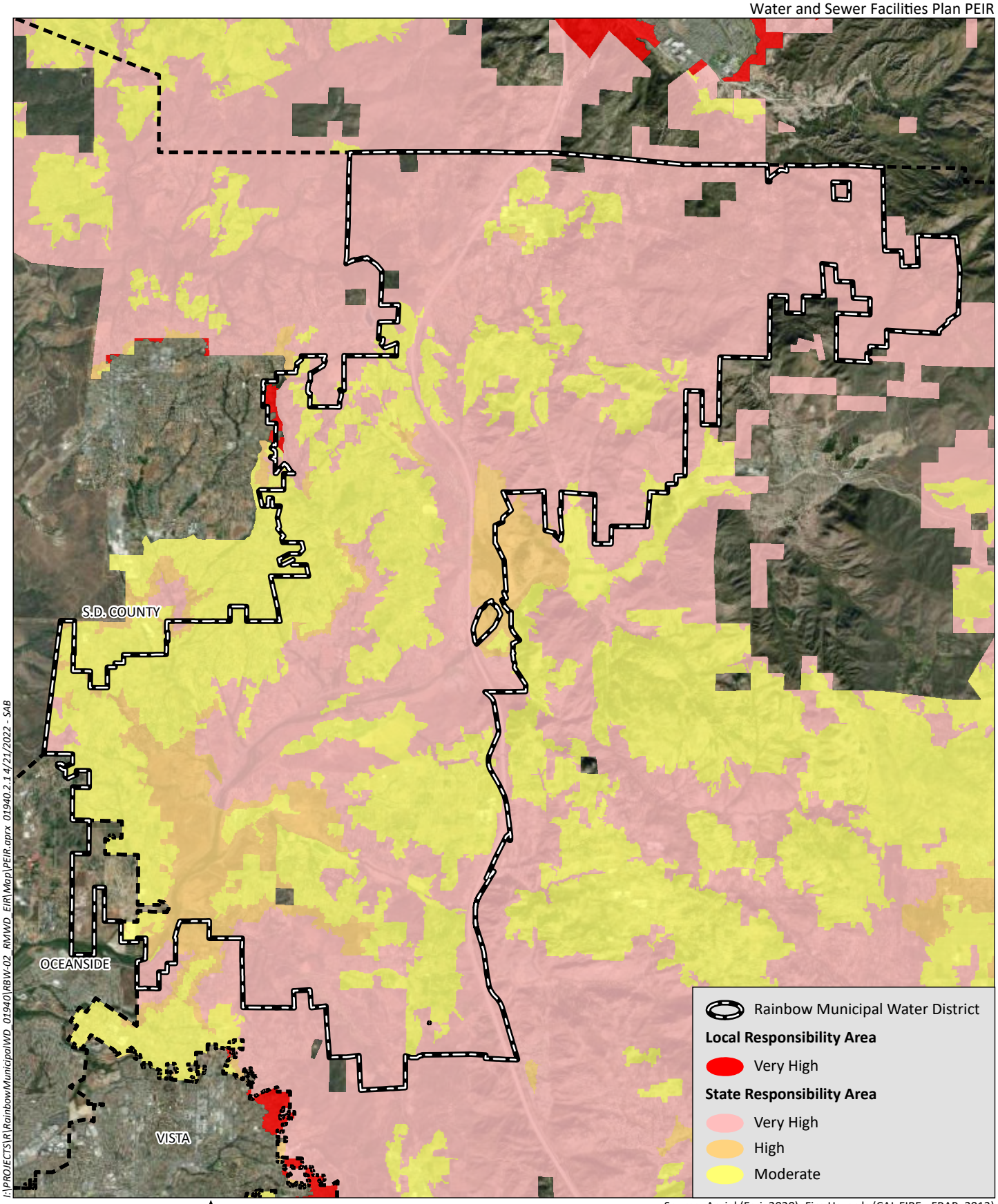
- The budget allotted to the trust fund for cleanup actions was increased.
- The HRS was revised to more accurately reflect risks that hazardous waste sites pose to human health and the environment.
- State involvement was increased, and changes were made to ensure consistency with other State and Federal laws and regulations.
- There was a greater focus on permanent remedies and innovative treatment technologies.
- Citizen participation in the decision-making process was encouraged.

Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act (EPCRA) was authorized by Title III of SARA. The purpose of EPCRA is to support emergency response preparedness and to provide the public with information regarding potential chemical hazards in their communities. The law directs emergency planning committees at the local and state level to develop emergency response plans for chemical releases. It also requires industry to provide information to local, state, and federal governments on the storage, use, and release of hazardous chemicals.

Federal Aviation Administration Noticing Requirements

The Federal Aviation Administration (FAA), under CFR Title 14, Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace*, requires submittal of a *Notice of Construction or Alteration* for applicable projects within identified airport Height Notification Boundaries (Exhibit III-3, SDCRAA 2010). Specific requirements for such notices include structures more than 200 feet above the ground surface, construction or alteration that extends within identified (theoretical) slopes projecting from airport runways (or other applicable locations), all airport projects, and certain other transportation projects. After submittal of the required notice, the FAA conducts an aeronautical review, and issues either a *Determination of Hazard to Navigation* (i.e., if the project would exceed an obstruction standard and result in a "substantial aeronautical impact"), or a *Determination of No Hazard to Navigation*. In the latter case, the FAA may include site-specific conditions or limitations to ensure that potential hazards are avoided (e.g., noticing requirements or lighting restrictions).



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Source: Aerial (Esri, 2020); Fire Hazards (CAL FIRE - FRAP, 2013)

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Fire Hazard Severity Zones

Figure 4.7-3

4.7.2.2 State

California Code of Regulations, Title 22

Most state and federal regulations and requirements for hazardous waste are codified in CCR, Title 22, Division 4.5. Title 22 contains detailed compliance requirements for hazardous waste generation, transport, treatment, storage, and disposal facilities. California is a fully authorized state to implement RCRA; therefore, most RCRA regulations are integrated into Title 22. The DTSC regulates hazardous waste more stringently than the USEPA, however, so Title 22 does not contain as many exemptions or exclusions as the equivalent federal regulations. Similar to the California Health and Safety Code (as outlined below), Title 22 also regulates a wider range of waste types and waste management activities than RCRA. While California has compiled a number of additional regulations from various CCR titles related to hazardous materials, such as wastes and toxics in CCR Titles 26 (Toxics), 23 (Waters) and 27 (Environmental Protection), State hazardous waste regulations are still commonly referred to as Title 22.

California Health and Safety Code, Hazardous Materials Release Response Plan and Inventory

The DTSC has established rules governing the use of hazardous materials and the management of hazardous wastes. California Health and Safety Code Section 25531, et seq., incorporates the requirements of SARA and the Clean Air Act as they pertain to hazardous materials. Under CalARP, certain businesses that store or handle more than 500 pounds, 55 gallons, or 200 cubic feet (for gases) of acutely hazardous materials at their facilities are required to develop and submit a Risk Management Plan (RMP) to the appropriate local authorities, the designated local administering agency, and the USEPA for review and approval. The RMP is intended to satisfy federal “right-to-know” requirements and provide basic information to regulators and first responders, including identification/quantification of regulated substances used or stored on site, operational and safety mechanisms in place (including employee training), potential on- and off-site consequences of a release, and emergency response provisions.

Under California Health and Safety Code, Division 20, Chapter 6.95, businesses handling or storing certain amounts of hazardous materials are required to prepare a Hazardous Materials Business Plan (HMBP). The HMBPs must include an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program. HMBPs are also required to include a written set of procedures and information created to help minimize the effects and extent of a release or threatened release of a hazardous material, and must be prepared prior to facility operation (with updates and amendments required for appropriate circumstances such as changes in business location, ownership, or operations).

Pursuant to California Health and Safety Code Chapter 6.11, CalEPA established the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which consolidated six existing state programs related to hazards and hazardous materials. The six programs consolidated under the Unified Program are Aboveground Petroleum Storage Act Program, CalARP, Hazardous Materials Business Plan, Hazardous Materials Management and Inventory Program, Hazardous Waste and Hazardous Waste Treatment Program, and Underground Storage Tank Program. The Unified Program also allows the designation of CUPAs to implement associated state regulations within their jurisdiction.

4.7.2.3 Local

San Diego County Department of Environmental Health/Hazardous Materials Division

The County DEH is the designated CUPA for San Diego County and is responsible for regulating businesses within San Diego county that handle, store, generate, or treat hazardous wastes and materials. These businesses are required by law to develop applicable hazardous materials plans, obtain, and maintain a valid Unified Program Facility Permit, and submit their facility information electronically to the California Environmental Reporting System (CERS).

Multi-Jurisdictional Hazard Mitigation Plan

As a condition of eligibility for mitigation grant assistance, the federal Disaster Mitigation Act of 2000 directs local governments to coordinate with State and Tribal entities to create mitigation plans. The MHMP was developed for San Diego County in 2004 and was last updated in 2018. The MHMP is a countywide plan that identifies risks and ways to minimize damage by natural and manmade disasters. The plan is a comprehensive resource document that serves many purposes such as enhancing public awareness, creating a decision tool for management, promoting compliance with State and Federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination.

Airport Land Use Compatibility Plan for Fallbrook Community Airpark

The SDCRAA acts as the Airport Land Use Commission for the San Diego region and is charged with developing airport land use compatibility plans (ALUCPs). The SDCRAA adopted an ALUCP for Fallbrook Community Airpark in December 2006 and last amended it in December 2011. The purpose of the ALUCP is to provide for the orderly growth of the airport and the area surrounding it within the jurisdiction of the SDCRAA, and to safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general.

The ALUCP identifies the AIA for Fallbrook Community Airpark (refer to Figure 4.7-2). The AIA is established as “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses” (SDCRAA 2006). The AIA is comprised of Review Area 1 and Review Area 2. Review Area 1 consists of locations where noise and/or safety concerns may necessitate limitations on the types of land uses. Review Area 2 consists of locations beyond Review Area 1 but within airspace protection and/or overflight notification areas. Limits on the heights of structures, particularly in areas of high terrain, are the only restriction on land uses within Review Area 2. Six safety zones are also established in the AIA for the purpose of evaluating safety compatibility of land use development. The safety zones are based on accident location data, runway length, operational characteristics, and other aeronautical factors that affect where aircraft accidents are likely to occur. These safety zones are depicted on Figure 4.7-2.

4.7.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to hazards and hazardous materials. The Project would have a significant impact if it would:

1. Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials;

2. 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;

3. Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code §65962.5 and, as a result, create a significant hazard to the public or the environment;

4. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the Project area;

5. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

6. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

4.7.4 Project Impacts and Mitigation

4.7.4.1 Issue 1: Transport, Use, Disposal, and Accidental Release of Hazardous Materials

Would the Project create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials?

Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Impact Analysis

Construction activities associated with Project improvements would require the use of typical hazardous materials including, but not limited to, petroleum products (e.g., oil, gasoline, and diesel fuels), automotive fluids (e.g., antifreeze and hydraulic fluids), and other chemicals (e.g., adhesives, solvents, paints, and thinners). No acutely hazardous materials would be used on site during construction and the materials that would be handled would not pose a substantial risk to the public. In addition, the District and its construction contractor(s) would comply with applicable federal, state, and local regulations pertaining to hazardous materials use, handling, storage, and disposal. Specifically, the on-site use and storage of construction-related hazardous materials would be regulated under applicable requirements of the NPDES, as described in Section 4.8, *Hydrology and Water Quality*. Impacts related to the use of hazardous materials during construction would be less than significant.

As discussed in Section 4.7.1.1, existing District facilities require the occasional transport and use of hazardous materials as part of routine operation and maintenance. Typical hazardous materials include fuels, lubricants, oils, paints, and solvents. Pump stations and sewer facilities may also require the transport, use, and storage of chlorine and other hazardous materials for water disinfection and distribution. Maintenance activities, such as landscaping, involve the use of vehicles and equipment which use and transport hazardous materials such as fuels, lubricants, and chemical pesticides and fertilizers. Most of the Project's proposed improvements are associated with existing District facilities, and these improvements would not involve new use of hazardous materials. New Project facilities, such as the new pump station proposed as CIP Project 600008 and the new list station proposed as CIP Project 5300XX-6, would be similar to existing District facilities and would not represent a new type of hazard. Hazardous materials associated with new facilities would be handled in accordance with applicable federal, State, and local regulations; therefore, impacts related to hazardous materials from Project operations and maintenance would be less than significant.

Accident conditions, such as sewer pipe rupture or lift station failure, could result in hazardous materials spills and the exposure of the public and environment to hazardous conditions. Impacts related to such accident conditions are therefore assessed as potentially significant.

Project construction and operation activities have the potential to occur in proximity to schools within the District's service area, including Bonsall Elementary School, Sullivan Middle School, and Bonsall High School; however, as discussed above, the materials used would be typical materials that are not acutely hazardous and would not represent a substantial risk to the schools. Impacts would be less than significant.

Mitigation Measures

The following mitigation measure would be implemented for applicable projects to address impacts related to risk of accident conditions at sewer facilities.

MM HAZ-1 **Sewer Pipeline and Lift Station Safety Features.** Sewer lift stations shall incorporate standard safety features, including an emergency generator on the site in case of electrical failure, and sufficient sewage detainment capacity in the event of generator and/or pump mechanism failure to allow time for repair and/or emergency conveyance of the sewage. Portable emergency generators may be used for lift stations that cannot be equipped with an on-site generator. Each sewer lift station, pipeline, and treatment facility would implement a Sewer System Management Plan that includes contingency measures in the event of emergency leaks or spills.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, Project Engineer

Significance After Mitigation

With implementation of MM HAZ-1, impacts related to risk of accident conditions at sewer facilities would be less than significant.

4.7.4.2 Issue 2: Hazardous Materials Sites

Would the Project be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Impact Analysis

As discussed in Section 4.7.1.1, there are numerous listed hazardous materials sites within the District's service area (refer to Figure 4.7-1). Most of these sites are closed Cleanup Program Site and LUST Cleanup Site cases and no longer represent a hazardous materials risk. The one open case within the District's service area, located in the southwestern-most portion of the service area on the south side of North River Road, is in proximity to a ODP sewer line. This site is associated with the reuse of pesticide-impacted soil at the San Luis Rey Restoration/Mitigation Bank, as the site was previously used for agricultural purposes. Land currently used for agricultural purposes is located adjacent to the San Luis Rey Restoration/Mitigation Bank on either side of the ODP sewer line alignment; therefore, there is potential that pesticide-impacted soil is also present in the immediate vicinity of the ODP sewer line alignment, which could be exposed during future improvements to this pipeline. In addition, based on the extensive agricultural uses within the District's service area, there is potential for pesticide-impacted soils to be present in proximity to other Project improvement areas.

Pesticides can acutely and/or chronically affect human health, depending on the type of pesticide, the amount of pesticide used, and the level of exposure to the pesticide. Common classes of pesticides include (1) organophosphates and carbamates, (2) soil fumigants, and (3) pyrethroids. Organophosphates and carbamates are used as insecticides and can be absorbed by humans through the skin, respiratory tract, or gastrointestinal tract. They affect the brain and nervous system, interfering with nerve signal transmission. Soil fumigants are gaseous pesticides applied to soil and commonly include 1,3-dichloropropene, chlorpicrin, metam sodium, and metam potassium. Because they are gases, the move can move from the soil to the air and expose people living or working nearby, potentially resulting in skin, eye, and lung irritation, as well as cancer and reproductive harm. Pyrethroids are synthetic compounds that are structurally similar to botanical compounds. They can be toxic to the nervous system and cause both cancer and reproductive harm.

Based on the potential to encounter and expose pesticide-impacted soils, as well as other unknown hazardous materials, during construction of Project improvements, impacts are assessed as potentially significant.

Mitigation Measures

The following mitigation measure would be implemented to address potential impacts related to hazardous materials sites.

MM HAZ-2 **Conduct Site-Specific Environmental Site Assessment.** Project improvements that involve excavation shall be subject to initial screening by the District to determine their site-specific potential susceptibility to hazards and hazardous materials/risk of upset. Based on the results of the initial screening, a site-specific environmental site assessment shall be completed for Project improvements, when project-specific designs have been finalized, that would require ground-disturbing activities such as grading and trenching. The environmental site assessment will entail a regulatory database records

review to determine if known hazardous waste sites occur on or near the proposed project site. If hazardous materials are identified, a full Phase I environmental site assessment investigation shall be completed for the project improvement site.

Phase I environmental site assessment investigations include: (1) appropriate regulatory database records review; (2) site reconnaissance; (3) review of appropriate maps, aerial photographs and other pertinent documents; (4) interviews with current/previous property owners, local government/industry officials, and other individuals with knowledge of the property and/or local environmental conditions; (5) documentation of known or potential Recognized Environmental Conditions (RECs); and (6) identification of recommendations to address RECs or other concerns, if applicable (including Phase II environmental site assessment investigations, as outlined below).

Depending on the results of the described Phase I investigation, one or more Phase II environmental site assessment investigations shall be conducted if identified as part of the Phase I recommendations. Phase II environmental site assessments consist of "intrusive" investigations, in which original samples of soil, groundwater, and/or building materials are collected and submitted for laboratory analysis to identify applicable contaminates. Based on the results of this testing, the Phase II investigations shall identify the type and extent of REC (or other) contamination, and provide appropriate remedial measures to address associated hazards. Typical remedial measures may include efforts such as removal and proper disposal of contaminated materials (or on-site treatment and reuse, if applicable), or in situ treatments such as oxidation (use of aerobic bacteria to accelerate natural attenuation of organic contaminants) or bioremediation (e.g., using bacteria to remove contaminates from groundwater).

Environmental site assessments shall be prepared in conformance with applicable regulatory and industry standards, including ASTM International E1527-05 Standard Practice for Environmental Site Assessments, and CFR Part 312, Standards and Practices for All Appropriate Inquiries. Results and recommendations from the described Phase I and Phase II investigations shall be incorporated into the associated individual final project design documents to address identified potential hazardous material concerns.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, Project Engineer, Construction Contractor

Significance After Mitigation

With implementation of MM HAZ-2, potential impacts related to hazardous materials sites would be less than significant.

4.7.4.3 Issue 3: Airport Hazards

For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

Impact Analysis

Small portions of the District's service area along its western boundary are within AIA Review Area 2 of Fallbrook Community Airpark (refer to Figure 4.7-2). No portions are within Review Area 1 or any of the six safety zones. Within Review Area 2, the only restriction on land uses is the heights of structures, particularly in areas of high terrain. Other actions within Review Area 2 that require Airport Land Use Commission review include projects having the potential to create electrical or visual hazards to aircraft in flight (e.g., electrical interference with radio communications or navigational signals; lighting which could be mistaken for airport lighting; glare or bright lights [including laser lights] in the eyes of pilots of aircraft using the airport) and projects having the potential to cause an increase in the attraction of birds or other wildlife that could be hazardous to aircraft operations in the vicinity of the airport (SDCRAA 2006).

Project improvements within AIA Review Area 2 of Fallbrook Community Airpark are associated with the potential future replacement or rehabilitation of ODP water lines. Such facilities would be belowground and what not represent a concern related to height. In addition, these passive belowground pipelines would not have the potential to cause electrical or visual hazards or attract wildfire that could be hazardous to aircraft operations. As such, the Project would not result in a safety hazard for people residing or working in the Project area. Further, because aircraft noise-related noise concerns are limited to Review Area 1, the Project would not result in excessive noise levels for people residing or working in the Project area. Impacts would be less than significant.

Mitigation Measures

Impacts related to airport hazards would be less than significant; therefore, no mitigation is required.

4.7.4.4 Issue 4: Emergency Response and Evacuation

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

Impact Analysis

Interference with an adopted emergency response or evacuation plan could potentially increase the loss of life and property in the event of a disaster. As previously described, the County MHMP evaluates disaster risks and provides goals, objectives, and actions to reduce impacts from potential hazards such as wildfires and terrorism.

Project construction activities, particularly excavation and trenching activities associated with pipeline improvements within roadway right-of-way, could result in temporary lane and road closures and detours. Temporary roadway closures could potentially interfere with emergency plans and procedures if appropriate authorities are not properly notified, or if multiple Project improvements are constructed during the same time in close proximity and multiple roadways used for emergency routes are concurrently blocked. Therefore, short-term impacts associated with construction are assessed as potentially significant.

Once installed, proposed Project facilities would not obstruct roadways or block access for emergency operations. Periodic maintenance would require occasional travel to various facilities; however, these trips would not affect existing traffic patterns on evacuation routes. Therefore, long-term impacts of the

Project associated with impairment or interference with emergency response or evacuation plans are less than significant.

Mitigation Measures

MM TRA-1 (refer to Section 4.10 of this PEIR) would be implemented during Project construction to address potential impacts associated with emergency response and evacuation.

Significance After Mitigation

With implementation of MM TRA-1, potential impacts associated with emergency response and evacuation during Project construction would be less than significant.

4.7.4.5 Issue 5: Wildland Fires

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

Impact Analysis

As shown on Figure 4.7-3, large portions of the District's service area are considered very high fire hazard severity zones, with other portions considered high and moderate fire hazard severity zones. The Project's facilities, including pump stations, lift stations, pressure-reducing stations, and pipelines, would not require or involve permanent occupants that would be subject to substantial risk from wildfire. In addition, the presence of construction and maintenance workers throughout the District's service area would be temporary, transitory, and sporadic; workers would therefore not be at substantial risk from wildfire. Similarly, Project facilities would generally be limited to belowground pipelines and improvements to existing facilities. The Project would not construct a substantial number of new structures that would be at risk from wildfire.

The Project would, however, have the potential to exacerbate the potential for wildfires to occur during construction and maintenance activities through the use of equipment with combustion engines. The risk would be considered lower in developed areas (e.g., roadways) and higher in undeveloped areas that contain brush or other vegetation that could be flammable. While Project-related personnel and facilities are not considered to be at substantial risk, residents and structures located throughout the District's service area could be at risk. Therefore, impacts are considered potentially significant.

Mitigation Measures

The following mitigation measures shall be implemented to address potential impacts associated with wildfire.

MM HAZ-3 **Construction Fire Safety Plan**. The following fire prevention strategies shall be implemented during Project construction:

- Construction within areas of dense foliage during dry conditions shall be avoided.

- In cases where avoidance is not feasible, brush fire prevention and management practices shall be incorporated. Specifics of the brush management program shall be incorporated into Project construction documents.

Timing/Implementation: During construction.

Enforcement/Monitoring: District, Construction Contactor

Significance After Mitigation

With implementation of MM HAZ-3, potential impacts associated with wildfire risk would be less than significant.

4.7.5 Cumulative Impact Analysis

4.7.5.1 Transport, Use, and Disposal, and Accidental Release of Hazardous Materials

The geographic scope for the analysis of cumulative impacts relative to the transport, use, and disposal of hazardous materials, and associated accidental releases, encompasses the Project improvement construction sites and operational facility sites that may involve the use of hazardous materials and the roadways and freeways used by vehicles transporting hazardous materials to and from these sites. Construction and operation activities associated with cumulative development could also involve the transport, use, and disposal of hazardous materials, and associated accidental releases; however, similar to the proposed Project, cumulative development would be required to comply with applicable federal, state, and local regulations related to the transportation, storage, use, and disposal of hazardous materials. Facilities would be required to implement a HMBP to allow for the transportation, storage, use, and disposal of hazardous materials if hazardous materials would be used in operations. Further, accident conditions, if they occur, are generally localized and do not present a high potential to combined with other accident conditions. As such, cumulative impacts related to the transport, use, and disposal of hazardous materials, and associated accidental releases, would be less than significant.

4.7.5.2 Hazardous Materials Sites

Impacts related to listed hazardous materials sites are generally specific and limited to the area directly adjacent to the hazardous materials site. The location of one project on or near a listed hazardous materials site would not increase potential hazard impacts at another site. Therefore, the construction and operation of Project facilities, in combination with cumulative development, would not result in a significant cumulative impact related to listed hazardous materials sites.

4.7.5.3 Airport Hazards

Impacts related to aircraft hazards are generally site specific and limited to the area within the AIA or two miles of a specific airport. Location of one project within the AIA of an airport would not increase potential aircraft hazards at another site. Therefore, the construction and operation of proposed Project facilities, in combination with cumulative development, would not result in a significant cumulative impact related to airport hazards.

4.7.5.4 Emergency Response and Evacuation

The geographic scope for the cumulative analysis related to emergency response and evacuation is the circulation network (i.e., roadways and freeways) within the District's service area. Cumulative development within the District's service area would have the potential to affect emergency response and evacuation through (1) construction work within roadways and subsequent lane closures; and (2) increased traffic volumes causing roadway congestion. Combined with the proposed Project's anticipated work within roadways and likely lane closures, cumulative impacts related to emergency access are considered potentially significant.

To address the potentially significant direct impact related to emergency response and evacuation from Project construction, the Project would implement MM TRA-1. MM TRA-1 would involve the preparation of a TCP that would include measures to ensure adequate access and circulation during construction of the Project's various improvements. As part of MM TRA-1, the District would notify local emergency responders of planned partial or full lane closures or blocked access to roadways or driveways required for Project construction. With implementation of MM TRA-1, impacts to emergency response and evacuation from the Project would be minimized and the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact.

4.7.5.5 Wildland Fires

The geographic scope for the analysis of cumulative impacts relative to wildland fires is the District's service area. Cumulative development within the District's service area has a high likelihood to be located in a moderate, high, or very high fire hazard severity zone and result in additional wildland/urban interfaces, thus potentially increasing exposure of people and/or structures to wildland fire risks. In addition, construction activities associated with cumulative development that involves the use of equipment with combustion engines in undeveloped areas would have the potential to exacerbate fire risk. Therefore, the baseline cumulative impact related to wildland fires is significant.

The proposed Project would not locate people within moderate, high, or very high fire hazard severity zones in a manner that would result in substantial risk from wildland fire as the proposed facilities would not involve permanent occupants and the presence of construction and maintenance workers would be temporary, transitory, and sporadic. Similarly, because Project improvements mainly involve belowground pipelines and existing facilities, the Project would not place structures within moderate, high, or very high fire hazard severity zones in a manner that would result in substantial risk from wildland fire. To address the potentially significant direct impact related to exacerbating fire risk from the use of construction equipment and thereby potentially exposing local residents and structures to risk from wildland fire, the Project would implement MM HAZ-3, which would include the incorporation of brush fire prevention and management practices where necessary. With implementation of MM HAZ-3, the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact.

4.8 HYDROLOGY AND WATER QUALITY

This section addresses the potential impacts of the Project related to hydrology and water quality. The following discussion includes (1) a description of existing conditions as related to hydrology and water quality, (2) a summary of applicable regulations, and (3) an evaluation of the potential environmental effects associated with water quality, drainage patterns, flooding, and groundwater.

4.8.1 Existing Conditions

4.8.1.1 Hydrologic Setting

San Luis Rey Watershed

The majority of the District's service area is located within the San Luis Rey Watershed (refer to Figure 4.8-1, *Watersheds and Hydrologic Areas*). The San Luis Rey Watershed occupies approximately 560 square miles and neighbors the Santa Margarita Watershed to the north and the Carlsbad and San Dieguito Watersheds to the south (Project Clean Water 2021). Elevations within this watershed range from sea level to 6,533 feet (City of Oceanside 2009). Average annual precipitation ranges from roughly 11 inches along the coast, in the city of Oceanside, to approximately 30 inches in the eastern portion of the watershed at Palomar Mountain (City of Oceanside, et al. 2016). Rainfall to the area primarily drains through the San Luis Rey River, which stretches east to west over a length of about fifty-five miles, originating in the Palomar and Hot Springs Mountains and eventually discharging to the Pacific Ocean, near the City of Oceanside. Surface water flows consist of surrounding tributaries supplied by intermittent releases from the Henshaw Dam and surfacing groundwater.

The San Luis Rey Watershed or HU (Unit 903.00) comprises three HAs, which have been delineated by the San Diego RWQCB based on drainage patterns: Lower San Luis (HA 903.1), Monserate (HA 903.2), and Warner Valley (HA 903.3) (Project Clean Water 2021). Drainage patterns are all generally to the west and southwest towards the Pacific Ocean. More than half of the land in the watershed is vacant or undeveloped. The highest concentration of population is located in the Lower San Luis HA. There are six federally recognized Tribal Indian Reservations with land in the watershed. The Cities of Oceanside and Vista and the County share jurisdictional responsibilities for the watershed. The District's service area is within the Lower San Luis Rey and Monserate HAs.

Santa Margarita Watershed

The northwesternmost portion of the District's service area is located within the Santa Margarita Watershed (refer to Figure 4.8-1). The Santa Margarita Watershed encompasses approximately 750 square miles, with approximately 73 percent of the watershed lying in Riverside County and the remaining 27 percent in the northern portion of San Diego County (Project Clean Water 2021). The San Juan Watershed is located to the northwest and the San Luis Rey Watershed is located to the south of the Santa Margarita Watershed. The Santa Margarita Watershed consists of a single major drainage, the Santa Margarita River, which originates where the Temecula and Murrieta Creek systems meet near the City of Temecula, in Riverside County, and is later fed by several smaller tributaries, including Rainbow Creek in San Diego County. The river eventually discharges to the Pacific Ocean after flowing through several unincorporated areas, the community of Fallbrook, and the Marine Corps Base Camp Pendleton.

The Santa Margarita Watershed or HU (Unit 902.00) extends from the Palomar Range in the northeast, to the Santa Margarita Lagoon along the coast, and consists of nine HAs, five of which are in San Diego County: Ysidora (902.10), De Luz (902.20), Pechanga (902.50), Aguanga (902.80), and Oak Grove (902.90) (Project Clean Water 2021). The watershed is largely undeveloped with the majority of development concentrated in Riverside County, in the upper watershed basin. Other land use classifications within the watershed include residential, agriculture, open space, and military (including the Camp Pendleton Marine Corps Base and Fallbrook Naval Weapons Station). Two tribal nations live within the watershed as well: the Pechanga Reservation and the Pauma and Yuima Reservation. In the District's service area, the County has the sole jurisdictional responsibility over the Santa Margarita watershed. The District service area occurs within the De Luz HA of the Santa Margarita Watershed.

Groundwater

The District's service area overlies the San Luis Rey Valley Groundwater Basin (Basin). The Basin underlies an east-west-trending alluvium-filled valley located along the western coast of San Diego County. The major hydrologic feature is the San Luis Rey River, which drains the valley overlying the Basin. The Basin is bounded on the east, northeast, and southeast by the contact of alluvium with impermeable Mesozoic granitic and pre-Cretaceous metamorphic rocks. In the northwest and southwest of the lower portion of the Basin, alluvium is in contact with semi-permeable Eocene marine deposits and Tertiary nonmarine deposits. The Basin is bounded on the west by the Pacific Ocean (California Department of Water Resources [DWR] 2003).

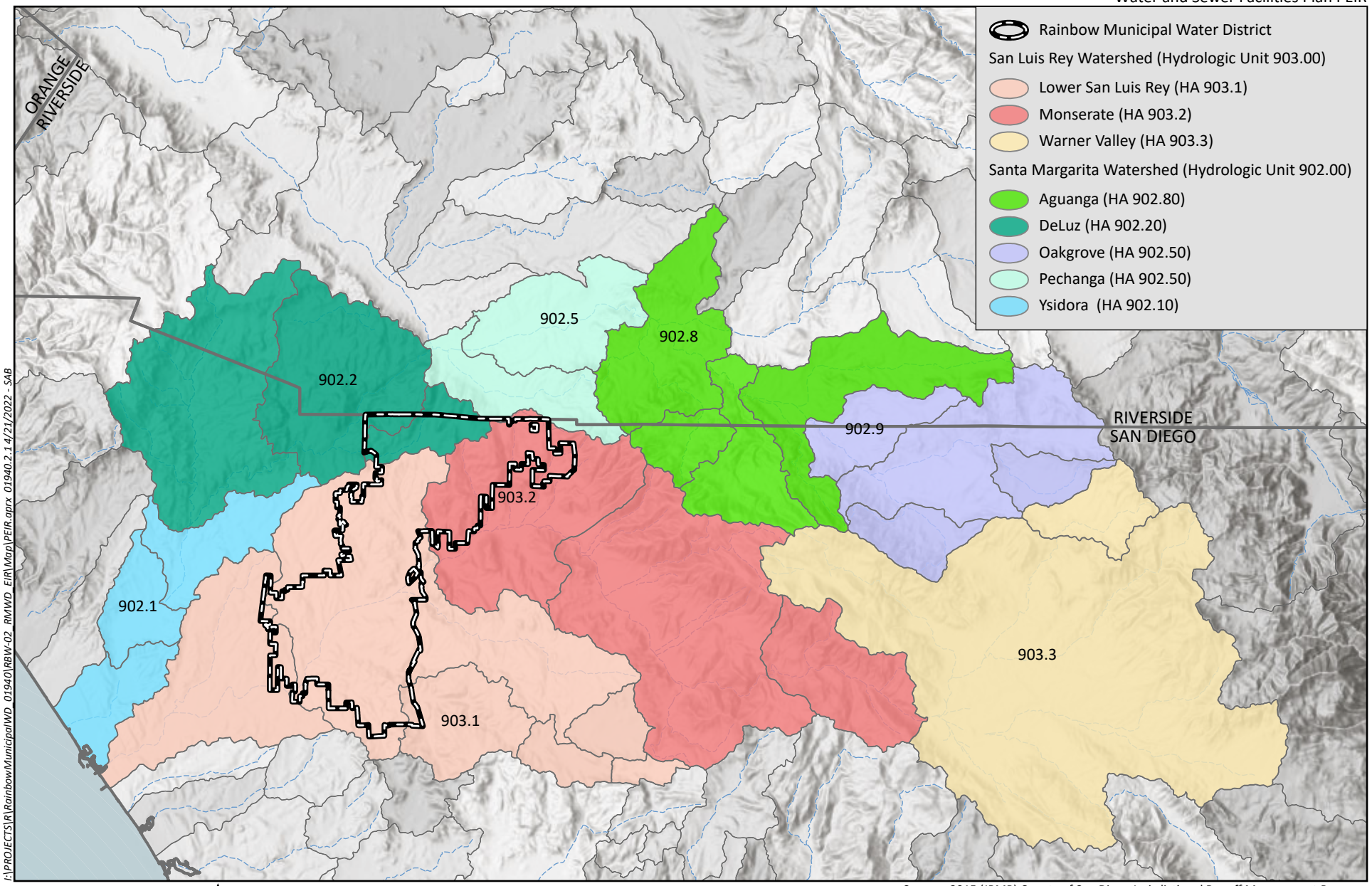
The Basin is recharged by precipitation, imported irrigation water applied on upland areas, and by storm flow in the San Luis Rey River and its tributaries. Movement of groundwater in the alluvial aquifer is westward towards the Pacific Ocean. Water levels in the basin declined drastically in the 1950s and 1960s due to groundwater development and overpumping. Since the advent of imported water sources, groundwater levels have risen to near pre-development levels and averages range from 0 to 20 feet below land surface. The estimated total storage capacity for this basin is 240,000 acre-feet (DWR 2003).

4.8.1.2 Surface Water Quality

Existing water quality data from the San Luis Rey and Santa Margarita River watersheds include quantitative and qualitative monitoring and/or testing results from sources such as the CWA Section 303(d) impaired water evaluations conducted by the SWRCB and RWQCB, urban runoff monitoring and water quality improvement plans associated with the NPDES Municipal Permit (described below under Regulatory Framework), and the State Surface Water Ambient Monitoring Program (SWAMP). An overview of selected monitoring and reporting data is provided below.

Clean Water Act 303(d) List

Water bodies in the San Luis Rey and Santa Margarita watersheds that have been placed on the CWA Section 303(d) list are shown in Table 4.8-1, *Water Bodies Identified as Impaired under the Clean Water Act*. Pollutant conditions in the San Luis Rey Watershed include bacterial indicators, nutrients, selenium, nitrogen, chloride, phosphorous, and issues with total dissolved solids (TDS). Pollutant conditions in the Santa Margarita Watershed include bacterial indicators, nitrogen, phosphorus, and TDS. The specific sources of these pollutants are generally unknown, but could potentially originate from agricultural runoff, urban runoff, sewage spills, livestock/domestic animals, and natural sources.



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Source: 2015 (JRMP) County of San Diego Jurisdictional Runoff Management Program

HELIX Environmental Planning

Watersheds and Hydrologic Areas

Figure 4.8-1

Table 4.8-1
WATER BODIES IDENTIFIED AS IMPAIRED UNDER THE CLEAN WATER ACT

Watershed	Water Body Name	Pollutant/Stressor
Santa Margarita	Rainbow Creek	Nitrogen, phosphorus, TDS
	Santa Margarita River (upper)	Enterococcus, phosphorus, toxicity
San Luis Rey	Couser Canyon Creek	Enterococcus, fecal coliform
	Gopher Creek	Enterococcus, fecal coliform
	Moosa Canyon Creek	Enterococcus, fecal coliform, nitrogen, phosphorus
	Live Oak Creek	Enterococcus, fecal coliform
	Gird Creek	Enterococcus, fecal coliform
	Keys Creek	Enterococcus, fecal coliform, nitrogen, selenium
	Green Canyon Creek	Enterococcus, fecal coliform
	Pacific Ocean Shoreline (San Luis Rey River outlet)	Enterococcus, fecal coliform
	Oceanside Harbor	Copper, toxicity
	San Luis Rey River (lower)	Indicator bacteria, nitrogen, phosphorous, TDS, toxicity

Source: SWRCB 2016

Water Quality Improvement Plans

Pursuant to the RWQCB Municipal Permit for the San Diego Region, listed co-permittees for the San Luis Rey River Watershed Management Area (WMA) and the Santa Margarita River WMA have adopted Water Quality Improvement Plans (WQIPs) to prioritize and address water quality conditions that arise from storm water drain discharges. The highest priority water quality condition of concern for both the San Luis Rey River WMA and Santa Margarita River WMA is bacteria. Additional priority water quality conditions include nitrogen and phosphorus, TDS, chloride, eutrophic conditions, and toxicity.

Surface Water Ambient Monitoring Program

The SWRCB coordinates the SWAMP to assess water quality in California's surface waters. Monitoring occurred most recently in 2005 for the Santa Margarita HU and 2006 for the San Luis Rey HU. Water and sediment samples were taken to assess water chemistry and toxicity; fish tissue and macroinvertebrate samples were taken to analyze for metals, polychlorinated biphenyls (PCBs), and overall ecological health; and components of the physical habitat were recorded, with the primary goal of assessing impacts to aquatic life in each watershed. Results for the Santa Margarita HU indicate that the watershed is in moderate to good ecological health (SWRCB 2007). Due to the largely undeveloped nature of the watershed, the water quality here surpasses other Southern California watersheds. The San Luis Rey HU results indicate that poor water quality is impacting aquatic life. Tests revealed the presence of pesticides, nutrient levels above aquatic life thresholds, and moderate levels of toxicity to indicator species from both water and sediment samples (SWRCB 2008).

4.8.1.3 Flood Hazards

Flooding occurs under conditions such as excessive precipitation, inadequate drainage, dam failure, tsunamis, and/or seiches. Flood hazards as they relate to the District service area are discussed below.

Precipitation Induced Flooding

Much of San Diego County is vulnerable to periodic flooding due to hydrology and terrain. Large weather systems that move inland from the Pacific Ocean are forced upward over the mountains where moisture-laden air cools and condenses, forming precipitation. This can result in large rain events and damaging floods. Between 1950 and 2017, there have been multiple Proclaimed States of Emergency in San Diego County due to flooding (County 2017).

As outlined below under Section 4.8.2, the FEMA is involved in identifying and mapping flood-prone areas for jurisdictions that participate in the National Flood Insurance Program (NFIP). The cities of Oceanside and Vista and the County participate in the NFIP; therefore, maps delineating the 100-year storm floodplain for areas served by the District are available (FEMA 2019). The 100-year storm is defined as an event that has a 1 percent chance of occurring in any given year (i.e., rather than an event that occurs every 100 years). In the District's service area, locations within mapped 100-year floodplains occur around the San Luis Rey and Santa Margarita River corridors and associated tributaries.

Drainage Facilities

Development in previously natural areas throughout the San Diego County has contributed to increased potential for flooding by expanding impervious land cover and therefore increasing runoff by reducing the rate of infiltration. Artificial conveyances, such as storm drains and modifications to river channels, are designed to accommodate the additional volume of runoff and accelerate the flow of water out of the watershed. If drainage facilities are not adequately designed or maintained, however, the fast moving, high volume of water moving through these conveyances can result in increased probability and severity of flooding. Low-lying, urbanized areas could be at risk for flooding due to inadequate drainage.

Dam Inundation

Dam inundation occurs when a structural failure or overtopping of a dam causes a large release of impounded water and floods downstream drainages from the dam. Events that could lead to dam inundation include extreme precipitation, earthquakes, or poor design and/or construction of dam structures. Potential risks of damages and loss due to dam inundation are highest in areas directly below the dam and decrease as distance from the dam increases.

Dam inundation areas are mapped and updated regularly for San Diego County (County 2017). Locations within the District's service area subject to potential dam inundation include those immediately surrounding the San Luis Rey River. The Henshaw Dam is located upstream of the San Luis Rey River. The Henshaw Dam is owned by the Vista Irrigation District with an average water level of 11,600 acre-feet over 12 months (City of Oceanside 2002). The City of Oceanside's General Plan Figure PS-10 illustrates the Henshaw Dam inundation area adjacent to the San Luis Rey River. The map assumes the Lake is at its 50,000-acre feet capacity, and that a flood of a 10- year magnitude would be taking place downstream. However, as stated in the City of Oceanside General Plan, the risk of dam failure is considered exceedingly low.

Tsunamis and Seiches

Tsunamis (commonly referred to as tidal waves) are sea waves generated by sources such as underwater earthquakes or volcanic eruptions, and can generate impacts related to inundation in coastal zones. Because the District's service area is located a minimum of approximately 10 miles inland

and at elevations ranging from 150 to 2,250 feet AMSL, potential hazards associated with tsunamis are considered low. Additionally, based on hazard mapping conducted by the California Department of Conservation (CDC), the projected tsunami-related inundation zones in San Diego County are limited predominantly to coastal areas (CDC 2021a) and none are located within the District's service area. No portions of the service area are identified as being subject to tsunami hazards in the County's Multi-Jurisdictional Hazard Mitigation Plan (County 2017).

Seiches are defined as wave-like oscillatory movements in enclosed or semi-enclosed bodies of water such as lakes or reservoirs, and are most typically associated with seismic activity, but can occur by the sudden movement of a landslide into a reservoir. Seiches can result in flooding damage and related effects (e.g., erosion) in surrounding areas from spilling or sloshing water, as well as increasing pressure on containment structures. Areas located along the shoreline of lakes or reservoirs are susceptible to inundation by a seiche. The size of a seiche and affected inundation area are dependent on a number of factors, including the size and depth of the water body, elevation, source, and structural condition of the water body, if the water body is man-made (County 2011b). Areas along the San Luis Rey River and its tributaries could experience flooding impacts associated with a seiche at Henshaw Dam; however, the potential for seiche-related hazards in the service area is generally considered low.

4.8.2 Regulatory Framework

4.8.2.1 Federal

Clean Water Act

The CWA was adopted in 1972 and established basic guidelines for regulating discharges of pollutants into waters of the United States. The CWA set up a system of water quality standards, discharge limitations, and permits to protect the designated beneficial uses of water resources. The CWA also requires that states adopt water quality standards to protect public health or welfare, enhance the quality of water, and serve the purposes of the CWA. The CWA was amended in 1987, establishing the NPDES Permit program, authorized by Section 402 of the CWA. In California, the USEPA has authorized the SWRCB to implement the NPDES program. The NPDES program addresses non-agricultural sources of stormwater runoff that could adversely affect the quality of waters of the United States. Under the NPDES program, regulated entities must obtain coverage under an NPDES stormwater permit and implement a Stormwater Quality Management Plan (SWQMP) and a SWPPP, and must use BMPs to reduce or prevent the discharge of pollutants into receiving waters.

NPDES stormwater permit regulations generally cover the following classes of stormwater dischargers: operators of MS4, owners and operators of certain industrial facilities, and operators of construction activities that disturb one or more acres of land. Implementation of the proposed improvements requires conformance with the NPDES Stormwater Program's Construction General Permit and Regional MS4 Permit, as further defined and described below. Other relevant provisions of the CWA include Sections 303(d), 401, and 404. Section 303(d) defines water quality standards as consisting of the uses of surface water (beneficial uses) and the water quality criteria applied to protect those uses (water quality objectives). State and RWQCBs are charged with ensuring that beneficial uses and water quality objectives are established for all waters of the state. Section 401 requires applicants for federal permits relating to the construction or operation of a facility that may result in the discharge of a pollutant obtain certification of those activities from the state in which the discharge originates. Section 404

establishes a permitting program to regulate the discharge of dredged or filled material into waters of the United States, which is administered by the USACE and enforced by the USEPA.

Under Section 303(d) of the CWA, states, territories and authorized tribes are required to develop lists of impaired waters. Impaired waters are the waters that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water on the lists and develop action plans to improve water quality. This process includes development of Total Maximum Daily Loads (TMDL) that set discharge limits for non-point source pollutants. The Ducheny Bill (Assembly Bill 1740) requires the SWRCB and its nine RWQCBs to post this list and to provide an estimated completion date for each TMDL. The San Diego RWQCB has jurisdiction over the District's service area.

National Flood Insurance Act

The National Flood Insurance Act (as amended) established the NFIP to provide flood insurance for applicable communities and conditions. The Act also requires the identification of floodplain areas within the U.S. and establishes flood-risk designations within those areas. FEMA is the primary agency responsible for administering related programs and coordinating with communities to establish effective floodplain management standards. Specifically, FEMA is responsible for preparing Flood Insurance Rate Maps (FIRMs) that delineate 100-year storm floodplains and related hazards. In addition, FEMA enforces a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year flood plain.

4.8.2.2 State

State Water Resources Control Board

The SWRCB is the agency with jurisdiction over water quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. The intent is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The District service area is located within Region 9, the San Diego Region.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the primary water quality control law for the State of California and establishes a regulatory program to protect water quality and beneficial uses for state waters. The SWRCB and RWQCBs were also established under the Porter-Cologne Act as the principal state agencies responsible for water quality control. The primary vehicle for implementing such control is the adoption of WQIPs (commonly referred to as basin plans) to designate beneficial uses, associated water quality objectives, and implementation/enforcement strategies for protection of surface and groundwater resources.

Regional Water Resources Control Board

The San Diego RWQCB is responsible for the protection of beneficial uses of water resources within the San Diego Region. The RWQCB uses planning, permitting, and enforcement authorities to meet this

responsibility, and adopted the Water Quality Control Plan for the San Diego Basin Plan. The Basin Plan identifies beneficial uses and establishes water quality objectives for surface waters and groundwater in the Region, as well as effluent limitations and discharge prohibitions intended to protect those uses. The comprehensive program requirements are designed to be consistent with federal regulations and are implemented through issuance of NPDES permits to point source and non-point sources of pollutant discharges including construction activities. A non-point source is a diffused source, such as land runoff, precipitation, deposit from the atmosphere, or percolation. Major non-point sources of water pollution are agriculture, mining, oil and gas extraction, pastureland and feedlots, land disposal, and urban runoff. For non-point sources, the Basin Plan outlines the approach that the Regional Board has taken to control nonpoint source pollution in its Urban Runoff Management scheme. Part of the strategy involves the permitting of storm water discharges from all facilities associated with industrial activities and from all construction activities that result in the disturbance of land totaling one acre or more.

Construction General Permit

Construction activities exceeding one acre (or meeting other applicable criteria) are subject to pertinent requirements under the Construction General Permit (*General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities,* Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ and 2012-0006 DWQ, NPDES No. CAS000002). Specific conformance requirements include implementing a SWPPP, an associated Construction Site Monitoring Program (CSMP), employee training, and minimum BMPs, as well as a Rain Event Action Plan (REAP) for applicable projects (e.g., those in Risk Categories 2 or 3, as outlined below). Under the Construction General Permit, project sites are designated as Risk Level 1 through 3 based on site-specific criteria (e.g., sediment erosion and receiving water risk), with Risk Level 3 sites requiring the most stringent controls.

Based on the site-specific risk level designation, the SWPPP and related plans/efforts identify detailed measures to prevent and control the off-site discharge of pollutants in storm water runoff. Depending on the risk level, these may include efforts such as minimizing/stabilizing disturbed areas, mandatory use of technology-based action levels, effluent and receiving water monitoring/reporting, and advanced treatment systems (ATS). Specific pollution control measures require the use of best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT) levels of treatment, with these requirements implemented through applicable BMPs. While site-specific measures vary with conditions such as risk level, proposed grading, and slope/soil characteristics, detailed guidance for construction-related BMPs is provided in the permit and related sources including the *EPA National Menu of Best Management Practices for Storm Water Phase II – Construction* (USEPA 2021b), the California Stormwater Quality Association (CASQA) *Stormwater Best Management Practices Handbooks* (CASQA 2009), and local storm water standards.

Groundwater Permit

For Project improvements that would require the discharge of extracted groundwater into receiving waters during construction activities (construction dewatering), the District would be required to obtain coverage under the NPDES Groundwater Permit. Such conformance is generally applicable to all temporary and certain permanent groundwater discharge activities, with exceptions as noted in the permit. Specific requirements for permit conformance include: (1) submittal of appropriate application materials and fees; (2) implementation of pertinent (depending on site-specific conditions) monitoring/ testing, disposal alternative, and treatment programs; (3) provision of applicable notification to the

associated local agency prior to discharging to a municipal storm drain system; (4) conformance with appropriate effluent standards (as outlined in the permit); and (5) submittal of applicable documentation (e.g., monitoring reports).

Regional MS4 Permit (Order No. R9-2015-0100)

The RWQCB regulates discharges from Phase I MS4s in the San Diego Region under the Regional MS4 Permit. The Regional MS4 Permit covers 39 municipalities, including the cities of Oceanside and Vista, the County, and special district entities (referred to collectively as Co-permittees) located in San Diego County, Southern Orange County, and Southwestern Riverside County who own and operate large MS4s that discharge stormwater runoff (from rainfall events) and non-stormwater runoff (e.g., dry weather runoff from irrigation overspray) to surface waters throughout the San Diego Region.

The Regional MS4 Permit requires the development of WQIPs that will allow the watershed stakeholders to prioritize and address pollutants through an appropriate suite of BMPs in each watershed. Pursuant to the CWA, the Regional MS4 Permit includes requirements that prohibit non-stormwater discharges into MS4s and requires controls to reduce the discharge of pollutants in stormwater to the maximum extent practicable. The Regional MS4 permit regulates pollutants, including suspended solids, sediment, pathogens, heavy metals, petroleum products and polynuclear aromatic hydrocarbons, synthetic organics, nutrients, oxygen demanding substances, detergents, and trash from sources associated with various forms of land development, including car emissions and maintenance, sewage, pesticides, household hazards, pet waste, and debris/litter.

The Regional MS4 permit establishes water quality standards and requires the application of pollution prevention, source control, and treatment control BMPs to effectively prevent and remove pollutants from runoff. The Regional MS4 Permit requires that BMP design and implementation occur at every phase of development, including the planning, construction, and operational phases. The Regional MS4 Permit, Order No. R9-2013-0001, was adopted on May 8, 2013, and initially covered the San Diego County Co-permittees. Order No. R9-2015-0001 was adopted on February 11, 2015, amending the Regional MS4 Permit to extend coverage to the Orange County Co-permittees, and Order No. R9-2015-0100 was adopted on November 18, 2015, amending the Regional MS4 Permit to extend coverage to the Riverside County Co-permittees.

Urban Water Management Act

Water Code Section 10620(a) of the Urban Water Management Planning Act requires urban water suppliers to prepare and adopt an UWMP and sets forth parameters for doing so. Each UWMP is to assess current and projected water supplies; evaluate demand and customer type; evaluate reliability of water supplies; describe conservation measures implemented by the water supplier; provide a response plan for times of water shortage; and compare supply and demand projections. UWMPs must be updated every five years and the most recent update occurred in 2020.

State Health and Safety Code

As part of the California Health and Safety Code in Title 22 of the CCR, public water systems must meet drinking water standards known as maximum contaminant levels (MCLs). MCLs are adopted as regulations and include Primary MCLs that address health concerns and Secondary MCLs which related more to esthetics such as taste and odor. They are health protective drinking water standards to be met by public water systems. MCLs take into account not only chemicals' health risks but also factors such as

their detectability and treatability, as well as costs of treatment. Health & Safety Code §116365(a) requires a contaminant's MCL to be established at a level as close to its public health goal as is technologically and economically feasible, placing primary emphasis on the protection of public health.

As part of the California Health and Safety Code in Title 17 of the CCR, public water suppliers must protect the public water supply from contamination by implementation of a cross-connection control program. Water suppliers are required to ensure that the cross-control program includes provisions of backflow protection by, establishment of a system to test backflow preventers, provide trained staff in the cross-control program, and other implement surveys and maintenance of the system to ensure adequacy. While the water supplier is required to evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises, they are not responsible for abatement of cross-connections which may exist within a user's premises. As a minimum, the water supplier should evaluate as part of the cross-connection control program the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) was passed in 2014 and provides for local management of groundwater resources in the state. While SGMA established minimum standards for groundwater management, it requires local Groundwater Sustainability Agencies to develop appropriate plans to sustainably manage their groundwater basins. The goals of the SGMA are to:

- Provide for sustainable management of groundwater basins;
- Enhance local management of groundwater consistent with rights to use or store groundwater;
- Establish minimum standards for effective, continuous management of groundwater;
- Provide local groundwater agencies with the authority, technical, and financial assistance needed to maintain groundwater supplies;
- Avoid or minimize impacts for land subsidence;
- Improve data collection and understanding of groundwater resources and management;
- Increase groundwater storage and remove impediments to recharge; and
- Empower local agencies to manage groundwater basins, while minimizing state intervention.

4.8.2.3 Local

San Diego Basin Plan

As previously discussed, the San Diego Basin Plan sets forth the water quality objectives for Region 9. Specifically, the Basin Plan is designed to accomplish the following: (1) designate beneficial uses for surface and groundwater; (2) set the narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the degradation policy;

(3) describe mitigation measures to protect the beneficial uses of all waters within the region; and (4) describe surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan. The Basin Plan incorporates by reference all applicable SWRCB and the San Diego RWQCB plans and policies.

Water Quality Improvement Plans

As previously discussed under Section 4.8.1, the District's service area lies within both the San Luis Rey and Santa Margarita watersheds. The RWQCB has established WQIPs for each watershed to further the CWA's objective to protect, preserve, enhance, and restore water quality and beneficial uses. Furthering the CWA's objective will be accomplished through an adaptive planning and management process. This process identifies the highest priority water quality conditions linked to storm drain discharges and implements strategies through the jurisdictional runoff management programs. These strategies will be used to improve the quality of storm drain discharges that will, in turn, improve water quality in receiving waterbodies. The highest priority water quality condition of concern for both the San Luis Rey River WMA and Santa Margarita River WMA is bacteria. Additional priority water quality conditions include nitrogen and phosphorus, TDS, chloride, eutrophic conditions, and toxicity.

4.8.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to hydrology and water quality. The Project would have a significant impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;

2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;

3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or the addition of impervious surfaces, in a manner which would: result in substantial erosion, siltation, or flooding on- or off-site; substantially increase the rate or amount of surface runoff; 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;

4. Risk release of pollutants due to project inundation if located in a flood hazard, tsunami, or seiche zone; or

5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.8.4 Project Impacts and Mitigation

4.8.4.1 Issue 1: Water Quality

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

Impact Analysis

Potential surface water quality impacts related to the proposed Project improvements are associated with both short-term construction activities and long-term operation and maintenance, as outlined below. Project-related activities that could potentially affect groundwater quality are discussed separately below in Section 4.8.4.4.

Construction

Potential water quality impacts related to construction of CIP, ODP, and maintenance projects include erosion/sedimentation, the use and storage of construction-related hazardous materials (e.g., fuels, etc.), generation of debris from demolition activities (where applicable), and disposal of extracted groundwater (if required), as described below.

Erosion/Sedimentation

Construction of proposed improvements could result in erosion/sedimentation from activities such as clearing and grading, excavation, and stockpiling of construction-related soils and materials. Sediment that is washed off site into surface waters can smother aquatic organisms, alter the substrate and habitat, and alter the drainage course. Additionally, increased turbidity associated with erosion and sedimentation can degrade water quality by transporting pollutants that adhere to sediment particles, such as hydrocarbons. These potential impacts would be addressed through conformance with District requirements, as well as requirements under the NPDES Construction General Permit, as described above in Section 4.8.2.

Additionally, for improvement projects with soil disturbances of one acre or more, implementation of one or more authorized SWPPPs for construction would be required. Minimum BMPs would be determined during the NPDES/SWPPP process based on regulatory criteria and site characteristics (soils, slopes, etc.), and they would likely include standard industry measures and guidelines from the NPDES Construction General Permit and the additional sources identified under Section 4.8.2. Based on the implementation of the required BMPs summarized below and/or other appropriate erosion and sediment control BMPs as part of (and in conformance with) the Project SWPPPs and related regulatory requirements, associated potential erosion/sedimentation impacts from Project development under the proposed Plan would be less than significant.

Erosion and sedimentation controls for individual Project improvements would be further defined during the NPDES/SWPPP process, with the resulting BMPs taking priority over the more general types of standard industry measures listed below.

<u>Construction-related Erosion Control BMPs</u>

- Comply with seasonal grading restrictions during the rainy season for applicable locations/conditions.
- Prepare and implement a CSMP to ensure appropriate monitoring, testing, BMP effectiveness, and conformance with applicable discharge requirements.
- Prepare and implement a REAP, if applicable (i.e., depending on risk level), to ensure that active construction areas/activities have adequate erosion and sediment controls in place within

48 hours of the onset of any likely precipitation event (i.e., 50 percent or greater probability of producing precipitation, per National Oceanic and Atmospheric Administration projections).

- Preserve existing vegetation wherever feasible, and use phased grading schedules to limit the area subject to erosion at any given time.
- Properly manage storm water and non-storm water flows to minimize runoff.
- Use erosion control/stabilizing measures such as geotextiles, mulching, mats, plastic sheets/tarps, fiber rolls, soil binders, compost blankets, soil roughening and/or temporary hydroseeding (or other plantings) established prior to October 1 in appropriate areas (e.g., disturbed areas and graded slopes).
- Use sediment controls to protect the construction site perimeter and prevent off-site sediment transport, including measures such as temporary inlet filters, silt fence, fiber rolls, silt dikes, biofilter bags, gravel bag berms, compost bags/berms, temporary sediment basins, check dams, street sweeping/vacuuming, ATS (if applicable based on risk assessment), energy dissipators, stabilized construction access points/sediment stockpiles and properly fitted covers for sediment transport vehicles.
- Store BMP materials in applicable on-site areas to provide "standby" capacity adequate to provide complete protection of exposed areas and prevent off-site sediment transport.
- Provide full erosion control for disturbed areas and material stockpiles not scheduled for additional activity for 14 or more consecutive calendar days.
- Provide appropriate training, including emergency preparedness training, for the personnel responsible for BMP installation and maintenance.
- Use solid waste management efforts such as proper containment and disposal of construction trash and debris.
- Comply with local dust control requirements, potentially including measures such as regular watering, use of chemical palliatives, limiting construction vehicle/equipment speeds and restricting/precluding construction operations during periods of high wind speeds.
- Install permanent landscaping (if applicable), with emphasis on native and/or drought-tolerant varieties, as soon as feasible during or after construction.
- Implement appropriate monitoring and maintenance efforts (e.g., prior to and after storm events) to ensure proper BMP function and efficiency.
- Implement sampling/analysis, monitoring/reporting, and post-construction management programs per NPDES requirements.
- Implement additional BMPs as necessary to ensure adequate erosion and sediment control (e.g., enhanced treatment and more detailed monitoring/reporting).

Construction-related Hazardous Materials

Proposed improvements would potentially involve the on-site use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, and portable septic system wastes. The accidental discharge of such materials during Project construction could potentially result in significant impacts if such materials reach downstream receiving waters, particularly materials such as petroleum compounds that can be toxic to aquatic species in low concentrations. The District's requirements for storm water pollution prevention and any required SWPPPs under NPDES guidelines would prescribe detailed measures to avoid or mitigate potential impacts related to the use and potential discharge of construction-related hazardous materials. While specific BMPs would be determined on a project-specific basis, they would likely include the types of standard measures listed below, as derived from the Construction General Permit and the additional sources identified under Section 4.8.2.

Based on the implementation of these and/or other appropriate BMPs as part of (and in conformance with) the Project SWPPPs and related regulatory requirements, potential impacts from construction-related hazardous materials from the proposed improvements would be less than significant (with BMPs generated during the SWPPP process taking priority over the more general types of standard measures listed below).

<u>Construction-related Hazardous Material BMPs</u>

- Minimize the amount of hazardous materials on site, and restrict storage/use locations to areas at least 50 feet from storm drains and surface waters.
- Use raised (e.g., on pallets), covered, and/or enclosed storage facilities for all hazardous materials, and maintain accurate and up-to-date written inventories and labels.
- Use berms, ditches, and/or impervious liners (or other applicable methods) in hazardous material storage and vehicle/equipment maintenance and fueling areas, to provide a containment volume of 1.5 times the volume of stored/used materials and prevent discharge in the event of a spill.
- Place warning signs in areas of hazardous material use or storage, and along drainages and storm drains (or other appropriate locations), to avoid inadvertent disposal.
- Properly maintain all construction equipment and vehicles.
- Restrict paving operations during wet weather and use appropriate sediment control devices downstream of paving activities.
- Properly contain and dispose of wastes and/or slurry from sources including concrete, dry wall, and paint, by using methods such as properly designed and contained washout areas/facilities.
- Provide training for applicable employees in the proper use, handling, and disposal of hazardous materials, as well as appropriate action to take in the event of a spill.
- Store absorbent and clean-up materials in readily accessible on-site locations.
- Properly locate, maintain, and contain portable wastewater facilities.

- Use recycled or less hazardous materials wherever feasible.
- Post regulatory agency telephone numbers and a summary guide of clean-up procedures in a conspicuous on-site location.
- Regularly (at least weekly) monitor and maintain hazardous material use/storage facilities and operations to ensure proper working order.

Demolition-related Debris Generation

Demolition may be necessary for projects that propose replacement of existing facilities. Such activities could generate variable amounts of construction debris, potentially including concrete, asphalt, glass, metal, drywall, paint, insulation, fabric, and wood. The introduction of demolition-related particulates or other pollutants into local drainages or storm drain systems could potentially result in significant downstream water quality impacts. Project construction would be subject to a number of regulatory controls related to demolition, including NPDES/SWPPP requirements as previously described. While specific BMPs would be determined on a project-specific basis during the regulatory process, they would likely include the types of standard measures listed below, as derived from the Construction General Permit and the additional sources identified in Section 4.8.2. Based on the implementation of these and/or other appropriate BMPs as part of (and in conformance with) the District's requirements, project-specific SWPPPs and related regulatory requirements, potential impacts from construction-related debris generation from the proposed improvements would be less than significant (with BMPs generated during the SWPPP process taking priority over the more general types of standard measures listed below).

<u>Construction-Related Debris BMPs</u>

- Recycle appropriate (i.e., non-hazardous) construction debris for on- or off-site use whenever feasible.
- Provide proper on-site debris containment (e.g., in watertight dumpsters) and regular off-site disposal at an authorized facility.
- Use dust-control measures such as watering to reduce particulate generation for pertinent locations/activities (e.g., concrete removal).
- Use appropriate erosion prevention and sediment control measures downstream of all demolition activities.

Disposal of Extracted Groundwater

While shallow groundwater is generally not expected to occur at most improvement sites, construction dewatering could potentially be required during construction operations (e.g., excavation within locally perched groundwater aquifers). Disposal of groundwater extracted during construction activities into local drainages and/or storm drain facilities could potentially generate significant water quality impacts through erosion/sedimentation, or the possible occurrence of pollutants in local aquifers. Project construction would require conformance with NPDES Groundwater Permit criteria prior to disposal of extracted groundwater (as outlined above under Section 4.8.2). While specific BMPs to address potential water quality concerns from disposal of extracted groundwater would be determined based on

site-specific parameters, they would likely include erosion/sedimentation controls (as outlined above), as well as the following types of standard measures from the Groundwater Permit: (1) submittal of appropriate application materials and fees; (2) implementation of pertinent (depending on site-specific conditions) monitoring/testing, disposal alternative, and treatment programs; (3) provision of applicable notification to the associated local agency prior to discharging to a municipal storm drain system; (4) conformance with appropriate effluent standards (as outlined in the permit); and (5) submittal of applicable documentation (e.g., monitoring reports). Based on the implementation of these and/or other appropriate BMPs as part of (and in conformance with) the NPDES Groundwater Permit, potential impacts from construction-related dewatering from the proposed improvements would be less than significant (with BMPs generated during the SWPPP process taking priority over the more general types of standard measures listed above).

Operation/Maintenance Activities

The long-term operation and maintenance of proposed Project facilities would not entail the substantial generation of pollutants generally associated with most types of urban development, such as nutrients, trash and debris, hydrocarbons, oxygen demanding substances, bacteria and viruses, and pesticides. Specifically, the majority of the proposed improvements consist of underground pipelines or improvements to existing facilities that do not entail on-site habitation or associated uses (e.g., substantial vehicular traffic or pesticide/herbicide use) that would generate the noted types of pollutants. Long-term operation and maintenance of proposed facilities such as pump station improvements, however, could potentially generate a number of the noted pollutants in association with activities such as on-site fuel and lubricant storage, vehicular/employee access for maintenance and related activities, and the implementation and maintenance of landscaped areas. While such potential pollutant generation would typically be addressed through standard design measures and BMPs, specific design details of related facilities have not been identified; and associated effects to long-term water quality cannot be determined. As a result, potential impacts are unknown and could result in significant long-term water quality impacts.

Mitigation Measures

The following mitigation measure would be implemented to address potentially significant impacts to water quality.

MM HYD-1 **Conduct Site-Specific Water Quality Investigations.** All projects are subject to initial screening by the District to determine their site-specific hydrological conditions, related potential impacts, and requirements for individual associated technical investigations. Site-specific water quality investigations will be completed prior to approval of final design for proposed projects involving activities that may potentially affect surface water quality, as determined by the District during initial screening. All applicable results and recommendations from these investigations will be incorporated into the associated individual final project design documents to address identified potential long-term water quality issues related to conditions such as: anticipated and potential pollutants to be used, stored, or generated on-site; the location and nature (e.g., impaired status) of on-site and downstream receiving waters; and project design features to avoid/address potential pollutant discharges. The final project design documents will also encompass standard design practices from sources including NPDES criteria and other applicable regulatory standards (with all related requirements to be

included in engineering/design drawings and construction contract specifications). A summary of the types of BMPs typically associated with identified potential water quality concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The BMPs identified/recommended as part of the described site-specific water quality investigations will take priority over the more general types of standard regulatory/industry measures listed below:

- Low Impact Development (LID)/Site Design BMPs: LID/site design BMPs are intended to avoid, minimize, and/or control post-development runoff, erosion potential, and pollutant generation to the maximum extent practicable by mimicking the natural hydrologic regime. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain, and infiltrate runoff close to its source through efforts such as: (1) minimizing developed/disturbed areas to the maximum extent feasible; (2) utilizing natural and/or unlined drainage features in on-site storm water systems; (3) disconnecting impervious surfaces to slow concentration times, and directing flows from impervious surfaces into landscaped or vegetated areas; and (4) using pervious surfaces in developed areas to the maximum extent feasible.

- Source Control BMPs: Source control BMPs are intended to avoid or minimize the introduction of pollutants into storm drains and natural drainages by reducing on-site pollutant generation and off-site pollutant transport through measures such as: (1) installing “no dumping” stencils/tiles and/or signs with prohibitive language at applicable locations such as drainages and storm drain inlets to discourage illegal dumping; (2) designing trash storage areas to reduce litter/pollutant discharge through methods such as paving with impervious surfaces, installing screens or walls to prevent trash dispersal, and providing attached lids and/or roofs for trash containers; (3) designing site landscaping to maximize the retention of native vegetation and use of appropriate native, pest-resistant, and/or drought-tolerant varieties to reduce irrigation and pesticide application requirements; and (4) providing secondary containment (e.g., enclosed structures, walls, or berms) for applicable areas such as trash or hazardous material use/storage.

- Pollutant Control BMPs: Pollutant control BMPs are designed to remove pollutants from runoff to the maximum extent practicable through means such as filtering, treatment, or infiltration. Pollutant control BMPs are required to address applicable pollutants, and may include efforts such as: (1) providing water quality treatment and related facilities such as sediment basins, vegetated swales, infiltration basins, filtration devices, and velocity dissipators to treat appropriate runoff flows and reduce volumes prior to off-site discharge (per applicable regulatory requirements); (2) creating a construction spill contingency plan in accordance with Department of Environmental Health regulations and retaining a copy of the plan on- site by the construction manager; and (3) conducting regular inspection, maintenance, and as-needed repairs of pertinent facilities and structures.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, Project Engineer, Construction Contactor

Significance After Mitigation

With implementation of MM HYD-1, as well as required compliance with specifications under appropriate regulatory permits, potential impacts associated with violations of water quality standards and surface water quality degradation would be reduced to a less-than-significant level.

4.8.4.2 Issue 2: Drainage Patterns and Flooding

Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or the addition of impervious surfaces, in a manner which would: result in substantial erosion, siltation, or flooding on- or off-site; substantially increase the rate or amount of surface runoff; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems; provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

Impact Analysis

Drainage Alteration

Surface drainage within the District's service area is variable in direction and occurs through a number of surface drainages, with all associated flows ultimately entering the San Luis Rey River. Implementation of the proposed improvements could potentially result in some modification of the existing on-site drainage patterns and directions through proposed grading and construction. These modifications are generally not anticipated to be substantial, based on the nature and extent of the proposed improvements, the majority of which consist of replacement, rehabilitation, or repairs to existing facilities. Specifically, the proposed improvements would occur along existing pipeline alignments, at existing pump stations and lift stations, and at other existing District facilities, many of which are under ground. As such, many of the proposed improvements include numerous activities that would not result in substantial drainage alteration due to the nature of the Project (e.g., installation/repair/rehabilitation of underground facilities and repair/replacement of existing District facilities). Accordingly, overall drainage patterns within the District's service area are not anticipated to be substantially altered by the Project. However, because the proposed improvements include some aboveground components and design/construction details for the proposed improvements have not been identified, the associated site-specific effects to drainage patterns and flow directions in the District's service area cannot be determined. As a result, while overall drainage and flow pattern alterations are not anticipated to be substantial as noted, associated potential impacts to individual local flow patterns and associated erosion/sedimentation potential are considered significant.

Runoff Generation

The proposed improvements are generally not expected to substantially increase the rate or amount of surface runoff within or from proposed project sites. This conclusion is based on the nature of proposed facilities (i.e., numerous underground pipelines), and the fact that identified improvements would generally not result in substantial areas of new impervious surfaces, such as pavement and large structures. Accordingly, associated increases in runoff rates and amounts would be minor, and related potential impacts are expected to be less than significant. As noted above under the discussion of drainage alteration, however, design/construction details for proposed projects have not been identified, and associated site-specific effects to runoff rates/amounts within and from the specific project sites cannot be determined. As a result, while overall increases in runoff rates and amounts are

not anticipated to be substantial as noted, associated potential impacts are unknown and could potentially result in significant impacts related to runoff generation, drainage system capacity (and related localized flooding), hydromodification, and erosion/sedimentation.

Floodplain Hazards

As described above in Section 4.8.1 locations within mapped 100-year floodplains occur in the District's service area, around the San Luis Rey and Santa Margarita River corridors and associated tributaries. While proposed improvements are typically located underground (i.e., pipelines) and/or outside of mapped floodplains, associated design/construction details have not been identified and related site-specific effects from flood hazards cannot be determined. Accordingly, while flood hazards related to the Project are generally not anticipated to be substantial, associated potential impacts are unknown and could potentially be significant.

Flooding from Facility Failure

The failure of a Project facility could occur as a result of structural damage caused by a natural event, such as earthquakes or flooding, or equipment failure from age or material defect. Facility failure could result in flooding caused by the release of impounded water in water storage reservoirs, pump stations, lift stations, or pipelines. The failure of a tank, pump, lift station, pressure reducing station, or pipeline could be hazardous, as it would occur quickly and without warning. Areas directly surrounding the facility would be at the greatest risk. Flooding from facility failure could discharge raw sewage, inundate and cause water damage to structures, bury structures, knock structures off their foundations, or destroy structures by the impact of high velocity water and debris, which could include sizable boulders. Impacts resulting from flooding could include the loss of life and/or property; health and safety hazards; disruption of commerce, water, power, and telecommunications services; loss of agricultural lands; and infrastructure damage.

One of the purposes of the proposed Project is to complete improvements to existing water and sewer facilities to improve system reliability and conduct strategic system maintenance and replacement programs. The Project includes projects that would make improvements to existing facilities, including replacement of aging pipelines, which would reduce the existing system's susceptibility to failure. Additionally, the majority of District facilities are monitored by Supervisory Control and Data Acquisition (SCADA), which is a system for remote monitoring and control that provides real-time information on how facilities are functioning and alerts operators of potential facility failures. Individual Project improvements would comply with the regulations outlined in Section 4.5, *Geology and Soils*, as applicable, to minimize reasonably foreseeable risk from seismic events. The District routinely performs inspection and maintenance on all facilities, and facilities proposed in the Project would be incorporated into the maintenance schedules. Implementation of these programs and systems reduces the risks associated with facility failure to a level below significance.

Exceeding the Capacity of Storm Water Drainage Systems

Drainage facilities such as storm drains, culverts, inlets, channels, curbs, roads, or other such structures, are designed to prevent flooding by collecting storm water runoff and directing flows to either the natural drainage course and/or away from development. If drainage facilities are not adequately designed, built, or properly maintained, the capacity of existing facilities can be exceeded, resulting in flooding and increased sources of polluted runoff. Proposed Project improvements would have the potential to result in alterations of drainage patterns during construction and post-construction that

would result in an increase in the rate or amount of surface runoff. The proposed Project improvements have relatively small development footprints and would not be expected to contribute runoff in a manner that would exceed the storm drainage capacity. Additionally, as discussed under Issue 1, construction and operation of Project improvements would be required to comply with state and local stormwater regulations, including construction and post-construction BMPs and LID, which reduce the likelihood of runoff exceeding the capacity of an existing storm water drainage system. Therefore, through compliance with the existing regulations, proposed improvements would not increase runoff in volumes that would exceed pre-project site conditions and would not exceed the capacity of existing storm water drainage systems. Impacts would be less than significant.

Mitigation Measures

The following measure would be implemented to address potential long-term hydrologic impacts.

MM HYD-2 **Conduct Site-Specific Hydrologic and Hydraulic Investigations.** All projects are subject to initial screening by the District to determine their site-specific hydrological conditions, related potential impacts, and requirements for individual associated technical investigations. All applicable results and recommendations from these investigations shall be incorporated into the associated final design documents to address identified potential hydrologic concerns, including, but not necessarily limited to drainage alteration, runoff rates/amounts, storm water management and hydromodification, and flood hazards. The final project design documents shall also encompass applicable standard design and construction practices from sources including NPDES (with related requirements to be included in applicable engineering/design drawings and/or construction contract specifications). A summary of the types of remedial measures typically associated with identified potential hydrologic concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The remedial measures identified/recommended as part of the described site-specific hydrologic investigations will take priority over the more general types of standard regulatory/industry measures listed below.

- Drainage Alteration: (1) locate applicable facilities outside of surface drainage courses and drainage channels; (2) re-route surface drainage around applicable facilities, with such re-routing to be limited to the smallest area feasible and re-routed drainage to be directed back to the original drainage course at the closest feasible location (i.e., the closest location to the point of diversion); and (3) use drainage structures to convey flows within/through development areas and maintain existing drainage patterns, where appropriate and feasible.

- Runoff Rates/Amounts, Storm Water Management and Hydromodification: (1) minimize the installation of new impervious surfaces (e.g., by surfacing with pervious pavement, gravel or decomposed granite); (2) use flow regulation facilities (e.g., detention/retention basins) and velocity control structures (e.g., riprap dissipation aprons at drainage outlets), to maintain pre-development runoff rates and amounts for design storm events, if applicable; and (3) utilize additional and/or enlarged drainage facilities to ensure adequate on- and off-site storm drain system capacity, if applicable.

- Capacity of surface drainage: Follow County of San Diego Hydraulic Design Manual for stormwater drainage and flood management facilities in the unincorporated San Diego County.

- Flood Hazards: (1) locate proposed facilities outside of mapped 100-year floodplain boundaries wherever feasible; (2) based on technical analyses such as Hydrologic Engineering Center-River Analysis System (HEC-RAS) studies, restrict facility locations to avoid adverse impacts related to impeding or redirecting flood waters; (3) based on HEC-RAS studies, use measures such as raised fill pads to elevate proposed structures above calculated flood levels, and/or utilize protection/ containment structures (e.g., berms, barriers or water-tight doors) to avoid flood damage; and (4) if Project-related activities/facilities result in applicable proposed changes to mapped FEMA floodplains, obtain an approved Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) from FEMA and County of San Diego Flood Control District, as applicable.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, Project Engineer, Construction Contactor

Significance After Mitigation

With implementation of MM HYD-2, potential impacts associated with drainage alteration, runoff rates/amounts, storm water management and hydromodification, flood hazards, and/or exceeding the capacity of storm drainage systems would be reduced to a less-than-significant level.

4.8.4.3 Issue 3: Flood Hazard Areas

Would the Project risk release of pollutants due to project inundation if located in a flood hazard, tsunami, or seiche zone?

Impact Analysis

Flood Hazards

Dam inundation areas potentially affecting the District's service areas occur around the water bodies and tributaries of the San Luis Rey River. Dam inundation areas have been mapped for all dams in San Diego County (Figure S-6, County 2011a), and emergency plans for areas within inundation areas have been established (County 2017). The proposed Plan identifies some CIP projects near the San Luis Rey River corridor. Additionally, other CIP projects occurring throughout the District service area (600007, 600009, 600030, and 600055), as well as ODP and maintenance projects in the District's service area could occur in potential dam inundation areas; however, nearly all proposed facilities in those areas would be below grade upon completion (e.g., buried pipelines or underground facilities) and there would be no risk associated with the release of pollutants following completion of construction activities. During construction, as described above under Issues 1 and 2, proposed Project improvements would be required to comply with the District's storm water pollution prevention requirements as well as all applicable construction storm water permits, thereby reducing the risk of the release of pollutants during an inundation event. Dam structures are regulated and inspected by the California Division of Safety of Dams, which was created to reduce the likelihood of dam failure. Annual inspections are

supplemented with "in-depth instrumentation reviews of the dam surveillance network data" as well as periodic reviews of "the stability of dams and their major appurtenances in light of improved design approaches and requirements, as well as new findings regarding earthquake hazards and hydrologic estimates in California" (DWR 2021). Potential impacts related to dam failure inundation in the District's service area are considered less than significant based on the minor extent of associated proposed facilities within such inundation areas, the placement of those facilities below grade (i.e., pipelines), and the noted low probability for dam failure.

Tsunami

As discussed in Section 4.8.1, the District's service area is located a minimum of approximately 10 miles inland and at elevations ranging from 150 to 2,250 feet above mean sea level. The District's service area is not within tsunami-related inundation zones as delineated by the CDC or identified by the County. As such, no flood hazard and an associated release of pollutants related to inundation of the District's service area by tsunami would occur.

Seiche

As discussed in Section 4.8.1, the potential for seiche inundation is limited to areas surrounding enclosed water bodies and is generally considered low in the District's service area. Areas along the San Luis Rey River and its tributaries could experience flooding impacts associated with a seiche at Henshaw Dam. The proposed Project identifies some CIP projects near the San Luis Rey River corridor and its tributaries. Additionally, other CIP projects occurring throughout the District's service area (600007, 600009, 600030, and 600055), as well as ODP and maintenance projects in the District's service area could occur in areas near the San Luis Rey River and its tributaries that could be subject to flooding in the event of an upstream seiche associated with Henshaw Dam; however, nearly all proposed facilities in those areas would be below grade upon completion (e.g., buried pipelines) and there would be no risk associated with the release of pollutants following completion of construction activities. During construction, as described above under Issues 1 and 2, proposed Project improvements would be required to comply with the District's storm water pollution prevention requirements as well as all applicable construction storm water permits, thereby reducing the risk of the release of pollutants during a seiche inundation event. As such, impacts associated with inundation due to a seiche are considered less than significant.

Mitigation Measures

Impacts related to the risk of pollutant release associated with dam, tsunami, or seiche inundation would be less than significant; therefore, no mitigation is required.

4.8.4.4 Issue 4: Groundwater

Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

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

Impact Analysis

Groundwater Supplies/Recharge

The proposed Project improvements do not entail long-term withdrawal or other use of groundwater, with no associated impacts to local groundwater supplies, aquifer volumes, or water tables. In the event that shallow groundwater is encountered during Project construction, temporary dewatering efforts would be implemented in conformance with applicable NPDES requirements as previously described. Based on the minor and temporary nature of such potential dewatering activities, as well as the fact that disposal of any extracted groundwater would likely occur within the areal extent of the same basin from which the groundwater was extracted (with associated potential for infiltration/recharge), no associated significant impacts related to drawdown or depletion of local groundwater resources are anticipated.

While Project implementation would include the installation of some new impervious surfaces such as structures and pavement, associated potential impacts to existing on-site recharge capacity would be less than significant based on the anticipated minor extent of such areas. Specifically, the majority of proposed improvements consist of underground pipelines or repair/replacement of existing facilities, with little or no new impervious surfaces. Additionally, proposed facilities that do include new impervious surfaces, such as pump stations, would be minor in extent and would not significantly affect associated groundwater recharge potential.

Groundwater Quality

Proposed Project improvements would generally not include structures or activities that could directly affect groundwater quality, such as underground fuel tanks or septic systems. Sewer lines and lift stations could potentially pose a risk to groundwater quality in the event of a facility failure; however, as previously noted, many projects in the Plan would make improvements to existing facilities which would reduce the system's susceptibility to facility failure.

Potential impacts to groundwater quality related to the proposed Project improvements would therefore be limited to percolation of surface water. As described above under Issues 1 and 2, construction of proposed improvements would be required to comply with the District's storm water pollution prevention requirements as well as all applicable construction storm water permits, thereby reducing impacts to groundwater quality related to construction activities to a less than significant level. However, based on the unknown nature of specific design criteria and operational conditions, operation of proposed improvements could have a potentially significant impact on groundwater quality.

Mitigation Measures

Mitigation measure MM HYD-1 would be implemented to address potential impacts to groundwater quality associated with percolation of surface water.

Significance After Mitigation

With implementation of MM HYD-1, as well as required compliance with specifications under appropriate regulatory permits, potential impacts to groundwater quality associated with percolation of surface water would be reduced to a less-than-significant level.

4.8.5 Cumulative Impact Analysis

4.8.5.1 Water Quality

The geographic context for the analysis of cumulative impacts relative to water quality standards encompasses the San Luis Rey Watershed and the Santa Margarita Watershed. As shown in Table 4.8-1, water bodies in both watersheds have been placed on the CWA 303(d) list. As indicated by their 303(d) list status, a significant cumulative impact to the watersheds (i.e., regional cumulative impact area) has already occurred as a result of development of past cumulative projects and other factors such as unauthorized discharges of contaminates. Based upon the existing impaired status of these water bodies, future cumulative projects have the potential to worsen this cumulative impact. The baseline cumulative impact is therefore considered significant.

As discussed in Section 4.8.4.1, the proposed Plan projects would comply with the Construction General Permit and all other applicable storm water requirements, which would ensure that the proposed projects would not contribute to the further degradation of water quality from increased runoff, sedimentation, or unauthorized pollutant releases. Additionally, prior to approval of final design for proposed projects involving activities that may potentially affect surface water quality, mitigation measure MM HYD-1 would be implemented, which involves a site-specific water quality investigation and the identification of BMPs to protect water quality. Following construction, the proposed improvements would not result in new sources of pollutants. Therefore, construction and operation activities associated with the Project would not result in a cumulatively considerable contribution to the cumulatively significant increase in downstream water pollution effects within the regional area.

4.8.5.2 Drainage Patterns and Flooding

The geographic context for the analysis of various cumulative water quality and hydrological impacts relative to localized alteration of drainage patterns encompasses the San Luis Rey Watershed and the Santa Margarita Watershed. Land disturbance and development activities associated with cumulative projects could contribute to flooding problems in the District service area and in the downstream watercourses. Therefore, the baseline cumulative impact to the San Luis Rey Watershed and the Santa Margarita Watershed due to flooding effects from discharges of storm water associated with alterations of drainage patterns is significant.

As discussed in Section 4.8.4.2, the proposed Plan projects would generally not result in permanent impacts to existing drainage patterns and would comply with all applicable storm water requirements, which would reduce impacts related to drainage alteration, flooding, and exceedance of capacity of storm water drainage facilities to a level below significance. Some proposed projects may be identified by the District as potentially resulting in long-term drainage impacts, however; those projects will be subject to mitigation measure HYD-2, which would involve the identification of site-specific hydrologic issues and application of appropriate measures to preserve pre-project flow patterns. As such, the Plan would not result in a cumulatively considerable contribution to the cumulatively significant regional alteration of drainage patterns.

4.8.5.3 Flood Hazard Areas

Impacts relative to flood hazards and inundation areas are generally specific to a project site; this issue is not subject to a cumulative impact analysis. Location of one project in a hazard area would not affect whether or not another project would be located in a hazard area. The Project, in combination with

other cumulative projects, would not result in a cumulatively significant impact related to flood hazard or dam inundation areas.

4.8.5.4 Groundwater

The geographic context for the cumulative analysis related to groundwater impacts encompasses the San Luis Rey Valley Groundwater Basin. Cumulative projects in this groundwater basin are not expected to utilize groundwater; however, development is expected to increase the amount of impervious surface in the basin, which would have the potential to substantially interfere with groundwater recharge. Cumulative development could also result in decreased groundwater quality. The baseline cumulative impact is therefore considered significant.

As discussed in Section 4.8.4.4, the majority of Project improvements consist of improvements to underground facilities and would not contribute to loss of groundwater recharge. Additionally, aboveground components of the Project are minimal and would not substantially contribute to loss of groundwater recharge. The Project improvements would have the potential to result in localized impacts to groundwater quality associated with percolation of surface water. However, implementation of mitigation measure MM HYD-1, as well as required compliance with specifications under appropriate regulatory permits, would result in a less than significant impact to groundwater quality. As such, the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact associated with groundwater recharge and quality.

4.9 NOISE

This section addresses the potential noise impacts of the Project. The following discussion includes (1) a description of existing conditions as related to noise; (2) a summary of applicable regulations; and (3) an evaluation of the Project's potential environmental effects associated with temporary and permanent increases in noise from construction and operation, vibration, and aircraft noise.

4.9.1 Existing Conditions

4.9.1.1 Fundamentals of Environmental Noise

Noise is commonly defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values. The sound pressure level is the logarithm of the ratio of the unknown sound pressure to a reference quantity of the same kind. To account for the pitch of sounds and the corresponding sensitivity of human hearing to them, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Typical A-weighted noise levels are listed in Table 4.9-1, *Typical A-Weighted Noise Levels*.

A given level of noise may be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, the time of day during which the noise is experienced, and the activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep may be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. Some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long-term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources. The most commonly used indices for measuring community noise levels are the equivalent energy level (L_{EQ}), the day-night sound level (L_{DN}), and the Community Noise Equivalent Level (CNEL).

L_{EQ} is the average acoustical or sound energy content of noise, measured during a prescribed period, such as 1 minute, 15 minutes, 1 hour, or 8 hours. It is the decibel sound level that contains an equal amount of energy as a fluctuating sound level over a given period of time.

L_{DN} is a 24-hour average, where sound levels during the nighttime hours of 10 p.m. to 7 a.m. have an added 10 dB weighting. This measurement applies weights to noise levels during nighttime hours to compensate for the increased disturbance response of people at those times.

CNEL is similar to the L_{DN}. CNEL is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a 5 dBA weighting applied to all sound occurring between 7 p.m. and 10 p.m. and a 10 dBA weighting applied to all sound occurring between 10 p.m. and 7 a.m.

Table 4.9-1
TYPICAL A-WEIGHTED NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	**— 70 —**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher next room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

Source: Caltrans 2013

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA every time the distance between the source and listener is doubled (doubling of distance). Sound that originates from a linear, or "line" source such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise. Noise from roadways in environments with major ground effects due to vegetation and loose soils may either absorb or scatter the sound yielding attenuation rates as high as 4.5 dBA for each doubling of distance. Other contributing factors that affect sound reception include meteorological conditions and the presence of manmade obstacles such as buildings and sound barriers.

Noise has a significant effect on the quality of life. An individual's reaction to a particular noise depends on many factors such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is perceivable, while 1 to 2 dBA changes generally are not perceived. Although the reaction to noise may vary, it is clear that noise is a significant component of the environment, and excessively noisy conditions can affect an individual's health and well-being. The

effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be organized into six broad categories: sleep disturbance, permanent hearing loss, human performance and behavior, social interaction of communication, extra-auditory health effects, and general annoyance.

Community noise environments are typically represented by noise levels measured for brief periods throughout the day and night, or during a 24-hour period (e.g., CNEL). The one-hour period is especially useful for characterizing noise caused by short-term events, such as operation of construction equipment or concert noise (e.g., L_{EQ}). Community noise levels are generally perceived as quiet when the CNEL is below 50 dBA, moderate in the 50 to 60 dBA range, and loud above 60 dBA. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA.

4.9.1.2 Fundamentals of Groundborne Vibration

Vibration consists of waves transmitted through solid material. Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be comprised of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Ambient and source vibration are often expressed in terms of the peak particle velocity (PPV) or root mean square velocity in inches per second (in/sec) that correlates best with human perception. Groundborne vibration can be a 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, groundborne 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 groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment.

4.9.1.3 Existing Noise Conditions

Land uses in the Project area predominantly consist of agricultural land with interspersed rural residential properties. Agricultural practices can be a source of noise, including from chainsaws, crop dusting aircraft, and tractors. In addition, operation of exterior exhaust and cooling system equipment typically used in greenhouse operations can be a source of noise that may affect surrounding land uses. Commercial properties and mixed-use development are clustered along SR 76 and I-15 at limited locations. Noise sources at these commercial uses likely consist of delivery and trash truck activity and operation of heating, ventilation, and air conditioning (HVAC) units. Overall, the primary noise source in the Project area is roadway traffic, most notably along SR 76 and I-15. Noise from aircraft utilizing the Fallbrook Community Airpark, located approximately two miles west of the District's service area, is also present in the Project area. Existing District facilities, such as pump and lift stations, contribute to the overall noise environment at varying levels throughout the service area.

4.9.1.4 Noise-Sensitive Land Uses

Noise-sensitive land uses (NSLUs) include uses where an excessive amount of noise would interfere with normal activities. Typical NSLUs include residences, public and private educational facilities, hospitals,

convalescent homes, hotels/motels, daycare centers, passive recreational parks, and sensitive wildlife habitat. Sleep disturbance is the most critical concern for a NSLU on a two-hour basis or longer compared to activities that are occupied only a portion of a day. The main NSLUs in the Project area are rural residential properties.

4.9.1.5 Vibration-Sensitive Land Uses

Vibration-sensitive land uses include facilities where vibration would interfere with operations within the building, such as vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations. The degree of sensitivity to vibration depends on the specific equipment that would be affected by the vibration. Electron microscopes and high-resolution lithography equipment function within certain scientific and manufacturing tolerances that can be compromised in high vibration environments. Certain fragile older or historic buildings may be vulnerable to damage from excessive vibration. Residential uses are also sensitive to excessive levels of vibration of either a regular or an intermittent nature. Existing vibration-sensitive land uses in the Project area include rural residential uses.

4.9.2 Regulatory Framework

4.9.2.1 State

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, finds that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the state has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Department of Transportation Vibration Guidance

The Caltrans Transportation and Construction Vibration Guidance Manual (Caltrans 2020) provides guidance for the analysis of environmental impacts due to groundborne noise and vibration relating to transportation and construction projects. The guidance is for impacts related to building structures, as shown in Table 4.9-2, *Building Structure Vibration Criteria,* and human annoyance, as shown in Table 4.9-3, *Human Annoyance Vibration Criteria.*

Table 4.9-2
BUILDING STRUCTURE VIBRATION CRITERIA

Structure and Condition	Limiting PPV (in/sec)
Historic and some old buildings	0.5
Residential structures	0.5
New residential structures	1.0
Industrial buildings	2.0
Bridges	2.0

Source: Caltrans 2020
PPV = peak particle velocity; in/sec = inches per second

Table 4.9-3
HUMAN ANNOYANCE VIBRATION CRITERIA

Human Response	PPV (in/sec)
Slightly perceptible	0.012
Distinctly perceptible	0.035
Strongly perceptible	0.10
Disturbing	0.7
Very disturbing	3.6

Source: Caltrans 2020
PPV = peak particle velocity; in/sec = inches per second

4.9.2.2 Local

The Project is located within the jurisdictions of the County and the City of Oceanside. As discussed in Section 4, Regulatory Framework, per Section 53091 (d) of the California Government Code, 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. Section (e) of the code states that 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.

Local agency noise ordinances are utilized as thresholds to analyze noise levels from construction and operation of the Project and potential impacts to sensitive receptors. Local ordinances are also used as guidelines to develop mitigation measures that would typically be used to minimize impacts to sensitive receptors. The County's and City of Oceanside's noise ordinances and regulations are presented below.

County of San Diego

General Plan Noise Element

The Noise Element of the County General Plan includes guidelines for noise compatibility and establishes limitations on sound levels to be received by NSLUs (Tables N-1 and N-2 from the County General Plan), as detailed below in Table 4.9-4, *County of San Diego Noise Compatibility Guidelines*, and noise standards, as detailed in Table 4.9-5, *County of San Diego General Plan Noise Standards*. New development may cause an existing NSLU to be affected by noise caused by the new development, or it may locate a NSLU in such a place that it is affected by noise.

Table 4.9-4
COUNTY OF SAN DIEGO NOISE COMPATIBILITY GUIDELINES

Land Use Category		Exterior Noise Level (CNEL)					
		55	60	65	70	75	80
A	Residential—single family residences, mobile homes, senior housing, convalescent homes						
B	Residential—multi-family residences, mixed-use (commercial/residential)						
C	Transient lodging—motels, hotels, resorts						
D[(1)]	Schools, churches, hospitals, nursing homes, child care facilities						
E[(1)]	Passive recreational parks, nature preserves, contemplative spaces, cemeteries						
F[(1)]	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation						
G[(1)]	Office/professional, government, medical/dental, commercial, retail, laboratories						
H[(1)]	Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair						
	ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.						
	CONDITIONALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. Criteria for determining exterior and interior noise levels are listed in Table 3, Noise Standards. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate County decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.						
	UNACCEPTABLE—New construction or development shall not be undertaken.						

Source: County 2011a
(1) Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL
Note: For projects located within an Airport Influence Area of an adopted Airport Land Use Compatibility Plan (ALUCP), additional Noise Compatibility Criteria restrictions may apply as specified in the ALUCP.

Table 4.9-5
COUNTY OF SAN DIEGO GENERAL PLAN NOISE STANDARDS

1.	The exterior noise level (as defined in Item 3) standard for Category A shall be 60 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
2.	The exterior noise level standard for Categories B and C shall be 65 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
3.	The exterior noise level standard for Categories D and G shall be 65 CNEL and the interior noise level standard shall be 50 dBA L_{EQ} (one hour average).
4.	For single-family detached dwelling units, "exterior noise level" is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: (i) for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet, (ii) for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10 percent of the lot area; (iii) for lots over 10 acres in area, the exterior area shall include 1 acre.
5.	For all other residential land uses, "exterior noise level" is defined as noise measured at exterior areas that are provided for private or group usable open space purposes. "Private Usable Open Space" is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. "Group Usable Open Space" is defined as usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.
6.	For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.
7.	For noise sensitive land uses where people normally do not sleep at night, the exterior and interior noise standard may be measured using either CNEL or the one-hour average noise level determined at the loudest hour during the period when the facility is normally occupied.
8.	The exterior noise standard does not apply for land uses where no exterior use area is proposed or necessary, such as a library.
9.	For Categories E and F, the exterior noise level standard shall not exceed the limit defined as "Acceptable" in Table N-1 or an equivalent one-hour noise standard.

Source: County 2011a
Note: Exterior Noise Level compatibility guidelines

Code of Regulatory Ordinances – Noise Ordinance

Sections 36.401 through 36.423 of the County of San Diego Code of Regulatory Ordinances discuss further County noise requirements. The purpose of the Noise Ordinance is to regulate noise in the unincorporated area of the County to promote the public health, safety, comfort, and convenience of the County's inhabitants and its visitors.

Section 36.404, General Sound Level Limits

The Noise Ordinance sets limits pertaining to the generation of exterior noise, as follows:

(a) It is unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level at any point on or beyond the boundaries of the property will exceed the applicable limits in Table 4.9-6, *County of San Diego Noise Ordinance Exterior Sound Level Limits*.

Table 4.9-6
COUNTY OF SAN DIEGO NOISE ORDINANCE EXTERIOR SOUND LEVEL LIMITS

Zone	Time	One-Hour Average Sound Level Limits (dBA)
(1) R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-90, S-92 and R-V and R-U with a density of less than 11 dwelling units per acre.	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	50 45
(2) R-RO, R-C, R-M, S-86, V5 and R-V and R-U with a density of 11 or more dwelling units per acre.	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	55 50
(3) S-94, V4 and all other commercial zones.	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	60 55
(4) V1, V2	7:00 a.m. to 7:00 p.m.	60
V1, V2	7:00 p.m. to 10:00 p.m.	55
V1	10:00 p.m. to 7:00 a.m.	55
V2	10:00 p.m. to 7:00 a.m.	50
V3	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.	70 65
(5) M-50, M-52, and M-54	Anytime	70
(6) S-82, M-56, and M-58	Anytime	75
(7) S-88 (see subsection (c) below)	-	-

Zoning Code Definitions: R-S = Single-Family Residential; R-D = Duplex Residential; R-R = Rural Residential; R-MH = Mobile home Residential; A-70 = Limited Agriculture; A-72 = General Agriculture; S-80 = Open Space; S-90 = Holding Area; S-92 = General Rural; S-94 = Transportation and Utility Corridor; R-V = Variable-Family Residential; R-RO = Residential-Recreation Oriented; R-C = Residential-Commercial; R-M = Multi-Family Residential; S-86 = Parking; R-U = Urban Residential; V1, V2, V3, V4, and V5 = Village Designations; M-50 = Basic Industrial; M-52 = Limited Industrial; M-54 = General Impact Industrial; S-82 = Extractive Use; M-56 = Mixed Industrial; M-58 = High-Impact Industrial; S-88 = Specific Plan

(b) Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Major Use Permit, which authorizes the noise-generating use or activity and the decision making body approving the Major Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance, implementation and compliance with those noise mitigation measures shall constitute compliance with subsection (a) above.

(c) S-88 zones are Specific Planning Areas that allow for different uses. The sound level limits in Table 1 above that apply in an S-88 zone depend on the use being made of the property. The limits in Table 1-3, subsection (1) apply to property with a residential, agricultural, or civic use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M-50, M-52, or M-54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M-56 or M-58 zone.

(d) If the measured ambient level exceeds the applicable limit noted above, the allowable one-hour average sound level shall be the ambient noise level, plus 3 dB. The ambient noise level shall be measured when the alleged noise violation source is not operating.

(e) The sound level limit at a location on a boundary between two zones is the arithmetic mean of the respective limits for the two zones; provided however, that the one-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, shall be 75 dB at the property line regardless of the zone which the extractive industry is actually located.

(f) A fixed-location public utility distribution or transmission facility located on or adjacent to a property line shall be subject to the sound level limits of this section, measured at or beyond six feet from the boundary of the easement upon which the facility is located.

Section 36.408, Hours of Operation of Construction Equipment

Except for emergency work, it shall be unlawful for any person to operate or cause to be operated, construction equipment:

a. Between the hours of 7:00 p.m. and 7:00 a.m.

b. On a Sunday or a holiday. For the purposes of this section a holiday means January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, and December 25. A person may, however, operate construction equipment on a Sunday or holiday between the hours of 10:00 a.m. and 5:00 p.m. at the person's residence or for the purpose of constructing a residence for himself or herself, provided that the operation of construction equipment is not carried out for financial consideration or other consideration of any kind and does not violate the limitations in Sections 36.409 and 36.410**.**

Section 36.409, Construction Noise

Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 dB for an 8-hour period, between 7:00 a.m. and 7:00 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

Section 36.410, Impulsive Noise

Section 36.410 provides additional limitation on construction equipment beyond Section 36.404 pertaining to impulsive noise. Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 4.9-7*, County of San Diego Maximum Sound Levels (Impulsive)*, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period.

Table 4.9-7
COUNTY OF SAN DIEGO MAXIMUM SOUND LEVELS (IMPULSIVE)

Occupied Property Use	Decibels (dBA) L_{MAX}
Residential, village zoning or civic use	82
Agricultural, commercial, or industrial use	85

Source: County of San Diego Municipal Code Section 36.410
dBA = A-weighted decibel; L_{MAX} = maximum noise level

The minimum measurement period for any measurements is one hour. During the measurement period, a measurement must be conducted every minute from a fixed location on an occupied property. The measurements must measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise exceeds the maximum sound level for any portion of any minute, it will be deemed that the maximum sound level was exceeded during that minute.

City of Oceanside

General Plan Noise Element

The General Plan Noise Element for the City of Oceanside states that noise generated by construction activity should not exceed 85 dBA when measured 100 feet from the source.

Additionally, the General Plan states that construction equipment shall not be operated within any residential zone or 500 feet from any residential zone between 8:00 p.m. and 7:00 a.m., generating an ambient noise level of 50 dBA at any property line. Construction activities also shall not occur between 6:00 p.m. and 7:00 a.m. when construction noise levels exceed the ambient noise level by 5 dBA.

Municipal Code

Chapter 38 of the City of Oceanside Municipal Code states that it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property in the applicable base district zone on which the sound is produced, exceeds the applicable limits set forth in Table 4.9-8, *City of Oceanside General Sound Level Limits*.

Table 4.9-8
CITY OF OCEANSIDE GENERAL SOUND LEVEL LIMITS

Base District Zone	7:00 a.m. to 9:59 p.m.	10:00 p.m. to 6:59 a.m.
RE (Residential Estate)	50	45
RS (Single-family)	50	45
RM (Medium Density)	50	45
RH (High Density)	55	50
RT (Residential Tourist)	55	50
C (Commercial)	65	60
I (Industrial)	70	65
D (Downtown)	65	55
A (Agricultural)	50	45
OS (Open Space)	50	45

Source: City of Oceanside Municipal Code Section 38.12

The Noise Control Ordinance further states that the city manager, or the manager's designee, on a case-by-case basis, may authorize construction, maintenance or other public improvement activities by a government agency or a public utility, which exceed the noise, duration or hour of work limits established by this chapter, upon a determination that the authorization furthers the public interest.

Biologically Sensitive Habitat

Some studies have concluded that 60 dBA is a criterion to use as a starting point for passerine impacts until more specific research is done. Associated guidelines produced by the USFWS require that project noise be limited to a level not to exceed 60 dBA L_{EQ} or, if the existing ambient noise level is above 60 dBA L_{EQ}, increase the ambient noise level by 3 dBA L_{EQ} at the edge of occupied habitat during the avian species breeding season.

4.9.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to noise. The Project would have a significant impact if it would:

1. Result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

2. Result in the generation of excessive groundborne vibration or groundborne noise levels; or

3. Expose people residing or working in the Project area to excessive noise levels by being located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.

4.9.4 Project Impacts and Mitigation

4.9.4.1 Issue 1: Increase in Ambient Noise

Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact Analysis

Construction

The Project would involve construction activities for both CIP projects and ODP projects. While maintenance activities would be part of ongoing facilities operations, some maintenance activities would likely use equipment similar to construction activities for CIP and ODP projects. In addition, work for each individual maintenance activity would be temporary and would therefore be subject to construction noise limits. As such, maintenance activities are considered here under construction for the purposes of this analysis.

Construction associated with CIP, ODP, and maintenance projects would result in temporary increases in ambient noise levels at nearby NSLUs, most notably single-family residential uses located throughout the District's service area. Construction activities would involve the use of heavy equipment during activities such as land clearing, trenching, and excavation, demolition of structures, construction of access roads and structures, and installation of some equipment, such as pumps. During pipeline trenching and installation, an excavator would move along the pipeline route digging the trench and

loading the materials into a dump truck. Other anticipated construction equipment includes loaders, forklifts, pavers, generators, rollers, air compressors, backhoes, dozers, graders, haul trucks, compactors, welders, pumps, and cranes. The magnitude of the impact would depend on the type of construction activity, type of construction equipment, duration of the construction activity, distance between the noise source and receiver, and any intervening topography or structures. Standard noise levels at 50 feet associated with the anticipated construction equipment is presented in Table 4.9-9, *Typical Noise Levels from Anticipated Construction Equipment.*

Table 4.9-9
TYPICAL NOISE LEVELS FROM ANTICIPATED CONSTRUCTION EQUIPMENT

Unit	Percent Operating Time	dBA L_{MAX} at 50 feet	dBA L_{EQ} at 50 feet
Backhoe	40	77.6	73.6
Compactor	20	83.2	76.2
Compressor	40	77.7	73.7
Crane	16	80.6	72.6
Dozer	40	81.7	77.7
Dump Truck	40	76.5	72.5
Excavator	40	80.7	76.7
Forklift[1]	20	74.7	67.7
Front End Loader	40	79.1	75.1
Generator	50	80.6	77.6
Grader	40	85.0	81.0
Paver	50	77.2	74.2
Roller	20	80.0	73.0
Welder	40	74.0	70.0

Source: Roadway Construction Noise Model (U.S. Department of Transportation 2008)
[1] The Roadway Construction Noise Model does not include noise levels for a forklift so noise levels for a manlift, which is a similar piece of equipment, are presented.
dBA = A-weighted decibel; L_{MAX} = Maximum Sound Level; L_{EQ} = Equivalent Sound Level

The County prohibits construction that occurs between 7:00 p.m. and 7:00 a.m. and construction that exceeds an average sound level of 75 dBA for an 8-hour period, between 7:00 a.m. and 7:00 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received. The County also lists additional limits on impulsive noise of 82 dBA L_{MAX} to a residential use or 85 dBA L_{MAX} to an agricultural, commercial, or industrial use.

The City prohibits construction that exceeds a sound level of 85 dBA at 100 feet from the source. The City also prohibits the operation of construction equipment within any residential zone or 500 feet from any residential zone between 8:00 p.m. and 7:00 a.m., generating an ambient noise level of 50 dBA at any property line. Construction activities also shall not occur between 6:00 p.m. and 7:00 a.m. when construction noise levels exceed the ambient noise level by 5 dBA.

Individual Project improvements for CIP, ODP, and maintenance projects would not all be constructed at once and not all equipment would be operating at the same time or location. Pipeline projects would be constructed in a linear fashion and would only result in construction noise at a particular receptor for a short time. However, as indicated in Table 4.9-9, the operation of equipment anticipated to be used for Project improvements would have the potential to exceed the County's 75-dBA limit. While noise levels at 50 feet from individual pieces of construction equipment are calculated to not exceed 85 dBA, it is

possible that multiple pieces of equipment could operate simultaneously at a given location and generate noise levels that exceed 85 dBA at 100 feet, and thus exceed the City's 85 dBA limit (at 100 feet). Impacts are therefore assessed as potentially significant.

Although the District would avoid night work wherever possible, nighttime construction activities may be necessary for individual Project improvements. This work would typically occur for wastewater projects where the work has to be done during low flow periods or for facilities that have limited availability for shut down periods. For wastewater projects requiring bypass pumping, pumps and generators would run throughout the night. The necessity of bypassing at night would be determined on a case-by-case basis, based on peak flows and the equipment required to bypass, detailed surveys of access cover rim elevations and any low points susceptible to overflowing, and other factors. Therefore, construction activities for Project improvements may occur during the restricted nighttime hours of 7:00 p.m. to 7:00 a.m. in the County. Construction activities for Project improvements may also generate noise in the city of Oceanside in excess of 50 dBA within a residential zone or 500 feet from any residential zone between 8:00 p.m. and 7:00 a.m. and/or exceed the ambient noise level by 5 dBA between 6:00 p.m. and 7:00 a.m. As such, nighttime noise impacts from construction are assessed as potentially significant.

Construction of Project improvements would have the potential to generate noise that would have a potentially significant impact to special status bird species if construction near their habitat occurs during their breeding seasons. These impacts would be potentially significant. This issue is further addressed under Section 4.2, *Biological Resources*.

Operations

CIP Projects

Water and sewer pipeline CIP Projects 600051, 600060, 600061, 600063, 600065, 600069, 600078, 600071, 600072, 600080, 600073, 600074, 600075, 60002, 600026, 600066, 600067, 600068, 600070, 5300XX-1, 5300XX-2, 5300XX-3, and 5300XX-7 would be passive and would not result in permanent increases in the ambient noise environment. No operational noise impacts from these pipelines would occur.

Potential above-ground facilities capable of generating noise would include pressure-reducing stations, pump stations, and lift stations. CIP Projects 600007 and 600048 would install pressure-reducing stations. The operation of this new equipment would have the potential to result in a noticeable increase in ambient noise in the area surrounding the pressure-reducing stations that may exceed applicable noise standards. Therefore, operational noise impacts from pressure-reducing stations would be potentially significant.

CIP Project 600008 would construct a new pump station and CIP Projects 600040, 600050, and 600084 would upgrade or replace existing pump stations. Similarly, CIP Project 5300XX-6 would construct a new lift station and CIP Projects 530020, 530018, and 530023 would upgrade existing lift stations. The operation of new or more powerful pumps, generators, and/or other equipment as a result of these CIP projects would have the potential to result in noticeable increases in ambient noise in the areas surrounding the pump stations and lift stations. Although pump and lift station equipment would likely be enclosed within noise-attenuating structures, the increase in ambient noise may cause noise levels to exceed applicable noise standards. Therefore, operational noise impacts from pump and lift stations would be potentially significant.

Other District Pipeline Projects

ODP projects would consist of the replacement or rehabilitation of existing belowground District water and sewer pipelines. These pipelines are passive and would not result in permanent increases in the ambient noise environment. No operational noise impacts from these ODP project improvements would occur.

Maintenance Projects

Maintenance projects would consist of minor activities that the District may undertake as part of general operations. Maintenance projects would include replacement or reconstruction of existing structures and facilities where the new structure would be located on the same site as the structure replaced and would have substantially the same purpose and capacity as the structure replaced, including existing utility facilities involving negligible or no expansion of capacity. Other maintenance projects may include installation of new equipment and facilities in small structures or the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. Based on the nature of these activities, noise from maintenance projects is considered as part of construction, as discussed above. The improvements undertaken as part of each individual maintenance project would not result in new or increased ongoing operational noise sources compared to existing conditions. As such, no operational impacts from maintenance projects would occur.

Mitigation Measures

The following measures would be implemented to address Project-generated noise effects to NSLUs.

MM NOI-1 **General Construction and Maintenance Noise Limits.** Noise from Project-related construction and maintenance activities shall comply with the following local noise ordinances as applicable and feasible depending on the location of the activity.

- **County of San Diego:** A noise level limit of 75 dBA (8-hour L_{EQ}) between 7:00 a.m. to 7:00 p.m.
- **City of Oceanside:** A noise level limit of 85 dBA at 100 feet from the source; a noise level limit of 50 dBA at the property line when construction equipment is operating within any residential zone or 500 feet from any residential zone between 8:00 p.m. and 7:00 a.m.; a noise level limit of 5 dBA above ambient between 6:00 p.m. and 7:00 a.m.

The District shall employ measures to reduce construction and maintenance noise levels to the specified limits, including, but not limited to, the following:

- Construction equipment shall be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.
- Diesel equipment shall be operated with closed engine doors and equipped with factory-recommended mufflers.

- Mobile or fixed "package" equipment (e.g., arc-welders and air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.

- Electrically powered equipment shall be used instead of pneumatic or internal-combustion powered equipment, where feasible.

- Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) shall be prohibited.

- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise sensitive receptors.

- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.

- Any truck or equipment equipped with back-up alarm moving within 300 feet of a noise-sensitive land use (residence) should have the normal back-up alarm disengaged and safety provided by lights and flagman or broad-spectrum noise backup alarm (as appropriate for conditions) used in compliance with the Occupational Safety and Health Administration safety guidelines.

- Temporary sound barriers or sound blankets shall be installed between construction operations and adjacent noise-sensitive receptors. The project Contractor shall construct a 12-foot high temporary noise barrier meeting the specifications listed below (or of a Sound Transmission Class [STC] 19 rating or better) to attenuate noise.

- The District shall notify residences within 300 feet of the project's disturbance area in writing within one week of any construction activity. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure.

- The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

Timing/Implementation: During construction.

Enforcement/Monitoring: District, Construction Contractor

MM NOI-2 **Operational Compliance with Noise Regulations.** Stationary operating equipment associated with proposed CIP projects, which are located within San Diego County, shall be designed to comply with the applicable one-hour average sound level limits set forth in Section 36.404, *General Sound Level Limits,* of the County of San Diego Code of Regulatory Ordinances, presented above in Table 4.9-6, where feasible.

Timing/Implementation: Prior to, during, and after construction.

Enforcement/Monitoring: District, Project Engineer

Significance After Mitigation

With implementation of MM NOI-1 and MM NOI-2, potential noise impacts would be less than significant.

4.9.4.2 Issue 2: Vibration

Would the Project generate excessive groundborne vibration or groundborne noise levels?

Impact Analysis

Construction

As with construction noise in Section 4.8.4.1, maintenance projects are considered under construction for assessment of vibration impacts based on the similarity of equipment that would be used for CIP, ODP, and maintenance projects.

Vibration associated with implementation of the Project would be generated primarily during construction of individual projects/improvements. In general, construction-related vibration has the potential to result in: (1) damage to structures; and (2) annoyance to humans. The level of vibration generated from construction activities would depend on the type of soils and the energy-generating capability of the construction equipment. For Project improvements, the primary source of vibration would be a vibratory roller, which would be used to achieve soil compaction. A vibratory roller generates a vibration level of 0.210 inches per second peak particle velocity (PPV) at 25 feet (Caltrans 2020). Vibration levels from a vibratory roller would reach the 0.5-inches per second PPV criteria for damage to historic structures (see Table 4.9-2) at 11 feet and would reach the 0.7-inches per second PPV "disturbing" criteria for human annoyance (see Table 4.9-3) at 8 feet[6]. Based on the size and operational functionality, it is unlikely that a vibratory roller would be used within 11 feet of historic structures or 8 feet of residential dwellings. In addition, the roller would be mobile and would not stay in one area for a long period. Therefore, vibration impacts to residential areas from general construction activities would be less than significant.

Operations

Once installed, the Project's facilities include passive uses (e.g., pipelines) and pump stations, lift stations, and pressure-reducing stations facilities that would generate negligible levels of vibration.

Mitigation Measures

Impacts associated with vibration would be less than significant; therefore, no mitigation measures are required.

[6] Equipment PPV = Reference PPV * $(25/D)^n$ (in/sec), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receiver in feet, and n = 1.1 (the value related to the attenuation rate through the ground); formula from Caltrans 2020.

4.9.4.3 Issue 3: Aircraft Noise

Would the Project expose people residing or working in the Project area to excessive noise levels by being located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport?

Impact Analysis

Fallbrook Community Airpark is located approximately two miles west of the District's service area. According to the Airport Land Use Compatibility Plan for Fallbrook Community Airpark, no portion of a Noise Impact Zone (defined as within the 55-CNEL contour) associated with Fallbrook Community Airpark is within the District's service area (SDCRAA 2006). There are no other airports in proximity to the District's service area that would have the potential to result in excessive noise levels within the service area. As such, neither the Project's temporary construction workers nor permanent maintenance and facility workers would be exposed to excessive aircraft noise. Impacts would be less than significant.

Mitigation Measures

Impacts related to aircraft noise would be less than significant; therefore, no mitigation measures are required.

4.9.5 Cumulative Impact Analysis

4.9.5.1 Increase in Ambient Noise

The geographic scope for the analysis of cumulative noise impacts is areas with NSLUs surrounding temporary Project improvement areas (for construction-related impacts) and areas with NSLUs surrounding permanent Project facilities (for operations-related impacts). Generally, noise impacts are limited to the area directly surrounding the source, as noise attenuates with distance, and only has the potential to combine with other noise sources occurring simultaneously in the immediate vicinity. Cumulative development would have the potential to occur within the geographic scope and could generate noise during construction and operations that would have the potential to increase ambient noise levels in the vicinity of NSLUs. Project construction and maintenance activities, which would occur at numerous locations throughout the District's service area at various times, would have the potential to occur simultaneously with and in proximity to cumulative development projects and thus affect NSLUs. Similarly, the Project's proposed facilities that are anticipated to generate noise during operations, including pressure-reducing stations, pump station equipment, and lift station equipment, could be located near cumulative projects and combine with cumulative project-generated noise to result in noise levels in excess of applicable property line noise limits at NSLUs. As such, cumulative impacts related to noise are considered potentially significant.

While there is potential for Project construction and maintenance activities to occur simultaneously with and in proximity to cumulative development projects, work for individual Project improvements would be temporary, would not all occur at once, and not all equipment would be operating at the same time or location. Pipeline projects would be constructed in a linear fashion and would only result in construction noise at a particular receptor for a limited time. To address the Project's potential direct construction noise impacts, the Project would implement MM NOI-1, which requires compliance with the applicable construction noise limits of the County and City of Oceanside, where feasible, and includes construction and maintenance activity noise reduction measures. With these measures, and

based on the temporary nature of construction of individual improvements at a given location, Project construction and maintenance activities would not result in a cumulatively considerable contribution to a potentially significant cumulative noise impact.

Operationally, most Project facilities would be passive (e.g., belowground pipelines) and would not have the potential to contribute to a cumulative noise impact. To address potential impacts from operation of facilities that may generate noise, including pressure-reducing stations, pump stations, and lift stations, the Project would implement MM NOI-2 to ensure that equipment is designed to comply with applicable noise limits; Project operation would therefore not result in a cumulatively considerable contribution to a potentially significant cumulative noise impact.

4.9.5.2 Vibration

The geographic scope for the cumulative analysis of vibration is areas with vibration-sensitive land uses surrounding temporary Project improvement areas (for construction-related impacts) and areas with vibration-sensitive land uses surrounding permanent Project facilities (for operations-related impacts). Groundborne vibration attenuates rapidly with distance and is therefore not generally cumulative in nature. In addition, as discussed in Section 4.8.4.2, the Project would not generate substantial vibration during construction or operations. As such, in combination with cumulative projects, the proposed Project would not result in a cumulatively significant impact associated with vibration.

4.9.5.3 Aircraft Noise

The geographic scope for the cumulative impact analysis related to aircraft noise is areas within the Noise Impact Zone (defined as within the 55-CNEL contour) of Fallbrook Community Airpark. As discussed in Section 4.8.4.3, no portion of the Noise Impact Zone is within the District's service area; therefore, the proposed project would not combine with cumulative projects to result in a cumulatively significant impact related to aircraft noise.

4.10 TRANSPORTATION

This section addresses the potential transportation impacts of the Project. The following discussion includes (1) a description of existing conditions as related to transportation, (2) a summary of applicable regulations, and (3) an evaluation of the Project's potential environmental effects associated with traffic circulation, generation of VMT, traffic hazards, and emergency access.

4.10.1 Existing Conditions

The roadway network within the District's service area is influenced by variable topography, including hills and valleys. I-15, classified as a freeway, bisects the service area in a north-to-south orientation and contains eight lanes. SR 76, classified as a prime arterial west of I-15 and as a major arterial east of I-15, bisects the service area in a northeast-to-southwest orientation. It contains two lanes in the northeastern portion and four lanes in the southwestern portion. Other main roadways within the service area, such as Pala Temecula Road, Rice Canyon Road, Reche Road, and Gird Road, generally consist of rural collectors, local collectors, and local roads.

Due to the rural nature of the District's service area and associated roadways, bicycle and pedestrian facilities are limited. Old Highway 395 contains a bike lane and SR 76 west of I-15 is considered a bike route. North County Transit District (NCTD) bus route 306 runs along East Vista Way, SR 76, and Mission Road in the western portion of the District's service area.

4.10.2 Regulatory Framework

4.10.2.1 Federal

Americans with Disabilities Act

The 1990 Americans with Disabilities Act (ADA) is a wide-ranging civil rights law that prohibits, under certain circumstances, discrimination based on disability. Pedestrian facility design must comply with the accessibility standards identified in the ADA, which applies to all projects involving new or altered pedestrian facilities. The scoping and technical provisions for new construction and alterations identified in the ADA Accessibility Guidelines can be used to help design pedestrian facilities that are ADA compliant. For example, Title II-6.600 of the Technical Assistance Manual states, "When streets, roads, or highways are newly built or altered, they must have ramps or sloped areas whenever there are curbs or other barriers to entry from a sidewalk or path."

4.10.2.2 State

Senate Bill 743

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changed the way transportation impact analysis is conducted under CEQA. In response to the passage of SB 743, the Governor's Office of Planning and Research (OPR) was required to amend the CEQA Guidelines to provide a new approach to evaluating traffic impacts. These changes include the elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The mandate of SB 743 was to devise an alternative traffic impact evaluation criterion that would promote the reduction of

GHG emissions as well as foster the development of multi-modal transportation networks and a diversity of land uses.

SB 743 further suggested that a measurement such as VMT would be appropriate method to evaluate traffic impacts. VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMTs are calculated based on individual vehicle trips generated and their associated trip lengths.

In January 2016, the OPR issued the *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, which provided recommendations for updating the CEQA Guidelines and in December 2018 OPR issued the accompanying *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory). Subsequently OPR and the Office of the Secretary of Natural Resources finalized the CEQA Guidelines for implementing SB 743 and as of July 1, 2020, the VMT guidelines apply statewide.

OPR has made clear that a lead agency shall have discretion in choosing both the most appropriate methodology and the most appropriate threshold for projects. Lead agencies may even go so far as to choose whether a project-specific threshold involving quantification of VMT or a qualitative analysis is more appropriate for the specific project.

California Department of Transportation Standards

Caltrans is responsible for planning, designing, building, operating, and maintaining California's state road system. Caltrans sets standards, policies, and strategic plans that aim to do the following: (1) provide the safest transportation system in the nation 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 state highway rights-of-way. The Caltrans Highway Design Manual (2019) establishes uniform policies and procedures to carry out highway design functions. Caltrans has also prepared a Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). Objectives for the preparation of this guide include providing consistency and uniformity in the identification of traffic impacts generated by local land use proposals.

4.10.2.3 Regional

SANDAG Regional Transportation Plan

The SANDAG 2050 RTP was adopted in October of 2011 by the SANDAG Board of Directors. SANDAG's RTP is the blueprint for a regional transportation system, serving existing and projected residents and workers within the San Diego region to further enhance the region's quality of life and offer more mobility options for people and goods. The RTP envisions sustainable communities conducive to transit, walking, and bicycling. To achieve this, future growth will be more compact in nature and focused along major transit and transportation corridors.

As part of the regional transportation planning process, SANDAG also prepared a SCS. Passed in 2008, SB 375 encourages planning practices that create sustainable communities and charges the CARB with

setting regional targets for GHG emissions. Pursuant to SB 375, each MPO is required to adopt an SCS as part of its RTP and, using the most recent planning assumptions, demonstrate achievement of the targets for reduction of GHGs. The purpose of the SCS is to align regional transportation, housing, and land use plans to reduce the amount of VMT to attain the regional targets. The RTP/SCS also outlines projects for rail and bus services, highways, local streets, bicycling, and walking, as well as systems and demand management.

4.10.2.4 Local

San Diego County General Plan Mobility Element

The General Plan Mobility Element provides a framework for a balanced, multi-modal transportation system within the unincorporated areas of San Diego County (County 2011a). The Mobility Element includes a description of the County's transportation network and the goals and policies that address safety, efficiency, maintenance, and management of the transportation network. The Land Use element includes policies that address the maintenance of adequate service on Mobility Element roads; although auto delay, LOS, and similar measurements of vehicular roadway capacity and traffic congestion have been eliminated as the basis for determining significant transportation impacts, projects are still required to comply with the applicable goals and policies of the General Plan related to transportation and traffic.

San Diego County Public Road Standards

These standards provide minimum design and construction requirements for public road improvement projects located within the unincorporated areas of San Diego County. These standards apply to County-initiated public road improvement projects as well as privately initiated public road improvement projects.

City of Oceanside General Plan Circulation Element

As required by State of California Law, the City has included and adopted a Master Transportation Roadway Plan as part of the City's General Plan. In tandem with other elements of the City's General Plan, the Master Transportation Roadway Plan creates and addresses goals and policies as they relate to the City's transportation system. The Master Transportation Roadway Plan, a subsection of the Circulation Element, focuses on maintaining and improving the City's roadways that compose the transportation network by providing service standards, objectives, and policies (City of Oceanside 2012).

City of Oceanside Traffic Impact Analysis Guidelines

As of July 1, 2020, the City adopted city-specific guidelines to adhere to Senate Bill 743 which replaces the analysis of LOS with VMT for projects qualifying to meet documentational requirements under CEQA. The guidelines serve as an update to the Traffic Impact Study (TIS) guidelines outlined in the City's Circulation Element adopted in 2012. The guidelines provide: a framework for transportation analysis based on the City's transportation policies and the General Plan; the transportation analysis significance criteria, screening criteria, and thresholds of significance for environmental clearance for development projects, City transportation projects, and General Plan amendments; and the appropriate methodologies, procedures, and process for the preparation of a transportation analysis report within the context of CEQA (City of Oceanside 2020).

4.10.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of Project as related to transportation. The Project would have a significant impact if it would:

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;

2. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);

3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

4. Result in inadequate emergency access.

4.10.4 Project Impacts and Mitigation

4.10.4.1 Issue 1: Traffic Circulation

Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact Analysis

Construction

Construction of Project improvements would generate construction-related trips from trucks hauling soil and/or debris from construction sites, trucks delivering equipment and materials to and from construction sites, and construction workers commuting to and from construction sites. These localized increases in construction traffic would be temporary. Some Project improvements, particularly the removal and installation of pipelines, would require construction within the public right-of-way. Potential effects that could result include disruption of traffic from lane closures, detours, increased truck and other construction-related traffic, and disruption of access to local business and residences in some instances.

Construction of Project improvements would not occur all at once and would be phased through 2030 for CIP project and through 2050 for ODP projects. Construction would occur throughout the District's service area so that even if construction of multiple Project improvements is underway simultaneously, construction would not be concentrated in one area. Traffic-related effects would be localized and limited to a short time during construction of a given improvement. However, because construction within roadway rights-of-way may affect local circulation during the short-term course of individual improvements, traffic impacts from construction of Project improvements are assessed as potentially significant.

Operation

Operation of the Project facilities would result in permanent traffic that would occur primarily from vehicular trips by operations and maintenance employees; however, operation of the proposed facilities

would not generate a substantial volume of new vehicle trips above existing conditions. The majority of Project improvements are belowground pipelines and/or improvements to existing facilities. Following construction, the underground pipelines would be passive and would not require regular maintenance. Occasional vehicle trips may be required for repair or inspection, similar to existing pipelines. Existing District facilities require vehicle trips for maintenance. Upgraded facilities or improvements at these locations would likely not result in new maintenance vehicle trips.

New facilities, such as pressure reducing stations (CIP Projects 600007 and 600048) and pump stations (CIP Project 600008), may require new regular maintenance trips. Maintenance trips associated with these types of facilities are typically limited to one to two trips per day. Based on the limited number of trips for each new facility and the low number of new facilities proposed under the Project, the number of new trips generated by Project operations would be minimal. Furthermore, as noted above relative to construction, these trips would be spread throughout the District's service areas, not concentrated in any one location.

The Project's improvements would therefore not generate a substantial net increase in vehicle trips. Incremental increases in vehicle trips would be distributed on roadways throughout the service area and would not be substantial in relation to the existing traffic load and capacity of intersections, street segments, and freeways within the area. Implementation of the Project would not result in substantial long-term impacts to the circulation system, and impacts would be less than significant.

Mitigation Measures

The following mitigation measure would be implemented during construction of Project improvements within roadway rights-of-way to address traffic impacts from construction.

MM TRA-1 **Traffic Control Plan.** At least 30 days prior to the start of construction of improvements within roadway rights-of-way, the District Contractor shall prepare and submit a traffic control plan (TCP) to the agency of jurisdiction (County, City of Oceanside, and/or Caltrans as applicable) to address vehicular traffic during construction of individual Project improvements within public rights-of-way of the affected jurisdiction(s), including bicycle, pedestrian, and transit facilities. The TCP shall include signage, striping, delineated detours, flagging operations, and other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction areas and allow for adequate access and circulation. The TCP shall ensure that congestion and traffic delay are not substantially increased as a result of the construction activities.

During construction, the District shall maintain continuous vehicular and pedestrian access to affected residential driveways from the public right-of-way to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access shall be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the District shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The TCP shall include provisions to ensure that the construction of the conveyance pipelines do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.

The TCP shall also be consistent with local emergency response plans. The District shall notify local emergency responders of 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 for emergency response providers adequate time to prepare for lane closures.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, Construction Contractor

Significance After Mitigation

With implementation of MM TRA-1, potential impacts to the circulation system would be less than significant.

4.10.4.2 Issue 2: Vehicle Miles Traveled

Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Impact Analysis

CEQA Guidelines Section 15064.3 subdivision (b) sets forth specific criteria for determining the significance of transportation impacts. Subdivision (b)(1) pertains to land use projects and describes factors that may indicate whether the amount of a land use project's VMT may be significant or not. Because Project-related traffic would be limited to temporary construction traffic for individual Project improvements and a relatively low number of operational trips across the District's service area, the Project would not generate a substantial increase in VMT and would therefore not conflict or be inconsistent with *CEQA Guidelines* Section 15064.3. Impacts would be less than significant.

Mitigation Measures

Impacts associated with inconsistencies with *CEQA Guidelines* Section 15064.3 would be less than significant; therefore, no mitigation is required.

4.10.4.3 Issue 3: Hazardous Traffic Conditions

Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Impact Analysis

Construction of some of the Project improvements would occur within public roadway rights-of-way and would therefore have the potential to result in partial and/or full lane closures and the presence of construction equipment and workers, which could result in temporary hazardous roadway conditions; therefore, impacts related to traffic hazards from Project construction within roadway rights-of-way are considered potentially significant.

Following the completion of construction, improvements constructed within roadway rights-of-way (e.g., water and sewer pipelines) would be located below ground and would not represent permanent hazardous conditions. The majority of other improvements would occur within existing District properties and/or involve upgrades to existing facilities, which would not result in new hazardous conditions. Overall, the Project would not involve roadway or intersection improvements or involve uses that are not compatible with the surrounding area. New aboveground facilities implemented as part of the Project, including pressure reducing stations (CIP Project 600007 and 600048) and a pump station (CIP Project 600008), would be set back from roadways and would likely be enclosed and screened from surrounding roadways. These new facilities would not result in a permanent increase in hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses.

Mitigation Measures

MM TRA-1 would be implemented during Project construction within roadway rights-of-way to address potential impacts associated with hazardous traffic conditions.

Significance After Mitigation

With implementation of MM TRA-1, potential impacts associated with hazardous traffic conditions would be less than significant.

4.10.4.4 Issue 4: Emergency Access

Would the Project result in inadequate emergency access?

Impact Analysis

Emergency access could be temporarily affected if construction of Project improvements requires roadway lane closures, which could restrict access to the area surrounding the construction sites. Therefore, emergency access impacts from Project construction are assessed as potentially significant. Following the completion of construction, the Project facilities would not interfere with emergency access for reasons discussed in Section 4.10.4.3.

Mitigation Measures

MM TRA-1 would be implemented during Project construction to address potential impacts associated with inadequate emergency access.

Significance After Mitigation

With implementation of MM TRA-1, potential impacts associated with emergency access during Project construction would be less than significant.

4.10.5 Cumulative Impact Analysis

The geographic scope for the cumulative analysis related to traffic circulation, VMT, traffic hazards, and emergency access is the circulation network within the District's service area. This includes roadways, bike paths/lanes, and pedestrian facilities (i.e., sidewalks).

4.10.5.1 Traffic Circulation

Overall growth and development within the District's service area would result in an increase in vehicular traffic on the regional and local roadway systems within the geographic scope. The overall amount of traffic generated depends on the type, size, and number of projects that get constructed throughout the District's service area. Localized traffic affects would also depend on the specific type and size of project at a given location. Residential projects would consistently contribute large amounts of additional vehicles to regional and local roadways. Commercial projects would generate high amounts of additional vehicles during daytime peak hours and on weekends. In addition, infrastructure projects included as part of the cumulative scenario could occur within roadways and thus affect traffic circulation. While the Project would not result in substantial vehicular traffic generation, it would involve work within roadways that could combine with cumulative traffic increases and cumulative project work within roadways to disrupt traffic circulation throughout the District's service area. Therefore, cumulative traffic circulation impacts are considered potentially significant.

As discussed in Section 4.10.4.1, to address the potentially significant direct impact to traffic circulation from Project construction, the Project would implement MM TRA-1. MM TRA-1 would involve the preparation of a TCP and coordination with the agency of jurisdiction (County and/or City of Oceanside) to address vehicular traffic during construction of individual Project improvements within public rights-of-way of the affected jurisdiction(s), including bicycle, pedestrian, and transit facilities. Coordination of construction activities would allow for the minimization of conflicts associated with multiple construction activities in the same area at the same time and with serial improvements in the same area. With implementation of MM TRA-1, the Project would not result in a cumulatively considerable contribution to the potentially significant cumulative impact.

4.10.5.2 Vehicle Miles Traveled

Overall growth and development within the District's service area would result in an increase in vehicular traffic, and thus VMT, on the regional and local roadway systems within the geographic scope. The combined increase in VMT from cumulative development would result in a potentially significant impact.

As discussed in Section 4.10.4.2, Project-related traffic would be limited to temporary construction traffic for individual Project improvements and a relatively low number of operational trips across the District's service area; therefore, the Project would not generate a substantial increase in VMT and would not result in a cumulatively considerable contribution to a potentially significant cumulative VMT impact.

4.10.5.3 Hazardous Traffic Conditions

Cumulative development within the District's service area would have the potential to result in hazardous traffic conditions from construction work within roadways and from incompatible uses, based on the amount of existing agricultural operations throughout the District's service area. Combined with the proposed Project's anticipated work within roadways, cumulative impacts related to hazardous traffic conditions are considered potentially significant.

As discussed above, to address the potentially significant direct impact related to hazardous traffic conditions from Project construction, the Project would implement MM TRA-1. MM TRA-1 would involve the preparation of a TCP that would include signage, striping, delineated detours, flagging

operations, and other devices that would be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction areas. With implementation of MM TRA-1, hazardous roadway conditions caused by the Project would be minimized and the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact.

4.10.5.4 Emergency Access

Cumulative development within the District's service area would have the potential to affect emergency access through (1) construction work within roadways and subsequent lane closures and (2) increased traffic volumes causing roadway congestion. Combined with the proposed Project's anticipated work within roadways and likely lane closures, cumulative impacts related to emergency access are considered potentially significant.

As discussed above, to address the potentially significant direct impact related to emergency access from Project construction, the Project would implement MM TRA-1. MM TRA-1 would involve the preparation of a TCP that would include measures to ensure adequate access and circulation during construction of the Project's various improvements. As part of MM TRA-1, the District would notify local emergency responders of planned partial or full lane closures or blocked access to roadways or driveways required for Project construction. With implementation of MM TRA-1, impacts to emergency access from the Project would be minimized and the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact.

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4.11 WILDFIRE

This section addresses the potential wildfire impacts of the proposed Project. The following discussion includes (1) a description of existing conditions as related to wildfire; (2) a summary of applicable regulations; and (3) an evaluation of the proposed Project's potential environmental effects associated with emergency response and evacuation, exposure to wildfire pollutants and the uncontrolled spread of wildfire, exacerbation of fire risk from infrastructure, and flooding and landslides.

4.11.1 Existing Conditions

4.11.1.1 Emergency Response and Evacuation

According to Annex Q of the San Diego County Operational Area Emergency Operations Plan (EOP; described further below in Section 4.11.22), major hazards potentially requiring evacuation within unincorporated portions of San Diego County include dam failure, earthquake, flood, tsunami, wildfire/structure fire, and terrorism (County 2018). Based on the inland location of the District's service area, tsunami events are unlikely. In the event of an evacuation effort in response to the other listed hazards, including wildfire hazards, the primary evacuation routes in the vicinity of the District's service area would be major ground transportation corridors, including I-15 and SR 76.

4.11.1.2 Wildfire Hazards

CAL FIRE has mapped fire hazard severity zones for San Diego County and identifies responsibility areas for fire protection, including Federal, State, and Local Responsibility Areas. Fire hazard severity zones include unzoned, moderate, high, and very high and are determined with a model that assigns a hazard score based on the factors the influence fire likelihood and fire behavior, such as fire history, existing and potential fuel (i.e., natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area (CAL FIRE 2021). The majority of the District's service area is within a State Responsibility Area and contains land mapped as very high, high, and moderate fire hazard severity zones, as depicted on Figure 4.7-3.

4.11.2 Regulatory Framework

4.11.2.1 State

California Department of Forestry and Fire Protection

Legislative mandates passed in 1981 (SB 81) and 1982 (SB 1916) require CAL FIRE to develop and implement a system to rank fire hazards in California. As discussed above in Section 4.11.1.1, areas are rated as unzoned, moderate, high, or very high, based primarily on the assessment of potential fuels and terrain. CAL FIRE also identifies responsibility areas for fire protection, including Federal, State, and Local Responsibility Areas. The following fire hazard severity rankings and mapping are used: implementing wildland-urban building standards for new construction; determining defensible space clearance requirements around buildings; disclosing natural hazard real estate at time of sale; and establishing property development standards such as road widths, water supply, and signage (CAL FIRE 2021).

4.11.2.2 Local

San Diego County Emergency Operations Plan

The San Diego County EOP is a comprehensive emergency management system that provides for a planned response to disaster situations associated with natural disasters, technological incidents and nuclear defense operations. The EOP includes operational concepts relating to various emergency situations, identifies components of the Emergency Management Organization and describes the overall responsibilities for protecting life and property and assuring the overall well-being of the population. The EOP also identifies the sources of outside support that might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, state and federal agencies, and the private sector.

San Diego County Multi-Jurisdictional Hazard Mitigation Plan

The San Diego County Multi-Jurisdictional Hazard Mitigation Plan was prepared to meet federal and state requirements for disaster preparedness to make the County eligible for funding and technical assistance from state and federal hazard mitigation programs. The plan includes a risk assessment to enable local jurisdictions to identify and prioritize appropriate mitigation actions that will reduce losses from potential hazards, including flooding, earthquakes, fires, and humanmade hazards. To address potential hazards, the plan then incorporates mitigation goals and objectives, mitigation actions and priorities, an implementation plan, and documentation of the mitigation planning process for each of the twenty-one participating jurisdictions.

County of San Diego General Plan Safety Element

The Safety Element of the County's General Plan establishes policies and programs to protect the community from risks associated with seismic, geologic, flood, and wildfire hazards. As related to wildfire hazards, the Safety Element includes goals associated with effective emergency response (Goal S-3), minimizing fire hazards (Goal S-4), managing fuel loads (Goal S-5), regional coordination among fire protection agencies (Goal S-6), and adequate fire and medical services (Goal S-7).

City of Oceanside General Plan Public Safety Element

The Public Safety Element of the City's General Plan identifies hazards, such as earthquakes, fires, and tsunamis, and provides guidelines for proper mitigation measures, such as evacuation routes, to ensure safety. Along with long range policies regarding seismic, flooding, and fire hazards, this element also includes a Public Safety Plan. The Public Safety Plan includes maps of indicating areas that have increased susceptibility to these hazards and relocation routes during emergency evacuations.

4.11.3 Thresholds of Significance

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the Project as related to wildfire. The Project would have a significant impact if it would:

1. Substantially impair an adopted emergency response plan or emergency evacuation plan;

2. Due to slope, prevailing winds, or other factors, exacerbate wildfire risk, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;

3. 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; or

4. 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.

4.11.4 Project Impacts and Mitigation

4.11.4.1 Issue 1: Impair Emergency Response or Evacuation Plan

Would the proposed Project substantially impair an adopted emergency response plan or emergency evacuation plan?

Impact Analysis

Construction of some of the Project improvements, particularly the removal and installation of pipelines, would occur within public roadway rights-of-way. Such activities could result in partial and/or full lane closures and the presence of construction equipment and vehicles, which would have the potential to impair emergency response or emergency evacuation. Construction of Project improvements would not occur all at once and would occur throughout the District's service area. Work for a given improvement would be temporary and localized and would not affect large-scale emergency response or evacuation. However, localized impacts related to emergency response and emergency evacuation from Project construction within roadway rights-of-way are considered potentially significant.

Operation of the Project facilities would result in permanent traffic that would occur primarily from vehicular trips by operations and maintenance employees; however, operation of the proposed facilities would not generate a substantial volume of new vehicle trips and would not substantially impair emergency response or emergency access. Operational impacts would be less than significant.

Mitigation Measures

MM-TRA-1 (refer to Section 4.10, *Transportation*) would be implemented during Project construction to address potential impacts associated with emergency response and emergency evacuation.

Significance After Mitigation

With implementation of MM-TRA-1, potential impacts associated with emergency response and evacuation during Project construction would be less than significant.

4.11.4.2 Issue 2: Wildfire Pollutants and Spread

Due to slope, prevailing winds, or other factors, would the Project exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Impact Analysis

The Project's facilities, including pump stations, lift stations, pressure-reducing stations, and pipelines, would not require or involve permanent occupants. The Project would, however, involve the presence of construction workers and operational maintenance workers at improvement sites throughout the District's service area over the course of Project implementation. The presence of construction and maintenance workers would be temporary, transitory, and sporadic; workers would therefore not be at substantial risk from pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. However, because many of the Project improvements would occur within areas mapped as high or very high fire hazard severity zones, risk associated with exposure to wildfire effects does exist. Further, the Project would have the potential to exacerbate this risk during construction and maintenance activities through the use of equipment with combustion engines. The risk would be considered lower in developed areas (e.g., roadways) and higher in undeveloped areas that contain brush or other vegetation that could be flammable. As such, risks to construction and maintenance workers associated with pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire are considered potentially significant.

Mitigation Measures

MM HAZ-3 (refer to Section 4.7, *Hazards and Hazardous Materials*) would be implemented to address impacts associated with pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Significance After Mitigation

With implementation of MM HAZ-1, potential impacts associated with risk from pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

4.11.4.3 Issue 3: Exacerbation of Fire Risk from Infrastructure

Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Impact Analysis

The Project involves improvements to water and sewer infrastructure throughout the District's service area. Construction of these improvements would involve the use of heavy equipment during activities such as trenching and extraction, demolition of structures, construction of access roads and structures, and installation of some equipment, such as pumps. The use of equipment and vehicles with combustion engines has the potential to exacerbate fire risk. Generally, as discussed above in Section 4.11.4.2, risks of fire from Project construction activities would be highest in areas of brush and other vegetation, especially in dry weather conditions. Most Project improvements would occur within developed areas, predominantly within roadways or at existing District facilities, where risk of starting a fire would be low; however, because at least some Project improvements would occur in undeveloped areas where fire risk is greater, impacts are considered potentially significant.

Mitigation Measures

MM HAZ-3 (refer to Section 4.7, *Hazards and Hazardous Materials*) would be implemented to address potential impacts associated with fire risk from the installation and maintenance of infrastructure.

Significance After Mitigation

With implementation of MM HAZ-1, potential impacts associated with fire risk from the installation and maintenance of infrastructure would be less than significant.

4.11.4.4 Issue 4: Flooding and Landslides

Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Impact Analysis

As discussed in Section 4.8, *Hydrology and Water Quality*, of this PEIR, portions of the District's service area, specifically around the San Luis Rey and Santa Margarita River corridors and associated tributaries, are within mapped 100-year floodplains. As discussed in Section 4.5, *Geology and Soils*, the potential for landslide-related hazards is considered generally moderate, as the District's service area contains large areas of steep slopes (25 percent or greater) throughout and gabbroic soils with slopes greater than 15 percent are mapped in the northern and westernmost portions of the service area. Gabbroic soils on slopes greater than 15 percent are identified by the County as slide-prone material (San Diego County 2011b).

Most Project facilities would be located below ground (i.e., pipelines) and/or involve improvements to existing facilities. The Project would therefore not expose a substantial number of new facilities/structures to flooding or landslides. In addition, the Project would not provide housing or other uses that would include regular or permanent occupants. The presence of Project-related personnel would be limited to temporary construction workers at improvements site and occasional maintenance workers at District facilities. As such, impacts associated with risks from runoff, post-fire instability, or drainage changes would be less than significant.

Mitigation Measures

Impacts related to risks from runoff, post-fire instability, or drainage changes would be less than significant; therefore, no mitigation is required.

4.11.5 Cumulative Impact Analysis

4.11.5.1 Impair Emergency Response or Evacuation Plan

The geographic scope for the cumulative analysis related to emergency response and evacuation is the circulation network (i.e., roadways and freeways) within the District's service area. Cumulative development within the District's service area would have the potential to affect emergency response and evacuation through (1) construction work within roadways and subsequent lane closures; and (2) increased traffic volumes causing roadway congestion. Combined with the proposed Project's

anticipated work within roadways and likely lane closures, cumulative impacts related to emergency response and evacuation are considered potentially significant.

To address the potentially significant direct impact related to emergency response and evacuation from Project construction, the Project would implement MM TRA-1. MM TRA-1 would involve the preparation of a TCP that would include measures to ensure adequate access and circulation during construction of the Project's various improvements. As part of MM TRA-1, the District would notify local emergency responders of planned partial or full lane closures or blocked access to roadways or driveways required for Project construction. With implementation of MM TRA-1, impacts to emergency response and evacuation from the Project would be minimized and the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact.

4.11.5.2 Wildfire Pollutants and Spread

The geographic scope for the analysis of cumulative impacts relative to wildfire pollutants and spread is the District's service area. Cumulative development within the District's service area has a high likelihood to be located in a moderate, high, or very high fire hazard severity zone and result in additional wildland/urban interfaces, thus potentially increasing exposure of people and/or structures to wildfire risks, including pollutant concentrations and uncontrolled spread of a wildfire. In addition, construction activities associated with cumulative development that involves the use of equipment with combustion engines in undeveloped areas would have the potential to exacerbate fire risk. Therefore, the baseline cumulative impact related to wildfire pollutants and spread is considered potentially significant.

The Project's facilities would not require or involve permanent occupants. The Project would, however, involve the presence of construction workers and operational maintenance workers at improvement sites throughout the District's service area over the course of Project implementation. The Project would also have the potential to exacerbate this risk during construction and maintenance activities through the use of equipment with combustion engines. To address the potentially significant direct impact related to exacerbating fire risk from the use of construction equipment and thereby potentially exposing people to risk from wildfire pollutants and spread, the Project would implement MM HAZ-3, which would include the incorporation of brush fire prevention and management practices where necessary. With implementation of MM HAZ-3, the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact.

4.11.5.3 Exacerbation of Fire Risk from Infrastructure

The geographic scope for the analysis of cumulative impacts relative to exacerbation of fire risk from infrastructure is the District's service area. Cumulative development within the District's service area has a high likelihood to be located in a moderate, high, or very high fire hazard severity zone and involve the installation and/or maintenance of infrastructure that could exacerbate fire risk, specifically when equipment and vehicles with combustion engines operate in areas with brush and other vegetation. Therefore, the baseline cumulative impact related to exacerbation of fire risk from infrastructure is considered potentially significant.

The Project, which involves improvements to water and sewer infrastructure throughout the District's service area, would have the potential to exacerbate fire risks from equipment used during construction and maintenance activities. To address the potentially significant direct impact related to exacerbating

fire risk from the installation and maintenance of infrastructure, the Project would implement MM HAZ-3, which would include the incorporation of brush fire prevention and management practices where necessary. With implementation of MM HAZ-3, the Project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact.

4.11.5.4 Flooding and Landslides

Impacts relative to flooding and landslide hazards are generally specific to an individual site; this issue is not subject to a cumulative impact analysis. Location of one project in a hazard area would not affect whether or not another project would be located in a hazard area. The Project, in combination with other cumulative projects, would not result in a cumulatively significant impact related to flooding or landslide hazards.

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5.0 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

Implementation of the Project would not result in significant impacts related to aesthetics, agricultural and forestry resources, land use and planning, mineral resources, population and housing, public services, recreation, or utilities and service systems, as discussed below. Further analysis of these topics in this PEIR is not required.

5.1 AESTHETICS

Would the Project have a substantial adverse effect on a scenic vista?

According to the County General Plan EIR, a number of scenic resources are present in the District's service area, including Gopher Canyon and San Marcos Mountains in the Bonsall area, Lancaster Mountain in the Fallbrook area, the San Luis Rey River in the Pala/Pauma Valley subregion, and Mount Olympus and Rain Oak woodland areas in Rainbow (County 2011b). Other scenic resources identified in unincorporated San Diego County include natural landforms and open space. While there are a number of scenic vistas and scenic resources throughout the District's service area, the majority of Project improvements include replacement, rehabilitation, or repairs to existing facilities. These improvements would occur along existing pipeline alignments, at existing pump stations and lift stations, and at other existing District facilities. Many of the improvements would occur underground and would not be visible following completion of the project. In addition, for the improvements that include aboveground components, they would generally occur at existing facilities, and would not introduce new, large structures or be of such scale that would block or impede views of scenic vistas. Construction of Project improvements would result in temporary visual changes in the immediate vicinity of the improvement sites associated with staging of equipment and materials and the presence of construction workers; however, construction activities would be temporary and would not be of such scale that would block or impede views of scenic vistas. For these reasons, impacts associated with scenic vistas would be less than significant.

Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no officially designated state scenic highways within or near the District's service area. There are two eligible state scenic highways within the District's service area: the portion of I-15 from SR 76 near the San Luis Rey River to SR 91, near Corona; and SR 76 from I-5 (near Oceanside) to SR 79 near Lake Henshaw (Caltrans 2021). Several of the Project improvements are located within close proximity to I-15 and SR 7 6; however, as discussed, I-15 and SR 76 are not officially designated state scenic highways. No impact to scenic resources within a state scenic highway would occur.

In nonurbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

The District's service area covers 82 square miles, consisting largely of undeveloped agricultural land with interspersed rural residential properties. The majority of Project improvements include

replacement, rehabilitation, or repairs to existing facilities. These improvements would occur along existing pipeline alignments, at existing pump stations and lift stations, and at other existing District facilities. Visual impacts associated with the CIP, ODP, and maintenance projects would be temporary during construction of each individual improvement and would not occur simultaneously at a given location (though they may occur simultaneously at different locations throughout the District's service area). For pipeline projects, impacts associated with the visual character or quality of public views would be temporary during construction and likely not noticeable following completion of construction activities. For these reasons, aesthetic impacts associated with the visual character or quality of public views would be less than significant.

Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Project improvements would generally occur at existing facilities, including along existing pipeline alignments, at existing pump stations and lift stations, and at other existing District facilities. For existing aboveground District facilities, minor lighting may be present for security. Proposed improvements generally include underground pipelines but include some aboveground facilities. Such improvements include, for example, construction of a pump station (CIP Project 600008) and construction of a lift station (CIP Project 5300XX-6). These aboveground facilities may result in the placement of minor lighting at their respective sites for security purposes; however, the lighting would be minimal, as necessary, and would not create substantial sources of light and glare that would affect day or nighttime views in the area. In addition, most improvements would occur at existing facilities where lighting, if required, would already be present. While it is expected that most construction activities associated with the Project would occur during daytime hours, some construction may occur during nighttime hours, requiring construction lighting. Any required construction lighting would be directed to work areas and would occur for a limited duration during the construction period of a given improvement. As such, nighttime construction lighting, should it occur, would not create substantial sources of light and glare that would affect day or nighttime views in the area. Impacts would be less than significant.

5.2 AGRICULTURAL AND FORESTRY RESOURCES

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

Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contact?

The District's service area consists primarily of undeveloped agricultural land with interspersed rural residential properties. The service area contains land designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, and Other Lands, as mapped by the California Department of Conservation (CDC 2021b). Small areas of Prime Farmland are scattered throughout the service area, generally surrounded by or adjacent to Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance. Areas of Prime Farmland occur at the Fallbrook Country Club and along (and near) the San Luis Rey River and Moosa Canyon Creek. Grazing Lands occur in a few spots throughout the service area. Urban and Build-Up Land occur in several locations throughout the service area, usually grouped together, along I-15, and in portions of Fallbrook and Bonsall. Areas of Other Lands occur within the service area, with large portions of Other Lands located in the northern part of the service area.

In the unincorporated portions of San Diego County, approximately 80,504 acres of private, federal, and State lands are in Williamson Act contract (County 2011b). Williamson Act contract lands are scattered throughout the service area, including some parcels within the District's service area, in the communities of Rainbow, Fallbrook, and Bonsall (County 2011b).

The majority of Project improvements include replacement, rehabilitation, or repairs to existing facilities. Water pipeline CIP Projects 600051, 600060, 600061, 600063, 600065, 600069, 600078, 600071, 600072, 600080, 600073, 600074, 600075, 60002, 600026, 600066, 600067, 600068, 600070, 5300XX-1, 5300XX-2, 5300XX-3, and 5300XX-7 would consist of replacement, rehabilitation, or repairs to existing pipelines. Other CIP projects include upgrades to or replacement of existing pump stations (600040, 600050, and 600084), and upgrades to existing lift stations (530020, 530018, and 530023). ODP projects would consist of the replacement or rehabilitation of existing belowground District water and sewer pipelines. Additionally, maintenance projects would consist of minor activities that the District may undertake as part of general operations, consisting of replacement or reconstruction of existing structures and facilities where the new structure would be located on the same site as the structure replaced and would have substantially the same purpose and capacity as the replaced structure. These improvements would occur along existing pipeline alignments, at existing pump stations and lift stations, and at other existing District facilities and thus, would not alter, remove, or convert existing land uses. CIP Projects 600008 and 5300XX-6 involve construction of a new pump station and new lift station, respectively, but these would occur at an existing District property and on developed land that are not used for agriculture. No conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance or conflicts with Williamson Act contracts would occur as a result of CIP, ODP, and maintenance projects. No impact would occur.

Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 1220[g]), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?

Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

As discussed above, the majority of Project improvements include replacement, rehabilitation, or repairs to existing facilities. These projects would occur along existing pipeline alignments, at existing pump stations and lift stations, and at other existing District facilities and thus, would not alter, remove, or convert existing land uses. CIP Projects 600008 and 2500XX-6 involve construction of a new pump station and new lift station, respectively, but these would occur at an existing District property and on developed land. No conflicts with existing zoning for forest land, timberland, or timberland zoned Timberland Production would occur, and no impact would occur.

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

As discussed in the responses above, Project improvements would occur at existing facilities and/or on District property, and would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

5.3 LAND USE AND PLANNING

Would the Project physically divide an established community?

The District's service area consists largely of undeveloped agricultural land with interspersed rural residential properties. Many of the components of the Project are underground facilities. While construction of CIP, ODP, and maintenance projects would result in temporary aboveground impacts associated with air quality, noise, traffic control, these impacts would be temporary and would not occur simultaneously, but likely at differing times, and spread throughout the service area. Considering the largely undeveloped nature of the service area, in combination with the temporary nature of construction impacts, and the dispersal and timing of expected projects, temporary construction impacts would not result in a physical division of an established community. Additionally, due to the underground nature of many of the facilities included in the Project and considering improvements would occur at existing District facilities, the Project would not result in operational impacts which would physically divide a neighborhood. Impacts would be less than significant.

Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Project improvements would occur at existing District facilities. Improvements, repairs, and replacements of existing District infrastructure at existing District facilities would not result in significant environmental impacts due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The Project does not propose changes to zoning or land uses for any of the identified CIP, ODP, or maintenance activities. In addition, per Government Code Section 53091, building ordinances of local cities and counties do not apply to the location or construction of facilities used for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, the Project would not conflict with existing land use designations or be incompatible with surrounding land uses. No impact would occur.

5.4 MINERAL RESOURCES

Would the Project result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The District's service area contains lands designated as Mineral Resource Zone (MRZ) 2, indicating mineral resources are present; MRZ 3, indicating mineral resources are potentially present; and MRZ 4, indicating an inconclusive determination as to the presence of mineral resources (County 2011b). MRZ 2 zones within the District's service area generally coincides with the San Luis Rey River and its tributaries, and an area near the southern service area boundary, west of I-15. MRZ 4 zones within the District's service area are limited to one location in the northern portion of the service area, in Rainbow, east of I-15. The rest of the District's service area west of I-15, and small portions just adjacent to the east of I-15, are designated as MRZ 3. The remainder of the District's service area does not contain MRZ designations. Existing mineral resources occurring in the service area include sand and gravel; and semiprecious, diamond, and quartz (County 2011b).

Water pipeline CIP projects would consist of replacement, rehabilitation, or repairs to existing pipelines. Other CIP projects would include the installation of pressure-reducing stations (600007 and 600048), construction of a new pump station (600008), construction of a new lift station (5300XX-6), upgrades to or replacement of existing pump stations (600040, 600050, and 600084), and upgrades to existing lift stations (530020, 530018, and 530023). ODP projects would consist of the replacement or rehabilitation of existing belowground District water and sewer pipelines. Maintenance projects would consist of minor activities that the District may undertake as part of general operations, including replacement or reconstruction of existing structures and facilities where the new structure would be located on the same site as the structure replaced and would have substantially the same purpose and capacity as the replaced structure. These improvements would occur at existing District facilities and would not result in the construction of new uses or changes to existing land uses. No District facilities are located at mineral extraction sites. Project improvements would not result in the loss of availability of a known mineral resource or locally important sites. No impact to mineral resources would occur as a result of the Project.

5.5 POPULATION AND HOUSING

Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposed new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Implementation of the Project would not directly induce population growth because the Project does not propose new homes or businesses that would directly induce new growth. Although construction activities would create some short-term employment opportunities during construction of individual Project improvements, the number of jobs created would not be substantial and would be expected to be filled by the local labor pool/work force. Operation of the Project would not require a substantial increase in employees as most Project improvements consist of upgrades to existing facilities.

Proposed Project improvements have been developed, in part, to accommodate projected population growth and associated water demand and flow conditions of the District's service area in the short term (through 2030) and long term (through 2050). Water and sewer services are two of the primary, though not the only, public services needed to support development and which, if newly constructed or expanded, could indirectly induce population growth. The proposed Project would implement water and sewer facilities improvements to address system deficiencies under current demand and flow conditions and to meet future demand and flow conditions, which are anticipated as a result of planned development activity within and around the District's service area. Thus, the Project would not indirectly result in population growth. Impacts associated with direct and indirect population growth would be less than significant.

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

Most Project improvements would occur at existing District facilities, many of them underground. The CIP, ODP, and maintenance projects would not result in the removal of existing people or housing, and no construction of replacement housing would be required. No impact would occur.

5.6 PUBLIC SERVICES

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times, or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?

The proposed Project includes improvements to existing water and sewer facilities to address existing and forecasted capacity deficiencies, improve system reliability, redundancy, and operating efficiencies, and conduct strategic system maintenance and replacement programs. The Project does not propose new fire department, police station, school, or park facilities and does not propose uses that would require the expansion of such existing facilities. The Project includes improvements that would meet future water demand and flow conditions in the short term (2030) and long term (2050). The Project does not include components that would cause growth, but rather, identifies improvements required to meet projected growth within the District's service area. In addition, the Project would not induce substantial population growth in the Project area that would necessitate a need for new fire department, police station, school, or park facilities. The proposed CIP, ODP, and maintenance projects would be constructed by District employees or temporary construction workers. These workers would be anticipated to be filled by the local labor force; therefore, the implementation of the Project would not require the construction of new or expansion of existing fire department, police station, school, or park facilities in order to maintain service ratios, response times, or other performance objectives. In the event of a crime, fire, or other emergency at one of the Project improvement locations, existing police and fire protection services within the improvement area would be able to sufficiently respond with existing facilities and staffing capacities. Therefore, no impacts associated with the construction of new or expansion of existing fire protection, police protection, school, park, or other public facilities would occur.

5.7 RECREATION

Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Project includes improvements to existing water and sewer facilities to address existing and forecasted capacity deficiencies, improve system reliability, redundancy, and operating efficiencies, and conduct strategic system maintenance and replacement programs. The Project improvements do not contain residential land uses or other land uses that would introduce new residents to the service area. The Project includes improvements that would meet future water demand and flow conditions in the short term (2030) and long term (2050). The Plan does not include components that would cause growth, but rather, identifies improvements required to meet projected growth within the service area. The majority of improvements would occur at existing District facilities, many of them underground. The Project would not result in increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The Project would not result in the need for the construction or expansion of recreational facilities, and no impact associated with recreation would occur.

5.8 UTILITIES AND SERVICE SYSTEMS

Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm drainage, electric power, natural gas or telecommunications facilities, the construction of relocation of which could cause significant environmental effects?

The Project includes improvements that would meet future water demand and flow conditions in the short term (2030) and long term (2050). The Project does not include components that would cause growth, but rather, identifies improvements required to meet projected growth within the service area. Several of the identified Project improvements would upsize pipelines and improve facilities in anticipation of forecasted growth. As such, the Project would result in the construction of new or expanded water and wastewater facilities, the environmental impacts of which are described in this PEIR. Because the CIP, ODP, and maintenance projects associated with the Project would be located in proximity to existing District facilities and associated existing infrastructure, the Project would not require the substantial relocation or construction of additional water, wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities that could cause significant off-site environmental effects. Impacts would be less than significant.

Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

As discussed above, the Project does not include components that would cause growth, but rather, identifies improvements required to meet projected growth within the District's service area. The District's 2020 Urban Water Management Plan assesses current demand and supplies over a 20-year planning horizon and addresses methods to ensure reliable and adequate water service to meet the needs of customers during normal, dry, and multiple dry years. As identified in the District's 2020 UWMP, if SDCWA and the District's supplies are developed as planned, no shortages are anticipated within the District's service area in normal, single dry, and multiple dry year scenarios through 2045 (District 2021). The Project would implement improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; address system deficiencies under current demand and flow conditions; and meet future water demand and flow conditions for short and long term. The Project does not include components that would increase water demand but would improve the water system to support future forecasted growth. Impacts associated with water supply availability during normal, dry, and multiple dry years would be less than significant.

Would the Project result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

Approximately 27 percent of the District's water customers are sewered. The District owns, operates, and maintains approximately 76 miles of wastewater conveyance pipelines, including gravity flow pipelines and force mains. Wastewater generated within the District's service area is metered and flows out of the District by gravity at the Stallion Metering Station, to the San Luis Rey Wastewater Treatment Plant in Oceanside. The Project would implement sewer improvements, repairs, and replacements necessary to bring existing facilities up to current design, safety, and regulatory standards; address system deficiencies under current demand and flow conditions; and meet future water demand and flow conditions for short and long term. The Project does not include components that would increase

wastewater demand but would improve the wastewater system to support future forecasted growth. Impacts associated with adequate capacity for wastewater treatment would be less than significant.

Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction needs?

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

Demolition debris and construction waste associated with construction of the Project improvements would be properly handled and disposed of, in accordance with federal, state, and local laws and regulations related to solid and hazardous waste. Moreover, the long-term operations of Project facilities involve water and wastewater infrastructure that would not generate solid waste. As such, the Project would not generate solid waste that would significantly impact the permitted capacity of area landfills. Impacts associated with solid waste would be less than significant.

6.0 OTHER CEQA-RELATED SECTIONS

This chapter includes a discussion of other CEQA considerations related to the following: the potential for growth inducement; issue areas where impacts would be significant and unavoidable; and significant, irreversible environmental effects related to implementation of the Project.

6.1 GROWTH INDUCEMENT

Growth inducement is typically characterized by the construction of new housing or accelerated economic and/or population growth that exceeds planned growth and results either directly or indirectly from implementation of a project.

In accordance with Section 15126.2(e) of the CEQA Guidelines, an EIR must include an analysis of the growth-inducing impact of a proposed project. The growth inducement analysis must address: (1) the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly in the surrounding environment; and (2) the potential for a project to encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. This second issue involves the potential for a project to induce growth by the expansion or extension of existing services, utilities, or infrastructure. The CEQA Guidelines further state that "[i]t must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment" (Section 15126.2[e]).

A project can have direct and/or indirect growth inducement potential. An example of a project that is directly growth-inducing is one that involves construction of new housing. An example of an indirect growth-inducing project is one that requires a substantial permanent or temporary new employment demand that would then stimulate the need for additional housing and services. A project would also indirectly induce growth if it would remove an obstacle to additional growth and development, including a constraint on a required public service.

Implementation of the Project would not directly induce population growth, as it does not propose development of new housing that would attract additional population to the area. Further, the Project would not result in substantial permanent employment that could indirectly induce population growth. Although construction activities would create some short-term employment opportunities during construction of individual Project improvements, the number of jobs created would not be substantial and would be expected to be filled by the local labor pool/work force. Operation of the Project would not require a substantial increase in employees as Project improvements primarily consist of upgrades to existing facilities.

Water and sewer services are two of the primary, though not the only, public services needed to support development and which, if newly constructed or expanded, could indirectly induce population growth. The proposed Project would implement water and sewer facilities improvements to address system deficiencies under current demand and flow conditions and to meet future demand and flow conditions. These future demand and flow conditions are anticipated as a result of planned development activity within and around the District's service area. Much of the planned growth was outlined in the County's General Plan and includes medium to high density development near SR 76 and I-15 that will require water and sewer service.

The County has adopted its General Plan documents that guide the type, location, and level of land use and development and has assessed the growth-related impacts associated with planned land use and growth allowed under the General Plan. The planned growth that would be supported by the Project is consistent with the General Plan and can thus be considered "orderly." Because growth itself is not necessarily detrimental to the environment, but rather the potential consequences of growth (e.g., increased traffic and noise, degradation of air quality, loss of habitat) which may result in environmental impacts, "orderly" growth that is consistent with local land use plans and/or growth management strategies is not considered to have a high potential to result in adverse environmental impacts.

In addition, while expanded and more reliable water and sewer services would play a role in supporting projected growth within and near the District's service area, it would not be the only impetus to such growth. Other factors, including general plans and policies, the availability of wastewater disposal capacity, public schools, transportation services, and other necessary public infrastructure, also influence development and population growth. Economic factors also greatly influence development rates and locations. Further, the District is not a land use agency and does not have the authority over land use or zoning designations. The Project would not eliminate physical or regulatory obstacles to growth.

As such, implementation of the Project would not directly or indirectly induce population or encourage and facilitate other activities that could significantly affect the environment.

6.2 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

Section 15126.2(c) of the CEQA Guidelines requires the identification of significant impacts that would not be avoided, even with the implementation of feasible mitigation/performance measures. The final determination of significance of impacts and of the feasibility of mitigation/performance measures will be made by the District as part of their certification of this PEIR. Sections 4.1 through 4.11 of this PEIR provide an evaluation of the potentially significant environmental effects and corresponding mitigation/ performance measures associated with implementation of the project to avoid or substantially reduce the environmental effect. According to this evaluation, all potentially significant environmental effects would be reduced to less than significant levels with implementation of identified feasible and enforceable mitigation measures. The Project would not result in significant and unavoidable environmental impacts.

6.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

Section 15126.2(d) of the CEQA Guidelines requires a discussion of significant irreversible environmental changes that would be caused by a proposed project, as: "Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."

Generally, a project would result in significant irreversible environmental changes if:

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve a large commitment of nonrenewable resources;
- The project involves uses in which irreversible damage would result from any potential environmental accidents associated with the project; or
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

The Project's water and sewer facilities, once constructed, may be considered permanent. Facilities are occasionally abandoned/removed or upgraded once operation has resulted in the deterioration of their working condition. The water and sewer systems as a whole are integrally dependent on all their working facilities and components. Should components become deteriorated, malfunction, or become obsolete, replacement must occur. Because many of the Project improvements would be implemented far in the future, and those constructed in the near term many require replacements or rehabilitations in the long term, approval of the Project would leave the commitment of resources open in the future.

Development of water and sewer infrastructure under the Project would allow the District to continue to supply utilities to its current and projected future users within its service area. Nonrenewable resources that would be permanently and continually consumed from implementation of the Project include electricity and fossil fuels; however, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources for the reasons given in Section 4.4, *Energy*, of this PEIR. The Project's energy usage would be limited to that necessary to achieve successful construction and operations; therefore, the Project's consumption of resources is justified. In addition, it is possible that new technologies and systems would emerge, or would become more cost-effective or user-friendly, upon which the District may rely to further reduce its reliance on nonrenewable energy sources.

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident. As discussed in Section 4.7, *Hazards and Hazardous Materials*, of this PEIR, the District would use typical hazardous materials (e.g., oil, gasoline, diesel, hydraulic fluids, paints) during construction of proposed improvements and operation of its facilities. No acutely hazardous materials would be used during construction or operations and the typical materials that would be used would not pose a substantial risk to the public. In addition, the District and its construction contractor(s) would comply with all applicable federal, state, and local regulations pertaining to hazardous materials use, handling, storage, and disposal. Further, the District would implement MM HAZ-1 and MM HAZ-2 to minimize the risk of release of hazardous materials to the environment from sewer facilities and potentially contaminated soils, respectively. Therefore, the Project would not result in the potential for irreversible environmental damage caused by an accident.

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7.0 ALTERNATIVES

7.1 SCOPE OF ALTERNATIVES ANALYSIS

The CEQA statutes require an EIR to describe and evaluate a range of reasonable alternatives to a proposed project. The purpose of the alternatives analysis is to explore ways that most of the basic objectives of a proposed project could be attained while reducing or avoiding significant environmental impacts of the project as proposed. This approach is intended to foster informed decision-making and public participation in the environmental process.

This chapter evaluates alternatives to the Project and examines the potential environmental impacts associated with each alternative. The CEQA Guidelines indicate that EIRs are required to evaluate a "…range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project" (Section 15126.6[a] CEQA Guidelines). According to the Guidelines, not every conceivable alternative must be addressed, nor do infeasible alternatives need be considered. Section 15126.6 of the CEQA Guidelines lists the factors that may be taken into account when addressing the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, and jurisdictional boundaries. The Guidelines also state that the discussion of alternatives should focus on "…alternatives capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives could impede to some degree the attainment of the project objectives or would be more costly" (Section 15166.6[b] CEQA Guidelines). CEQA further directs that "…the significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the project as proposed" (Section 15126.6[d] CEQA Guidelines).

7.2 PROJECT OBJECTIVES

The Project includes a list of key objectives that clarify the intent of implementation of the Project, as stated in Section 3.1 of this PEIR. The objectives of the Project are as follows:

1. Implement improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards.

2. Address system deficiencies under current demand and flow conditions.

3. Meet future water demand and flow conditions in the short term (2030) and long term (2050).

7.3 ALTERNATIVES CONSIDERED BUT REJECTED

7.3.1 Reduced Biological Resource Disturbance

CIP projects involving potential temporary and permanent impacts to biological resources under the proposed Project were considered for realignment and for alternative locations to avoid impacts to biological resources. However, realignment and relocation were determined to be infeasible or to not result in a considerable reduction in impacts to biological resources. In order to avoid impacts relating to modifications of existing pump stations, existing facilities would have to be decommissioned and relocated to alternative locations. Decommissioning would result in temporary impacts to sensitive

habitat and would not result in a considerable reduction in impacts to biological resources. In addition, the relocation of existing pump stations would generally be infeasible as the pump stations are currently in locations where they are connected to existing belowground infrastructure. Relocation of the pump stations would require the relocation of the associated belowground infrastructure, which could result in additional impacts to biological resources. With respect to linear projects (e.g., pipelines), avoidance of sensitive habitat would not be feasible in many cases unless the facility was relocated within the system. This would not meet Project objectives because existing facilities in need of improvements would not be upgraded. In other cases, avoidance of sensitive habitat would require a substantial amount of additional pipeline length, would still impact some sensitive habitat, or would require construction of new access roads which would result in additional impacts. Therefore, while this alternative would constitute the environmentally superior alternative as compared to the alternatives analyzed in the PEIR, it was determined to be infeasible and was rejected from further consideration.

7.4 ALTERNATIVE ANALYZED

This section presents an evaluation of one alternative to the proposed Project: No Project. A brief description is included in the analysis, followed by a summary impact analysis relative to the Project, and as assessment of the degree to which the alternative would meet the goals and objectives of the Project.

7.4.1 Alternative 1: No Project

Section 15126.6(e) of the CEQA Guidelines requires a "No Project" alternative be addressed in an EIR. Under this alternative, the proposed Project would not be implemented. The CIP projects, ODP projects, and maintenance projects would not occur. Existing District facilities would continue to operate in their current conditions.

7.4.1.1 Impact Analysis

The No Project Alternative would avoid the potentially significant environmental impacts identified for the Project that would occur as a result of construction and operation of the proposed CIP projects, ODP projects, and maintenance projects. Compared to the proposed Project, the currently identified significant impacts related to biological resources, cultural resources and tribal cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and transportation that would occur from Project implementation would be avoided under the No Project Alternative. However, because the facility improvements proposed under the Project would not be implemented, existing District infrastructure would not be brought up to current design, safety, and regulatory standards, and would therefore be at risk of failure. In addition, facilities planned for upsizing under the Project to account for current deficiencies and to accommodate planned future growth would not be upsized under this alternative and would therefore be subject to exceedances. Such failure and exceedances, specifically of sewer pipes and lift stations, could result in hazardous materials spills and the exposure of the public and environment to hazardous conditions. Hazardous materials spills could also affect water quality and result in the violation of water quality standards and/or waste discharge requirements. These impacts would be expected to occur in an on-going manner as components of District infrastructure would continue to age, meet their useful life, and be at risk of failure and/or exceedances. A relative comparison of potentially significant impacts between the proposed Project and No Project Alternative is provided in Table 7-1, *Comparison of Impacts Between the Proposed Project and the No Project Alternative.*

Table 7-1
COMPARISON OF IMPACTS BETWEEN THE PROPOSED PROJECT AND THE NO PROJECT ALTERNATIVE

Issue Area	Proposed Project Without Mitigation	Proposed Project With Mitigation	No Project Alternative[1]
4.2 Biological Resources			
Sensitive Species	PS	LS	▼
Sensitive Habitats	PS	LS	▼
Wetlands	PS	LS	▼
4.3 Cultural Resources and Tribal Cultural Resources			
Historical and Archaeological Resources	PS	LS	▼
Human Remains	PS	LS	▼
Tribal Cultural Resources	PS	LS	▼
4.5 Geology and Soils			
Seismic Hazards	PS	LS	▼
Erosion and Sedimentation	PS	LS	▼
Geologic Instability	PS	LS	▼
Expansive Soil	PS	LS	▼
Paleontological Resources	PS	LS	▼
4.7 Hazards and Hazardous Materials			
Transport, Use, Disposal, and Accidental Release of Hazardous Materials	PS	LS	▲
Hazardous Materials Sites	PS	LS	▼
Emergency Response and Evacuation	PS	LS	▼
Wildland Fires	PS	LS	▼
4.8 Hydrology and Water Quality			
Water Quality	PS	LS	▲
Drainage Patterns and Flooding	PS	LS	▼
Groundwater	PS	LS	▼
4.9 Noise			
Increase in Ambient Noise	PS	LS	▼
4.10 Transportation			
Traffic Circulation	PS	LS	▼
Hazardous Traffic Conditions	PS	LS	▼
Emergency Access	PS	LS	▼
4.11 Wildfire			
Impair Emergency Response or Evacuation Plan	PS	LS	▼
Wildfire Pollutants and Spread	PS	LS	▼
Exacerbation of Fire Risk from Infrastructure	PS	LS	▼

[1] Assumes improvements would not be individually implemented in the future.

▲ Alternative would result in an increased level of impact when compared to the proposed Project

▼ Alternative would result in a reduced level of impact when compared to proposed Project and would not require mitigation.

PS = Potentially significant impact; LS = Less than significant impact

7.4.1.2 Ability to Accomplish Project Objectives

The No Project Alternative would not meet the objectives identified for the Project. This alternative would hinder the District's ability to efficiently implement improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards, to address system deficiencies under current demand and flow conditions, and to meet future water demand and flow conditions.

7.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(2) requires that an EIR identify the environmentally superior alternative among the alternatives that are evaluated. If the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

The No Project Alternative assumes that the proposed Project would not be approved, and the alternative would therefore avoid the potentially significant environmental impacts identified for the Project that would occur as a result of construction and operation of the proposed CIP projects, ODP projects, and maintenance projects. However, as discussed above in Section 7.4.1.1, because the facility improvements proposed under the Project would not be implemented, existing District infrastructure would not be brought up to current design, safety, and regulatory standards, and would therefore be at risk of failure. In addition, facilities planned for upsizing under the Project to account for current deficiencies and to accommodate planned future growth would not be upsized under this alternative and would therefore be subject to exceedances. Such failure and exceedances, specifically of sewer pipes and lift stations, could result in hazardous materials spills and the exposure of the public and environment to hazardous conditions. Hazardous materials spills could also affect water quality and result in the violation of water quality standards and/or waste discharge requirements. These impacts would be expected to occur in an on-going manner as components of District infrastructure would continue to age, meet their useful life, and be at risk of failure and/or exceedances.

The District also considered a Reduced Biological Disturbance Alternative, which is discussed in Section 7.3.1. This alternative would involve locating projects out of sensitive habitat and would constitute the Environmentally Superior Alternative in addition to the No Project Alternative. The Reduced Biological Disturbance Alternative was determined to be infeasible due to the constraints of the existing system discussed above. Due to the nature of Project, which involves upgrading existing infrastructure for a largely built-out system, options involving siting infrastructure entirely outside of sensitive habitat while limiting disturbance of sensitive habitat and maintaining efficient and reliable service are limited.

The on-going nature of impacts under the No Project Alternative would be in contrast to the predominantly short-term and temporary impacts that would result from construction of individual CIP projects, ODP projects, and maintenance projects under the proposed Project. Because the proposed projects primarily consist of either improvements to existing facilities and/or improvements to belowground infrastructure, the Project would not result in a substantial increase in new permanent impacts relative to the No Project Alternative. For the above reasons, neither the No Project Alternative nor the Environmentally Superior Alternative offers clearly environmentally superior benefits as compared to the proposed Project.

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Chad Williams	Engineering & CIP Program Manager
Malik Tamimi	Engineering Project Manager
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HELIX Environmental Planning, Inc.

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PEIR Appendix A

Notice of Preparation and Public Comments

RAINBOW
MUNICIPAL WATER DISTRICT
Committed to Excellence

May 27, 2021

To: **State Clearinghouse; Responsible and Trustee Agencies; and Other Interested Parties**

Subject: **Notice of Preparation of an Environmental Impact Report – Rainbow Municipal Water District Water and Sewer Facilities Plan**

Rainbow Municipal Water District (District) intends to prepare a Program Environmental Impact Report (PEIR), pursuant to the California Environmental Quality Act (CEQA), for the District's proposed Water and Sewer Facilities Plan (Project). The purpose of this Notice of Preparation (NOP) is for the District, as the Lead Agency, to solicit input on the scope and content of the Draft PEIR.

Location of the Proposed Project: The location of the Project consists of the District's service area, which comprises a total of 82 square miles located in northwestern San Diego County. The District shares common boundaries with Riverside County, Camp Pendleton Marine Corps Base, the unincorporated community of Fallbrook and the city of Oceanside. The District's service boundaries encompass several unincorporated areas including the communities of Rainbow and Bonsall as well as portions of Pala and Fallbrook.

Overview of the Proposed Project: The Project identifies improvements necessary for the District's water and sewer facilities to adapt to future conditions while providing reliable and economical service to the District's customers. The specific key objectives of the Project include implementing upgrades, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; addressing system deficiencies under current demand and flow conditions; and meeting future water demand and flow conditions.

Specific construction schedules are not available for the individual improvements at the program level. Proposed improvements for Capital Improvement Program (CIP) projects would be implemented in two general phases: Near Term (through 2030) and Long Term (through 2040). The proposed improvements include increasing the capacity of existing deficient water mains and sewers, implementing fire flow improvements, installing new potable and sewer pipelines, constructing pump stations, and rehabilitating existing lift stations. Phasing for individual improvements could be accelerated or deferred as required to account for changes in development schedules, availability of land or rights-of-way for construction, funding limitations, and other considerations that cannot be predicted at this time. The PEIR would cover the entirety of the District's pipelines at a programmatic level.

Potential Environmental Effects of the Proposed Project: In accordance with Section 15126 of the CEQA Guidelines, the PEIR will assess the physical changes to the environment that would likely result from the construction and operation of the Project, including direct, indirect, and cumulative impacts and growth-inducing impacts. The EIR will provide an assessment of impacts for facilities and activities associated with Project implementation (CEQA Guidelines Section 15161).

3707 Old Highway 395 • Fallbrook, CA 92028
(760) 728-1178 • Fax (760) 728-2575 • www.rainbowmwd.com

The District has determined that the proposed Project may have the potential to significantly impact agricultural and forestry resources, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, noise, transportation, and tribal cultural resources. These issue areas will be evaluated in detail in the Draft PEIR. It is anticipated that all other issue areas will be discussed in the Environmental Effects Found Not to be Significant section of the Draft PEIR. The PEIR will identify mitigation measures if necessary and feasible to reduce potentially significant impacts of the proposed Project. The PEIR will also discuss alternatives to the proposed Project, including the CEQA-required "No Project" alternative.

Comments: The District is requesting input from all CEQA responsible and trustee agencies, all other public agencies with jurisdiction by law over resources potentially affected by the proposed Project, and public input regarding the scope and content of environmental information to be included in the PEIR. Agency responses should identify the issues to be considered in the PEIR, including significant environmental issues, alternatives, mitigation measures, and whether the responding agency will be a responsible or trustee agency, and the basis for that determination. Due to the limits mandated by State law, your response must be sent at the earliest possible date but postmarked within 30 days from receipt of this notice, or no later than June 25, 2021. All comments should indicate a contact person for each agency or organization, if applicable. Please submit email comments to mtamimi@rainbowmwd.com and written comments by mail to:

Rainbow Municipal Water District
Attn: Malik Tamimi
Engineering Department
3707 Old Highway 395
Fallbrook, CA 92028

Scoping Meeting: To provide the utmost safety for the public in response to the COVID-19 epidemic, the Scoping Meeting for the PEIR will be held online. The meeting is scheduled for June 16, 2021 at 12:00 PM Pacific Daylight Time. There are several ways to join the meeting:

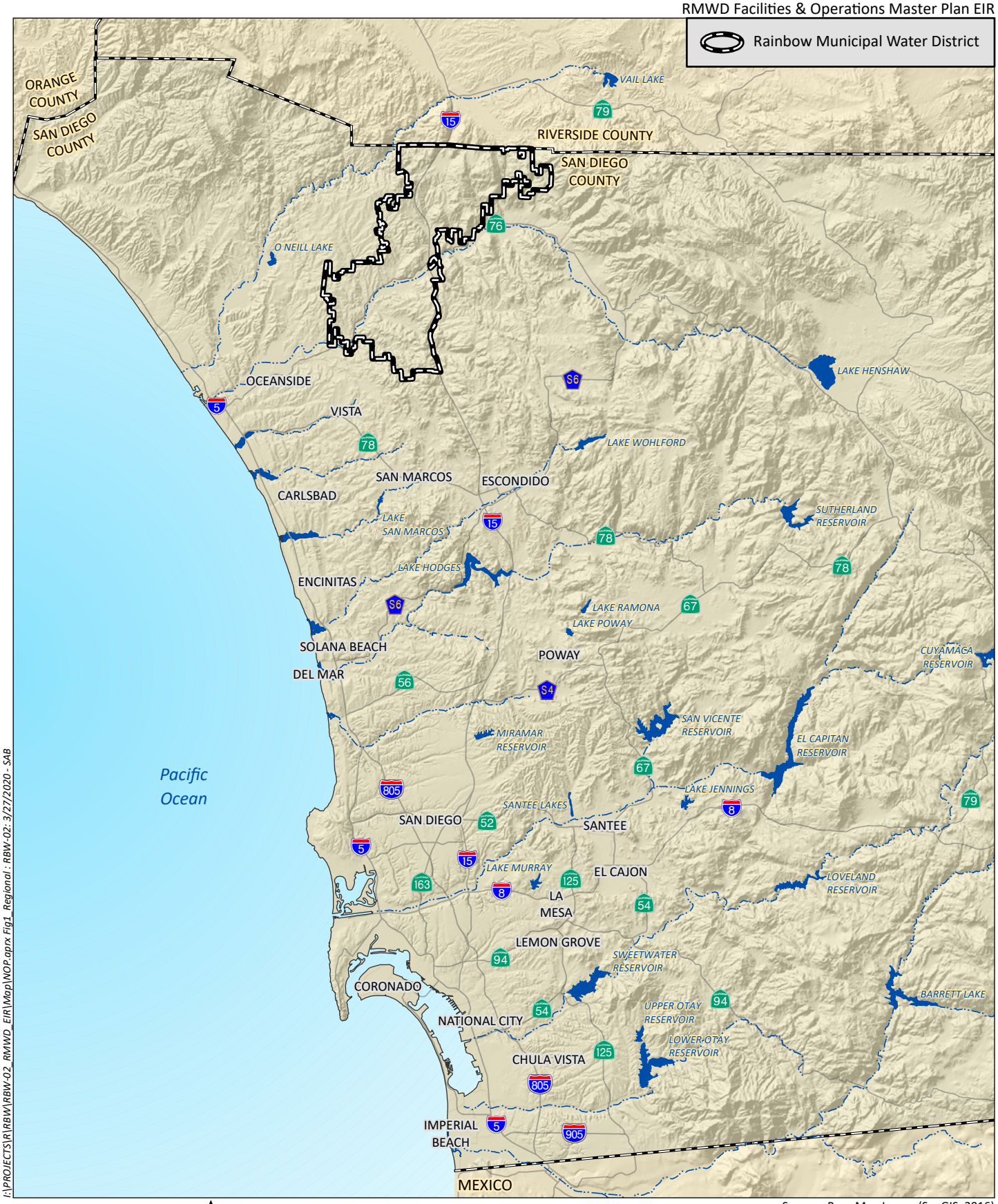
1) Register in advance for the scoping meeting webinar using the link below:
   https://helixepi.zoom.us/webinar/register/WN_LDNRqaRsQpWXXYeDporm2w
   After registering, you will receive a confirmation email containing additional information about joining the webinar.

2) Go to www.zoom.us, Select "Join a Meeting," and enter the following:
   Webinar ID: 885 1249 8872, Passcode: 149654

3) Call into the meeting via telephone:
   +1 669 900 6833 or +1 346 248 7799 or +1 253 215 8782 or +1 312 626 6799 or +1 646 876 9923 or +1 301 715 8592
   Webinar ID: 885 1249 8872

The scoping meeting will provide an opportunity to disseminate information, identify environmental issues, and discuss the environmental process for the PEIR. Given the limitation of the meeting venue, public comments should be provided through email or through regular mail via the contact information provided above.

Attachments:
Figure 1: Regional Vicinity
Figure 2: Proposed Water and Sewer Projects



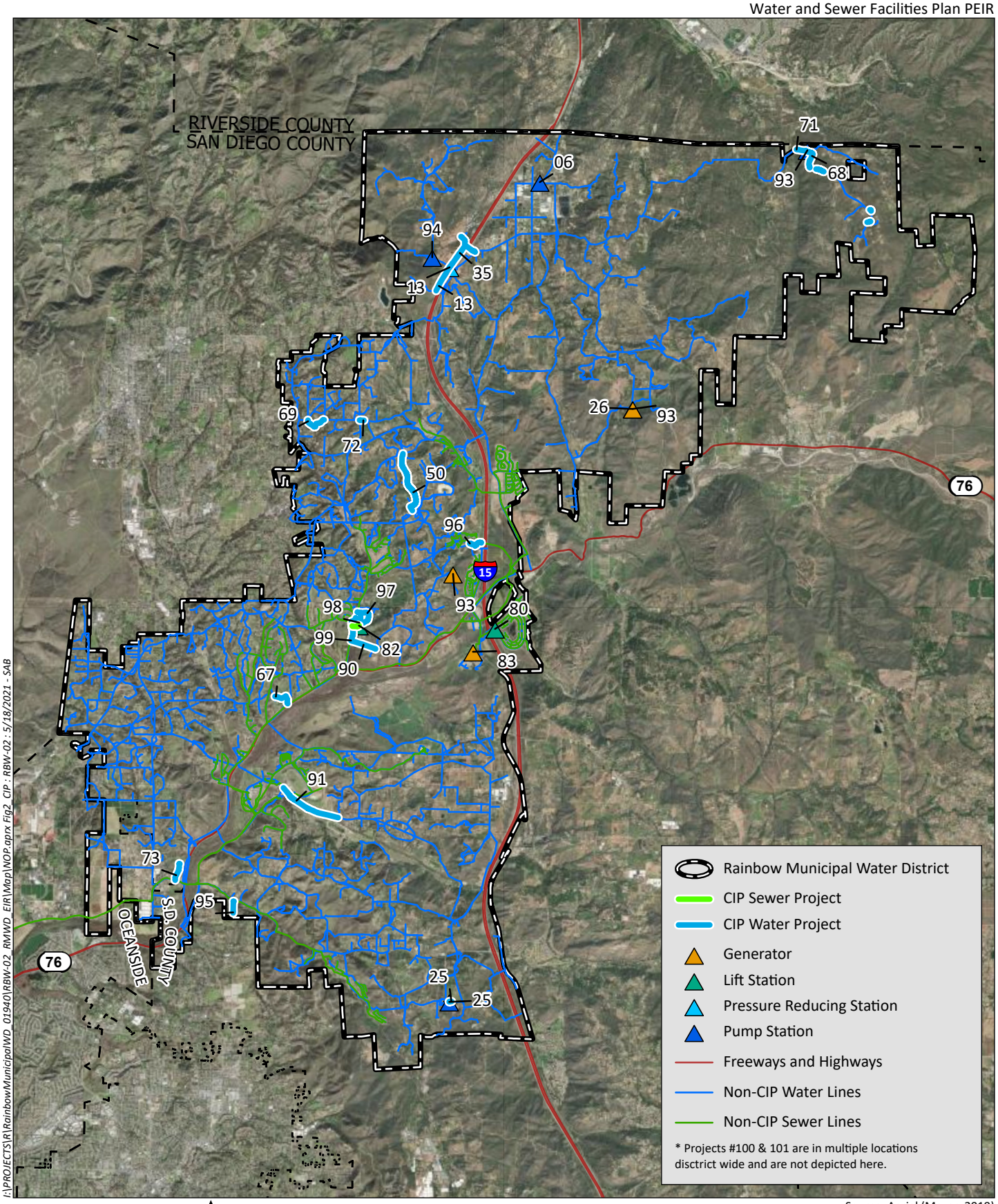
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Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



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0 2 Miles

Source: Aerial (Maxar, 2019)

Proposed Capital Improvement Program (CIP) Water and Sewer Projects

HELIX Environmental Planning

Figure 2

THE DAILY TRANSCRIPT

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DELIA A. RUBIO
RAINBOW MUNICIPAL WATER DISTRICT
3707 OLD HIGHWAY 395
FALLBROOK, CA - 92028

SD#: 3475948

PROOF OF PUBLICATION

(2015.5 C.C.P.)

State of California)
County of SAN DIEGO) ss

Notice Type: GPN - GOVT PUBLIC NOTICE

Ad Description:
Notice of Preparation of EIR

I am a citizen of the United States and a resident of the State of California; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer and publisher of THE DAILY TRANSCRIPT, a newspaper published in the English language in the City of SAN DIEGO, County of SAN DIEGO and adjudged a newspaper of general circulation as defined by the laws of the State of California by the Superior Court of the County of SAN DIEGO, State of California, under date of 05/13/2003, Case No. GIC808715. That the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

05/27/2021

Executed on: 05/27/2021
At Los Angeles, California

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Signature

* A 0 0 0 0 0 0 5 7 3 3 7 0 8 *

Email

Notice of Preparation of EIR
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Comments: The District is requesting input from all CEQA responsible and trustee agencies, all other public agencies with jurisdiction by law over resources potentially affected by the proposed project, and public input regarding the scope and content of environmental information to be included in the EIR. Agency responses should identify the issues to be considered in the PEIR, including significant environmental issues, alternatives, mitigation measures, and whether the responding agency will be a responsible or trustee agency, and the basis for that determination. Due to the limits mandated by State law, your response must be sent at the earliest possible date but postmarked within 30 days from publication of this notice, or no later than June 25, 2021. All comments should indicate a contact person for each agency or organization, if applicable. Please submit email comments to mtamimi@rainbowmwd.com and written comments by mail to: Rainbow Municipal Water District**,** Attn: Malik Tamimi, Engineering Department, 3707 Old Highway 395, Fallbrook, CA 92028.

To provide the utmost safety for the public in response to the COVID-19 epidemic, the Scoping Meeting for the PEIR will be held online. The meeting is scheduled for June 16, 2021 at 12 PM Pacific Daylight Time. There are several ways to join the meeting:

1) Register in advance for the scoping meeting webinar using the link below:
https://helixepi.zoom.us/webinar/\
register/WN_LDNRqaRsQpWXXY
eDporm2w

After registering, you will receive a confirmation email containing additional information about joining the webinar.

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5/27/21

SD-3475948#

STATE OF CALIFORNIA Gavin Newsom, Governor

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June 8, 2021

Malik Tamimi
Rainbow Municipal Water District
3705 Old Highway 395
Fallbrook, CA 92028

Re: 2021050602, Water and Sewer Facilities Plan Project, San Diego County

Dear Mr. Tamimi:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources 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, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process 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. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

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State of California – Natural Resources Agency
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

June 25, 2021

Malik Tamimi
Rainbow Municipal Water District
Engineering Department
3707 Old Highway 395
Fallbrook, CA 92028
MTamimi@rainbowmwd.com

Subject: Comments on the Notice of Preparation of a Draft Environmental Impact Report for Rainbow Municipal Water District Water and Sewer Facilities Plan (Projects(s)), SCH #2021050602

Dear Mr. Tamimi:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) from Rainbow Municipal Water District (District) for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources, and holds those resources in trust by statute for all the people of the state. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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PROJECT DESCRIPTION SUMMARY

Proponent: Rainbow Municipal Water District

Objective: The objectives of the Project include implementing upgrades, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; addressing system deficiencies under current demand and flow conditions; and meeting future water demand and flow conditions. The proposed improvements include increasing the capacity of existing deficient water mains and sewers, implementing fire flow improvements, installing new potable and sewer pipelines, constructing pump stations, and rehabilitating existing lift stations.

Location: The location of the Project consists of the District's Service Area, which comprises a total of 82 square miles located in northwestern San Diego County. The District shares common boundaries with Riverside County, Camp Pendleton Marine Corps Base, the unincorporated community of Fallbrook, and the City of Oceanside. The service boundaries of the District encompass several unincorporated areas including the communities of Rainbow and Bonsall as well as portions of Pala and Fallbrook.

Biological Setting: The Service Area is situated among the foothills between the Aqua Tibia Mountains and Santa Margarita Mountains in the Peninsular Mountain Range. General topography can be separated into two distinct areas, the foothills and the valley. The foothills portion consists mainly of detached and exposed worn masses of granite covered with natural chaparral where soil conditions preclude other vegetative types. The runoff from winter rains is occasionally rapid and creates a sheet flow of water across the valley floor due to the steep slope and sparse soil cover. The valley portion is characterized by sandy loam which is underlain at a shallow depth in many places with hardpan. Land use in the area is primarily composed of rural, semi-rural, rural-residential, rural commercial, residential, and recreational uses (San Diego County 2021). Preliminary biological analysis identifies the potential for the following sensitive habitats: southern cottonwood willow riparian forest, Diegan coastal sage scrub, southern mixed chaparral, and non-native grasslands.

Special status wildlife species with the potential to occur near the Project include: state and federally endangered least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus;* flycatcher), and Stephens' kangaroo rat (*Dipodomys stephensi*); federally protected and California Fully Protected golden eagle (*Aquila chrysaetos);* federally endangered and California Species of Special Concern (SSC) arroyo toad (*Anaxyrus californicus*); federally threatened and SSC coastal California gnatcatcher (*Polioptila californica californica*); federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), and Quino checkerspot butterfly (*Euphydryas editha quino*); SSC coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), SSC yellow-breasted chat (*Icteria virens*), International Union for the Conservation of Nature (IUCN) Watch List (WL) Cooper's hawk (*Accipiter cooperii),* SSC western spadefoot *(Spea hammondii*), SSC orange-throated whiptail (*Aspidoscelis hyperythra),* SSC coast horned lizard (*Phrynosoma blainvillii*), SSC California glossy snake (*Arizona elegans occidentalis*), SSC red-diamond rattlesnake (*Crotalus ruber*), SSC arroyo chub (*Gila orcuttii*), SSC Dulzura pocket mouse *(Chaetodipus californicus femoralis*), and hoary bat (*Lasiurus cinereus*).

Special status plant species identified with the potential to occur include: federally and state endangered and California Native Plant Society (CNPS) Rare Plant Rank 1B.1 thread-leaved

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brodiaea (*Brodiaea filifolia*), San Diego button-celery (*Eryngium aristulatum var. parishii),* San Diego thornmint (*Acanthomintha ilicifolia*), and federally endangered and California Native Plant Society (CNPS) Rare Plant Rank 1B.1 San Diego ambrosia (*Ambrosia pumila*), Munz's onion (*Allium munzii),* Nevin's barberry *(Berberis nevinii),* and spreading navarretia (*Navarretia fossalis).* Other sensitive plant species with the potential to occur near the Project include, CNPS 1B.1 Rainbow manzanita (*Arctostaphylos rainbowensis*), CNPS 1B.1 smooth tarplant (*Centromadia pungens* ssp. *laevis*), CNPS 1B.1 Parry's tetracoccus (*Tetracoccus dioicus*), CNPS 1B.1 bottle liverwort (*Sphaerocarpos drewei),* and CNPS 2B.2 wart-stemmed ceanothus (*Ceanothus verrucosus*).

Timeframe: Specific construction schedules are not available for the individual improvements at the program level. Proposed improvements for Capital Improvement Program (CIP) projects will be implemented in two general phases: Near Term (through 2030) and Long Term (through 2040). Phasing for individual improvements could be accelerated or deferred as required to account for changes in development schedules, availability of land or rights-of-way for construction, funding limitations, and other considerations that cannot be predicted at this time.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the District in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources. Based on the potential for the Project to have a significant impact on biological resources, CDFW agrees that a DEIR is appropriate for the Project.

Listed Species and California Species of Special Concern

1. A review of the California Natural Diversity Database (CNDDB) identifies the potential for State and federally endangered least Bell's vireo in the vicinity of many of the CIP Projects. There is also the potential for southwestern willow flycatcher and Stephens' kangaroo rat. There is also the potential for state-listed plants thread-leaved brodiaea, San Diego button-celery, and San Diego thornmint. Project-related activities may adversely impact potential habitat for these species. CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. Take of any endangered, threatened, candidate species, or State listed rare plant species that results from the Project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project Proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a Consistency Determination in certain circumstances, among other options (Fish & G. Code, §§ 2080.1, 2081, subds. (b) and (c)). CDFW encourages early consultation because significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation, monitoring, and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation, monitoring, and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

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a. Focused species-specific surveys, conducted at the appropriate time of year and time of day when least Bell's vireos and flycatchers are active or otherwise identifiable, are required to determine species presence under CESA and the Federal Endangered Species Act (FESA). Acceptable species-specific survey procedures are detailed in the *Least Bell's Vireo Survey Guidelines* (United States Fish and Wildlife Service (USFWS) 2001) and acceptable survey protocol for flycatcher can be found at Sogge et.al (2010). If present, the DEIR should disclose potential impacts to the species as well as proposed avoidance and mitigation measures.

b. CDFW also considers impacts to federally endangered species a significant direct and cumulative adverse effect without the implementation of appropriate avoidance and/or mitigation measures. If impacts are proposed to occupied or suitable habitat or adjacent habitats, CDFW recommends that the DEIR include consultation with the USFWS at the earliest opportunity as take authorization may be required.

2. Golden eagles are Fully Protected under California Fish and Game code section 3511 and are federally protected by the Bald and Golden Eagle Protection Act; therefore, impacts to the species should be avoided. Generators 26 and 93 are in the vicinity of known golden eagle occurrences. The Projects in this vicinity should include avoidance measures to protect the species in alignment with these regulations.

3. CNDDB includes detection of SSC and federally threatened coastal California gnatcatchers and there is the potential for arroyo toad and Quino checkerspot butterflies in the vicinity of Project areas. The DEIR should include a report of recent, seasonally appropriate, focused surveys for coastal California gnatcatcher and arroyo toad in all areas with suitable habitat within and adjacent to the Project. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required to determine species presence under FESA. Acceptable species-specific survey procedures are detailed in *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Guidelines*, *Survey Protocol for the Arroyo Toad, and Quino checkerspot butterfly (Euphydryas editha quino) Survey Protocol Information* (USFWS 1997, 1999, and 2002, respectively). If present, the DEIR should disclose potential impacts to the species as well as proposed avoidance and mitigation measures. CDFW considers impacts to federally threatened species a significant direct and cumulative adverse effect without the implementation of appropriate avoidance and/or mitigation measures. If impacts are proposed to occupied or suitable habitat or adjacent habitats, CDFW recommends that the DEIR include consultation with the USFWS at the earliest opportunity as take authorization may be required.

4. Preliminary biological analysis of CNDDB identifies the potential for the presence of western spadefoot, which is a species that is generally associated with or located in the vicinity of vernal pools. Federally endangered fairy shrimp and dually listed plants also have the potential to be found in vernal pools in the areas. Vernal pools are considered a rare resource, as it is estimated over 95% of vernal pools in San Diego County have been destroyed (USFWS 1998). CDFW considers the loss of these pool complexes to be regionally and biologically significant. To the extent practicable, vernal pools and depressions, and the entire sub-watershed that supports the hydrology of the pool/depression, should be avoided and conserved. The DEIR should identify any existing vernal pool habitat, analyze potential impacts, and propose avoidance and mitigation measures should vernal pools be identified on site. Acceptable species-specific survey procedures are detailed in *Survey Guidelines for the Listed Large Branchiopods* (USFWS 2015).

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5. Preliminary biological analysis of CNDDB identifies the potential for coastal cactus wren. CDFW recommends that cactus patches of *Cylindropuntia prolifera* and *Opuntia littoralis*, if present, are avoided to the maximum extent practicable. If cactus wren is identified on or adjacent to Project sites, the DEIR should propose avoidance and mitigation measures.

6. Sensitive mammal species have the potential to be present within Project site(s). Stephens' kangaroo rat and Dulzura pocket mouse are fossorial mammal species that may be present. In addition, tree and cavity roosting bat species also have the potential to be in the Project vicinities. Assessment of impacts to these species, including survey data, should be included in the DEIR. Additionally, black-tailed jackrabbits (*Lepus californicus*) have the potential to be present in and around Project areas; please be aware of Rabbit Hemorrhagic Disease (RHD), which can cause 70 to 100 percent mortality in affected individuals. CDFW recommends that Best Management Practices in the Projects, such as disinfecting equipment and work boots with a ten percent bleach solution, be employed to help prevent the spread of the disease.

7. Sensitive reptiles have been identified within the vicinity of the Projects; therefore, CDFW recommends that the Projects incorporate exclusion methods to prevent these species from entering construction areas.

8. CNDDB identifies federally endangered San Diego ambrosia as proximate, and therefore it is of potential concern to CDFW. Other federally listed plants such as Munz's onion, Nevin's barberry, and spreading navarretia also have the potential to be present. CNDDB also documents the potential presence of Rainbow manzanita, smooth tarplant, Parry's tetracoccus, bottle liverwort, and wart-stemmed ceanothus on site. The DEIR should include a report of seasonally appropriate surveys in all areas with suitable habitat for sensitive plants, conducted within the last two years. If present, the DEIR should disclose potential impacts to the species as well as proposed avoidance and mitigation measures.

Project Description and Alternatives

9. To facilitate meaningful review of the Project from the standpoint of the protection of plants, fish, and wildlife, CDFW recommends the following information be included in the DEIR:

    a. the document should contain a complete discussion of the purpose and description of the Project, including all staging areas and access routes to the construction and staging areas; and,

    b. the DEIR should include a range of feasible alternatives to ensure that alternatives to the Project are fully considered and evaluated; the alternatives should avoid or otherwise minimize impacts to sensitive biological resources.

Biological Baseline Assessment

10. CDFW has responsibility for wetland and riparian habitats. CDFW strongly discourages development in wetlands or conversion of wetlands to uplands. CDFW opposes any development or conversion that would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. Development and conversion include but are not limited to conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided

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with substantial setbacks that preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations. Mitigation measures to compensate for impacts to aquatic resources must be included in the DEIR.

a. The Project sites may include aquatic features that may have a bed, bank, or channel. As a Responsible Agency under CEQA, CDFW has authority over a) activities in streams and/or lakes that will divert or obstruct the natural flow; b) changes in the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream; and, c) use of material from a streambed. For any such activities, the Project Proponent must provide written notification to CDFW pursuant to Fish and Game Code section 1600 *et seq.*

b. CDFW's issuance of a Lake or Streambed Alteration Agreement (LSAA) for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the Environmental Impact Report of the local jurisdiction (District) for the Project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the DEIR should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSAA.

c. A preliminary delineation of the streams and associated riparian habitats should be included in the DEIR. The delineation should be conducted pursuant to the USFWS wetland definition adopted by CDFW (Cowardin et al. 1979). Be advised that some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' section 404 permit and Regional Water Quality Control Board section 401 Certification.

d. In Project areas which may support ephemeral streams, herbaceous vegetation and woody vegetation also serve to protect the integrity of these resources and help maintain natural sedimentation processes; therefore, CDFW recommends effective setbacks be established to maintain appropriately sized vegetated buffer areas adjoining ephemeral drainages. If these buffer areas are proposed for impact, they should be included in the sensitive habitat impact analysis.

e. Project-related changes in drainage patterns, runoff, and sedimentation should be included and evaluated in the DEIR.

f. As part of the LSAA Notification process, CDFW requests a hydrological evaluation of the 100-, 50-, 25-, 10-, 5-, and 2-year frequency storm event for existing and proposed conditions. CDFW recommends the DEIR evaluate the results and address avoidance, minimization, and/or mitigation measures that may be necessary to reduce potential significant impacts.

7. CDFW recommends the DEIR provide a complete assessment of the flora and fauna within and adjacent to the Project area, with particular emphasis upon identifying endangered, threatened, sensitive, and locally unique species and sensitive habitats. This should include a complete species compendium of the entire Project site, undertaken at the appropriate time of year. The DEIR should include the following information:

   a. CEQA Guidelines, section 15125(c), specifies that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)].

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The DEIR should include measures to fully avoid and otherwise protect Sensitive Natural Communities from Project-related impacts. Project implementation may result in impacts to rare or endangered plants or plant communities that have been recorded adjacent to the Project vicinity. CDFW considers these communities as threatened habitats having both regional and local significance. Plant communities, alliances, and associations with a state-wide ranking of S1, S2, S3, and S4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by visiting https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities;

b. a complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by the Project. CNDDB should be reviewed to obtain current information on any previously reported sensitive species and habitat. CDFW recommends that CNDDB Field Survey Forms be completed and submitted to CNDDB to document survey results. Online forms can be obtained and submitted at https://wildlife.ca.gov/Data/CNDDB/Submitting-Data;

c. an inventory of rare, threatened, endangered and other sensitive species on site and within the area of potential effect. Species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines, § 15380). Seasonal variations in use of the Project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and USFWS;

d. a thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline); floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at the Project site and within the neighboring vicinity. For assessing vegetation communities located in western San Diego County, CDFW recommends the Vegetation Classification Manual for Western San Diego County (Sproul et al. 2011) be used; and,

e. adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts off site. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

Biological Direct, Indirect, and Cumulative Impacts and Proposed Mitigation Measures

8. To facilitate meaningful review of the Project's potential impacts on biological resources, the DEIR should include a detailed discussion of potential impacts as well as specific measures to offset such impacts.

   a. Indirect Impacts: a discussion of potential adverse impacts from lighting, noise, exotic species, and human activity and proposed mitigation measures to alleviate such impacts.

      i. Adjacent Resources: the DEIR should include a discussion regarding indirect Project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with the proposed

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NCCP). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR.

ii. Landscaping: the Projects may include landscaped areas. Habitat loss and invasive plants are a leading cause of native biodiversity loss. CDFW recommends that the DEIR also stipulate that no invasive plant material shall be used. Furthermore, CDFW recommend using native, locally appropriate plant species for landscaping on the Project site. A list of invasive/exotic plants that should be avoided as well as suggestions for suitable landscape plants can be found at https://www.cal-ipc.org/solutions/prevention/landscaping/.

iii. Pesticide: the Project may include outside pesticide use. Please be aware of a new California law, AB 1788, which bans the use of second-generation rodenticide.

b. Mitigation Measures: the DEIR should include mitigation measures for adverse Project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through purchase of credits from a CDFW approved conservation bank, or habitat creation and/or acquisition and preservation in perpetuity should be performed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance, and dedicated to a qualified entity for long-term management and monitoring. Under Government Code section 65967, the District must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

i. Long-term Management of Mitigation Lands: the DEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include, but are not limited to, restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.

ii. Sensitive Bird Species: to avoid impacts to nesting birds, the DEIR should require that, when biologically warranted, construction (especially clearing and rough grading) would occur outside of the peak avian breeding season which generally runs from February 1 through September 1 (as early as January 1 for some raptors). If Project construction is necessary during the bird breeding season, a qualified biologist with experience in conducting bird breeding surveys should conduct weekly bird surveys for nesting birds, within three days prior to the work in the area, and ensure no nesting birds in the Project area would be impacted by the Project. If an active nest is identified, a buffer shall be established between the construction activities and the nest so that nesting activities are not interrupted. CDFW generally recommends the buffer be a minimum width of 100 feet for general passerine birds, 300 feet from state or federal listed bird species, and 500 feet for raptor species, including Cooper's hawks. The buffer should be demarcated by temporary fencing and remain in effect as long as construction is occurring or until the nest is no longer active. No Project construction shall occur within

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the fenced nest zone until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the Project. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

iii. Nest Exclusion: open horizontal pipe ends can be attractive to birds for nesting. Areas that will require on-going operational maintenance, such as emergency generators, should not include open horizontal pipe ends. Ends should be capped with suitable screens to prevent wildlife access.

iv. Translocation: CDFW generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.

c. Cumulative Effects: a cumulative effects analysis should be developed as described under CEQA Guidelines, section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to the DEIR impacts on similar wildlife habitats.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a data base which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the CNDDB. The CNNDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist the District in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Elyse Levy, Senior Environmental Scientist, at Elyse.Levy@wildlife.ca.gov.

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Sincerely,

DocuSigned by:
David Mayer
D700B4520375406...

David A. Mayer
Environmental Program Manager I
South Coast Region

ec: CDFW
Jennifer Turner, San Diego – Jennifer.Turner@wildlife.ca.gov
Jennifer Ludovissy, San Diego – Jennifer.Ludovissy@wildlife.ca.gov
Susan Howell, San Diego – Susan.Howell@wildlife.ca.gov
CEQA Program Coordinator, Sacramento – CEQACommentLetters@wildlife.ca.gov
State Clearinghouse, Sacramento – State.Clearinghouse@opr.ca.gov
USFWS
Jonathan Snyder, Jonathan_d_Snyder@fws.gov

References

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California Department of Transportation

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June 25, 2021

11-SD-15, 76
PM VAR
Water and Sewer Facilities Plan
NOP/SCH#2021050602

Mr. Malik Tamimi
Engineering Project Manager
Rainbow Municipal Water District
3707 Old Highway 395
Fallbrook, CA 92028

Dear Mr. Tamimi:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Notice of Preparation for the Water and Sewer Facilities Plan located near Interstate 15 (I-15) and State Route 76 (SR-76). The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

Caltrans has the following comments:

Traffic Impact Study

- A Vehicle Miles of Travel (VMT) based Traffic Impact Study (TIS) may be needed for this project. Please use the Governor's Office of Planning and Research Guidance to identify VMT related impacts.[1]

- The TIS may also need to identify the proposed project's construction related, near-term, and long-term safety or operational issues, on or adjacent any existing or proposed State facilities.

Hydrology and Drainage Studies

- Please provide hydraulics studies, drainage and grading plans to Caltrans for review.
- Provide a pre and post-development hydraulics and hydrology study. Show drainage configurations and patterns.
- Provide drainage plans and details. Include detention basin details of inlets/outlet.
- Provide a contour grading plan with legible callouts and minimal building data. Show drainage patterns.
- On all plans, show Caltrans' Right-of-Way (R/W).
- Early coordination with Caltrans is recommended.

Traffic Control Plan/Hauling

The California Department of Transportation (Caltrans) has discretionary authority with respect to highways under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway network. Additional information is provided online at:
http://www.dot.ca.gov/trafficops/permits/index.html

A Traffic Control Plan is to be submitted to Caltrans District 11, including the interchanges at I-15 and SR-76, at least 30 days prior to the start of any construction.

[1] California Governor's Office of Planning and Research (OPR) 2018. "Technical Advisory on Evaluating Transportation Impacts in CEQA." http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

Traffic shall not be unreasonably delayed. The plan shall also outline suggested detours to use during closures, including routes and signage.

Potential impacts to the highway facilities (I-15 and SR-76) and traveling public from the detour, demolition and other construction activities should be discussed and addressed before work begins.

Environmental

Caltrans welcomes the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA), as we have some discretionary authority of a portion of the project that is in Caltrans' R/W through the form of an encroachment permit process. We look forward to the coordination of our efforts to ensure that Caltrans can adopt the alternative and/or mitigation measure for our R/W. We would appreciate meeting with you to discuss the elements of the EIR that Caltrans will use for our subsequent environmental compliance.

An encroachment permit will be required for any work within the Caltrans' R/W prior to construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits. Specifically, CEQA determination or exemption. The supporting documents must address all environmental impacts within the Caltrans' R/W and address any impacts from avoidance and/or mitigation measures.

We recommend that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans' R/W that includes impacts to the natural environment, infrastructure including but not limited to highways, roadways, structures, intelligent transportation systems elements, on-ramps and off-ramps, and appurtenant features including but not limited to lighting, signage, drainage, guardrail, slopes and landscaping. Caltrans is interested in any additional mitigation measures identified for the project's draft Environmental Document.

Right-of-Way

- Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.
- Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

- Since the proposed project crosses and aligns with the state R/W in multiple locations for I-15 and SR-76, coordination with Caltrans is recommended as soon as possible.
- An Encroachment Policy Exception and/or Design Standard Decision Document may be required pending the proposed project scope within the Caltrans' R/W.
- Any modifications to the access control will need both Caltrans and FHWA approval. This is an important standard to maintain on the Interstate System and it would need very strong justification if it were to be granted. This requires an Encroachment Policy Exception (EPE) to document the proposed crossing of the access control lines at the two ends (PDPM Chapter 17, Article 2, Section 3, Non-Motorized Paths).

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158 or emailing D11.Permits@dot.ca.gov or by visiting the website at https://dot.ca.gov/programs/traffic-operations/ep. Early coordination with Caltrans is strongly advised for all encroachment permits.

Please see the following chapters in the Caltrans' manuals:

- Chapter 600 of the Encroachment Permits Manual for requirements regarding utilities and state R/W: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/chapter-6-ada.pdf.

- Chapter 2-2.13 of the Plans Preparation Manual for requirements regarding utilities and state R/W: https://dot.ca.gov/-/media/dot-media/programs/design/documents/cadd/ppm-text-ch2-sect2-13-a11y.pdf

- Chapter 17 of the Project Development Procedures Manual https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapter17-a11y.pdf.

If you have any questions or concerns, please contact Kimberly Dodson, IGR Coordinator, at (619) 985-1587 or by e-mail sent to Kimberly.Dodson@dot.ca.gov.

Sincerely,

Maurice A. Eaton

MAURICE EATON
Branch Chief
Local Development and Intergovernmental Review

County of San Diego

KATHLEEN A. FLANNERY
ACTING DIRECTOR

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VINCE NICOLETTI
ACTING ASSISTANT DIRECTOR

June 29, 2021

Malik Tamimi
Engineering Department
Rainbow Municipal Water District
3707 Old Highway 395
Fallbrook, CA 92028

Sent via email to: mtamimi@rainbowmwd.com

REQUEST FOR COMMENTS ON THE NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT – WATER AND SEWER FACILITIES PLAN FOR THE RAINBOW MUNICIPAL WATER DISTRICT

Dear Mr. Tamimi,

The County of San Diego (County) reviewed the Rainbow Municipal Water District's (Water District's) Water and Sewer Facilities Plan (Project), dated May 27, 2021.

The County appreciates the opportunity to review the Project and offers the following comments for your consideration. Please note that none of these comments should be construed as County support for this Project.

GENERAL

1. The County's Land Use and Environment Group has developed Guidelines for Determining Significance that are used to determine the significance of environmental impacts and mitigation options for addressing potentially significant impacts in the unincorporated portions of the county. Project impacts that could have potentially significant adverse effects to the unincorporated county or County facilities should be evaluated using the County's Guidelines for Determining Significance. These guidelines are available online at: http://www.sandiegocounty.gov/pds/procguid.html.

BIOLOGY

1. The County's Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources (Biological Resource Guidelines) provides guidance for assessing impacts by proposed projects to sensitive species and habitats, as well as standard mitigation measures and project design considerations. For low-level sensitive species (Group II), mitigation is generally achieved concurrently with habitat-

based mitigation. For high-level sensitive species (Group I), the mitigation requirement is ratio based. Project impacts that could have potentially significant adverse effects to the unincorporated county or County facilities should be evaluated using the County's Guidelines for Determining Significance. These guidelines are available online at: https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/Biological_Guidelines.pdf

2. The County's Resource Protection Ordinance (RPO) applies to projects that impact wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites to protect these sensitive lands and prevent their degradation or loss. The RPO regulates development of wetlands and sensitive habitat lands, including "land which supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the CEQA Guidelines (14 Cal. Admin. Code Section 15000 et seq.)." The RPO includes the provision that when "the extent of environmentally sensitive lands on a particular legal lot is such that no reasonable economic use of such lot would be permitted by these regulations, then an encroachment into such environmentally sensitive lands to the minimum extent necessary to provide for such reasonable use may be allowed." In all other instances where the RPO applies, activities damaging to sensitive lands are prohibited unless all feasible measures necessary to protect and preserve the sensitive lands are completed as a condition of project approval, and mitigation provides an equal or greater benefit to the affected species. Project impacts that could have potentially significant adverse effects to sensitive lands within the unincorporated County or County facilities should be evaluated using the RPO. This ordinance is available online at: https://www.sandiegocounty.gov/content/dam/sdc/pds/docs/res_prot_ord.pdf

3. In addition to existing regulatory measures that benefit sensitive species and lands, the County is working in partnership with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) to prepare the North County Multiple Species Conservation Plan (North County Plan). The North County Plan is a joint federal Habitat Conservation Plan (HCP) and state Natural Communities Conservation Plan (NCCP) that will cover the northern part of the unincorporated county. The Project is located within the draft North County Plan Area and portions may be located within the North County Plan Pre-Approved Mitigation Area (PAMA), the area within which the preserve will be assembled. Given the Project's location within and adjacent to PAMA, environmental documentation for the Project should address potential impacts to the County's draft North County Plan. Additional information regarding the North County Plan is available at: https://www.sandiegocounty.gov/content/sdc/pds/mscp/nc.html.

TRANSPORTATION/TRAFFIC

1. The applicant/contractors shall obtain from the Department of Public Works (DPW) right-of-way permit(s) & Traffic Control Plan before any construction.

2. The applicant/contractors shall repair/replace the pavements (trenches/cuts on the pavements) to the satisfaction of the County Traffic Engineer.

3. The applicant/contractors shall get special permits for all night works (noise impacts at night).

4. The applicant shall obtain Cal-OSHA permits for all confined space works (i.e. trenches), and all other construction works that are regulated by Cal-OSHA.

5. The applicant shall obtain permit(s) for all work that are Privately-owned lands in the unincorporated areas of county, and/or County-owned lands/resources.

6. The applicant shall forward detailed information to DPW about which county roads would be impacted by future projects as further review is required.

FLOOD CONTROL

1. The Notice of Preparation states "*The District has determined that the proposed Project may have the potential to significantly impact agricultural and forestry resources….**hydrology** and water quality*…" The San Diego County Flood Control (FC) department is in general agreement with the significant impact assessment to hydrology and water quality resources. Based on Figure 2, Proposed Capital improvement Program (CIP) Water and Sewer Project, included in the Notice of Preparation, it appears that multiple water and sewer CIP projects throughout the entire District will directly impact FC facilities. For instance, the CIP Water Projects labeled as 82, 90, 97, 98, and 99 on Figure 2 appear to be located within the San Diego County Mapped Live Oak Creek Floodplain and Floodway. For any projects occurring within a Floodplain/Floodway, a Conditional Letter of Map Revision (CLOMR) and a Letter of Map Revision (LOMR) would have to be prepared and submitted and approved by both FC and the Federal Emergency Management Agency (FEMA) - the CLOMR application prior to the commencement of any grading activities, and the LOMR prior to the completion of the improvements (San Diego County Ordinance 811.503.b).

2. The improvement plans associated with the water and sewer CIP projects not necessarily within a Floodplain/Floodway, but directly impacting FC's facilities should be routed through the FC department for review and approval.

VECTOR CONTROL

The County of San Diego Vector Control Program (VCP) is responsible for the protection of public health through the surveillance and control of mosquitoes that are vectors for human disease including West Nile virus (WNV).

1. The VCP respectfully requests that the Project design features address potential impacts from possible mosquito breeding sources created by the Project and that the Project is constructed in a manner to minimize those impacts. Specifically, ensure construction-related depressions created by grading activities and vehicle tires do not result in depressions that will hold standing water. In addition, ensure that drainage areas and other structures do not create a potential mosquito breeding source. Any area that is capable of accumulating and holding at least ½ inch of water for more than 96 hours can support mosquito breeding and development.

2. Please note, the VCP has the authority pursuant to state law and County Code to order the abatement of any mosquito breeding that does occur either during construction or after

the Project is completed that is determined to be a vector breeding public nuisance. The VCP will exert that authority as necessary to protect public health if the Project is not designed and constructed to prevent such breeding.

3. For your information, the County of San Diego Guidelines for Determining Significance for Vectors can be accessed at: http://www.sandiegocounty.gov/content/dam/sdc/pds/docs/vector_guidelines.pdf and the California Department of Public Health Best Management Practices for Mosquito Control in California is available at: https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/MosquitoesandMosquitoBorneDiseases.aspx#

4. If you have any questions regarding VCP's comments, please contact Daniel Valdez at 858-688-3722 or by e-mail at Daniel.Valdez@sdcounty.ca.gov.

The County appreciates the opportunity to comment on this Project. We look forward to receiving future documents related to this Project and providing additional assistance, at your request. If you have any questions regarding these comments, please contact Timothy Vertino, Land Use / Environmental Planner, at (858) 495-5468, or via e-mail at timothy.vertino@sdcounty.ca.gov.

Sincerely,

Lynnette Tessitore

Lynnette Tessitore
Chief, Long Range Planning
Planning & Development Services

cc: Benjamin Mills, Policy Advisor, Board of Supervisors, District 5
Lara Barrett, CAO Staff Officer, LUEG
Chelsea Oakes, Land Use/Environmental Planning Manager, PDS
Mary Bennett, Administrative Analyst, DEH
Sue Waters, Land Use/Environmental Planner, DPW

PEIR Appendix B

Air Quality Modeling Outputs

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

RMWD Water and Sewer Facilities Plan - Construction

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Each construction activity assumed to occur simultaneously for a five-month period.

Off-road Equipment - Equipment based on similar projects.

Trips and VMT - Eight worker trips included for CIP 600084 consistent with other projects. Four vendor trips added per project based info from a similar project.

Vehicle Trips - Model run for construction only.

Area Coating - Model run for construction only.

Landscape Equipment - Model run for construction only.

Energy Use - Model run for construction only.

Water And Wastewater - Model run for construction only.

Solid Waste - Model run for construction only.

Construction Off-road Equipment Mitigation -

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Equipment based on similar projects.

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Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	500	0
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	110.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.08	0.00
tblEnergyUse	T24NG	4.27	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Pavers

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600084 - Pump Station Construction
tblOffRoadEquipment	PhaseName		CIP 5300XX-1 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-1 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-1 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-2 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-2 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600071 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600071 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600071 - Pipeline Replacement

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	PhaseName		CIP 600071 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600072 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600072 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600072 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600072 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600080 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600080 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600080 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600074 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600074 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600074 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 5300XX-2 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-3 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-3 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 600002 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600002 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600002 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600067 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600067 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600067 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 5300XX-3 - CIPP Lining
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00

2.0 Emissions Summary

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.2560	2.5134	3.5856	6.0800e-003	0.0599	0.1165	0.1763	0.0163	0.1072	0.1235	0.0000	541.3936	541.3936	0.1501	8.4100e-003	547.6538
Maximum	**0.2560**	**2.5134**	**3.5856**	**6.0800e-003**	**0.0599**	**0.1165**	**0.1763**	**0.0163**	**0.1072**	**0.1235**	**0.0000**	**541.3936**	**541.3936**	**0.1501**	**8.4100e-003**	**547.6538**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.2560	2.5134	3.5856	6.0800e-003	0.0599	0.1165	0.1763	0.0163	0.1072	0.1235	0.0000	541.3930	541.3930	0.1501	8.4100e-003	547.6532
Maximum	**0.2560**	**2.5134**	**3.5856**	**6.0800e-003**	**0.0599**	**0.1165**	**0.1763**	**0.0163**	**0.1072**	**0.1235**	**0.0000**	**541.3930**	**541.3930**	**0.1501**	**8.4100e-003**	**547.6532**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2024	3-31-2024	1.6377	1.6377
2	4-1-2024	6-30-2024	1.0951	1.0951
		Highest	1.6377	1.6377

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.9100e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9100e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.9100e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9100e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	CIP 600048 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
2	CIP 600051 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3	CIP 600071 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
4	CIP 600072 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
5	CIP 600080 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
6	CIP 600074 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
7	CIP 600002 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
8	CIP 600067 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
9	CIP 600084 - Pump Station Construction	Building Construction	1/1/2024	5/31/2024	5	110	
10	CIP 5300XX-1 - CIPP Lining	Trenching	1/1/2024	5/31/2024	5	110	
11	CIP 5300XX-2 - CIPP Lining	Trenching	1/1/2024	5/31/2024	5	110	
12	CIP 5300XX-3 - CIPP Lining	Trenching	1/1/2024	5/31/2024	5	110	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
CIP 600048 - Pipeline Replacement	Concrete/Industrial Saws	0	8.00	81	0.73
CIP 600048 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600048 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600048 - Pipeline Replacement	Rubber Tired Dozers	0	1.00	247	0.40
CIP 600048 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600084 - Pump Station Construction	Cranes	1	4.00	231	0.29
CIP 600084 - Pump Station Construction	Forklifts	2	6.00	89	0.20
CIP 600084 - Pump Station Construction	Graders	0	8.00	187	0.41

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

CIP 600084 - Pump Station Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
CIP 5300XX-1 - CIPP Lining	Pavers	1	6.00	130	0.42
CIP 5300XX-1 - CIPP Lining	Rollers	1	6.00	80	0.38
CIP 5300XX-1 - CIPP Lining	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 5300XX-2 - CIPP Lining	Pavers	1	6.00	130	0.42
CIP 5300XX-2 - CIPP Lining	Rollers	1	6.00	80	0.38
CIP 600051 - Pipeline Replacement	Cranes	0	4.00	231	0.29
CIP 600051 - Pipeline Replacement	Forklifts	0	6.00	89	0.20
CIP 600051 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600051 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600051 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600071 - Pipeline Replacement	Cement and Mortar Mixers	0	6.00	9	0.56
CIP 600071 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600071 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600071 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600072 - Pipeline Replacement	Air Compressors	0	6.00	78	0.48
CIP 600072 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600072 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600072 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600080 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600080 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600080 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600074 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600074 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600074 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 5300XX-2 - CIPP Lining	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 5300XX-3 - CIPP Lining	Pavers	1	6.00	130	0.42
CIP 5300XX-3 - CIPP Lining	Rollers	1	6.00	80	0.38
CIP 600002 - Pipeline Replacement	Pavers	1	6.00	130	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

CIP 600002 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600002 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600067 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600067 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600067 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 5300XX-3 - CIPP Lining	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
CIP 600048 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600084 - Pump Station Construction	4	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 5300XX-1 - CIPP Lining	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600051 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600071 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600072 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600080 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600074 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 5300XX-2 - CIPP Lining	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600002 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600067 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 5300XX-3 - CIPP Lining	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 CIP 600048 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 CIP 600048 - Pipeline Replacement - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 CIP 600051 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 CIP 600051 - Pipeline Replacement - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 CIP 600071 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 CIP 600071 - Pipeline Replacement - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 CIP 600072 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 CIP 600072 - Pipeline Replacement - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 CIP 600080 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 CIP 600080 - Pipeline Replacement - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 CIP 600074 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 CIP 600074 - Pipeline Replacement - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 CIP 600002 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 CIP 600002 - Pipeline Replacement - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 CIP 600067 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 CIP 600067 - Pipeline Replacement - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 CIP 600084 - Pump Station Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0248	0.2489	0.2658	4.6000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	40.0766	40.0766	0.0130	0.0000	40.4007
Total	**0.0248**	**0.2489**	**0.2658**	**4.6000e-004**		**0.0119**	**0.0119**		**0.0109**	**0.0109**	**0.0000**	**40.0766**	**40.0766**	**0.0130**	**0.0000**	**40.4007**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 CIP 600084 - Pump Station Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0248	0.2489	0.2658	4.6000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	40.0766	40.0766	0.0130	0.0000	40.4006
Total	**0.0248**	**0.2489**	**0.2658**	**4.6000e-004**		**0.0119**	**0.0119**		**0.0109**	**0.0109**	**0.0000**	**40.0766**	**40.0766**	**0.0130**	**0.0000**	**40.4006**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 CIP 5300XX-1 - CIPP Lining - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 CIP 5300XX-1 - CIPP Lining - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 CIP 5300XX-2 - CIPP Lining - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 CIP 5300XX-2 - CIPP Lining - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 CIP 5300XX-3 - CIPP Lining - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 CIP 5300XX-3 - CIPP Lining - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1945	0.2879	4.3000e-004		9.4200e-003	9.4200e-003		8.6700e-003	8.6700e-003	0.0000	37.8358	37.8358	0.0122	0.0000	38.1417
Total	**0.0195**	**0.1945**	**0.2879**	**4.3000e-004**		**9.4200e-003**	**9.4200e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**37.8358**	**37.8358**	**0.0122**	**0.0000**	**38.1417**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5000e-004	9.7000e-003	3.3700e-003	4.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	4.3374	4.3374	1.4000e-004	6.3000e-004	4.5281
Worker	1.1200e-003	7.4000e-004	9.4100e-003	3.0000e-005	3.5300e-003	2.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.5000e-004	0.0000	2.7562	2.7562	8.0000e-005	7.0000e-005	2.7798
Total	**1.3700e-003**	**0.0104**	**0.0128**	**7.0000e-005**	**4.9900e-003**	**8.0000e-005**	**5.0700e-003**	**1.3600e-003**	**8.0000e-005**	**1.4300e-003**	**0.0000**	**7.0936**	**7.0936**	**2.2000e-004**	**7.0000e-004**	**7.3079**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.9100e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	3.9100e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9100e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9100e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

RMWD Water and Sewer Facilities Plan - Construction

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Each construction activity assumed to occur simultaneously for a five-month period.

Off-road Equipment - Equipment based on similar projects.

Trips and VMT - Eight worker trips included for CIP 600084 consistent with other projects. Four vendor trips added per project based info from a similar project.

Vehicle Trips - Model run for construction only.

Area Coating - Model run for construction only.

Landscape Equipment - Model run for construction only.

Energy Use - Model run for construction only.

Water And Wastewater - Model run for construction only.

Solid Waste - Model run for construction only.

Construction Off-road Equipment Mitigation -

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Equipment based on similar projects.

Off-road Equipment - Equipment based on similar projects.

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Off-road Equipment - Equipment based on similar projects.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	500	0
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	110.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.08	0.00
tblEnergyUse	T24NG	4.27	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Pavers

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600048 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600084 - Pump Station Construction
tblOffRoadEquipment	PhaseName		CIP 5300XX-1 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-1 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-1 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-2 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-2 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600051 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600071 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600071 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600071 - Pipeline Replacement

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	PhaseName		CIP 600071 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600072 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600072 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600072 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600072 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600080 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600080 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600080 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600074 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600074 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600074 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 5300XX-2 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-3 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 5300XX-3 - CIPP Lining
tblOffRoadEquipment	PhaseName		CIP 600002 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600002 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600002 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600067 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600067 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 600067 - Pipeline Replacement
tblOffRoadEquipment	PhaseName		CIP 5300XX-3 - CIPP Lining
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00

2.0 Emissions Summary

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	4.6770	45.7142	65.2076	0.1104	1.1137	2.1175	3.2313	0.3028	1.9486	2.2514	0.0000	10,845.6968	10,845.6968	3.0089	0.1691	10,971.2891
Maximum	**4.6770**	**45.7142**	**65.2076**	**0.1104**	**1.1137**	**2.1175**	**3.2313**	**0.3028**	**1.9486**	**2.2514**	**0.0000**	**10,845.6968**	**10,845.6968**	**3.0089**	**0.1691**	**10,971.2891**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	4.6770	45.7142	65.2076	0.1104	1.1137	2.1175	3.2313	0.3028	1.9486	2.2514	0.0000	10,845.6968	10,845.6968	3.0089	0.1691	10,971.2891
Maximum	**4.6770**	**45.7142**	**65.2076**	**0.1104**	**1.1137**	**2.1175**	**3.2313**	**0.3028**	**1.9486**	**2.2514**	**0.0000**	**10,845.6968**	**10,845.6968**	**3.0089**	**0.1691**	**10,971.2891**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0214	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0214**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0214	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0214**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	CIP 600048 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
2	CIP 600051 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
3	CIP 600071 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
4	CIP 600072 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
5	CIP 600080 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
6	CIP 600074 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
7	CIP 600002 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
8	CIP 600067 - Pipeline Replacement	Trenching	1/1/2024	5/31/2024	5	110	
9	CIP 600084 - Pump Station Construction	Building Construction	1/1/2024	5/31/2024	5	110	
10	CIP 5300XX-1 - CIPP Lining	Trenching	1/1/2024	5/31/2024	5	110	
11	CIP 5300XX-2 - CIPP Lining	Trenching	1/1/2024	5/31/2024	5	110	
12	CIP 5300XX-3 - CIPP Lining	Trenching	1/1/2024	5/31/2024	5	110	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
CIP 600048 - Pipeline Replacement	Concrete/Industrial Saws	0	8.00	81	0.73
CIP 600048 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600048 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600048 - Pipeline Replacement	Rubber Tired Dozers	0	1.00	247	0.40
CIP 600048 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600084 - Pump Station Construction	Cranes	1	4.00	231	0.29
CIP 600084 - Pump Station Construction	Forklifts	2	6.00	89	0.20
CIP 600084 - Pump Station Construction	Graders	0	8.00	187	0.41
CIP 600084 - Pump Station Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
CIP 5300XX-1 - CIPP Lining	Pavers	1	6.00	130	0.42
CIP 5300XX-1 - CIPP Lining	Rollers	1	6.00	80	0.38
CIP 5300XX-1 - CIPP Lining	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 5300XX-2 - CIPP Lining	Pavers	1	6.00	130	0.42
CIP 5300XX-2 - CIPP Lining	Rollers	1	6.00	80	0.38
CIP 600051 - Pipeline Replacement	Cranes	0	4.00	231	0.29
CIP 600051 - Pipeline Replacement	Forklifts	0	6.00	89	0.20
CIP 600051 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600051 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600051 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600071 - Pipeline Replacement	Cement and Mortar Mixers	0	6.00	9	0.56
CIP 600071 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600071 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600071 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600072 - Pipeline Replacement	Air Compressors	0	6.00	78	0.48
CIP 600072 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600072 - Pipeline Replacement	Rollers	1	6.00	80	0.38

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

CIP 600072 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600080 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600080 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600080 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600074 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600074 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600074 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 5300XX-2 - CIPP Lining	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 5300XX-3 - CIPP Lining	Pavers	1	6.00	130	0.42
CIP 5300XX-3 - CIPP Lining	Rollers	1	6.00	80	0.38
CIP 600002 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600002 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600002 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 600067 - Pipeline Replacement	Pavers	1	6.00	130	0.42
CIP 600067 - Pipeline Replacement	Rollers	1	6.00	80	0.38
CIP 600067 - Pipeline Replacement	Tractors/Loaders/Backhoes	1	6.00	97	0.37
CIP 5300XX-3 - CIPP Lining	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
CIP 600048 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600084 - Pump Station Construction	4	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 5300XX-1 - CIPP Lining	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600051 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600071 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600072 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600080 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

CIP 600074 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 5300XX-2 - CIPP Lining	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600002 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 600067 - Pipeline Replacement	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
CIP 5300XX-3 - CIPP Lining	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 CIP 600048 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 CIP 600048 - Pipeline Replacement - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 CIP 600048 - Pipeline Replacement - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.3 CIP 600051 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 CIP 600051 - Pipeline Replacement - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 CIP 600051 - Pipeline Replacement - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.4 CIP 600071 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 CIP 600071 - Pipeline Replacement - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 CIP 600071 - Pipeline Replacement - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.5 CIP 600072 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 CIP 600072 - Pipeline Replacement - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 CIP 600072 - Pipeline Replacement - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.6 CIP 600080 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 CIP 600080 - Pipeline Replacement - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 CIP 600080 - Pipeline Replacement - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.7 CIP 600074 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 CIP 600074 - Pipeline Replacement - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 CIP 600074 - Pipeline Replacement - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.8 CIP 600002 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 CIP 600002 - Pipeline Replacement - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 CIP 600002 - Pipeline Replacement - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.9 CIP 600067 - Pipeline Replacement - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 CIP 600067 - Pipeline Replacement - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 CIP 600067 - Pipeline Replacement - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.10 CIP 600084 - Pump Station Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4511	4.5257	4.8319	8.3000e-003		0.2159	0.2159		0.1986	0.1986		803.2167	803.2167	0.2598		809.7111
Total	**0.4511**	**4.5257**	**4.8319**	**8.3000e-003**		**0.2159**	**0.2159**		**0.1986**	**0.1986**		**803.2167**	**803.2167**	**0.2598**		**809.7111**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 CIP 600084 - Pump Station Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4511	4.5257	4.8319	8.3000e-003		0.2159	0.2159		0.1986	0.1986	0.0000	803.2167	803.2167	0.2598		809.7111
Total	**0.4511**	**4.5257**	**4.8319**	**8.3000e-003**		**0.2159**	**0.2159**		**0.1986**	**0.1986**	**0.0000**	**803.2167**	**803.2167**	**0.2598**		**809.7111**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 CIP 600084 - Pump Station Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.11 CIP 5300XX-1 - CIPP Lining - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 CIP 5300XX-1 - CIPP Lining - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 CIP 5300XX-1 - CIPP Lining - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.12 CIP 5300XX-2 - CIPP Lining - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 CIP 5300XX-2 - CIPP Lining - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 CIP 5300XX-2 - CIPP Lining - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

3.13 CIP 5300XX-3 - CIPP Lining - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577		758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**		**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 CIP 5300XX-3 - CIPP Lining - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3549	3.5358	5.2340	7.8300e-003		0.1714	0.1714		0.1577	0.1577	0.0000	758.3060	758.3060	0.2453		764.4373
Total	**0.3549**	**3.5358**	**5.2340**	**7.8300e-003**		**0.1714**	**0.1714**		**0.1577**	**0.1577**	**0.0000**	**758.3060**	**758.3060**	**0.2453**		**764.4373**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 CIP 5300XX-3 - CIPP Lining - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4600e-003	0.1775	0.0622	8.0000e-004	0.0271	1.0500e-003	0.0282	7.8000e-003	1.0100e-003	8.8100e-003		87.0043	87.0043	2.7300e-003	0.0126	90.8295
Worker	0.0223	0.0137	0.1713	5.3000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.1000e-004	0.0177		54.7553	54.7553	1.5500e-003	1.4800e-003	55.2345
Total	**0.0268**	**0.1912**	**0.2335**	**1.3300e-003**	**0.0928**	**1.3900e-003**	**0.0942**	**0.0252**	**1.3200e-003**	**0.0266**		**141.7595**	**141.7595**	**4.2800e-003**	**0.0141**	**146.0640**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0214	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0214	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0214**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0214**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

RMWD Water and Sewer Facilities Plan - Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

RMWD Water and Sewer Facilities Plan - Operations

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2026
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Run for operations only.

Vehicle Trips - New operational vehicle trips considered for one new pump station (CIP Project 60008) and one new lift station (CIP Project 5300XX-6).

Energy Use - Electricity use estimated based on a rate of 1,500 kWh per 1 MG of pumping. Pumps conservatively assumed to be in constant operation over the course of the year.

Water And Wastewater - No water use.

Solid Waste - Negligible solid waste generation.

Operational Off-Road Equipment - Equipment included for use for general maintenace activities during Project operations.

Stationary Sources - Emergency Generators and Fire Pumps - Generators assumed to be tested for 0.5 hour once a month.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	PhaseEndDate	5/10/2022	4/26/2022
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.08	5,041.03
tblEnergyUse	T24NG	4.27	0.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.37
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CO_EF	5.97	5.97
tblStationaryGeneratorsPumpsEF	NOX_EF	5.32	5.32
tblStationaryGeneratorsPumpsEF	PM10_EF	0.60	0.60
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.60	0.60
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	50.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	10.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	75.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	150.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	225.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	4.00
tblWater	IndoorWaterUseRate	231,250.00	0.00

2.0 Emissions Summary

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1,234.7036	1,234.7036	0.0755	9.1500e-003	1,239.3156
Mobile	1.3500e-003	1.4800e-003	0.0128	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.6102	2.6102	1.8000e-004	1.1000e-004	2.6486
Offroad	8.5500e-003	0.0864	0.1443	2.0000e-004		3.5000e-003	3.5000e-003		3.2200e-003	3.2200e-003	0.0000	17.7391	17.7391	5.7400e-003	0.0000	17.8825
Stationary	2.7600e-003	8.2300e-003	8.9200e-003	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	1.2795	1.2795	1.8000e-004	0.0000	1.2840
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0177**	**0.0961**	**0.1660**	**2.4000e-004**	**3.1200e-003**	**3.9500e-003**	**7.0700e-003**	**8.3000e-004**	**3.6700e-003**	**4.5000e-003**	**0.0000**	**1,256.3323**	**1,256.3323**	**0.0816**	**9.2600e-003**	**1,261.1307**

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1,234.7036	1,234.7036	0.0755	9.1500e-003	1,239.3156
Mobile	1.3500e-003	1.4800e-003	0.0128	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.6102	2.6102	1.8000e-004	1.1000e-004	2.6486
Offroad	8.5500e-003	0.0864	0.1443	2.0000e-004		3.5000e-003	3.5000e-003		3.2200e-003	3.2200e-003	0.0000	17.7391	17.7391	5.7400e-003	0.0000	17.8825
Stationary	2.7600e-003	8.2300e-003	8.9200e-003	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	1.2795	1.2795	1.8000e-004	0.0000	1.2840
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0177**	**0.0961**	**0.1660**	**2.4000e-004**	**3.1200e-003**	**3.9500e-003**	**7.0700e-003**	**8.3000e-004**	**3.6700e-003**	**4.5000e-003**	**0.0000**	**1,256.3323**	**1,256.3323**	**0.0816**	**9.2600e-003**	**1,261.1307**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/27/2022	4/26/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3500e-003	1.4800e-003	0.0128	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.6102	2.6102	1.8000e-004	1.1000e-004	2.6486
Unmitigated	1.3500e-003	1.4800e-003	0.0128	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.6102	2.6102	1.8000e-004	1.1000e-004	2.6486

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	4.00	0.00	0.00	8,341	8,341
Total	4.00	0.00	0.00	8,341	8,341

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,234.7036	1,234.7036	0.0755	9.1500e-003	1,239.3156
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,234.7036	1,234.7036	0.0755	9.1500e-003	1,239.3156
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	5.04103e+006	1,234.7036	0.0755	9.1500e-003	1,239.3156
Total		**1,234.7036**	**0.0755**	**9.1500e-003**	**1,239.3156**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	5.04103e+006	1,234.7036	0.0755	9.1500e-003	1,239.3156
Total		**1,234.7036**	**0.0755**	**9.1500e-003**	**1,239.3156**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**5.0700e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**5.0700e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	1	4.00	260	97	0.37	Diesel

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UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Tractors/Loaders/ Backhoes	8.5500e-003	0.0864	0.1443	2.0000e-004		3.5000e-003	3.5000e-003		3.2200e-003	3.2200e-003	0.0000	17.7391	17.7391	5.7400e-003	0.0000	17.8825
Total	**8.5500e-003**	**0.0864**	**0.1443**	**2.0000e-004**		**3.5000e-003**	**3.5000e-003**		**3.2200e-003**	**3.2200e-003**	**0.0000**	**17.7391**	**17.7391**	**5.7400e-003**	**0.0000**	**17.8825**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	2	0.5	6	50	0.73	Diesel
Emergency Generator	1	0.5	6	10	0.73	Diesel
Emergency Generator	1	0.5	6	75	0.73	Diesel
Emergency Generator	1	0.5	6	150	0.73	Diesel
Emergency Generator	1	0.5	6	225	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (0 - 11 HP)	5.0000e-005	2.6000e-004	2.9000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0229	0.0229	0.0000	0.0000	0.0229
Emergency Generator - Diesel (100 - 175 HP)	7.4000e-004	2.0600e-003	2.6800e-003	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.3427	0.3427	5.0000e-005	0.0000	0.3439
Emergency Generator - Diesel (175 - 300 HP)	1.1100e-003	3.1000e-003	2.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	0.5141	0.5141	7.0000e-005	0.0000	0.5159
Emergency Generator - Diesel (50 - 75 HP)	4.9000e-004	1.6100e-003	1.7900e-003	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.2285	0.2285	3.0000e-005	0.0000	0.2293
Emergency Generator - Diesel (75 - 100 HP)	3.7000e-004	1.2000e-003	1.3400e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1714	0.1714	2.0000e-005	0.0000	0.1720
Total	**2.7600e-003**	**8.2300e-003**	**8.9200e-003**	**1.0000e-005**		**4.2000e-004**	**4.2000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**1.2795**	**1.2795**	**1.7000e-004**	**0.0000**	**1.2840**

11.0 Vegetation

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

RMWD Water and Sewer Facilities Plan - Operations

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2026
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Run for operations only.

Vehicle Trips - New operational vehicle trips considered for one new pump station (CIP Project 60008) and one new lift station (CIP Project 5300XX-6).

Energy Use - Electricity use estimated based on a rate of 1,500 kWh per 1 MG of pumping. Pumps conservatively assumed to be in constant operation over the course of the year.

Water And Wastewater - No water use.

Solid Waste - Negligible solid waste generation.

Operational Off-Road Equipment - Equipment included for use for general maintenace activities during Project operations.

Stationary Sources - Emergency Generators and Fire Pumps - Generators assumed to be tested for 0.5 hour once a month.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	PhaseEndDate	5/10/2022	4/26/2022
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.08	5,041.03
tblEnergyUse	T24NG	4.27	0.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.37
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CO_EF	5.97	5.97
tblStationaryGeneratorsPumpsEF	NOX_EF	5.32	5.32
tblStationaryGeneratorsPumpsEF	PM10_EF	0.60	0.60
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.60	0.60
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	50.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	10.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	75.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	150.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	225.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	4.00
tblWater	IndoorWaterUseRate	231,250.00	0.00

2.0 Emissions Summary

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.3380	0.0000	0.0000	0.3230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.3380**	**0.0000**	**0.0000**	**0.3230**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.3380	0.0000	0.0000	0.3230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.3380**	**0.0000**	**0.0000**	**0.3230**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0105	0.0115	0.1001	2.1000e-004	0.0246	1.6000e-004	0.0247	6.5500e-003	1.5000e-004	6.7000e-003		22.0088	22.0088	1.5500e-003	9.8000e-004	22.3384
Offroad	0.0658	0.6648	1.1103	1.5500e-003		0.0269	0.0269		0.0248	0.0248	0.0000	150.4157	150.4157	0.0487		151.6318
Stationary	0.4594	1.3710	1.4864	2.2100e-003		0.0712	0.0712		0.0712	0.0712		235.0640	235.0640	0.0330		235.8879
Total	**0.5635**	**2.0474**	**2.6969**	**3.9700e-003**	**0.0246**	**0.0983**	**0.1229**	**6.5500e-003**	**0.0961**	**0.1027**	**0.0000**	**407.4886**	**407.4886**	**0.0832**	**9.8000e-004**	**409.8584**

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0105	0.0115	0.1001	2.1000e-004	0.0246	1.6000e-004	0.0247	6.5500e-003	1.5000e-004	6.7000e-003		22.0088	22.0088	1.5500e-003	9.8000e-004	22.3384
Offroad	0.0658	0.6648	1.1103	1.5500e-003		0.0269	0.0269		0.0248	0.0248	0.0000	150.4157	150.4157	0.0487		151.6318
Stationary	0.4594	1.3710	1.4864	2.2100e-003		0.0712	0.0712		0.0712	0.0712		235.0640	235.0640	0.0330		235.8879
Total	**0.5635**	**2.0474**	**2.6969**	**3.9700e-003**	**0.0246**	**0.0983**	**0.1229**	**6.5500e-003**	**0.0961**	**0.1027**	**0.0000**	**407.4886**	**407.4886**	**0.0832**	**9.8000e-004**	**409.8584**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/27/2022	4/26/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0105	0.0115	0.1001	2.1000e-004	0.0246	1.6000e-004	0.0247	6.5500e-003	1.5000e-004	6.7000e-003		22.0088	22.0088	1.5500e-003	9.8000e-004	22.3384
Unmitigated	0.0105	0.0115	0.1001	2.1000e-004	0.0246	1.6000e-004	0.0247	6.5500e-003	1.5000e-004	6.7000e-003		22.0088	22.0088	1.5500e-003	9.8000e-004	22.3384

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	4.00	0.00	0.00	8,341	8,341
Total	4.00	0.00	0.00	8,341	8,341

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0278**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0278**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	1	4.00	260	97	0.37	Diesel

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Tractors/Loaders/ Backhoes	0.0658	0.6648	1.1103	1.5500e-003		0.0269	0.0269		0.0248	0.0248	0.0000	150.4157	150.4157	0.0487		151.6318
Total	**0.0658**	**0.6648**	**1.1103**	**1.5500e-003**		**0.0269**	**0.0269**		**0.0248**	**0.0248**	**0.0000**	**150.4157**	**150.4157**	**0.0487**		**151.6318**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	2	0.5	6	50	0.73	Diesel
Emergency Generator	1	0.5	6	10	0.73	Diesel
Emergency Generator	1	0.5	6	75	0.73	Diesel
Emergency Generator	1	0.5	6	150	0.73	Diesel
Emergency Generator	1	0.5	6	225	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

RMWD Water and Sewer Facilities Plan - Operations - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (0 - 11 HP)	8.2000e-003	0.0428	0.0480	4.0000e-005		4.8000e-003	4.8000e-003		4.8000e-003	4.8000e-003		4.1976	4.1976	5.9000e-004		4.2123
Emergency Generator - Diesel (100 - 175 HP)	0.1231	0.3440	0.4466	5.9000e-004		0.0181	0.0181		0.0181	0.0181		62.9636	62.9636	8.8300e-003		63.1843
Emergency Generator - Diesel (175 - 300 HP)	0.1846	0.5160	0.4707	8.9000e-004		0.0272	0.0272		0.0272	0.0272		94.4453	94.4453	0.0132		94.7764
Emergency Generator - Diesel (50 - 75 HP)	0.0820	0.2676	0.2977	3.9000e-004		0.0121	0.0121		0.0121	0.0121		41.9757	41.9757	5.8900e-003		42.1228
Emergency Generator - Diesel (75 - 100 HP)	0.0615	0.2007	0.2233	3.0000e-004		9.0500e-003	9.0500e-003		9.0500e-003	9.0500e-003		31.4818	31.4818	4.4100e-003		31.5921
Total	**0.4594**	**1.3710**	**1.4864**	**2.2100e-003**		**0.0712**	**0.0712**		**0.0712**	**0.0712**		**235.0640**	**235.0640**	**0.0330**		**235.8879**

11.0 Vegetation

PEIR Appendix C

Biological Technical Report

HELIX Environmental Planning

Rainbow Municipal Water District Water and Sewer Facilities Plan

Biological Technical Report

May 2022 | 01940.00002.001

Prepared for:

Rainbow Municipal Water District
3703 Old Highway 395
Fallbrook, CA 92028

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG Code	California Fish and Game Code
CIP	Capital Improvements Program
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	San Diego County
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dBA	A-weighted decibel
District	Rainbow Municipal Water District
ESA	Endangered Species Act
F	Fahrenheit
ITP	Incidental Take Permit
ITS	Incidental Take Statement
HELIX	HELIX Environmental Planning, Inc.
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Plan
NPDES	National Pollutant Discharge Elimination System
ODP	Other District Pipeline
Project	Water and Sewer Facilities Plan
RPO	Resource Protection Ordinance
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

At the request of Rainbow Municipal Water District (District), HELIX Environmental Planning, Inc. (HELIX) has completed this biological resources technical report for the proposed Water and Sewer Facilities Plan (Project). The District's service boundaries encompass several unincorporated areas including the communities of Rainbow and Bonsall and portions of Pala and Fallbrook, as well as a small portion within the City of Oceanside. The Project provides a comprehensive programmatic review of the District's potable and wastewater systems and identifies a plan of capital improvements necessary for the systems to adapt to future conditions, including major planned land development projects, while providing reliable and economical service to the District's customers. The purpose of this report is to document the existing biological conditions within the Service Area and provide an analysis of potential impacts to sensitive biological resources under applicable local, state, and federal laws, regulations, and policies. This report provides the biological resources technical documentation necessary for review under California Environmental Quality Act (CEQA) and to demonstrate compliance with federal, state, and local laws and regulations addressing biological resources and to support any environmental permits that are necessary for the Project.

HELIX conducted preliminary site assessments of the Capital Improvements Program (CIP), as well as a desktop assessment of baseline biological resource information within the District Service Area for Other District Pipeline (ODP) projects. Several resources were reviewed and compiled as part of this assessment, including sensitive species databases, state and federal agency resource programs, and regional geographic information system databases containing spatial data of biological resources throughout the Service Area. As necessary, the District will undertake the required site-specific CEQA review once adequate information is available regarding the specific ODP projects to support a project-level environmental analysis and prior to approving any specific replacements or improvements.

The Service Area supports a variety of land uses and habitat types, many of which support suitable habitat for special-status plant and wildlife species known to the region. General habitat types present include coastal scrub, chaparral, oak woodland, riparian forest/woodland, riparian scrub, freshwater marsh, open water, grassland, non-native vegetation, agriculture, disturbed habitat, and developed lands. Additionally, the U.S. Fish and Wildlife Service (USFWS) has designated critical habitat for one federally-listed plant species and five federally-listed animal species. USFWS-designated critical habitat occurs throughout the Service Area, but primarily within and adjacent to the San Luis Rey River. A few of the more noteworthy special-status species with potential to occur in the Service Area include coastal California gnatcatcher (*Polioptila californica californica*), Quino checkerspot butterfly (*Euphydryas editha quino*), least Bell's vireo (*Vireo bellii pusillus*), Riverside fairy shrimp (*Streptocephalus woottoni*), and San Diego fairy shrimp (*Branchinecta sandiegonensis*).

Numerous drainages, wetlands, and riparian habitat occur within the Service Area that support waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and/or Porter-Cologne Water Quality Act; and unvegetated stream channels and riparian habitat subject to the regulatory jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 *et seq*. of California Fish and Game (CFG) Code.

Implementation of CIP and ODP projects could result in potentially significant impacts to special-status plant and animal species, riparian habitat and sensitive vegetation communities, and jurisdictional waters and wetlands. Mitigation measures are proposed to reduce the impacts to below a level of significance. The District would also implement Best Management Practices (BMPs) to avoid and minimize impacts to sensitive biological resources.

1.0 INTRODUCTION

This report describes the results of a biological resources study conducted by HELIX Environmental Planning, Inc. (HELIX) for the proposed Rainbow Municipal Water District (District) Water and Sewer Facilities Plan (Project), which provides a comprehensive review of the District's potable and wastewater systems and identifies a plan of capital improvements necessary for the systems to adapt to future conditions, including increased capacity to account for major planned land development projects, while providing reliable and economical service to the District's customers. The purpose of this report is to document the existing biological conditions within the Service Area and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for review under California Environmental Quality Act (CEQA) by the District.

1.1 PROJECT LOCATION

The District's Service Area encompasses 82 square miles over portions of north San Diego County (County), California, and encompasses several unincorporated areas including the communities of Rainbow and Bonsall and portions of Pala and Fallbrook, as well as a small portion within the City of Oceanside. (Figure 1, *Regional Location*). The Service Area occurs within Townships 9, 10, and 11 South, Ranges 1, 2, 3, and 4 West, San Bernardino Meridian, California U.S. of the U.S. Geological Survey (USGS) 7.5-minute Bonsall, Morro Hill, Pala, Pechanga, San Marcos, and Temecula topographic quadrangle maps (Figure 2, *USGS Topography*). The northern part of the District is located north of the San Luis Rey River and straddles Interstate 15, while the southern part of the District is located west of Interstate 15 and straddles the San Luis Rey River (Figure 3, *Project Vicinity [Aerial Photograph]*).

1.2 PROJECT DESCRIPTION

The Project provides a comprehensive review of the District's potable and wastewater systems, and identifies a plan of capital improvements necessary for the systems to adapt to future conditions, including increased capacity to account for major planned land development projects, while providing reliable and economical service to the District's customers. Existing and future (through 2050) demands and flows in the Project are based on current land uses, approved land uses, and forecasted growth-based land uses. Activities would implement improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards, address system deficiencies under current demand and flow conditions, and meet future water demand and flow conditions in the short term (2030) and long term (2050).

Specific staging areas have not yet been identified; staging areas would be located within developed or disturbed locations or within a parcel that is owned by the District on a case-by-case basis for the individual projects.

1.2.1 Capital Improvements Plan Projects

The proposed Capital Improvements Program (CIP) includes recommended projects to address existing and forecasted capacity deficiencies, improve system reliability, redundancy and operating efficiencies, and conduct strategic system maintenance and replacement programs. Proposed new developments to be served by the District would be required to construct their own on-site sewer system and connection

to the District's existing system. These facilities, required for specific planned developments, are not included as these are assumed to be developer-funded. The CIP identifies facilities or programs primarily to provide the District's customers with a system that meets the District's capacity criteria, is in good condition, and can be operated efficiently and reliably. Should demands and flows forecasted during the planning horizon not materialize, there may be opportunities to defer or eliminate some projects. This report conservatively assumes that all identified CIP projects would be constructed.

Water system projects fall into various improvement categories, including hydraulic capacity; pressure regulation; fire flows; and operations, redundancy, and reliability. The water system CIP consists of 29 projects that are subdivided into the categories listed below:

- Hydraulic Capacity – consists primarily of pipeline upsizing to correct deficiencies in capacity caused by excessive velocity and head loss under peak demand conditions.

- Pressure Regulation – recommend potential reduced pressure service zones by constructing pressure reducing stations to protect pipelines, laterals, and appurtenances.

- Fire Flows – upsizing of small diameter pipelines to increase fire flows at critically deficient areas.

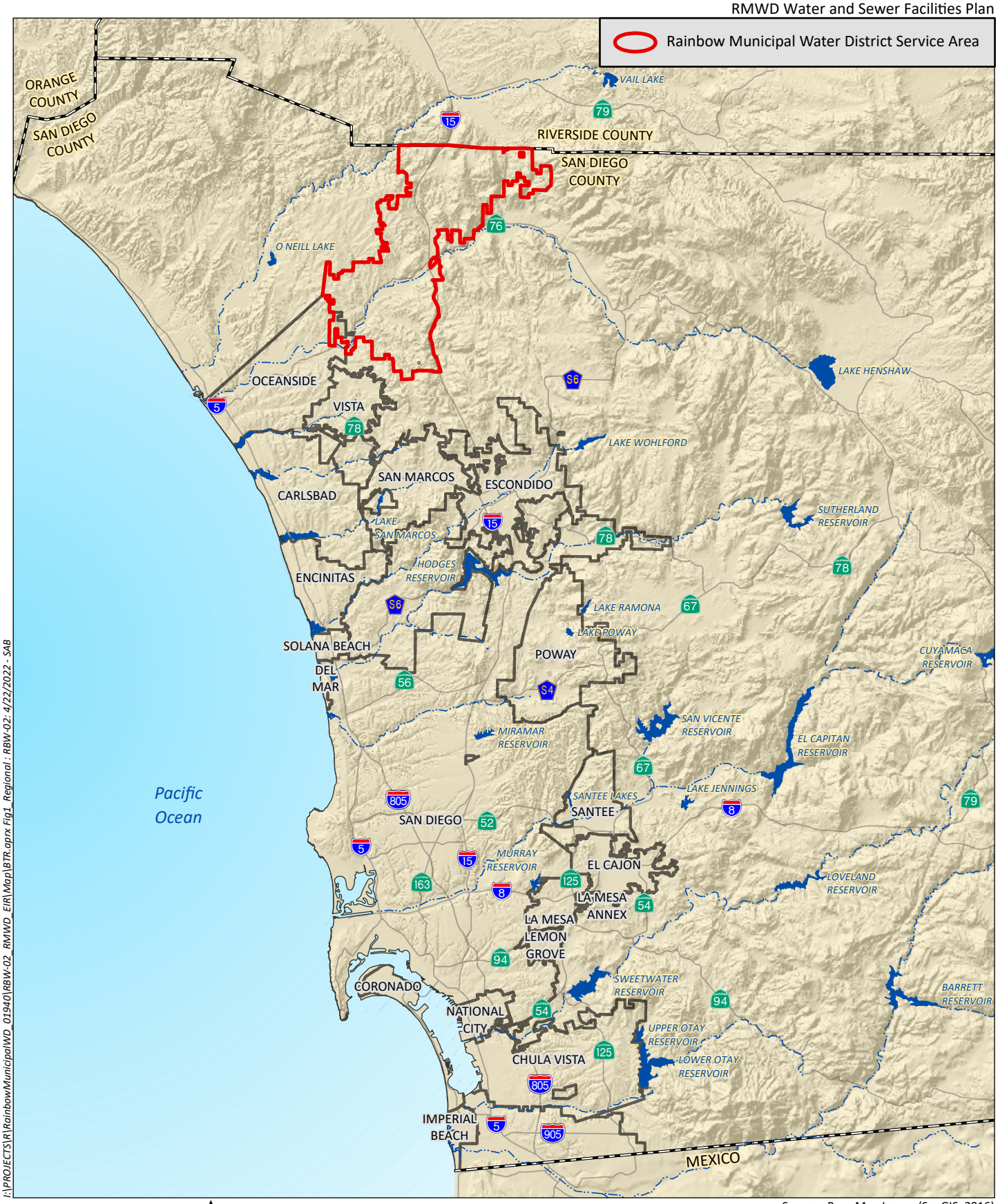
- Operations, Redundancy, and Reliability – includes projects to add or improve emergency supplies, increase the system and supply reliability for vulnerable or future service areas, improve operating efficiencies, and upgrade and/or replace facilities that do not meet current standards.

The nine proposed sewer system CIP projects are proposed and include replacements, rehabilitations, and other improvements.

1.2.2 Other District Project Water and Sewer Pipelines

In 2018, a condition assessment was conducted to review the District's water main infrastructure. Based on the risk parameters used in the condition assessment, specific water CIP projects were chosen for the facilities determined to be the highest priority for replacement or rehabilitation. However, as all of the District's pipeline infrastructure continues to age and deteriorate (particularly for facilities that are 50 or more years old), failures or breakages could occur anywhere in the system. Therefore, this Biological Technical Report addresses, at a conceptual level, the totality of the District's water and sewer pipelines, including 336 miles of water pipelines and 76 miles of sewer pipelines. These pipelines are referred to as Other District Pipeline (ODP) projects. Specific locations, details, and timing of replacements or improvements along the ODP projects are unknown at this time and will require further project-level CEQA review prior to implementation.

For purposes of this programmatic analysis, the ODP projects have been subdivided into three categories, depending on the potential to result in direct and/or indirect impacts to sensitive biological resources, including sensitive vegetation communities and listed plant and animal species. ODP Category A Projects have the potential to result in both direct and indirect impacts to sensitive biological resources. ODP Category B Projects have the potential to result in indirect impacts to sensitive biological resources. ODP Category C Projects are projects with no anticipated direct or indirect impacts to sensitive biological resources.



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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

Rainbow Municipal Water District Service Area

Source: OCEANSIDE 1:100,000 Quad (USGS)

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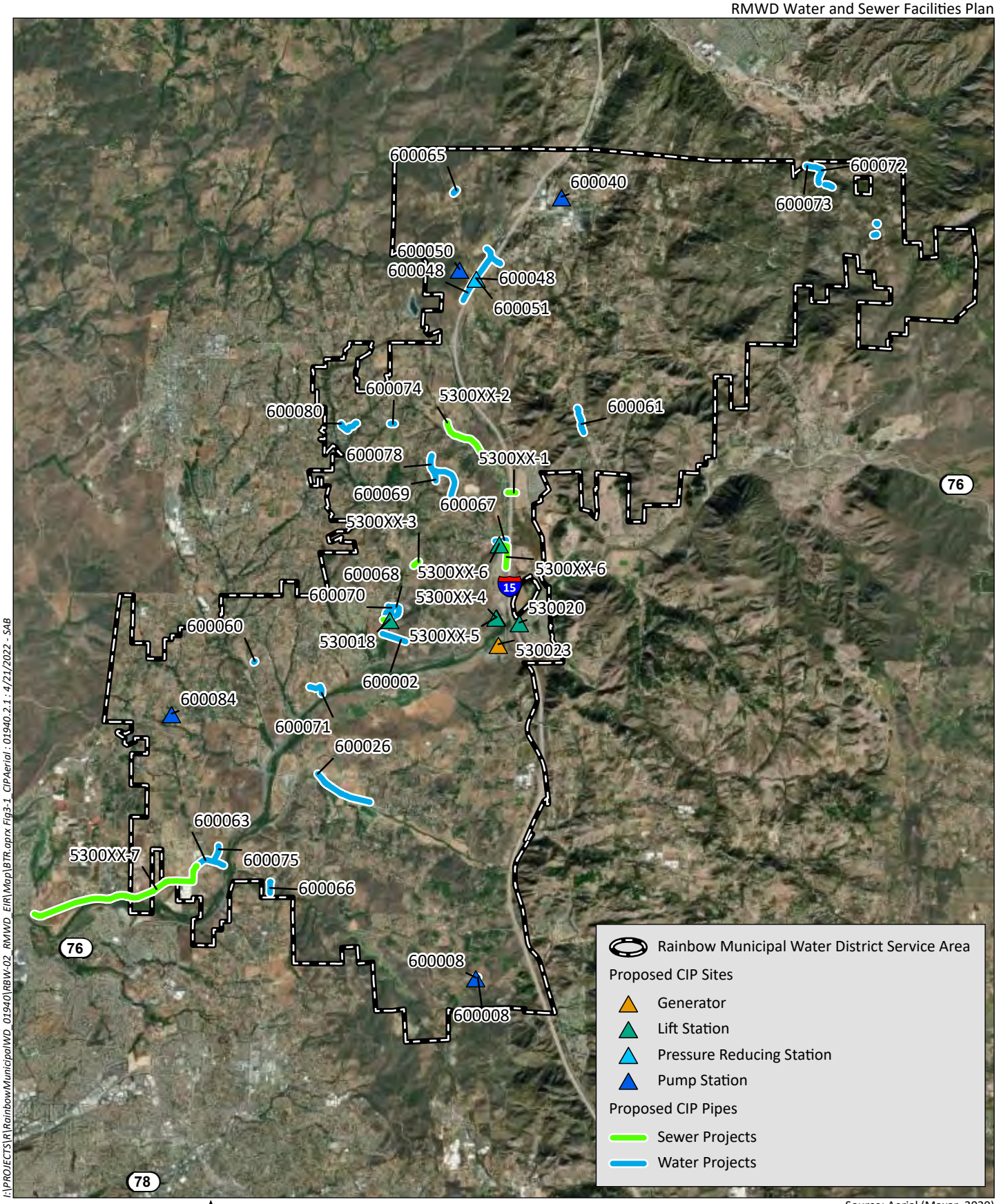
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HELIX Environmental Planning

USGS Topography

Figure 2



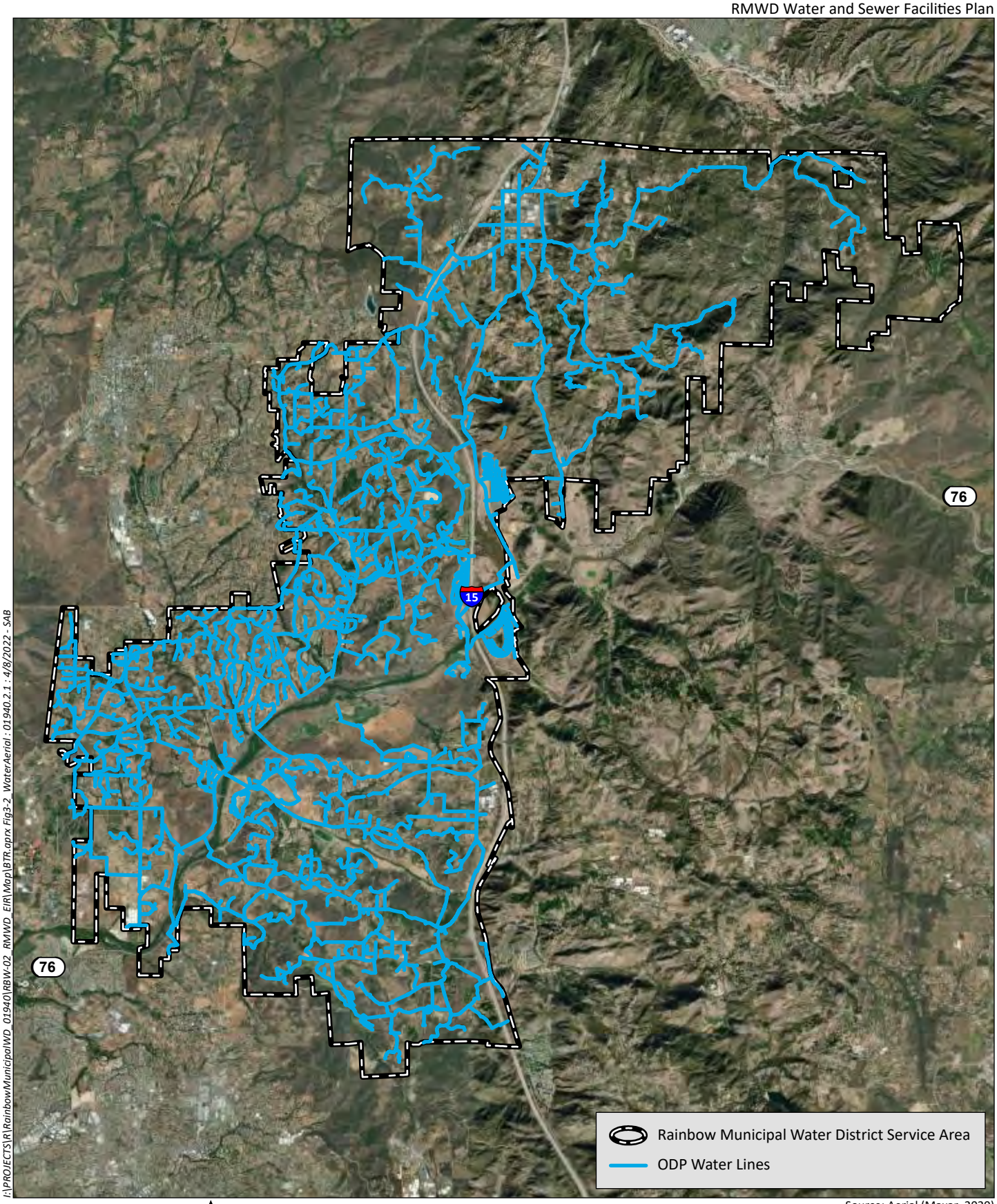
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HELIX Environmental Planning

CIP Project Vicinity (Aerial Photograph)

Figure 3-1



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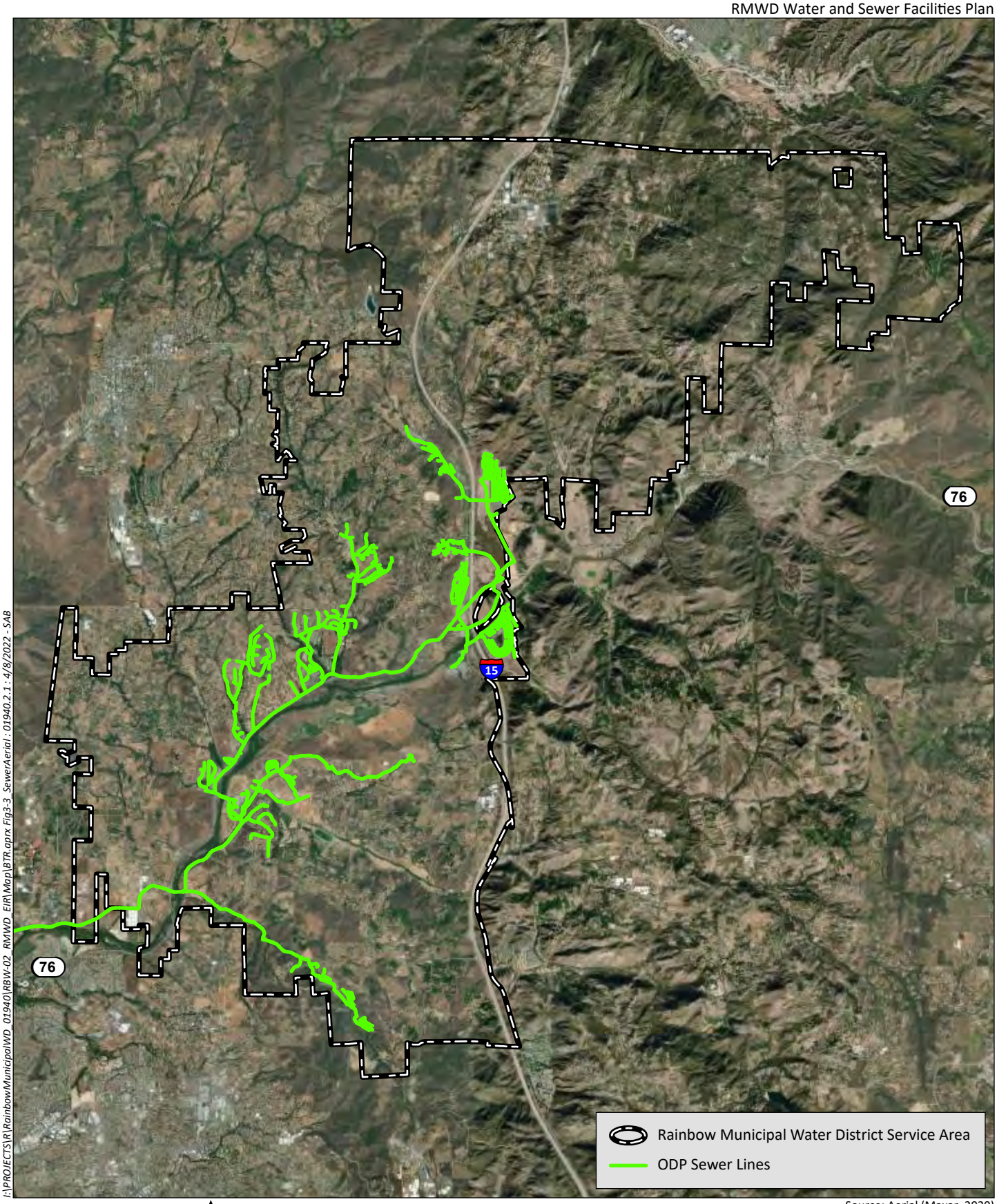
0 2 Miles

Source: Aerial (Maxar, 2020)

HELIX Environmental Planning

ODP Water Line
Project Vicinity (Aerial Photograph)

Figure 3-2



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0 2 Miles

Source: Aerial (Maxar, 2020)

HELIX Environmental Planning

ODP Sewer Line
Project Vicinity (Aerial Photograph)

Figure 3-3

1.2.3 Maintenance Projects

Existing, CIP, and ODP water and sewer pipelines and facility components will require routine and regular maintenance to maintain proper function. For the purposes of this report, maintenance projects are minor activities that the District may undertake as part of general operations. Maintenance projects would include the replacement or reconstruction of the existing structures and facilities. The new structures would be located on the same sites as the structures replaced and would have substantially the same purpose and capacity as the structures replaced, including existing utility facilities involving negligible or no expansion of capacity.

Other maintenance projects may include the installation of new equipment and facilities in small structures or the conversion of existing small structures from one use to another where only minor modifications are made to the exterior of the structures. Examples may also include activities such as maintenance hole replacements or rehabilitation; installation of valves, fire hydrants, air/vacuum relief assemblies, and blow off assemblies; relocation of water meters; asphalt pavement replacement; pipeline abandonment; street improvements such as landscaping; or vegetation trimming and brush management within a District easement.

The maintenance activities described above are not expected to result in significant impacts and are expected to be subject to regulatory or statutory exemptions from CEQA but were accounted for in the environmental impact analysis for informational purposes.

1.3 METHODS

Project evaluation included a review of existing information and field surveys. The methods used to evaluate the biological resources present within the Service Area are discussed in this section.

1.3.1 Literature Review

Prior to conducting biological field surveys, HELIX conducted a thorough review of relevant maps, databases, and literature pertaining to the biological resources known to occur within the Service Area. Recent and historical aerial imagery, USGS topographic maps, soils maps (U.S. Department of Agriculture [USDA] 2021), and other maps of the Service Area and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

In addition, HELIX conducted a query of special-status species and habitats databases, including the U.S. Fish and Wildlife (USFWS) species records (USFWS 2021a), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; CDFW 2021a), Calflora database (Calflora 2021), SanBIOS and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2021). The USFWS' National Wetlands Inventory was also reviewed (USFWS 2021b). Any recorded locations of species, habitat types, wetlands, and other resources were mapped and overlain onto aerial imagery (Figure 4, *Sensitive Species Documented within Service Area*).

1.3.2 Biological Surveys

Preliminary general biological surveys of CIP projects were conducted by HELIX biologists Katie Bellon, Mandy Mathews, and Stacy Nigro in June and July 2020, and May 2021. Vegetation was mapped on a 1"=100' scale aerial of the site. A minimum mapping unit size of 0.1 acre was used when mapping

upland habitat and 0.01 acre for wetland and riparian habitats. The survey area was surveyed on foot and with the aid of binoculars. Habitat suitability and potential for occurrence were assessed for special-status plant and animal species known to the region (Appendix A, *Special-Status Plant Species with Potential to Occur* and Appendix B, *Special-Status Animal Species with Potential to Occur*, respectively).

1.3.3 Nomenclature

Nomenclature used in this report is from Holland (1986) and Oberbauer (2008) for vegetation communities; Jepson eFlora (2021) and Baldwin et al. (2012) for plants; North American Butterfly Association (2021) for butterflies; Society for the Study of Amphibians and Reptiles (2021) for reptiles and amphibians; American Ornithological Society (2021) for birds; and Bradley et al. (2014) for mammals. Plant species status is from the CNPS Rare Plant Inventory (2021) and CDFW (2021b). Animal species status is from the CDFW (2021c).

1.4 ENVIRONMENTAL SETTING

1.4.1 Regional Context

The District's Service Area is generally a semi-arid environment and supports a wide range of habitats and biological communities that vary greatly depending on the eco-region, soils and substrate, elevation, and topography. Representative habitats within the Service Area include coastal sage scrub, chaparral, grassland, riparian scrub, forests and woodlands, and oak woodlands, throughout the lowlands and foothills and mixed chaparral, oak woodlands associated with the higher elevation mountain ranges in the northern portion of the Service Area. These communities provide habitat for a vast assemblage of flora and fauna, many of which are endemic to California.

USFWS-designated critical habitats for arroyo toad (*Bufo californicus*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), San Diego ambrosia (*Ambrosia pumila*), and southwestern willow flycatcher (*Empidonax traillii extimus*) within the Service Area are shown on Figure 5, *USFWS Critical Habitat*. USFWS critical habitat includes specific areas that contain physical and biological features essential to the conservation and recovery of federally-listed species.

1.4.2 General Land Uses

The bioregion that generally defines the Service Area for the Project is influenced by a coastal Mediterranean climate. The area's climate, coupled with regional geological formations and land features, gives rise to an array of habitat types and species that are unique to southern California. Although past agricultural practices and urbanization have resulted in the conversion of the land within portions of the Service Area, there are a few larger blocks and linkages of undeveloped land, particularly in the northern and southern areas of the water district, that provide important habitat for plant and wildlife species that reside in and migrate to and from the area. Grasslands, coastal sage scrub, chaparral, oak woodlands, riparian woodlands and forests, and riverine habitats all contribute to the overall biological value of the Service Area.

The District's Service Area is primarily comprised of valleys, canyons, and low mountains. The area is characterized by agriculture, single-family residential development, and undeveloped lands, with additional land uses within the Service Area, including small areas of commercial development, parks, schools, transportation infrastructure, water conveyance infrastructure, and golf courses (Figure 3).

Rainbow Municipal Water District Service Area

SanBIOS Species Observations

Mammals
- Dulzura pocket mouse
- Greater western mastiff bat
- Pallid bat
- Stephens kangaroo rat

Reptiles and Amphibians
- Arroyo toad
- Coast horned lizard
- Coronado skink
- Garter snake
- Orange throated whiptail
- Red diamond rattlesnake
- Two stripe garter snake
- Western spadefoot toad

Birds
- White tailed kite
- White faced ibis
- Southern California rufous crowned sparrow
- Northern harrier
- Golden eagle
- Cooper's hawk
- Bell's sage sparrow
- California gnatcatcher

Plants
- Chapparal beargrass
- Felt leaf rock mint
- Heart leaf pitcher sage
- Orcutt's brodiaea
- Parry's tetracoccus

USFWS Sensitive Species Observations
- arroyo toad
- coastal California gnatcatcher
- least Bell's vireo
- southwestern willow flycatcher
- yellow-billed cuckoo

RIVERSIDE COUNTY
SAN DIEGO COUNTY
15
76
OCEANSIDE
S.D. COUNTY
VISTA
S.D. COUNTY
S.D. COUNTY
ESCONDIDO

I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig4_Species : 01940.2.1 : 4/11/2022 - SAB

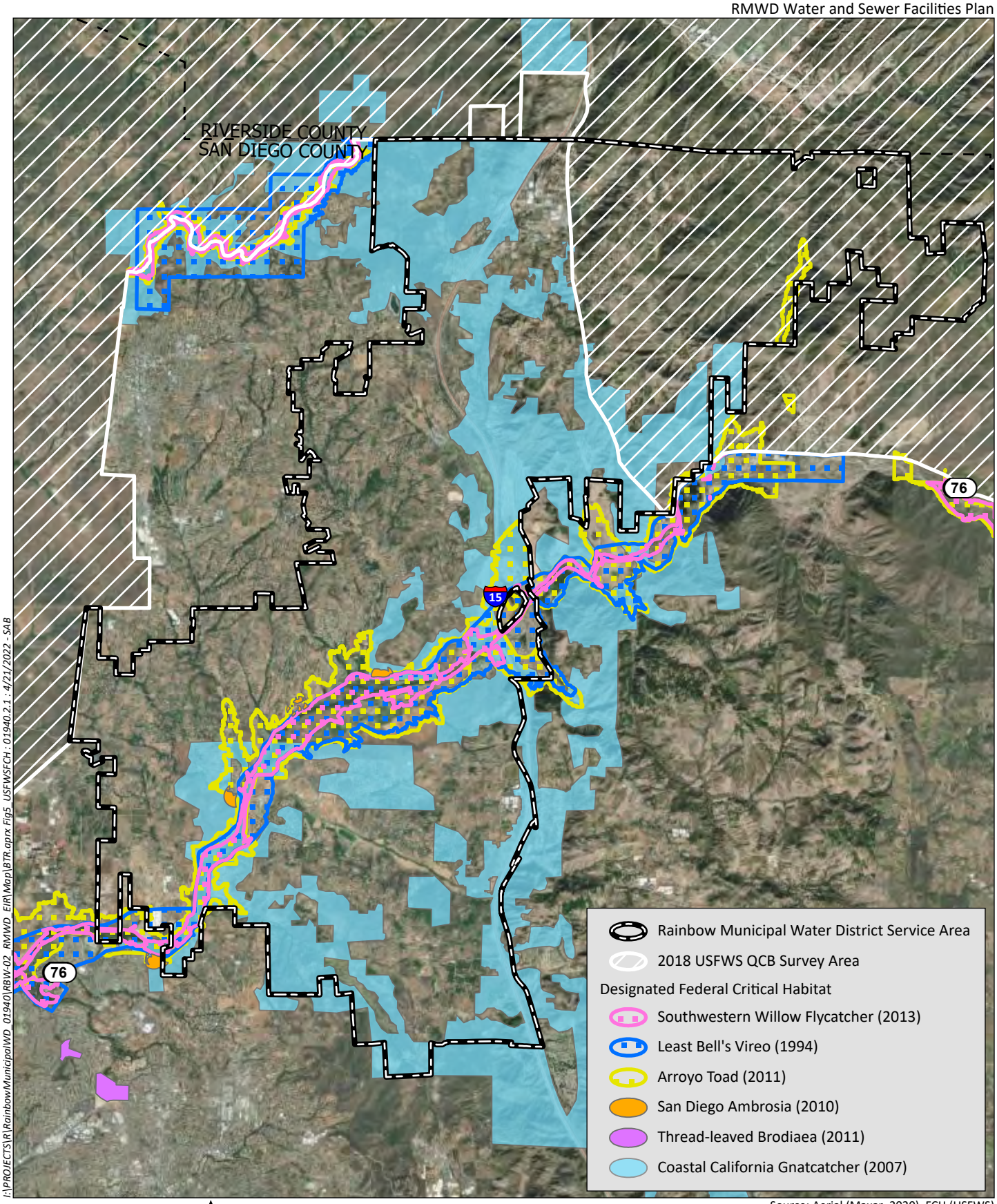
0 1.5 Miles

Source: Aerial (Maxar, 2020), Species (SanBIOS, 2012), (USFWS, 2021)

HELIX Environmental Planning

Sensitive Species Documented within Service Area

Figure 4



Source: Aerial (Maxar, 2020), FCH (USFWS)

HELIX Environmental Planning

USFWS Critical Habitat

Figure 5

1.4.3 Topography and Soils

The District's Service Area is bisected by the San Luis Rey River, which extends roughly northeast to southwest, and is located approximately 8.5 miles inland from the southwestern edge of the Service Area. Several mountains occur within the Service Area: Red Mountain, Mount Olympus, Monserate Mountain, and Tourmaline Queen Mountain. Tourmaline Queen Mountain is the tallest, with peaks reaching over 1,925 feet above mean sea level. Valleys and canyons are interspersed between mountains within the Service Area: Rainbow Valley, Gopher Canyon, Moosa Canyon, and the San Luis Rey River corridor. The lowest point within the Service Area is approximately 120 feet above mean sea level and occurs within the southwest end of the San Luis Rey River corridor. Thirty-nine soil types, as mapped by the USDA (2021), occur within the service area (Figure 6, *Soils*).

1.4.4 Climate

The climate of the San Diego region varies by location but is generally classified as a Mediterranean climate, with warm, dry summers and mild, wet winters. Temperatures in the region are typically moderate, with an average high temperature of 87 degrees Fahrenheit (°F) and an average low temperature of 40°F. Average monthly temperatures rarely exceed 94°F. Average annual precipitation varies each year but is typically approximately 11.6 inches (Weatherspark, 2021).

1.4.5 Habitat Types/Vegetation Communities

The vegetation communities assessment takes a Project component-specific approach toward identifying vegetation communities or habitat types that occur within each component's Service Area.

Table 1, *Vegetation Communities within Service Area*, lists representative vegetation communities that are mapped on a regional scale according to publicly available data available through the SanGIS website (SanGIS 2020) and are separated into three categories: wetlands and waters, sensitive uplands, and non-sensitive uplands. Sensitive vegetation communities found within Service Areas for the Project components include chamise chaparral, coast live oak woodland, coastal scrub, Diegan coastal sage scrub, Engelmann oak woodland, freshwater marsh, maritime succulent scrub, mulefat scrub, native grassland, non-native grassland, non-native riparian, open water, scrub oak chaparral, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern maritime chaparral, southern mixed chaparral, southern riparian forest, southern riparian woodland, southern sycamore-alder riparian woodland, and southern willow scrub. Non-sensitive vegetation communities include disturbed habitat, developed, eucalyptus woodland, non-native vegetation, and agriculture/orchard. Potential jurisdictional features generally include wetland and riparian habitat types, as well as both vegetated and unvegetated drainages or streambeds. These vegetation communities and land cover types are described further below. The names and definitions of vegetation communities discussed below are based on definitions provided in Holland (1986), Oberbauer (1996), and Oberbauer et al. (2008).

Table 1
VEGETATION COMMUNITIES WITHIN SERVICE AREA

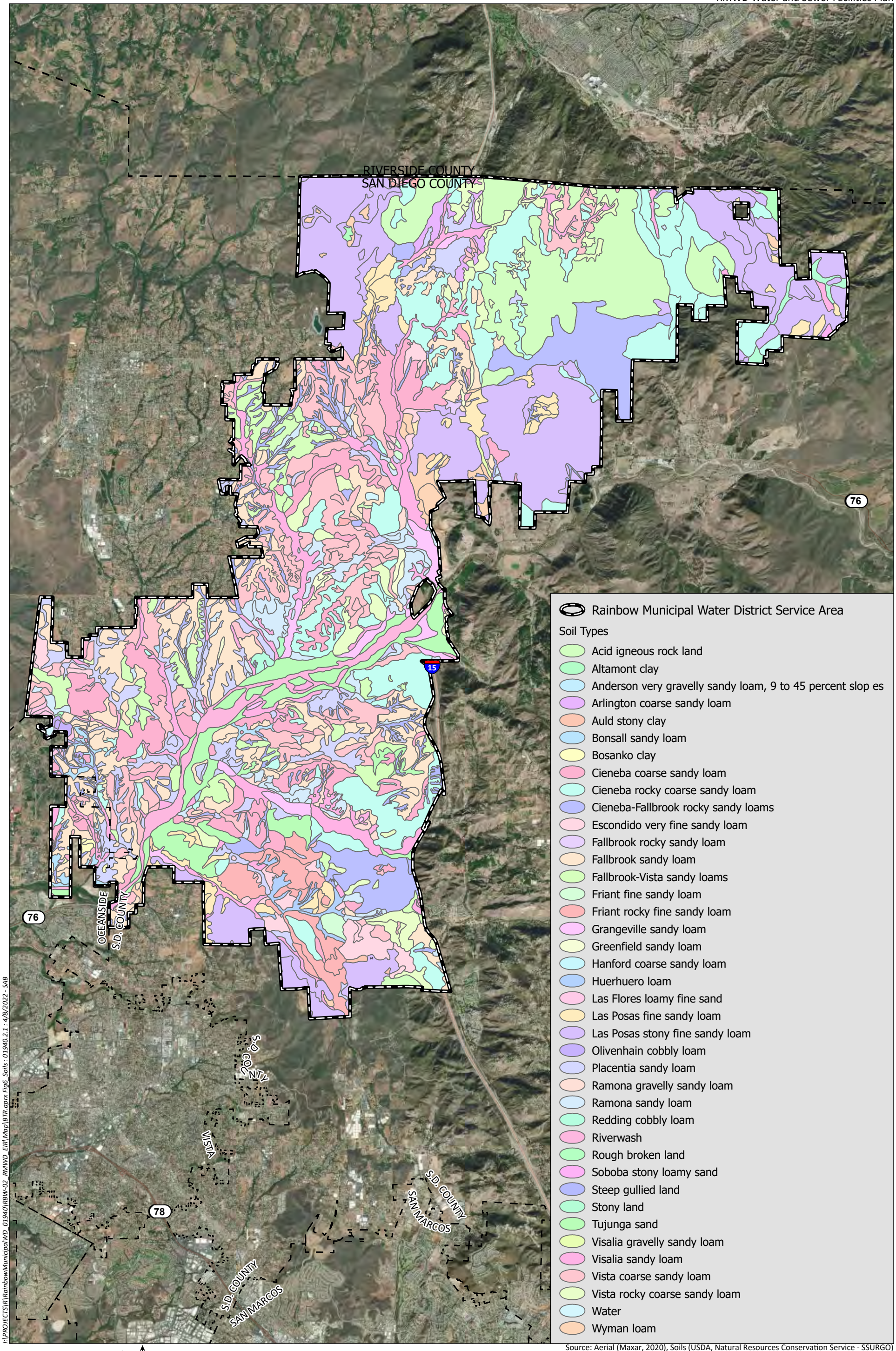
Community	Global Rank[1]	State Rank[2]
Wetlands and Waters		
Freshwater marsh	G3	S2.1
Mule fat scrub	G4	S4

Community	Global Rank[1]	State Rank[2]
Non-native riparian forest	G4	S4
Open Water	--	--
Southern arroyo willow riparian forest	G2	S2.1
Southern coast live oak riparian forest	G3	S4
Southern cottonwood willow riparian forest	G3	S3.2
Southern riparian forest/woodland	G4	S4
Southern sycamore-alder riparian woodland	G3	S3
Southern willow scrub	G3	S2.1
Sensitive Uplands		
Chamise chaparral	G4	S4
Coast live oak woodland	G5	S4
Diegan coastal sage scrub	G3	S3.1
Engelmann oak woodland	G3	S3
Maritime succulent scrub	G2	S1.1
Native grassland	G3	S3.1
Non-native grassland	G4	S4
Scrub oak chaparral	G4	S4
Southern maritime chaparral	G1	S1.1
Southern mixed chaparral	G4	S4
Non-Sensitive Upland		
Developed	--	--
Disturbed Habitat	--	--
Non-native vegetation	--	--
Agriculture	--	--

Source: CDFW 2021d; HELIX 2021.

[1] **Global Rank–**The global rank reflects the overall status of an element throughout its global range. **G1 = Critically Imperiled**–At very high risk of extinction due to extreme rarity, very steep declines, or other factors. Less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000 acres. **G2 = Imperiled**–At high risk of extinction due to very restricted range, very few populations, steep declines, or other factors. Estimated 6-20 viable occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **G3 = Vulnerable**–At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres. **G4 = Apparently Secure**–Uncommon but not rare; some cause for long-term concern due to declines or other factors. This rank is clearly lower than G3 but factors exist to cause some concern, i.e., there is some threat, or somewhat narrow habitat.

[2] **State Rank–**The state rank refers to the imperilment status only within California's State boundaries. **S1 = Critically Imperiled**–Critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. Less than 6 occurrences or less than 1,000 individuals or less than 2,000 acres. **S1.1** = very threatened; **S1.2** = threatened; **S1.3** = no current threats known. **S2 = Imperiled**–Imperiled in the state because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. Estimated 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **S2.1** = very threatened; **S2.2** = threatened; **S2.3** = no current threats known. **S3 = Vulnerable**–Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000 -50,000 acres. **S3.1** = very threatened; **S3.2** = threatened; **S3.3** = no current threats known; **S4 = Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.



Source: Aerial (Maxar, 2020), Soils (USDA, Natural Resources Conservation Service - SSURGO)

HELIX Environmental Planning

Mapped Soils

Figure 6

1.4.5.1 Coastal Scrub

Coastal scrub habitat in the Service Areas have additional sub-types: Diegan coastal sage scrub and maritime succulent scrub. The proposed projects could occur on or in the immediate vicinity of coastal scrub habitat types.

Several of the proposed projects could occur on or in the immediate vicinity of Diegan coastal sage scrub (including disturbed). Diegan coastal sage scrub is a native scrub-type community that consists of low-growing, drought-deciduous, perennial, and evergreen shrubs adapted to xeric sites supported by steep and gently sloping topography with severely drained soils or clays that release stored soil moisture slowly. Typical stands are dominated by the native shrub, California sagebrush (*Artemisia californica*), with a sub-dominance of one or more native shrubs and an herbaceous understory. The vegetation is fire-adapted, with many constituent species being able to sprout new stems from remnant crowns after a burn. Diegan coastal sage scrub generally occurs on the lower elevation, south- and west-facing slopes within the Service Area. This habitat is associated with a number of special-status species known in the region, with the higher quality stands providing important habitat for the coastal California gnatcatcher (*Polioptila californica californica*).

Maritime succulent scrub is a low, open scrub community that is dominated by a mixture of stem and leaf succulent species and drought-deciduous species that also occur within sage scrub communities. This vegetation community occurs on thin, rocky, or sandy soils, on steep slopes of coastal headlands and bluffs. Maritime succulent scrub is restricted to within a few miles of the coast from approximately Torrey Pines to Baja California and on San Clemente and Catalina islands. The dominant species typically found within this vegetation community include coast barrel cactus (*Ferocactus viridescens*), velvet cactus (*Bergerocactus emoryi*), prickly pear cactus (*Opuntia littoralis*), cliff spurge (*Euphorbia misera*), dudleya (*Dudleya* spp.), desert thorn (*Lycium californicum*), and California encelia (*Encelia californica*). Maritime succulent scrub is considered sensitive by the CDFW (Holland 1986).

1.4.5.2 Chaparral

Chaparral habitat in the Service Areas have additional sub-types: chamise chaparral, scrub oak chaparral, southern maritime chaparral, and southern mixed chaparral. The proposed projects could occur on or in the immediate vicinity of chaparral habitat types.

Chaparral is composed of broad-leaved shrubs, which are typically deep-rooted. Shrubs are generally tall (between 10 and 20 feet) and occur on dry, rocky, often steep slopes with little soil. In drier situations, the understory may be dominated by a limited number of species; in shaded and more mesic (moderately moist) conditions, the understory can be varied with species of ferns, subshrubs, herbaceous perennials, bulbs, and annuals. Chaparral is a fire- and drought-adapted community composed of a variety of woody shrubs, many of which sprout from stumps that regenerate rapidly from undamaged underground tissues following fires or other ecological perturbation. This community provides habitat for a number of non-listed sensitive species known to the region.

Chamise chaparral is a low-growing community strongly dominated by chamise with limited shrub diversity and arid understory conditions dominated by chamise (*Adenostoma fasciculatum*). Chamise chaparral provides habitat for a number of non-listed species. Several rare plants are associated with mafic chamise chaparral.

Scrub oak chaparral is a dense, evergreen chaparral up to 20 feet tall, and occurs in somewhat more mesic areas than many other chaparrals, such as north-facing slopes, and recovers more rapidly from fires than other chaparrals due to resprouting capabilities of scrub oak (Holland 1986). This community is dominated by scrub oak (*Quercus dumosa*).

Southern maritime chaparral is restricted to the weathered sands within the coastal fog belt. This low, fairly open, chaparral is dominated by wart-stemmed ceanothus (*Ceanothus verrucosus*) and thick-leaved Eastwood's manzanita (*Arctostaphylos glandulosa*).

Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs that can reach 6 to 10 feet in height and form dense, often nearly impenetrable stands, with poorly developed understories. In this mixed chaparral, the shrubs are generally tall and deep-rooted, with a well-developed soil litter layer, high canopy coverage, low light levels within the canopy, and lower soil temperatures. This vegetation community occurs on dry, rocky, often steep north-facing slopes with little soil. Dominant species include lilac (*Ceanothus* spp.) and manzanita (*Arctostaphylos* spp. and *Xylococcus* sp.).

1.4.5.3 Woodland

Woodland habitat in the Service Areas have additional sub-types: coast live oak woodland and Engelmann oak woodland. The proposed projects could occur on or in the immediate vicinity of chaparral habitat types.

The principal oak woodland type within the Service Areas is coast live oak woodland. Coast live oak woodland is dominated by coast live oak (*Quercus agrifolia*) with an open understory of perennial grasslands, annuals, and herbaceous species. Coastal live oak woodland is typically associated with shallow dry valleys, gullies, and higher order ephemeral tributaries at inland locations.

Engelmann oak woodland occurs on relatively moist sites on fine-textured soils of gentle slopes and valley bottoms. This community type is dominated by Engelmann oaks (*Quercus engelmannii*) in association with coast live oak. Annual grasses dominate the understory.

1.4.5.4 Riparian Forest/Woodland

Riparian types within the Service Area include southern arroyo willow riparian forest, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern riparian forest, southern riparian woodland, southern sycamore-alder riparian woodland, and non-native riparian. Several Projects could occur on or in the immediate vicinity of riparian habitat.

Southern arroyo willow riparian forest is characterized by tall, open, broad-leafed winter-deciduous riparian forests dominated by willows (*Salix* spp.), primarily arroyo willow (*Salix lasiolepis*), and several cottonwood trees (*Populus* spp.). Understories are usually shrubby willows. This community is located on sub-irrigated and frequently overflowed lands along perennially wet stream reaches. The dominant species require moist, bare mineral soil for germination and establishment, which is provided after floodwaters recede, leading to uniform-aged stands in this seral type.

Southern coast live oak riparian forest consists of an open to locally dense, evergreen, sclerophyllous, riparian woodland that is dominated by coast live oak. This community appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Southern coast live oak riparian forest occurs on the floodplains along large streams in the canyons and valleys.

Southern cottonwood-willow riparian forest consists of tall, open, broad-leaved, winter-deciduous riparian species and is dominated by cottonwood species, with willow species comprising the main understory. This vegetation community is dense, structurally diverse, and similar to southern arroyo willow riparian forest, although it contains a greater amount of cottonwoods and western sycamores (*Platanus racemosa*; Holland 1986).

Southern riparian woodlands and forests are composed of winter-deciduous trees that require water near the soil surface. Willow, cottonwood, and western sycamore form a dense medium-height woodland or forest in moist canyons and drainage bottoms. The differences between woodlands and forests are physiognomic rather than compositional. Woodlands have less canopy cover than forests. In forests, the canopies of individual tree species do overlap so that a canopy cover exceeding 100 percent may occur in the upper tree stratum. In woodlands, there may be large canopy gaps within the upper tree stratum.

Southern sycamore-alder riparian woodland is a tall, open, broad-leafed, winter-deciduous streamside woodland dominated by western sycamore and white alder (*Alnus rhombifolia*). These stands seldom form closed canopy forests, and even may appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species. This vegetation community is found in very rocky streambeds subject to seasonally high intensity flooding.

Non-native riparian is dominated by exotic wetland species that invade areas that have been previously disturbed or undergone periodic disturbances. These non-natives become established more readily following natural or human-induced habitat disturbance than the native wetland flora.

1.4.5.5 Riparian Scrub

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat (*Baccharis salicifolia*), scattered emergent cottonwood, and western sycamores. This vegetation community occurs on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest.

Mule fat scrub is characterized by a depauperate, shrubby riparian scrub community dominated by mule fat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table.

1.4.5.6 Freshwater Marsh

Coastal and valley freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 feet tall, forming incomplete to completely closed canopies that are dominated by a variety of native wetland species. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, freshwater, or brackish marshes. These areas are semi- or permanently flooded yet lack a significant current (Holland 1986). It typically occurs in seasonally wet areas with heavy soils. Dominant species usually include rushes (*Juncus* spp.), cattails (*Cyperus* spp.), bulrushes (*Scirpus* spp.), and spike sedges (*Eleocharis* spp.).

1.4.5.7 Open Water

Open water habitat consists of any open water body including, but not limited to, lakes, bays, reservoirs, ponds, tidal channels, streams, and canals.

1.4.5.8 Grassland

Portions of some of the Projects could occur on or in the immediate vicinity of areas characterized by native and non-native grassland.

Native grassland is a community dominated by perennial bunchgrasses such as purple needle grass (*Nassella pulchra*) with annual and perennial forbs such as common golden stars (*Bloomeria crocea* ssp. *crocea*) and California blue-eyed grass (*Sisyrinchium bellum*). Native grasslands generally occur on fine-textured soils that exclude the annual, exotic grasses. Almost all of the native grasslands in California have been displaced by non-native grassland dominated by introduced annual species. Native grasslands occur throughout California as small, isolated islands.

Non-native grassland, or annual grassland, is described as a dense to sparse cover of non-native annual grasses often associated with ruderal (weedy) species. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occur in the spring. Plants then die in the summer and persist as seeds in the uppermost layers of soil until the next rainy season. Non-native species typically found in grassland habitats include grasses such as brome (*Bromus* spp.), oats (*Avena* spp.), barleys (*Hordeum* spp.), and forbs such as black mustard (*Brassica nigra*), shortpod mustard, (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), filaree (*Erodium* spp.), and sweet fennel (*Foeniculum vulgare*).

Grasslands are important for a variety of wildlife known to the area, including grasshopper sparrow (*Ammodramus savannarum*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), and numerous small mammals. They provide refugia for reptiles and important foraging habitat for raptors. Non-native grasslands are often associated with rare plants, such as thread-leaved brodiaea (*Brodiaea filifolia*) and other sensitive microhabitats, such as vernal pools. Non-native grassland is not considered a sensitive habitat; however, in some locations, it may be a significant resource for raptor foraging, may support sensitive plant species, and may serve as a habitat linkage.

1.4.5.9 Non-Native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* spp.], peppertree [*Schinus* spp.], palms [*Washingtonia* spp., *Phoenix* spp.], etc.), many of which are also used in landscaping. Eucalyptus woodland is a sub-category of non-native vegetation.

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* spp.), an introduced species that has often been planted purposely for wind-blocking, ornamental, and hardwood production purposes. Most groves are monotypic, with the most common species being either the blue gum (*Eucalyptus gunnii*) or red gum (*E. camaldulensis* ssp. *obtusa*). The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic nature of the abundant leaf and bark litter.

1.4.5.10 Agriculture

Agriculture in the Service Areas has an additional sub-type: orchard. The proposed projects could occur on or in the immediate vicinity of agriculture.

Agriculture refers to lands subject to routine and ongoing commercial operations associated with vineyards, intensively developed agriculture, such as dairies, nurseries, and chicken ranches, and extensive agriculture such as field pastures and row crops. Orchard refers to agricultural lands consisting primarily of planted crop trees. Portions of the Project occur on or in the immediate vicinity of agricultural lands within the Service Area.

Well-managed, modern agricultural areas used for commercial row crops, orchards, and vineyards can be devoid of wildlife. However, fields and pastures can provide habitat for native small mammals and foraging habitat for raptors such as northern harrier (*Circus cyaneus*) and red-tailed hawk (*Buteo jamaicensis*). White-faced ibis (*Plegadis chihi*), American crow (*Corvus brachyrhynchos*), and killdeer (*Charadrius vociferus*) often use fallow or active fields. Agricultural areas within the Service Area generally include row crops, nurseries, and orchards. These areas are common within the Service Area and water district.

1.4.5.11 Disturbed Habitat

Disturbed land includes areas in which there is sparse vegetative cover and evidence of soil surface disturbance and compaction from previous human activity and/or the presence of building foundations and debris. Disturbed areas are commonly associated with road shoulders, vacant lots, and transitional areas between developed and undeveloped land (i.e., urban/wildlands interface areas). Vegetation on disturbed land (if present) may have a high predominance of non-native and ruderal (weedy) annual species that are indicators of disturbance, such as Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), horehound (*Marrubium vulgare*), and sow-thistle (*Sonchus oleraceus*), among others. In most cases, disturbed land provides limited biological function and value and poor quality habitat for most wildlife species. Within the Service Areas, disturbed land occurs primarily as vacant lots and disturbed bare earth within road and utility rights-of-way.

1.4.5.12 Developed

Developed land consists of all residential, commercial, and industrial developments, and land covered by non-native ornamental (landscape) vegetation. Non-native plant species typical of urban/developed areas include ornamental trees such as pine (*Pinus* spp.), pepper, palm, and eucalyptus; shrubs such as acacia and oleander (*Nerium oleander*); and groundcover such as turf grass, red apple (*Aptenia cordifolia*), and hottentot-fig (*Carpobrotus edulis*).

Most developed areas provide little habitat for native species but do support non-native species such as European starlings (*Sturnus vulgaris*), house sparrows (*Passer domesticus*), Virginia opossum (*Didelphis virginiana*), mice, and rats. Native species that have adapted to urban environments include species such as red-shouldered hawk (*Buteo lineatus*), northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), black phoebe (*Sayornis nigricans*), and striped skunk (*Mephitis mephitis*), among others. Migrating songbirds use large stands of ornamental plantings during spring or fall, and some species, such as white-crowned sparrow (*Zonotrichia leucophrys*) and cedar waxwing *(Bombycilla cedrorum*), spend the winter in residential neighborhoods.

Within the Service Areas, developed land is comprised of existing roads, buildings, infrastructure, utility facilities, ornamental landscaping, and a wide variety of general development types (e.g., residential, commercial, airport, parks, etc.).

1.4.6 Jurisdictional Wetlands/Waters

The Project includes reconnaissance-level surveys that identified potential jurisdictional resources on or immediately adjacent to project sites. Proposed Projects could occur on or be in the immediate vicinity of jurisdictional waters and wetlands subject to regulation by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW.

Through the implementation of the Clean Water Act (CWA), the USACE claims jurisdiction over waterways that are, or drain to, "Waters of the U.S." ("waters"). The definition of "waters" includes (but is not limited to) inland waters; lakes, rivers, and streams that are navigable; tributaries to these waters; and wetlands adjacent to these waters or their tributaries. The jurisdictional limit of non-wetland waters (i.e., creeks and drainages) is the ordinary high water mark. The jurisdictional limit of wetlands is the upper limit of the wetland.

The RWQCB claims jurisdiction over "Waters of the State." Examples of waters of the State include (but are not limited to) isolated wetlands, coastal wetlands, streams, rivers, lakes, and groundwater. All waters of the U.S. are waters of the State, but not all waters of the State are waters of the U.S. (e.g., groundwater).

Streambeds and other drainages in California are subject to regulation by the CDFW. The CDFW considers most drainages to be streambeds unless demonstrated otherwise. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel with banks and supports fish or other aquatic life. This includes watercourses having a surface or sub-surface flow that supports, or has supported, riparian vegetation. CDFW jurisdiction typically extends to the top of stream banks and dripline of the associated riparian canopy, and therefore, usually encompasses a larger area than USACE jurisdiction.

There are numerous waters and wetlands within the Service Area which support waters of the U.S. subject to the regulatory jurisdiction of the USACE, pursuant to Section 404 of the federal CWA; waters of the State, subject to the regulatory jurisdiction of the RWQCB, pursuant to Section 401 of the CWA and/or Porter-Cologne Water Quality Act; and unvegetated stream channels and riparian habitat, subject to the regulatory jurisdiction of the CDFW to Section 1600 *et seq*. of California Fish and Game Code (CFG Code). Potential waters of the U.S., waters of the State, and CDFW jurisdictional habitat are present within the Service Area. Freshwater marsh, mulefat scrub, non-native riparian, open water, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern maritime chaparral, southern mixed chaparral, southern riparian forest, southern riparian woodland, southern sycamore-alder riparian woodland, and southern willow scrub are considered potentially jurisdictional to the USACE, RWQCB, and/or CDFW. The Service Area contains several waterways, including the San Luis Rey River, Rainbow Creek, Pala Creek, and Trujillo Creek, as well as several ephemeral concrete and earthen-lined drainages. Agricultural ditches, erosional features, and areas of open water that function as holding basins for the District are regularly maintained, lack vegetation, lack connectivity to other jurisdictional drainage courses, and would not be considered to be under the jurisdiction of the USACE, RWQCB, and/or CDFW.

See Regulatory Framework, below, for detailed information on the USACE, RWQCB, and CDFW regulations related to jurisdictional wetlands and waters.

1.4.7 Sensitive Biological Resources

The following section addresses sensitive biological resources which may occur within the Service Area. For the purposes of this Project special-status species include plant and animal species that have been recognized by federal or state resource agencies, conservation organizations such as the CNPS, or regional planning documents, as having special management needs due to limited distribution, limited numbers, or significant population declines associated with natural or artificial causes. Special-status species include those designated as endangered, threatened, rare, protected, sensitive, or species of special concern according to the USFWS, CDFW, or applicable regional plans, policies, or regulations.

In general, the principal reason an individual taxon (species, subspecies, or variety) is given special-status recognition is the documented or perceived decline or limitation of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss. Sensitive biological resources also include natural vegetation communities that are either unique, of relatively limited distribution in the region, or of particularly high biological function and value. These resources have been defined by federal, state, and local government conservation programs.

1.4.7.1 Sensitivity Designations

Federal listing of endangered and threatened wildlife and plants is administered by the USFWS. The USFWS also recognizes species of special concern that are candidates for listing. Before a plant or animal species can receive protection under the Federal Endangered Species Act, it must first be placed on the federal list. The program follows a strict legal process to determine whether to list a species. An endangered species is defined as one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. The USFWS also maintains a list of plants and animals native to the U.S. that are species of special concern for possible addition to the federal list but are not currently regulated.

The CDFW implements the California Endangered Species Act, which is a program that is similar in structure to, but different in detail from, the USFWS program implementing the Federal Endangered Species Act. The CDFW maintains a list of designated endangered, threatened, and rare plant and animal species. In addition to recognizing three levels of endangerment, the CDFW affords interim protection to candidate species while they are under review by the Fish and Game Commission. The CDFW also maintains a list of Species of Special Concern, most of which are species whose breeding populations in California are threatened by local extinction, and additional data is required to fully determine their endangerment. Although these species have no legal status under California Endangered Species Act, the CDFW recommends their consideration in order to protect declining populations and avoid the need to list them as threatened or endangered in the future.

Under the provisions of Section 15380(d) of the CEQA Guidelines, the Lead Agency, in making a determination of significance, must treat rare non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFW considers California Rare Plant Rank (CRPR) species on CRPR Lists 1A, 1B, or 2 of the CNPS Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994) as qualifying for consideration under this CEQA provision. Species on the CRPR List 3 or 4 may, but generally do not, qualify for protection

under this provision as impacts to these species would not be expected to jeopardize their population or long-term survival. Species on CRPR List 1A are "presumed extinct in California." Species on CRPR List 1B are "rare or endangered in California and elsewhere." Species on CRPR List 2 are "rare or endangered in California and are more common elsewhere." Species on CRPR Lists 3 and 4 are those that require more information to determine status and plants of limited distribution, respectively.

1.4.7.2 Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines.

The CDFW evaluates the rarity of natural communities using the NatureServe's Heritage Methodology (Faber-Langendoen et al. 2012), in which communities are given a G (global) and S (State) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities are assigned an overall rank of 1 through 5, with 1 being considered very rare and threatened and 5 being considered demonstrably secure. Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by the CDFW.

Table 1 provides a summary table of the ten wetland and waters communities and ten sensitive natural upland communities with the potential to occur within the Service Area, along with their corresponding global and state sensitivity rank, as designated by the CDFW and reported by the CNDDB.

1.4.7.3 Special-Status Species

The potential for special-status plant and animal species to occur within the Service Area and vicinity of CIP, ODP, and maintenance projects was determined primarily based on database review and habitat assessment surveys at select locations in the field. Protocol-level surveys for special-status species were not conducted because the exact timing of specific projects is not yet known and may occur over multiple years. As such, protocol-level surveys undertaken at this time may underestimate project impacts. For information disclosure purposes, this biological resources technical report provides a comprehensive assessment of the potential presence of special-status species within the District Service, as discussed in Section 1.4. (Methods), including prior known occurrences of special-status species within the Project disturbance area. As is discussed in Section 2 (Significance of Project Impacts), protocol-level surveys are required for projects with the potential to impact special-status species prior to project implementation. Where special-status species were found to have some potential to occur based on habitat associations confirmed through the database review and field surveys, modifications to project locations, designs, and construction methods were considered to avoid potential direct and indirect impacts. Where such modifications could not be made at this time, performance-based measures require project-level studies to be conducted prior to individual project implementation, including protocol-level surveys to confirm the presence or absence of special-status species from potential impact areas.

Special-Status Plant Species

Appendix A lists the 54 special-status plant species with the potential to occur within the Service Area. Species nomenclature generally conforms to CNPS (2021). Habitat requirements were primarily derived from CNDDB (CDFW 2021a) and CNPS (2021). Of the 54 special-status plant species, five species are recognized under the Federal Endangered Species Act as federally endangered, and three are federally

threatened. Six of the special-status plant species are recognized under the California Endangered Species Act as state endangered, and one is state rare. All of the special-status plant species are designated as CRPR List species, including 44 CRPR List 1B species, seven CRPR List 2 species, and three CRPR List 4 species. In addition, portions of the Service Area occur within the designated critical habitat for San Diego ambrosia. An explanation of status codes is included as Appendix A.

The following federally and/or state-listed plant species occur within chaparral and coastal scrub habitats:

- Gander's ragwort (*Packera ganderi*; state rare)
- Nevin's barberry (*Berberis nevinii*; federally endangered, state endangered)
- San Diego ambrosia (*Ambrosia pumila*; federally endangered)
- Slender-horned spineflower (*Dodecahema leptoceras*; federally endangered, state endangered)
- Thread-leaved brodiaea (*Brodiaea filifolia*; federally threatened, state endangered)
- Vail Lake ceanothus (*Ceanothus ophiochilus;* federally threatened, state endangered)

The following federally and/or state-listed plant species occur within vernal pool habitats:

- San Diego button-celery (*Eryngium aristulatum* var. *parishii*; federally endangered, state endangered)
- San Diego thorn-mint (*Acanthomintha ilicifolia;* federally threatened, state endangered)
- Spreading navarretia (*Navarretia fossalis;* federally endangered)

Special-Status Animal Species

Fifty-four special-status wildlife species are known or have the potential to occur within the Service Area, as detailed in Appendix B. Species nomenclature generally follows those respected by the CDFW (CDFW 2021c). Habitat requirements were primarily derived from the CNDDB (CDFW 2021a). Of these species, four are invertebrates, two are fish, two are amphibians, 12 are reptiles, 22 are birds, and 12 are mammals. Under the Federal Endangered Species Act, 11 of the special-status wildlife species are federally endangered, two are federally threatened, and one is a candidate for federal listing. Three of the special-status wildlife species are recognized under the California Endangered Species Act as state endangered, and three are state threatened. Thirty-two are designated as state species of special concern, seven are designated as watch list species by the CDFW, and three are fully protected in the state. In addition, portions of the Service Area occur within the designated critical habitat for arroyo toad, coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher.

The following special-status animal species have the potential to occur within chaparral, coastal scrub, and grassland habitats for breeding and/or essential foraging:

- American peregrine falcon (*Falco peregrinus anatum*; Candidate for federal listing, state threatened) – foraging only

- Black-tailed jackrabbit (*Lepus californicus*; state species of special concern)
- Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; state species of special concern)
- Coastal California gnatcatcher (*Polioptila californica californica*; federally threatened, state species of special concern)
- Dulzura pocket mouse (*Chaetodipus californicus femoralis*; state species of special concern)
- Golden eagle (*Aquila chrysaetos*; state fully protected and watchlist) – foraging only
- Quino checkerspot butterfly (*Euphydryas editha quino*; federally endangered)
- Swainson's hawk (*Buteo swainsoni*; state threatened) – foraging only
- Stephens' kangaroo rat (*Dipodomys stephensi*; federally endangered, state threatened)

The following special-status animal species have the potential to occur within riparian areas for breeding and/or essential foraging:

- California black rail (*Laterallus jamaicensis coturniculus*; state fully protected)
- Least Bell's vireo (*Vireo bellii pusillus;* federally endangered, state endangered)
- Southwestern willow flycatcher (*Empidonax traillii extimus;* federally endangered, state endangered)
- Yellow-billed cuckoo (*Coccyzus americanus*; federally threatened, state endangered)

The following special-status animal species have the potential to occur within vernal pool habitats for breeding:

- Riverside fairy shrimp (*Streptocephalus woottoni;* federally endangered)
- San Diego fairy shrimp (*Branchinecta sandiegonensis*; federally endangered)
- Western spadefoot toad (*Spea hammondii*; state species of special concern)

The following special-status animal species have the potential to occur within aquatic habitats, including washes, rivers, streams, and ponds, for breeding and/or essential foraging:

- Arroyo toad (*Anaxyrus californicus;* federally endangered, state species of special concern)

The following special-status animal species occur within marine, coastal, and estuarian habitats, including salt marshes, lagoons, estuaries, and beaches:

- California least tern (*Sternula antillarum browni*; federally endangered, state fully protected)
- Light-footed Ridgeway's rail (*Rallus obsoletus levipes*; federally endangered, state fully protected)
- Tidewater goby (*Eucyclogobius newberryi*; federally endangered)

Additional State List animal species of special concern and watch list species are detailed in Appendix B.

1.4.7.4 Critical Habitat

The USFWS has designated critical habitat for several federally-listed species, including coastal California gnatcatcher, arroyo toad, San Diego ambrosia, least Bell's vireo, and southwestern willow flycatcher within portions of the Service Area (USFWS 2021c).

1.4.7.5 CDFW Ecological Reserves

The CDFW Ecological Reserves are protected areas managed by the CDFW. The only Ecological Reserve within the Service Area is the Mount Olympus Ecological Preserve, located near the northwestern boundary of the Service Area.

1.4.7.6 Wildlife Movement Corridors and Linkages

Several wildlife movement corridors and linkages occur within the Service Area (Figure 7, *Wildlife Corridors and Linkages*). These biological linkages provide north-to-south and east-to-west links between biological core areas. The primary linkages run along the San Luis Rey River and Interstate-15 corridor, providing a north-to-south linkage within the Service Area. Smaller corridors within the Service Area include Gomez Creek, Keys Creek, Pala Creek, Rainbow Creek, and the San Diego aqueduct, as well as many unnamed streams and tributaries to the San Luis Rey River. Furthermore, undeveloped lands within the Service Area, including the Santa Margarita Ecological Reserve, Monserate Mountain, and Mount Olympus, also provide suitable wildlife corridors and linkages. Generally, lands designated as a Pre-Approved Mitigation Area within the Draft North County Plan are proposed for preservation to maintain wildlife corridors and linkages.

1.5 REGULATORY FRAMEWORK

Biological resources in the project site are subject to regulatory review by federal, State, and local agencies. Under CEQA, impacts associated with a proposed project are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, Rainbow Municipal Water District) pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply to the project include the Federal Endangered Species Act, Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act, and CFG Code.

1.5.1 Federal

1.5.1.1 Federal Endangered Species Act

Administered by the USFWS, the federal ESA (Endangered Species Act) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered take under the ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Identified by the USFWS, critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitat so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the federal ESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of the critical habitat.

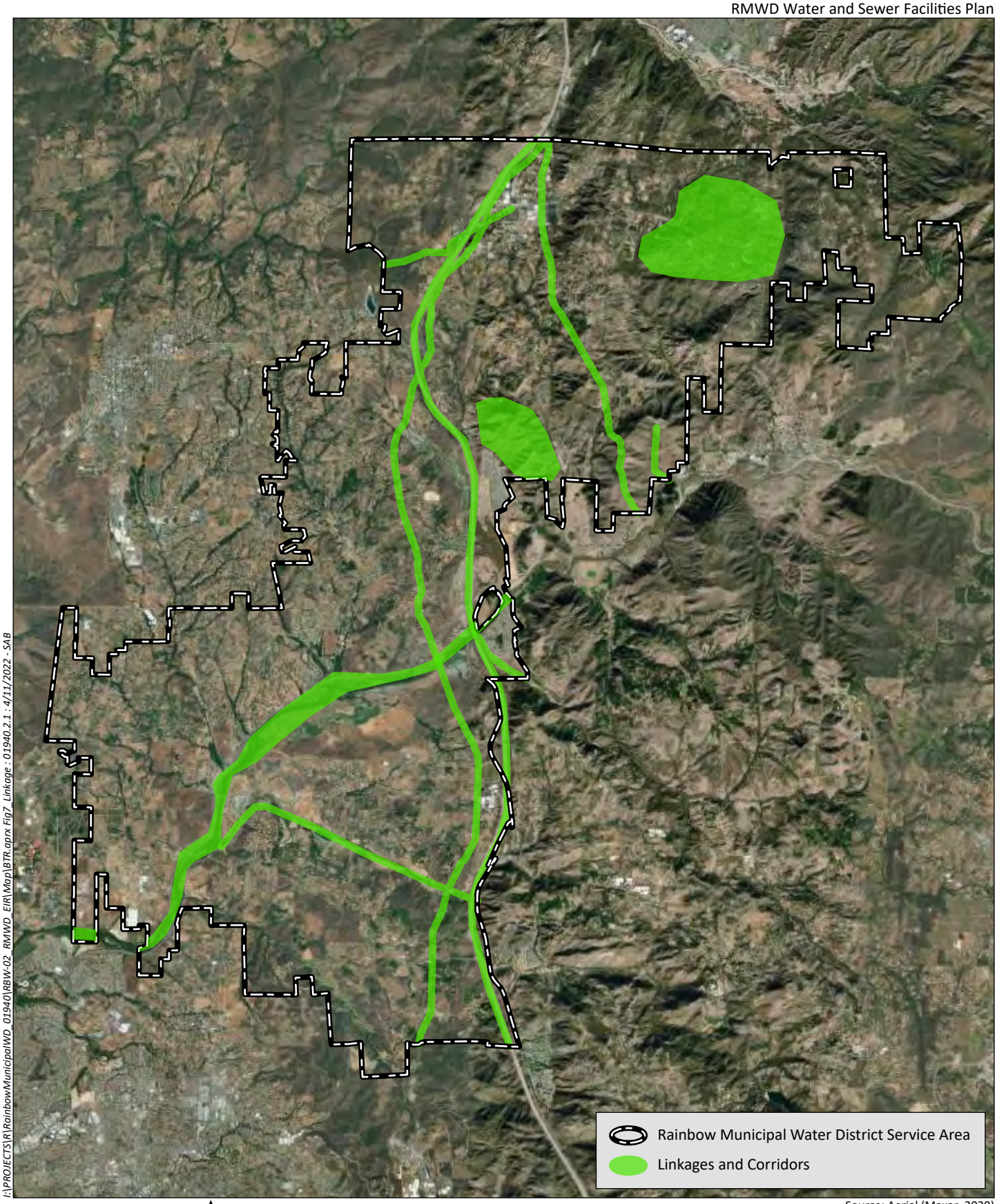
Section 7 of the Federal Endangered Species Act

Section 7 of the Federal Endangered Species Act provides that each federal agency undertaking a federal action, which could significantly affect Federal Endangered Species Act species, shall consult with the Secretary of Interior or Commerce, that any actions authorized, funded, or carried out by the agency are "not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of lands determined to be critical habitat" (16 U.S.C. Section 1536(a)(2)). The consultation requirement of Section 7 is triggered upon a determination that a proposed action "may affect" a listed species or designated critical habitat (50 CFR Section 402.14(a)). If the proposed action is a "major construction" activity, the federal agency proposing the action must prepare a biological assessment to include with its request for the initiation of Section 7 consultation.

Section 9 of the Federal Endangered Species Act

Section 9 of the Federal Endangered Species Act prohibits any person from "taking" an endangered animal species. Regulations promulgated by the USFWS and National Oceanic and Atmospheric Administration make the "take" prohibition generally applicable to threatened animal species as well (50 CFR 17.71). Section 9 thus prohibits the clearing of habitat that results in death or injury to members of a protected species.

An authorization or permit to incidentally take listed species can be obtained either through the Section 7 consultation process or through the Section 10 Incidental Take Permit (ITP) process. In the context of Section 7, incidental take is authorized through an Incidental Take Statement (ITS) that is issued consistent with a Biological Opinion. Measures required to conform to the ITS are contained in "reasonable and prudent measures," as are the terms and conditions necessary to implement those measures. Measures contained in Section 10(a)(1)(B) ITP reflect the measures set out in a habitat conservation plan developed by the applicant in conjunction with the USFWS, as discussed below.



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Source: Aerial (Maxar, 2020)

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Wildlife Corridors and Linkages

Figure 7

Section 10 of the Federal Endangered Species Act

Under Section 10(a)(1)(B) of the Federal Endangered Species Act, the USFWS may permit the incidental take of listed species that may occur as a result of an otherwise lawful activity. In the context of Section 10, incidental take is authorized through an ITP issued pursuant to Section 10(a)(1)(B). To obtain a Section 10(a)(1)(B) ITP, an applicant must prepare a habitat conservation plan that meets the following five criteria: (1) the taking will be incidental to an otherwise lawful activity; (2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; 3) the applicant will ensure that adequate funding for the plan will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and, (5) other measures, if any, that the USFWS requires as being necessary or appropriate for purposes of the plan will be met (16 U.S.C. Section 1539(a)(2)(A)).

1.5.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) implements various treaties and conventions between the U.S., Canada, Japan, Mexico, and the former Soviet Union, for the protection of migratory birds. It is enforced in the U.S. by the USFWS, and makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Any disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a "take" and is potentially punishable by fines and/or imprisonment. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species.

1.5.1.3 Clean Water Act and Rivers and Harbors Act

Section 404 of the Clean Water Act

Section 404 of the CWA requires that a permit be obtained from the USACE prior to the discharge of dredged or fill materials into any waters of the U.S., including wetlands. Waters of the U.S. are broadly defined in the USACE's regulations (33 CFR 328) to include navigable waterways, their tributaries, lakes, ponds, and wetlands. Wetlands are defined as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Such permits often require mitigation to offset losses of these habitat types so that there is no net loss. Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land and isolated wetlands) are considered to be jurisdictional wetlands. Under certain circumstances where multiple resources are impacted, and interagency consultation is required, the USACE may consult with the U.S. Environmental Protection Agency, USFWS, CDFW, State Water Resources Control Board (SWRCB), and the various RWQCBs throughout the state in carrying out its discretionary authority under Section 404.

Section 401 of the CWA

A Section 401 Water Quality Certification, or waiver thereof, is required from the SWRCB or RWQCB before a Section 404 permit becomes valid. The RWQCB reviews projects for consistency with the achievement of water quality objectives and the reasonable protection of beneficial uses designated in the Water Quality Control Plan. In reviewing projects, the RWQCB considers impacts to waters of the U.S., in addition to filling of isolated wetlands, riparian areas, and headwaters (i.e., areas of high

resource value), hydromodification, applicable water quality objectives and designated beneficial uses, and special-status species, among other things. Collectively, wetland and water resources regulated by the SWRCB and RWQCB are referred to as waters of the State, and these resources may or may not include waters of the U.S. Usually, mitigation is required (if not already a condition of the 404 permit) in the form of replacement or restoration of adversely impacted waters of the U.S.

1.5.2 State Regulations

1.5.2.1 California Environmental Quality Act

CEQA applies to discretionary public agency actions which result in direct or reasonably foreseeable indirect changes to the environment. CEQA and its implementing regulations (State CEQA Guidelines) require the preparation of an Environmental Impact Report where there is a fair argument based on substantial evidence that a project may result in a potentially significant impact on the environment. Where an EIR has been prepared, CEQA further requires the public agency to find that all feasible mitigation and avoidance measures have been incorporated into the project prior to approving or adopting the project.

1.5.2.2 California Endangered Species Act

The California Endangered Species Act (CESA) conserves and protects plant and animal species at risk of extinction. Under state law, plant and animal species may be formally designated as rare, threatened, or endangered through an official listing by the California Fish and Game Commission. A CESA-listed species, or any part or product of the plant or animal, may not be imported into the state, exported out of the state, "taken", possessed, purchased, or sold without proper authorization. Section 2081 of the Fish and Game Code allows the CDFW to authorize take of species listed as endangered or threatened, candidate, or a rare plant, if that take is incidental to otherwise lawful activities and if certain conditions are met.

1.5.2.3 California Fish and Game Code

Sections 1600 to 1603 of the California Fish and Game Code

Under Section 1600 of the CFG Code, any entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel or bank of any river, stream or lake, or deposit or dispose of debris, waste or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless the CDFW determines that activity will not substantially adversely affect an existing fish and wildlife resource. If the CDFW determines that the activity may have that effect, the CDFW may authorize such activities pursuant to the terms of a Streambed Alteration Agreement describing the fish and wildlife resources that may be threatened and requiring the implementation of reasonable measures necessary to protect those resources.

Sections 3503, 3503.5, and 3800 of the California Fish and Game Code

These sections of the Fish and Game Code prohibit the take or possession of birds, their nests, or eggs. Any disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a take. Such a take would also violate federal law protecting migratory birds. ITPs are required from the CDFW for projects that may result in the incidental take of species listed by the state as endangered, threatened, or candidate species. The

wildlife agencies require that impacts to protected species be minimized to the extent possible and mitigated to a level of insignificance.

1.5.2.4 Native Plant Protection Act

Sections 1900–1913 of the CFG Code (Native Plant Protection Act) direct the CDFW to carry out the state legislature's intent to "…preserve, protect, and enhance endangered or rare native plants of this state." The Native Plant Protection Act gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

1.5.3 Local Regulations

The Project components span five jurisdictional areas: San Diego County and the cities of Bonsall, Fallbrook, Oceanside, and Rainbow. The District is not a participating entity; therefore, no local policies or ordinances pertaining to biological resources are applicable to the project.

1.5.3.1 County of San Diego Multiple Species Conservation Plan

The County of San Diego Multiple Species Conservation Plan (MSCP) is a long-term regional conservation plan designed to establish connected preserve systems to ensure the long-term survival of sensitive plant and animal species, and to protect the native vegetation found throughout portions of San Diego County (County 1998). The MSCP addresses the potential impacts of urban growth, natural habitat loss, and species endangerment and creates a plan to mitigate for the potential loss of sensitive species and their habitats. The MSCP covers 582,243 acres over 12 jurisdictions. Each jurisdiction has its own Subarea Plan, which describes specific implementing mechanisms for the MSCP. Any habitat set aside for the protection of biological resources in accordance with the MSCP is considered sensitive. The MSCP divides habitats into tiers based on sensitivity, with habitat rankings from Tier 1 (most sensitive) to Tier IV (least sensitive, includes disturbed land). The combination of the MSCP Subregional Plan and Subarea Plans serves as a multiple species habitat conservation plan (pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act and the California Natural Community Conservation Plan Act of 1991 and California Endangered Species Act). The conservation measures specified in the MSCP provide for coverage of 85 species of plants and animals (called covered species) under these state and federal endangered species laws.

MSCP North County Subarea Plan

The North County Subarea Plan includes areas within north San Diego County. Within the 24,570 acres of the North County Plan, the open space includes about 8,800 acres. The native vegetation of the North County Plan is dominated by coastal sage scrub and chaparral vegetation. The North County Plan is still in draft form and has not yet been approved or adopted.

The District is not a participating entity of the MSCP or Draft North County Plan. Reference herein to the MSCP is provided for regional context and programmatic assessment of how the District's project would not conflict with the overall MSCP conservation goals and objectives and would not preclude the establishment of the North County Plan and related regional conservation planning efforts (Figure 8, *Local Conservation Plans*).

1.5.3.2 County of San Diego

Code of Regulatory Ordinances Sections 86.601-86.608, Resource Protection Ordinance

The Resource Protection Ordinance (RPO) was adopted in 1989 and later amended in 1991 and 2007. The RPO limits the impacts to natural resources, including environmentally sensitive lands such as wetlands, wetland buffers, floodplains, steep slopes, sensitive habitat lands, and historical sites. Certain discretionary permit types are subject to the requirement to prepare Resource Protection Studies under the RPO. The RPO requires the protection and avoidance of wetlands and adjacent wetland buffer areas. It also sets forth certain allowable uses within such areas. The RPO also requires the protection of sensitive habitat lands. Sensitive habitat lands include unique vegetation communities and/or habitat that are either necessary to support a viable population of sensitive species, are critical to the proper functioning of a balanced natural ecosystem, or serve as a functioning wildlife corridor.

The District acts as its own discretionary authority with respect to CEQA and environmental compliance. Where applicable to their activities, the District is required to comply with local ordinances. The District strives to achieve voluntary compliance where local ordinances are not applicable.

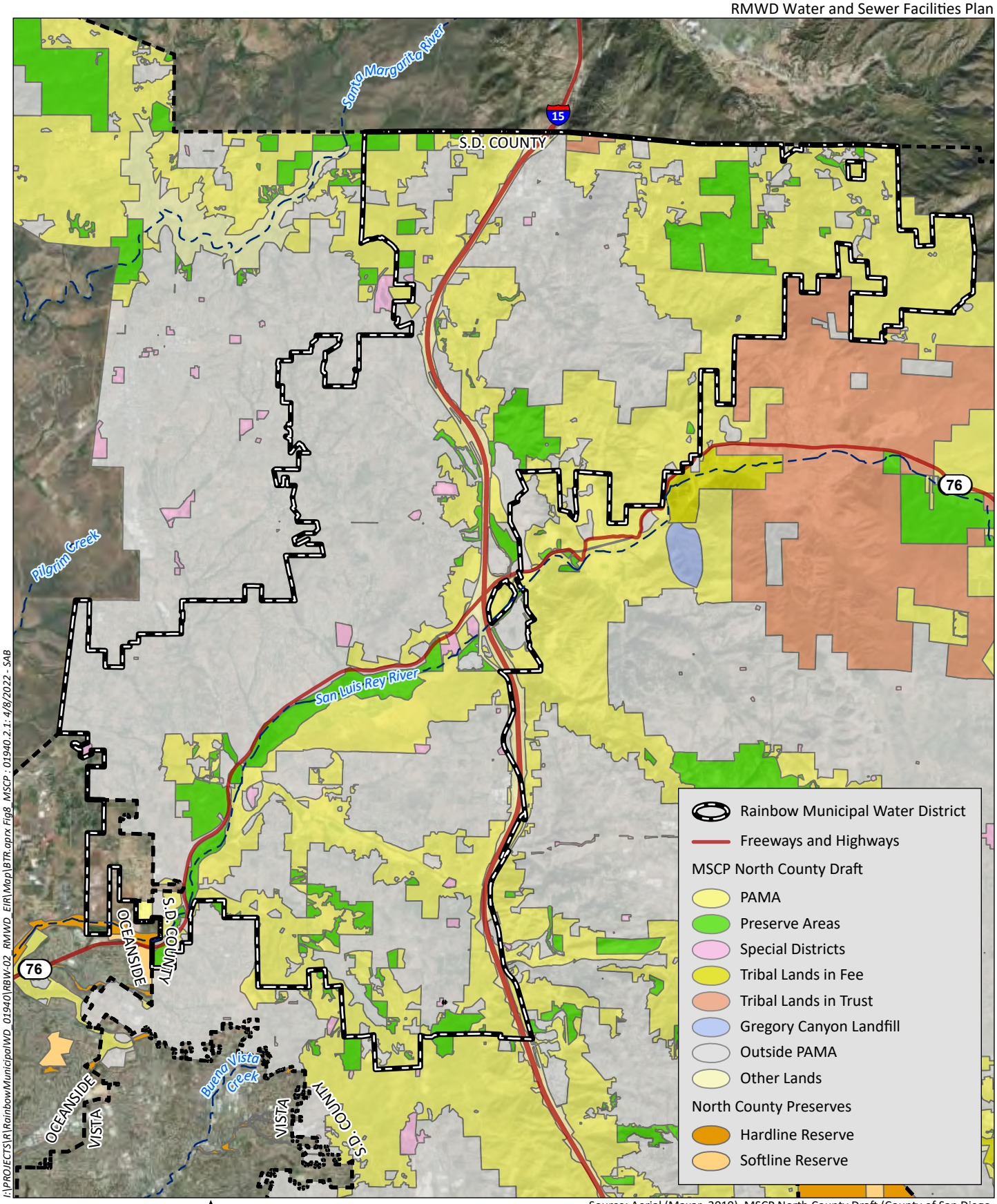
2.0 SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION

This section provides a programmatic assessment of the anticipated impacts to biological resources resulting from the Project components and identifies mitigation measures that will be implemented by the District to reduce potential impacts to less than significant levels. The analysis of significant impacts is based on the reconnaissance-level surveys performed for the Project; database and literature review; and aerial imagery and other mapping sources. The criteria for determining significant impacts on biological resources were developed in accordance with CEQA Guidelines Section 15065(a).

The impact analysis for CIP and ODP projects is based on anticipated worst-case disturbance footprints and potential impact areas. In some cases, the potential impact area is identified as up to 50 feet wide, including areas that may be needed for construction access, staging, storage, and placement of project components. It is expected that the actual construction disturbance footprint determined during the final design of the projects would be narrower and smaller. The majority of the disturbance footprints have been specifically designed to be restricted to existing disturbed and developed land, such as existing roads and other locations characterized by bare earth, non-native vegetation, and other areas that lack sensitive biological resources.

2.1 CRITERIA FOR DETERMINING IMPACT SIGNIFICANCE

The significance of impacts to biological resources present, or those with potential to occur, was determined based upon the sensitivity of the resource and the extent of the anticipated impacts. For certain highly sensitive resources (e.g., a federally-listed species), any impact would be significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in the County but declining elsewhere) could sustain some impact with a less than significant effect.



Source: Aerial (Maxar, 2019), MSCP North County Draft (County of San Diego, 2017), North County Preserves (Focused Planning Areas, MHCP, 2003)

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Local Plans

Figure 8

According to Appendix G of the CEQA Guidelines, project impacts to biological resources would be considered significant if they would:

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

(b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified by local or regional plans, policies, regulations, or by the CDFW or USFWS.

(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling hydrological interruption, or other means.

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

(e) Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

(f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.0 PROJECT EFFECTS

This section describes potential direct and indirect impacts associated with the implementation of the Project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts are actions that are not direct removal of habitat but affect the surrounding biological resources either as a secondary effect of the direct impacts (e.g., construction noise, runoff, nighttime lighting, fugitive dust, etc.), or as the cause of degradation of a biological resource over time (e.g., edge effects and adjacency issues). Cumulative impacts are those caused by numerous projects in the region and their additive effect of multiple direct and indirect impacts to biological resources over time.

Under the proposed Project, the District would implement improvements, repairs, and replacements that are needed to bring existing facilities up to current standards, address system deficiencies, and meet future water demand and flow conditions.

3.1 ISSUE 1: SPECIAL-STATUS SPECIES

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

3.1.1 Analysis of Project Effects

Less than Significant with Mitigation. Direct impacts include the direct take, removal, or displacement of special-status species and their habitat through activities, such as clearing, grubbing, grading, and other land disturbance activities. Removal of habitat could result in displacement of special-status wildlife and less habitat available within a species' range to carry out vital life history requirements, such as breeding, foraging, dispersal, migration, aestivation (i.e., underground dormancy or torpor during the summer), and predator evasion. Indirect impacts could occur in cases where activities would not directly impact sensitive species or their habitat but could indirectly affect life history requirements through activities adjacent to occupied habitat, resulting in impacts such as additional noise, lighting, erosion/sedimentation, and fugitive dust. Sensitive species known to occur within the Service Area include, but are not limited to, the arroyo toad, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, Quino checkerspot butterfly (*Euphydryas editha quino*), and multiple special-status plant species.

CIP Projects

Based on site-specific assessments, CIP projects listed below in Table 2, *CIP Projects with Potential to Result in Significant Direct and Indirect Impacts to Sensitive Species*, occur on and/or in the immediate vicinity of an undeveloped area that may support special-status plant and wildlife species. Project construction could result in potentially significant impacts on special-status plant and animal species; however, the impacts would be reduced to less than significant levels with the implementation of proposed mitigation, as described in further detail below (Figures 9-1 through 9-48, *CIP Project Vegetation and Sensitive Resources Impacts*).

Table 2
CIP PROJECTS WITH POTENTIAL TO RESULT IN SIGNIFICANT DIRECT AND INDIRECT IMPACTS TO SENSITIVE SPECIES

CIP Project Number	Special-Status Species[1,2]													
	ARTO		CAGN		LBVI		SWFL		QCB		SKR		Rare Plants	
	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect
Water Projects														
600002	FCH	HAB	SR FCH HAB	HAB	SR	HAB		HAB			HAB	HAB	HAB	HAB
600008				HAB								HAB		
600026	HAB	HAB			HAB	HAB	HAB	HAB			SR	HAB		
600040			HAB	HAB							HAB	HAB	HAB	HAB
600048			FCH	HAB								HAB		
600050			FCH										HAB	HAB
600051			FCH	HAB		HAB		HAB				HAB		
600061	HAB	HAB	FCH HAB	HAB	HAB	HAB	HAB	HAB			HAB	HAB	HAB	HAB
600063	SR FCH	HAB		HAB	SR	HAB		HAB				HAB		

CIP Project Number	Special-Status Species[1,2]													
	ARTO		CAGN		LBVI		SWFL		QCB		SKR		Rare Plants	
	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect
600065				HAB								HAB		
600066	FCH HAB	HAB	FCH		HAB	HAB	HAB	HAB					HAB	HAB
600067			SR	HAB								HAB		
600068	FCH	HAB	FCH	HAB		HAB		HAB				HAB		
600069				HAB		HAB		HAB				HAB		
600070	FCH	HAB	FCH			HAB		HAB						
600071	FCH	HAB			SR	HAB		HAB					SR FCH HAB	HAB
600072		HAB				HAB		HAB	SA	SA HAB				
600073						HAB		HAB	SA	SA HAB				
600078		HAB		HAB		HAB		HAB				HAB		
600080					HAB	HAB	HAB	HAB						
600084						HAB		HAB						
Sewer Projects														
530018	FCH HAB	HAB	FCH	HAB	HAB	HAB	HAB	HAB				HAB		
530020	SR FCH	HAB	SR FCH		SR FCH	HAB		HAB						
5300XX-1	HAB	HAB	FCH		HAB	HAB	HAB	HAB						
5300XX-4	FCH		FCH		FCH									
5300XX-5	FCH		FCH		FCH									
5300XX-6	FCH		SR FCH	HAB								HAB		
5300XX-7	FCH SR	HAB			FCH	HAB SR		HAB						

[1] ARTO=arroyo toad; CAGN=coastal California gnatcatcher; LBVI=least Bell's vireo; SKR = Stephens' kangaroo rat; SWFL=southwestern willow flycatcher; QCB=Quino checkerspot butterfly.

2 FCH = occurs within federal critical habitat of the species; HAB = occurs within or adjacent to suitable habitat for the species; SA = USFWS Quino checkerspot butterfly recommended survey area; SR = species record occurs within 500 feet of the proposed project.

[3] CIP Projects 600060, 600074, 600075, 600070, 530023, 5300XX-2, and 5300XX-3 do not propose direct or indirect impacts to any sensitive plant or animal species and are not included in the table.

Direct Impacts

Until project-level survey data becomes available, CIP projects 600002, 600026, 600040, 600050, 600066, 600071, 600080, 530018, and 5300XX-1, listed in Table 2, are conservatively assumed to have the potential to result in direct impacts to special-status plant and animal species. In the event of an impact, special-status species could be inadvertently killed, trapped, trampled, or otherwise harmed by the construction of these projects. If unmitigated, such impacts would be considered potentially significant.

For each CIP project where a potentially significant impact could occur, the District would implement performance-based mitigation measures that (1) identify the precise location of special-status species; (2) implement required actions in the project-specific design and construction methods to avoid and minimize the potential impacts; and (3) fully mitigate unavoidable impacts in accordance with regional standards and in coordination with federal and state resource agencies, as applicable.

For example, a project-level biological resources survey (**Bio-1**), as described in mitigation measure **Bio-1**, would be required for CIP projects with the potential to directly impact sensitive natural communities with the potential to support special-status species. The project-level survey (**Bio-1**) would be required to confirm the direct and indirect impacts to special-status plant and animal species within and surrounding the CIP projects and guide the implementation of required avoidance, minimization, and mitigation measures prescribed herein to ensure the impacts are avoided or reduced to less than significant levels.

The following sections provide specific analyses of the CIP projects' potential impacts on special-status plant and wildlife species.

Special-Status Plant Species

CIP projects 600002, 600040, and 600061 have the potential to impact coastal sage scrub habitat, and CIP projects 600050 and 600066 have the potential to impact chaparral habitats (Table 2). CIP project 600071 has the potential to impact San Diego ambrosia and the associated designated critical habitat. Thread-leaved brodiaea, San Diego ambrosia, Gander's ragwort, Nevin's barberry, Slender-horned spineflower, and Vail Lake ceanothus occur in coastal sage scrub and chaparral habitat and, therefore, could be impacted through the implementation of CIP projects 600002, 600040, 600050, 600061, 600066, and 600071. These impacts could be potentially significant. Implementation of mitigation measure **Bio-2** would reduce potential impacts to less than significant.

If it is determined during the project-level biological resources survey (**Bio-1**) that federally- or state-listed plant species could be directly impacted during the implementation of CIP projects 600002, 600040, 600050, 600061, and 600071, then the District would implement **Bio-3**.

Special-Status Animal Species

As mentioned above, CIP projects 600002, 600040, and 600061 have the potential to impact coastal sage scrub habitat, and CIP projects 600002, 600066, and 5300XX-2 have the potential to impact chaparral habitat, coast live oak woodland, and non-native grassland. Additionally, CIP project 600050 has the potential to impact chamise chaparral habitat (Table 2). Coastal California gnatcatcher, Dulzura pocket mouse, Quino checkerspot butterfly, black-tailed jackrabbit, Stephens' kangaroo rat, and Swainson's hawk occur in coastal sage scrub and chaparral habitats and could be impacted through the implementation of CIP projects 600002, 600040, 600050, 600061, 600066, and 5300XX-2. As shown in Table 2, coastal California gnatcatcher have been historically observed within 500 feet of CIP projects 600002, 600067, 530020, and 5300XX-6 and CIP projects 600002,600048, 600050, 600051, 600061, 600066, 600068, 600070, 530018, 530020, 5300XX-1, 5300XX-4, 5300XX-5, and 5300XX-6 occur within designated critical habitat. Dulzura pocket mouse has been historically observed within 500 feet of CIP project 600051. Stephens' kangaroo rat have been historically observed in the southern half of the Service Area within 500 feet of CIP project 600026. The USFWS Quino checkerspot butterfly recommended survey area overlaps with CIP projects 600072 and 600073; however, all three projects occur within developed areas. Black-tailed jackrabbit are known throughout the Service Area within

Rainbow Municipal Water District Service Area
Detail Page Extent

Proposed CIP Sites

Generator
Interconnection
Lift Station
Pressure Reducing Station
Pump Station
Storage Tank

Proposed CIP Pipes

Sewer Projects
Water Projects

Historical Vegetation

Other Mapped Areas
Open Water
Unvegetated Habitat
Disturbed Habitat
Urban/Developed

Shrub and Chaparral
Ceanothus crassifolius Chaparral
Chamise Chaparral
Coastal Scrub
Diegan Coastal Sage Scrub
Maritime Succulent Scrub
Montane Buckwheat Scrub
Non-Native Grassland
Valley and Foothill Grassland
Valley Needlegrass Grassland
Scrub Oak Chaparral
Southern Maritime Chaparral
Southern Mixed Chaparral

Agriculture
General Agriculture
Field/Pasture
Orchards and Vineyards

Forest and Woodlands
Engelmann Oak Woodland
Eucalyptus Woodland
Dense Coast Live Oak Woodland
Open Coast Live Oak Woodland
Coast Live Oak Woodland
Coast Live Oak Forest
Douglas-Fir Forest

Riparian and Wet Habitats
Coastal and Valley Freshwater Marsh
Mule Fat Scrub
Non-Native Riparian
Southern Arroyo Willow Riparian For
Southern Arroyo Willow Riparian Forest
Southern Coast Live Oak Riparian Fo
Southern Coast Live Oak Riparian Forest
Southern Cottonwood-Willow Riparian
Southern Riparian Forest
Southern Riparian Scrub
Southern Riparian Woodland
Southern Sycamore-Alder Riparian Wo
Southern Willow Scrub
Non-Vegetated Channel or Floodway

* Projects #600007, 600009, 600030, 600055 are in multiple locations district wide and are not depicted here.

600073
600065
600040
600072
600050
600073
600048
600051
600048
600074
600080
5300XX-2
600061
5300XX-1
600069
600078
600067
5300XX-3
5300XX-6
5300XX-6
600068
600070
5300XX-4
5300XX-5
530020
530018
530018
600060
530023
600002
600084
600071
600026
5300XX-7
600075
600063
600066
600008
600008
76
76
15

I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9-1_CIPOverview : 01940.2.1 : 4/21/2022 - SAB

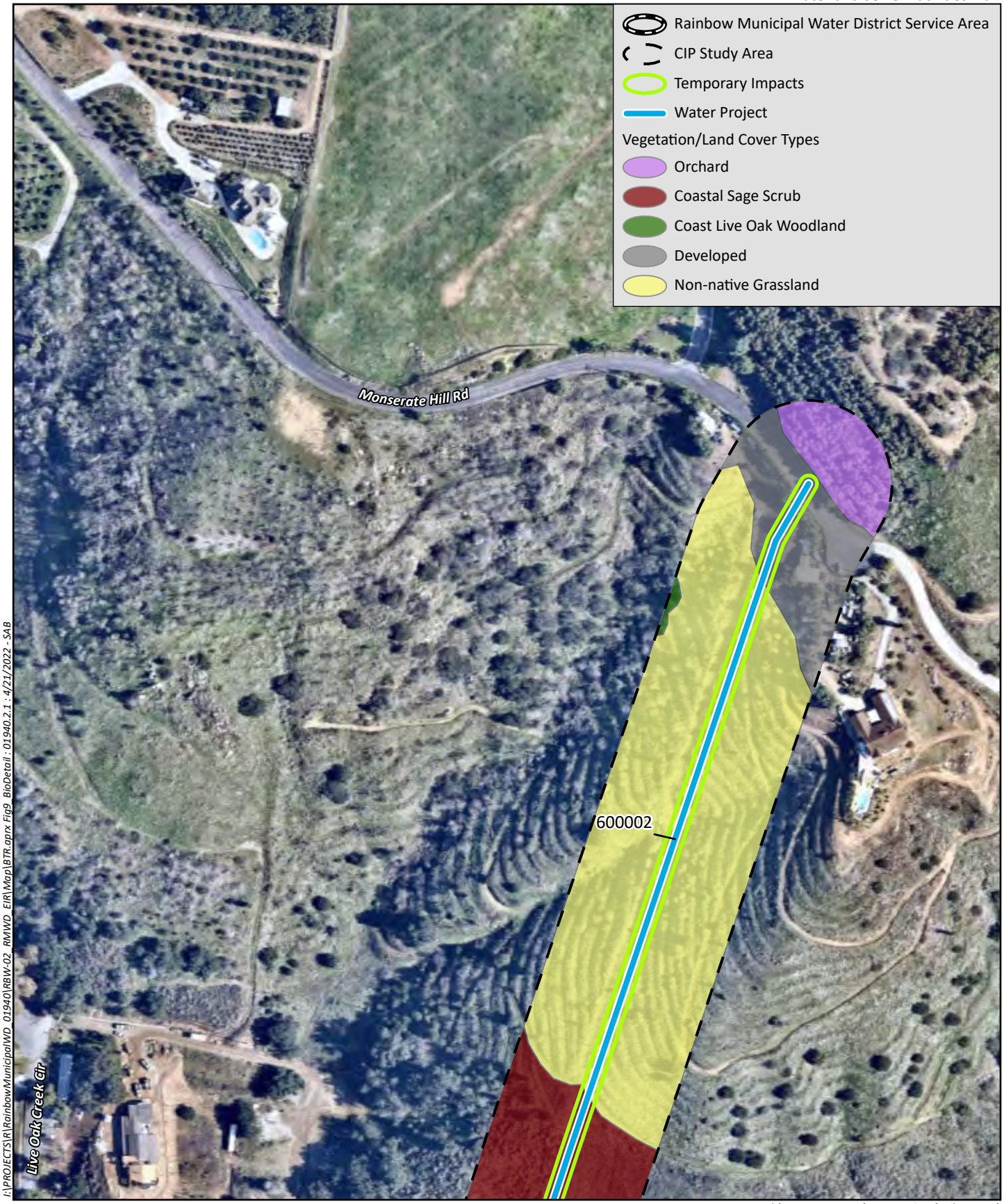
0 1.5 Miles

Source: Aerial (Maxar, 2020), Vegetation (SanGIS, 2012)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts - Overview

Figure 9



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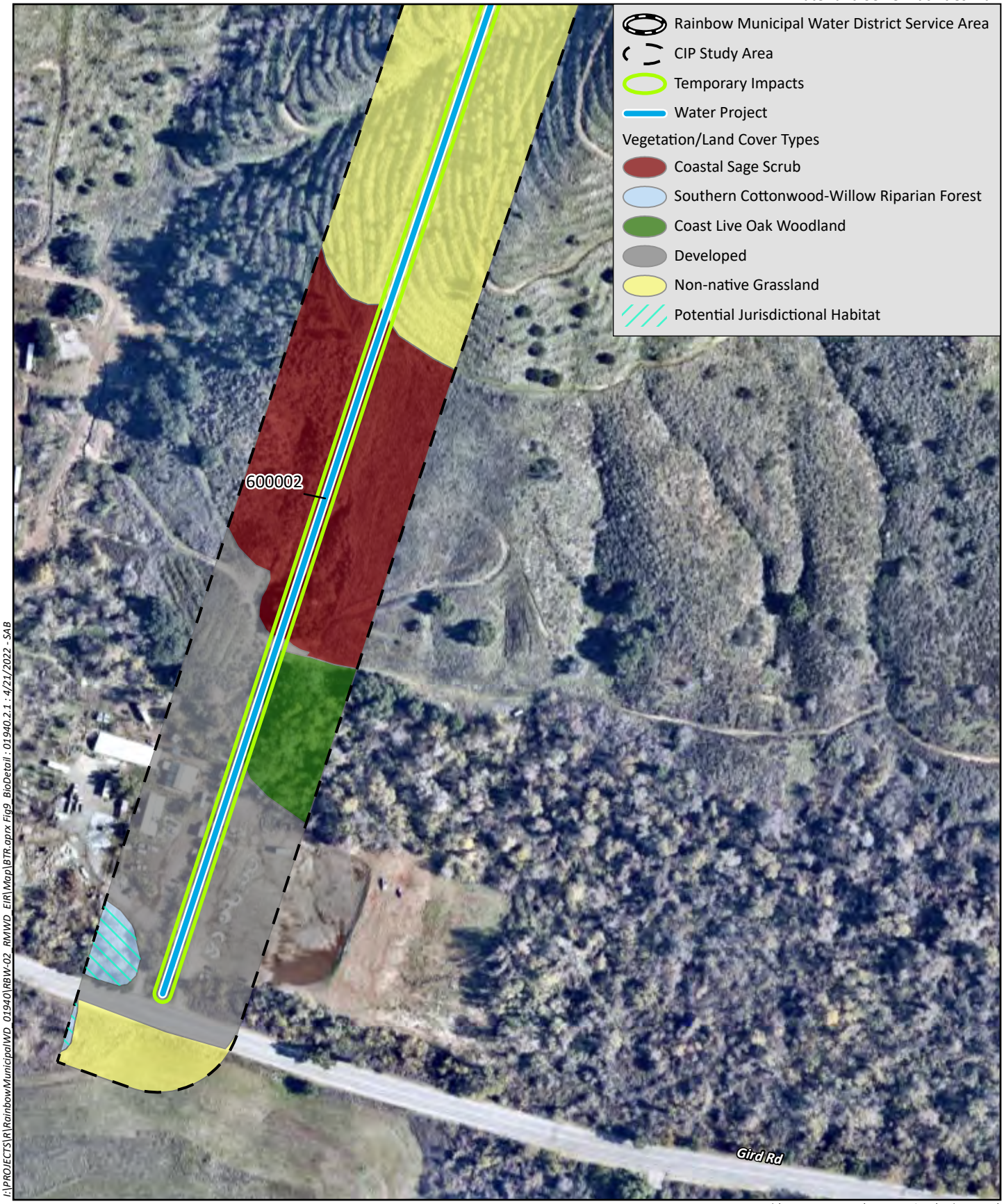
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-1 Project #600002a Gird to Monserate Hill Water Line



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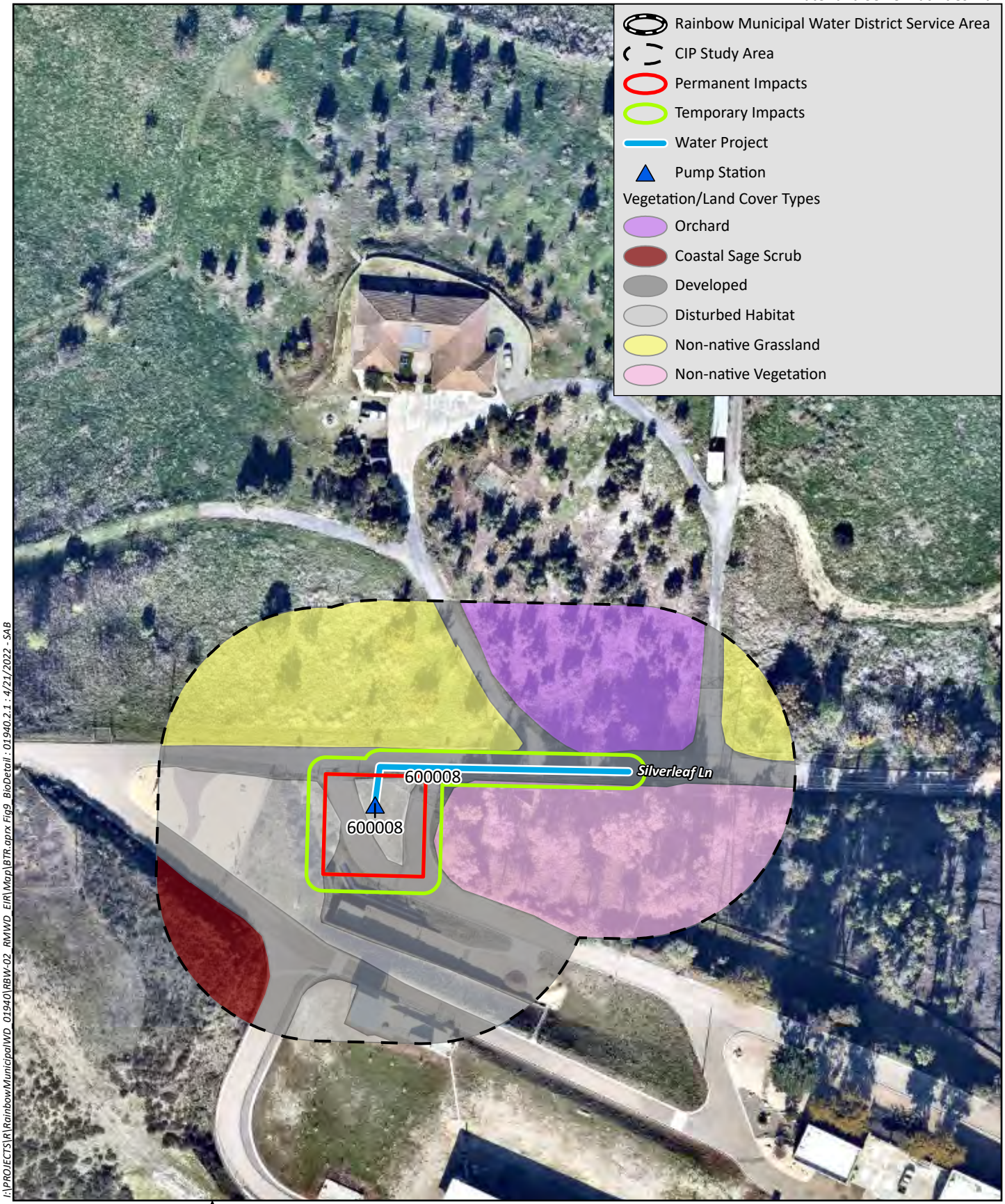
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-2 Project #600002b Gird to Monserate Hill Water Line



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

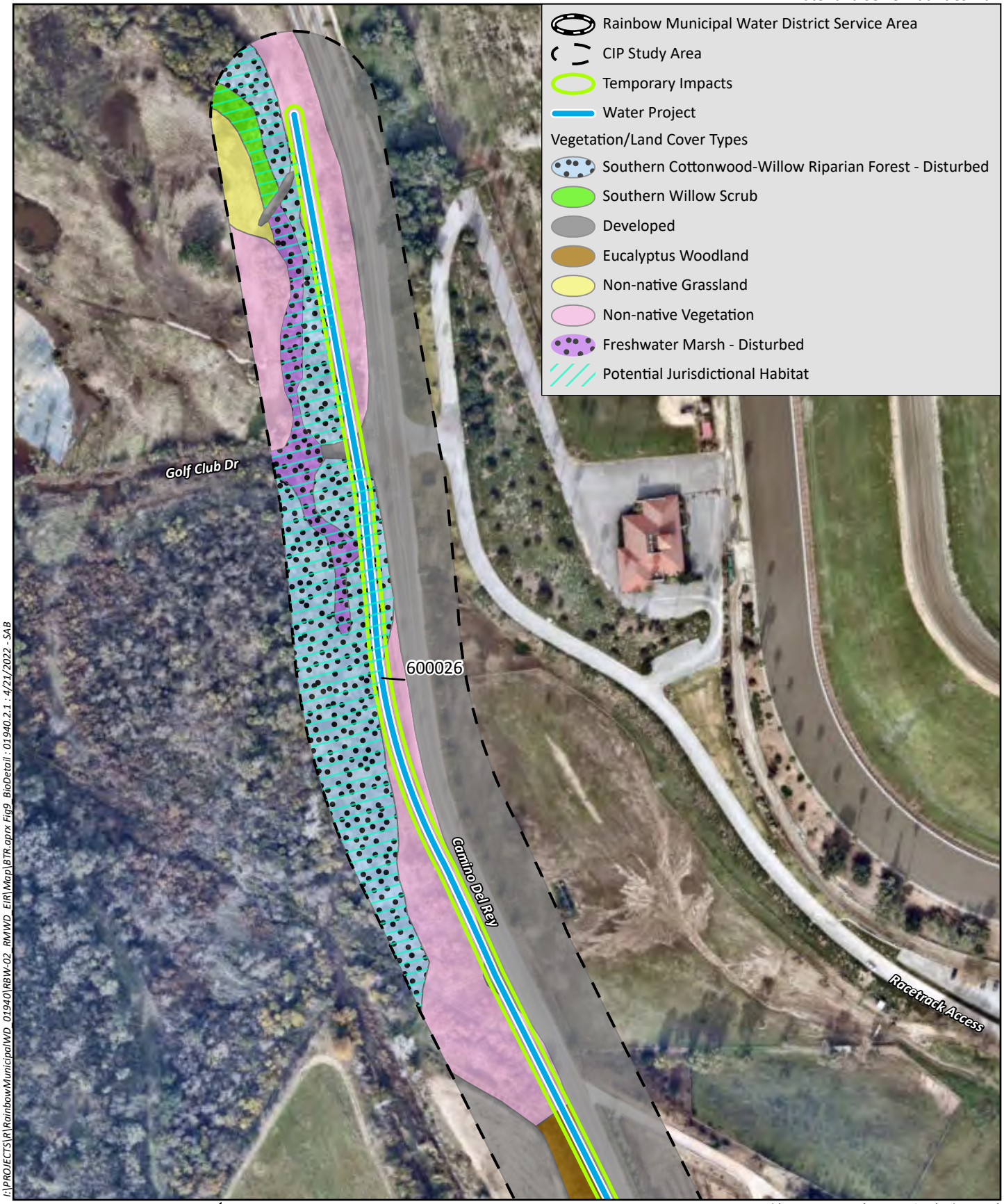
0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-3 Project #600008 Weese WTP Permanent Emergency Interconnect and PS



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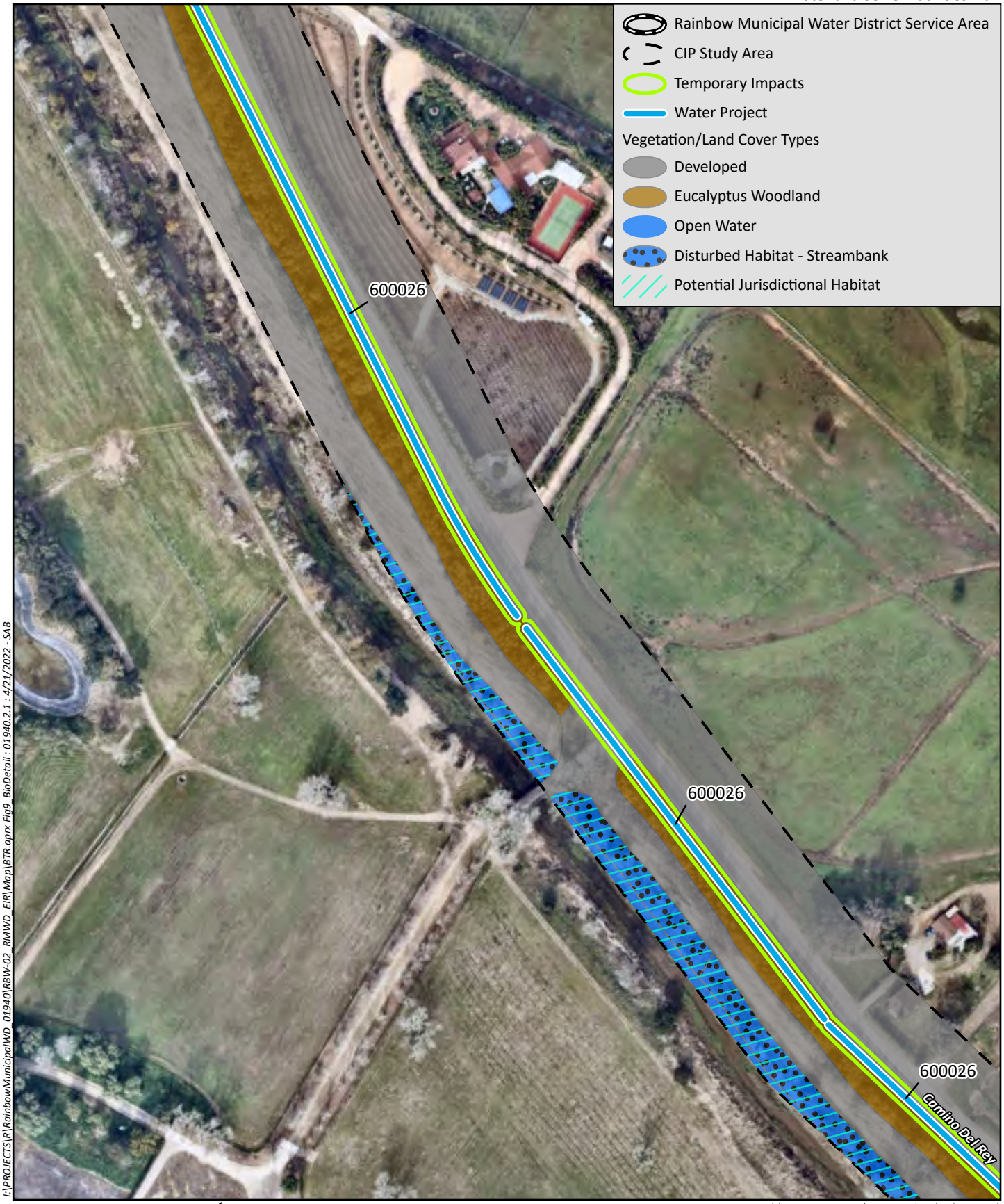
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-4 Project #600026a Camino Del Rey Waterline Relocation



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

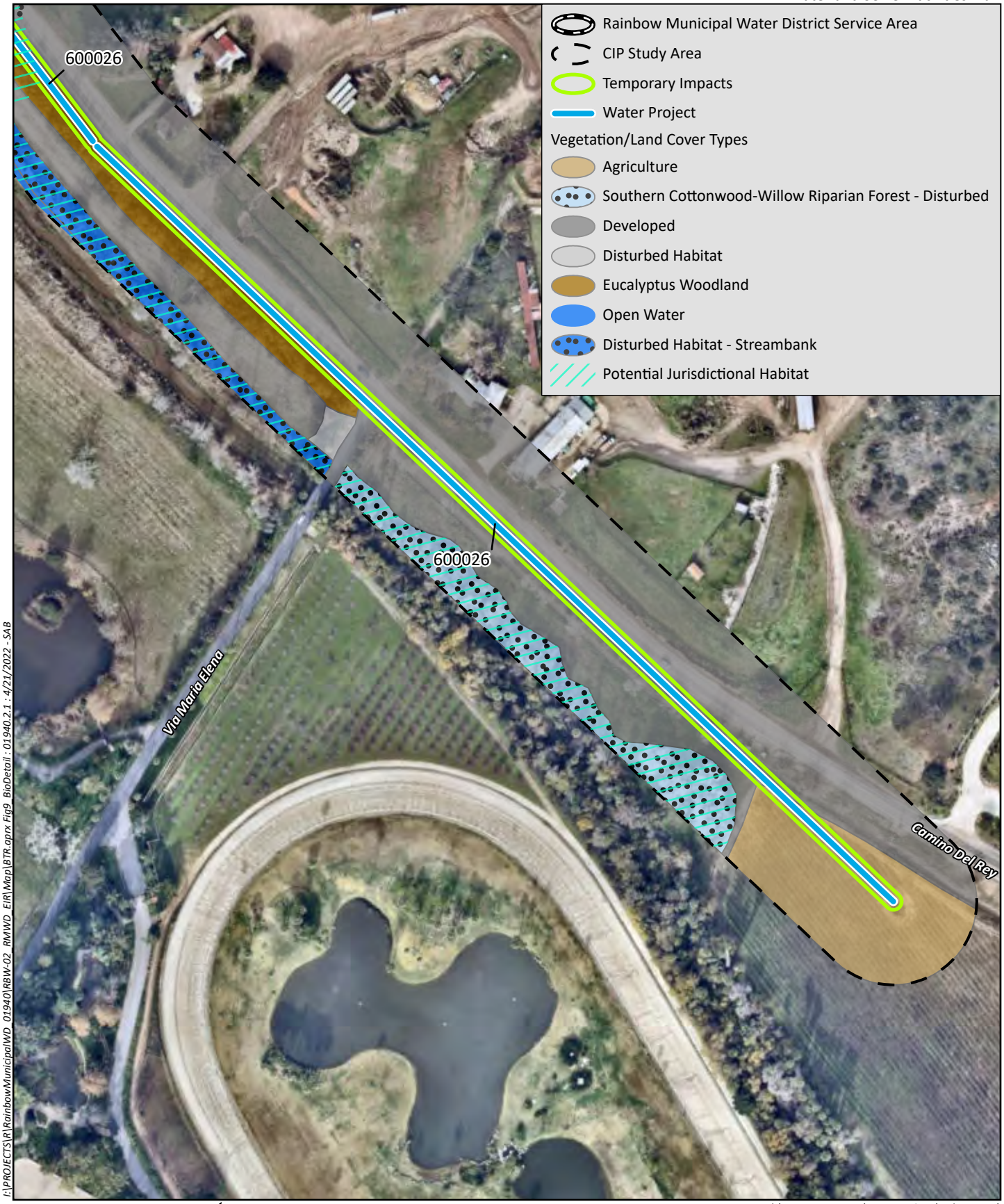
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-5 Project #600026b Camino Del Rey Waterline Relocation



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

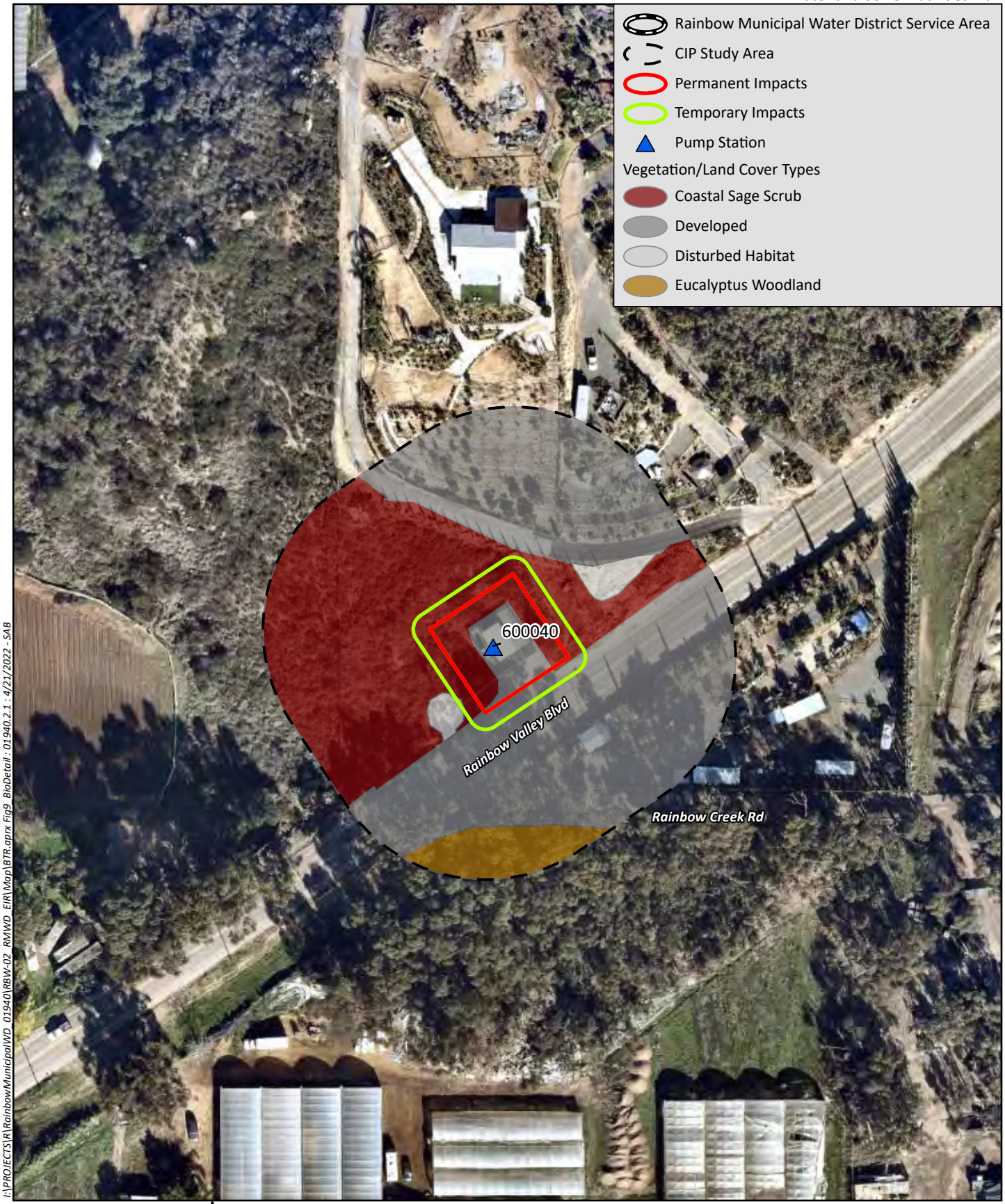
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-6 Project #600026c Camino Del Rey Waterline Relocation



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

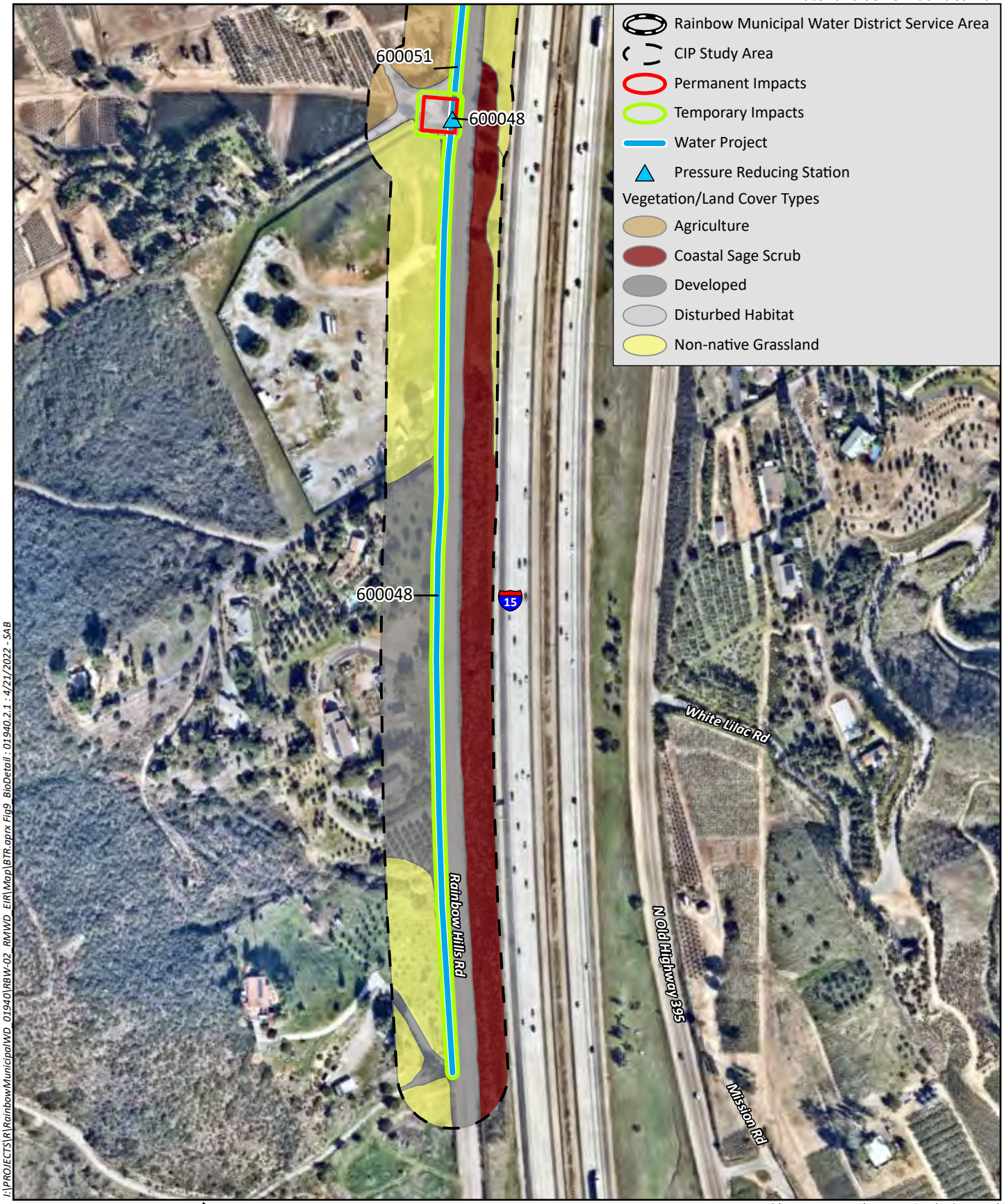
0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-7 Project #600040 Vallecitos PS Replacement



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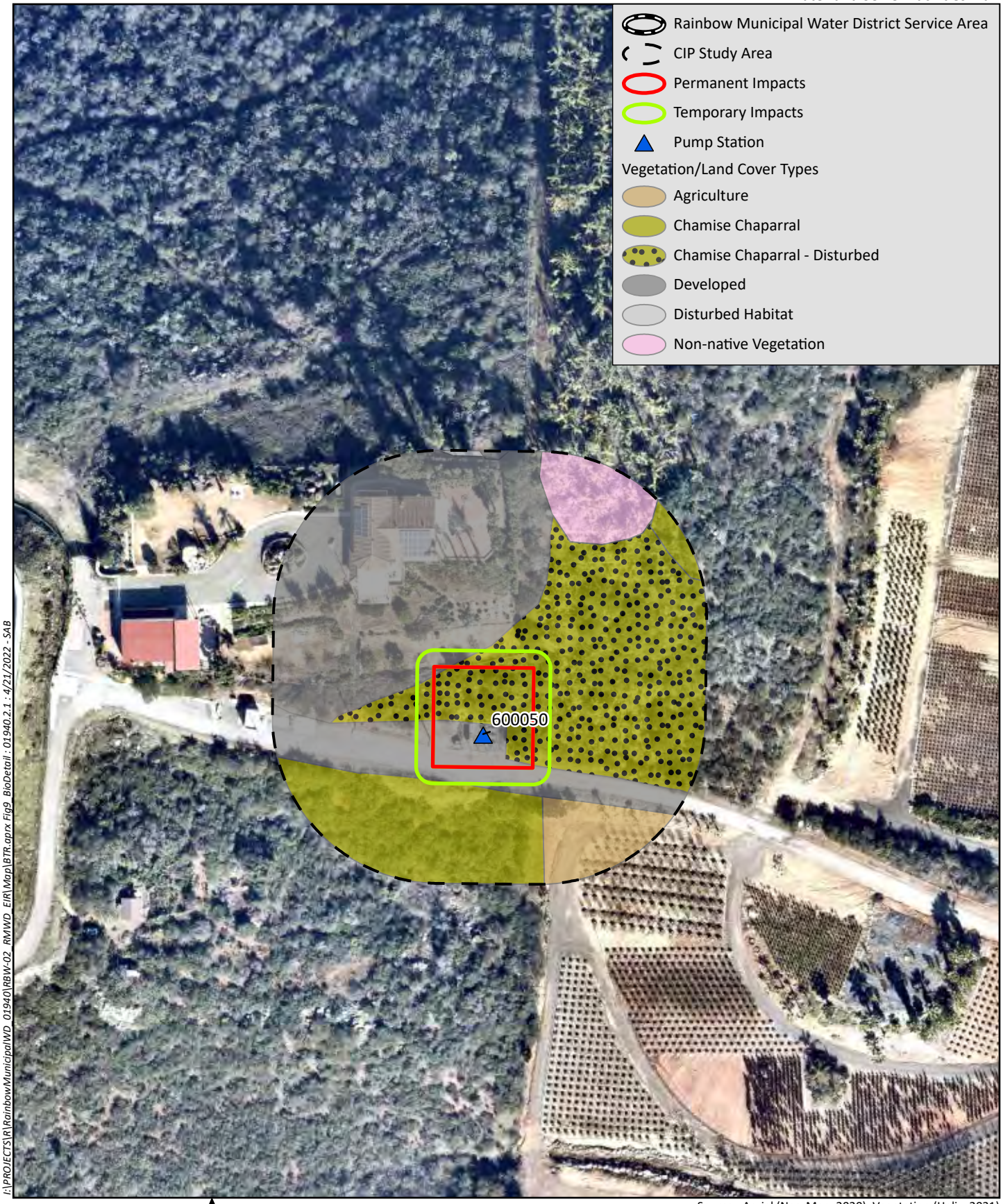
0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-8 Project #600048 Northside Zone Supply Redundancy with New PRS



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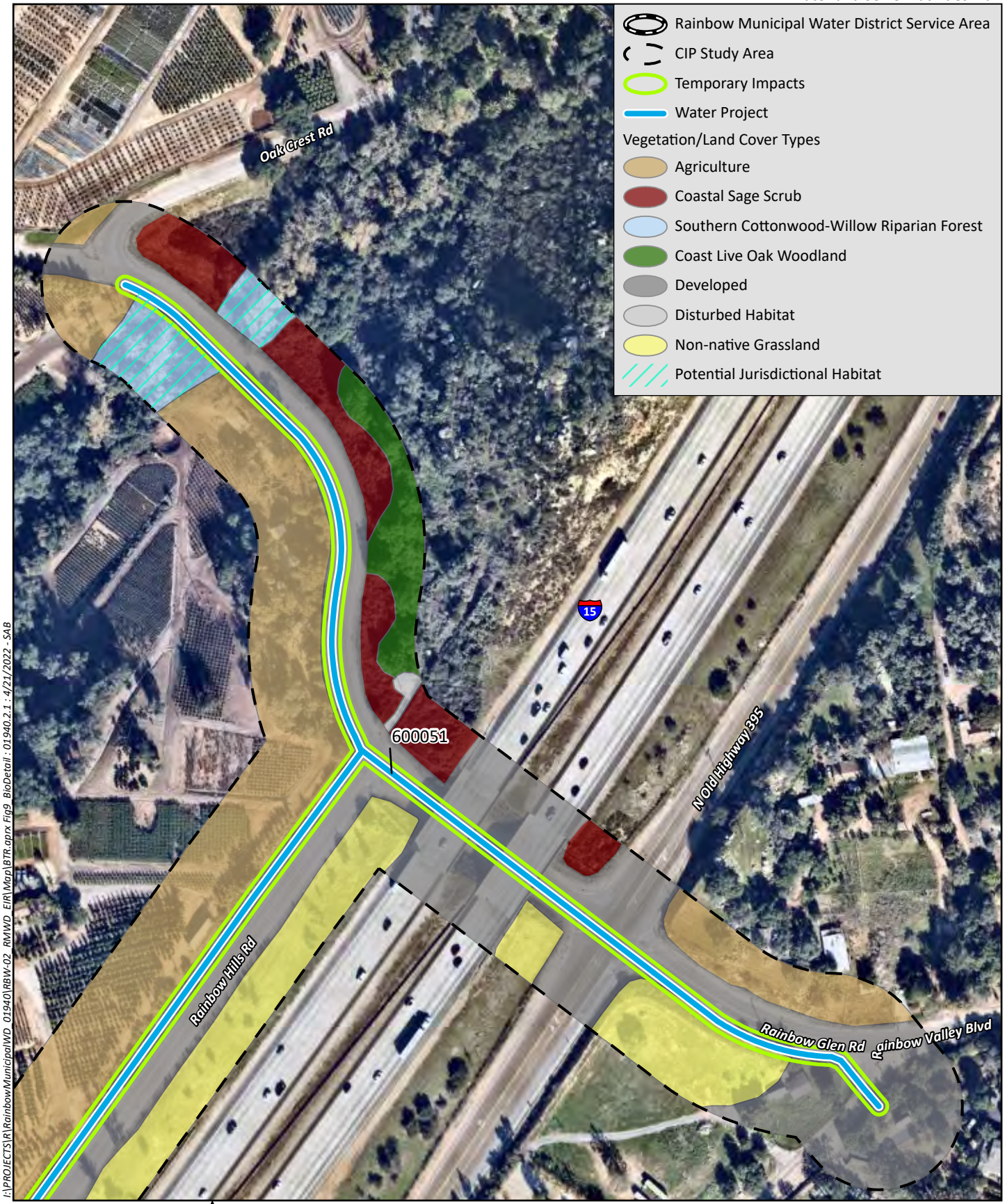
0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-9 Project #600050 Lookout Mountain PS Upgrades



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 200 Feet

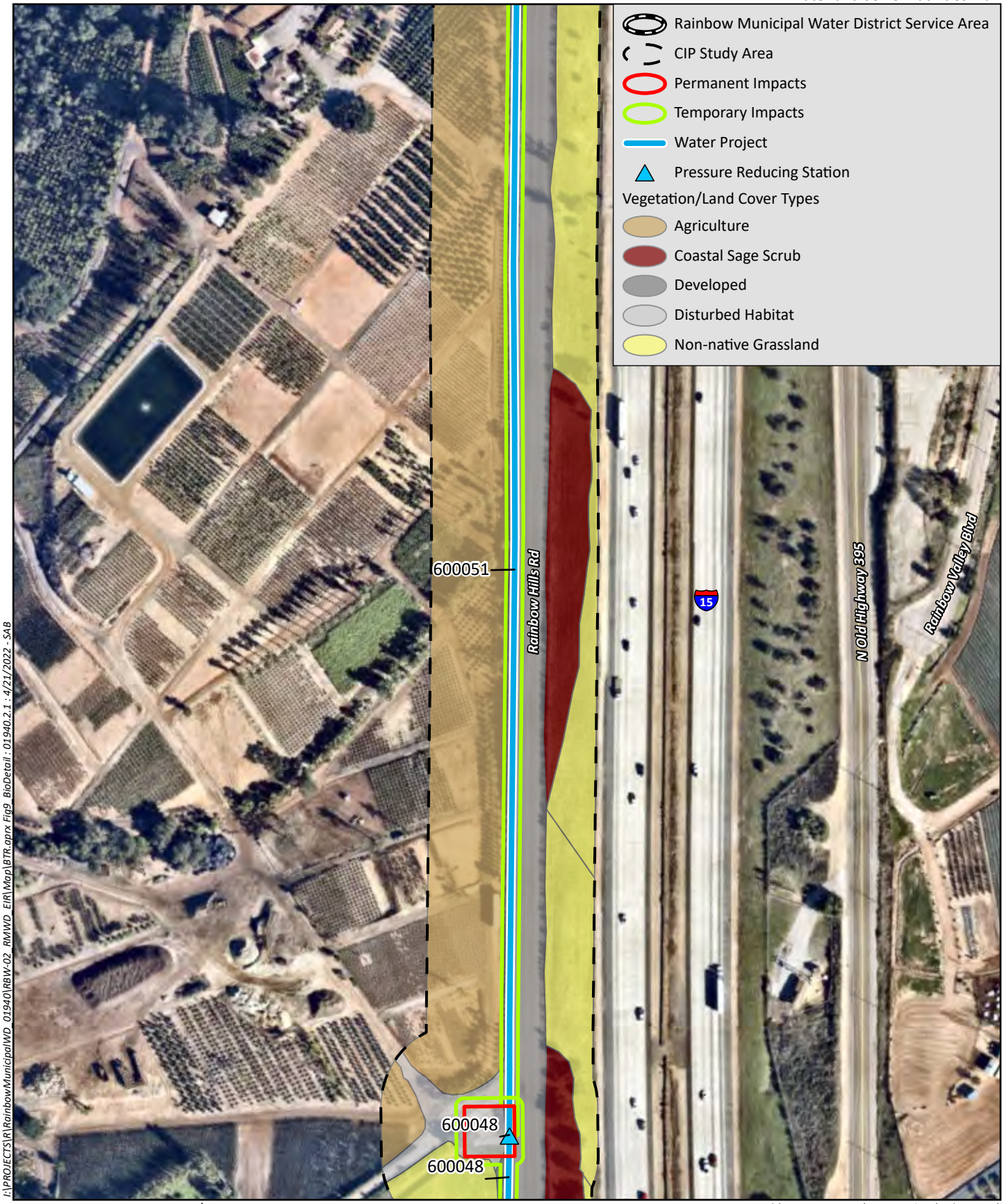
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Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-10 Project #600051a North Feeder and Rainbow Hills Water Line Replacements



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0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-11 Project #600051b North Feeder and Rainbow Hills Water Line Replacements



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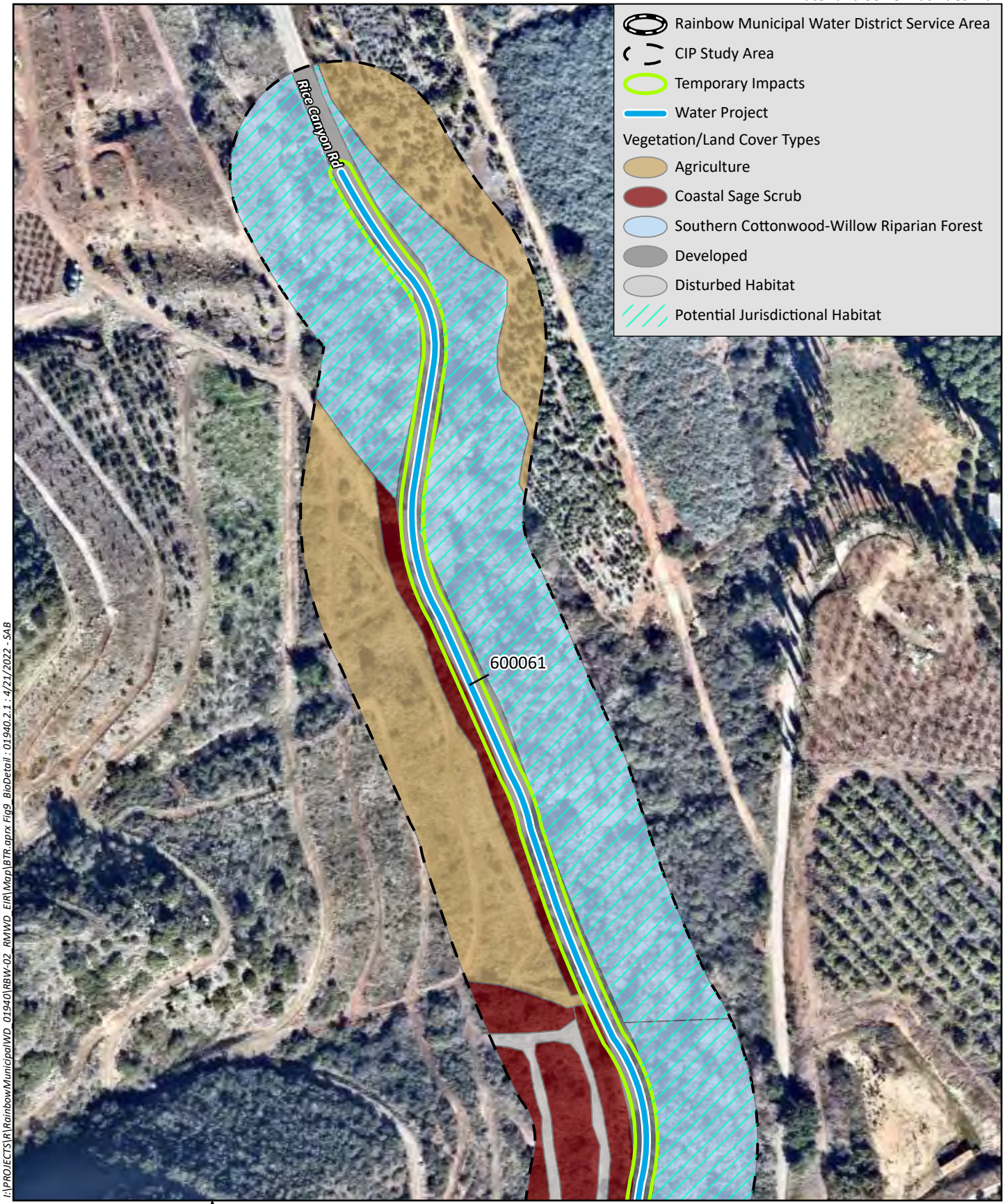
0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-12 Project #600060 Via Monserate Water Main Replacement



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

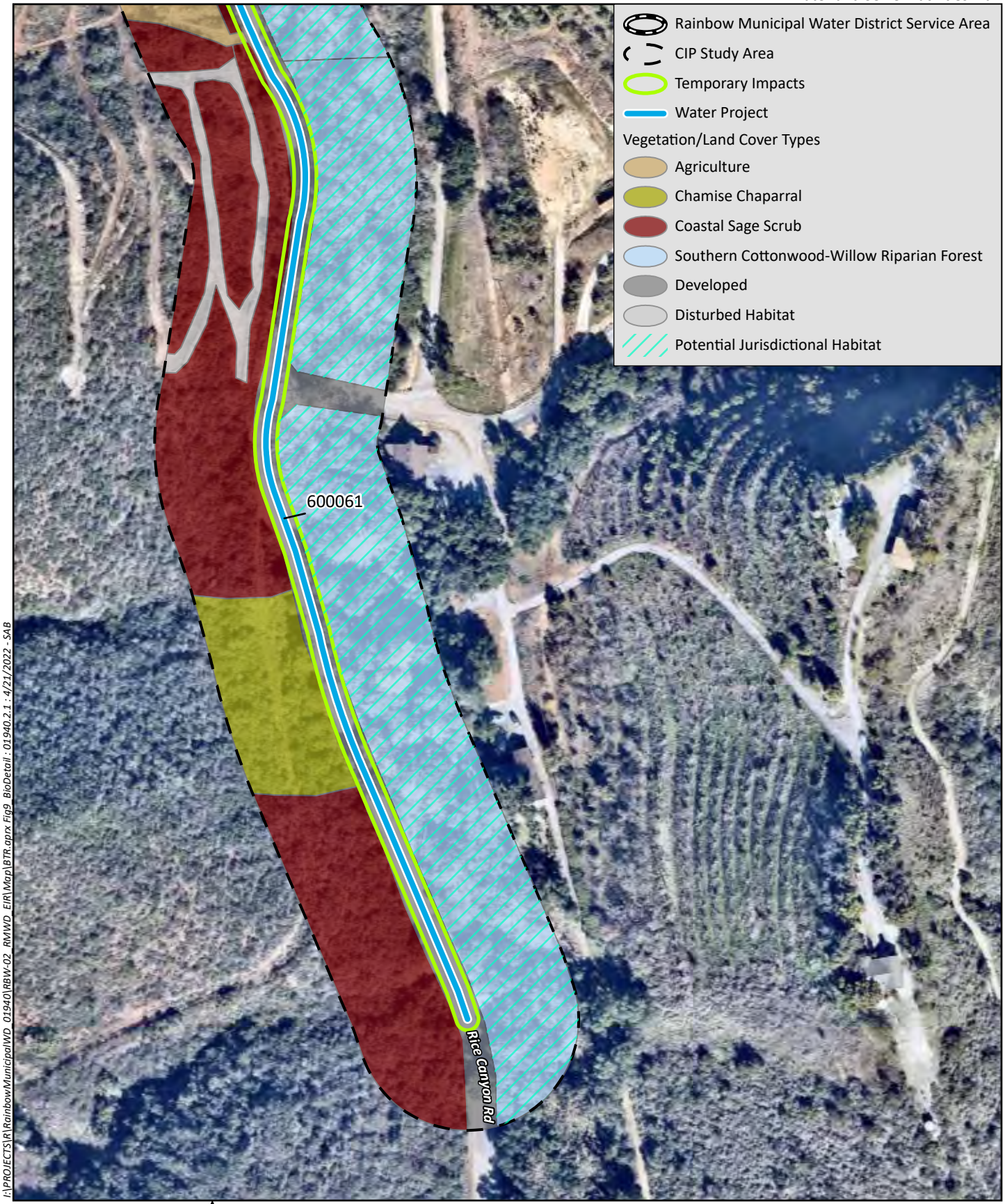
0 150 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-13 Project #600061a Rice Canyon Road Water Main Replacement



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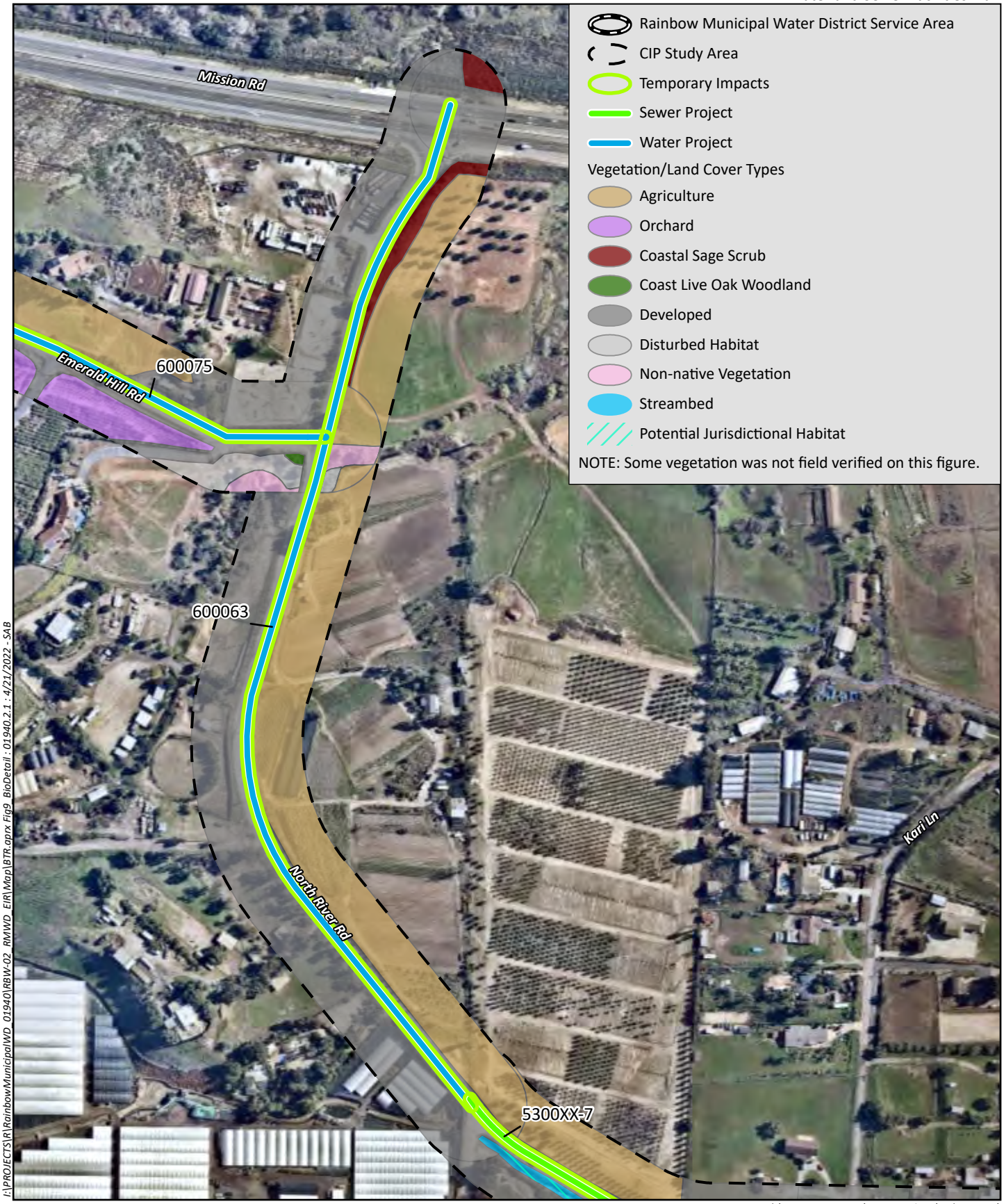
0 150 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-14 Project #600061b Rice Canyon Road Water Main Replacement



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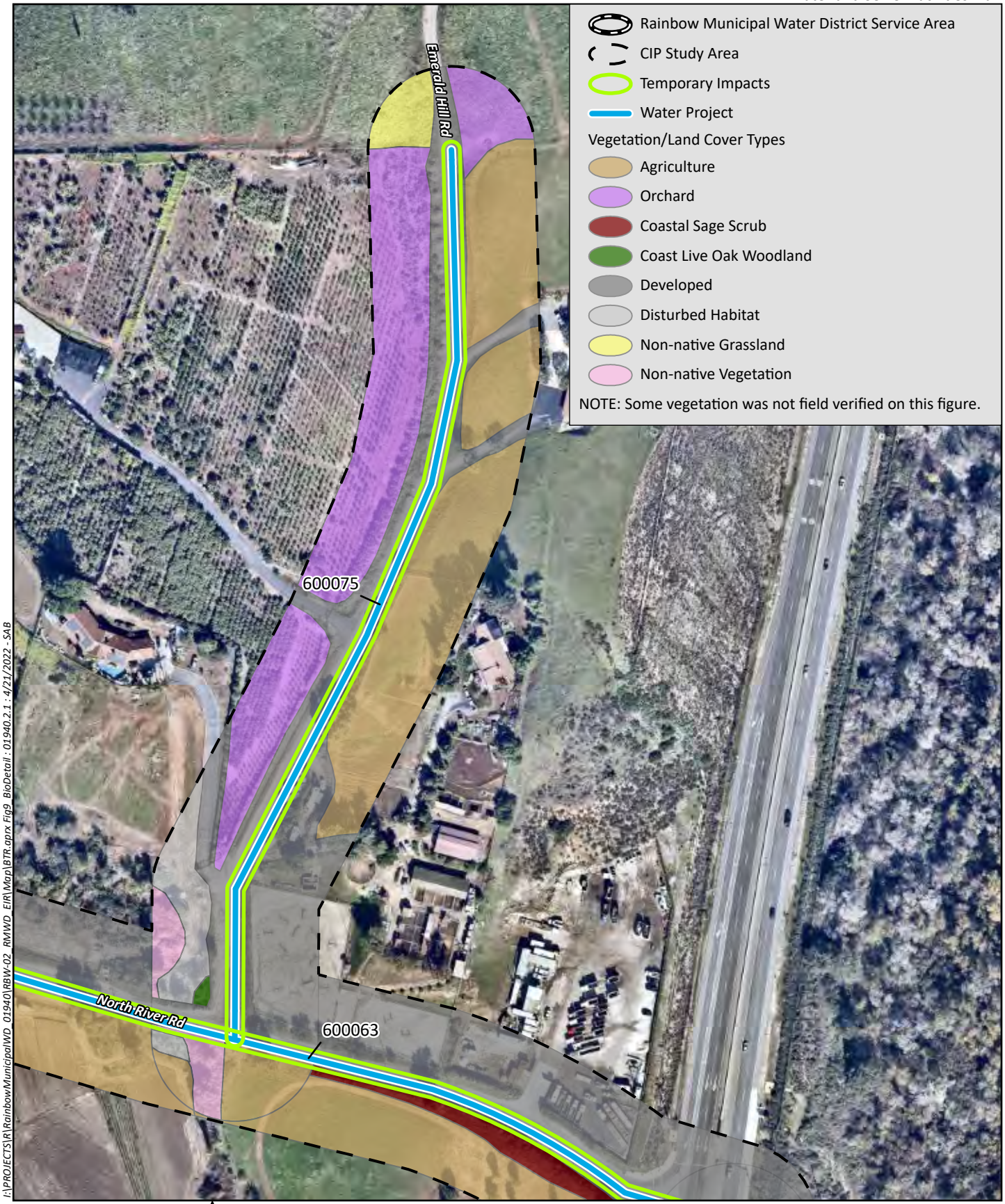
0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-15 Project #600063 North River Road Water Main Replacement



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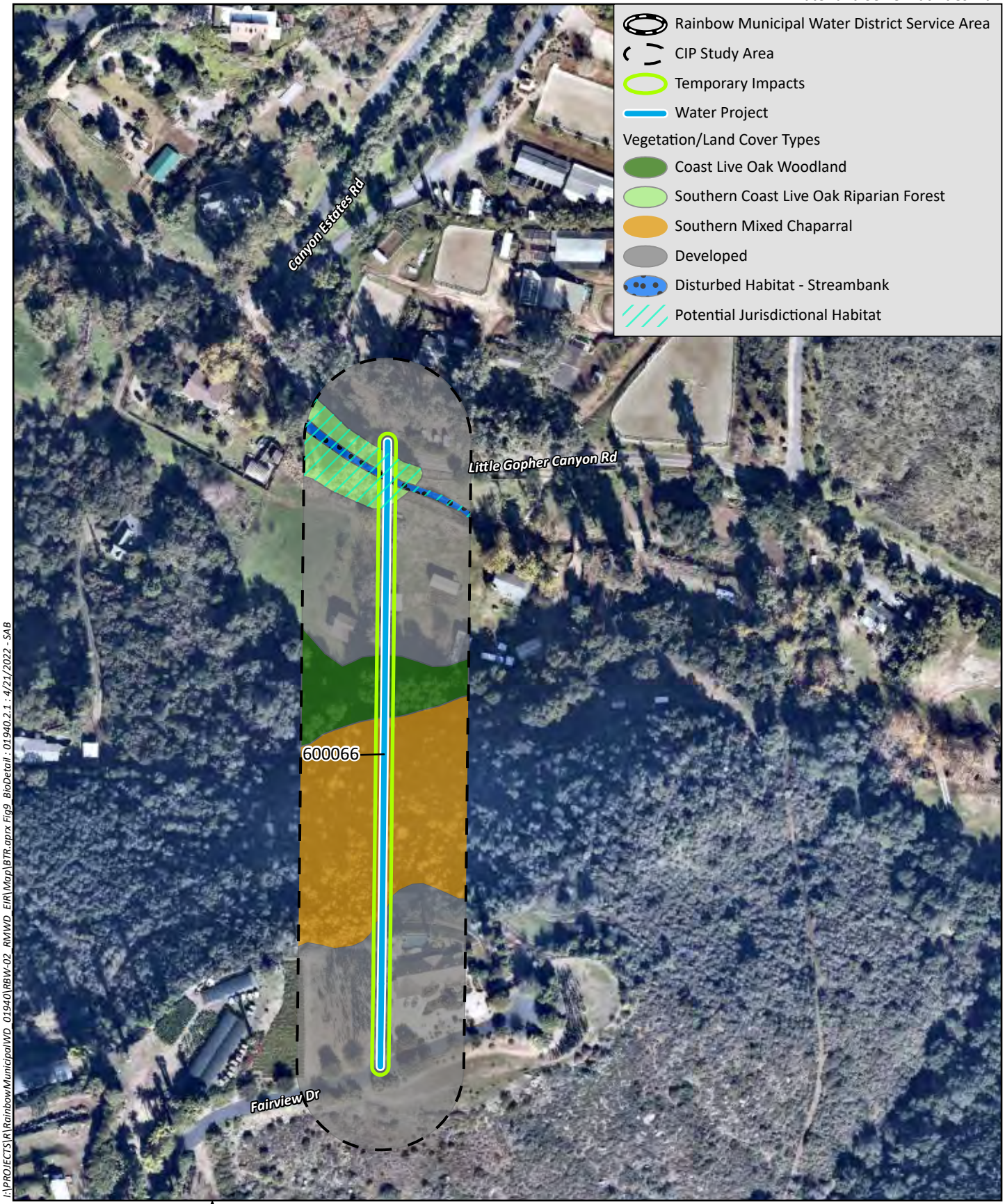
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-16 Project #600075 Roy Line Extension



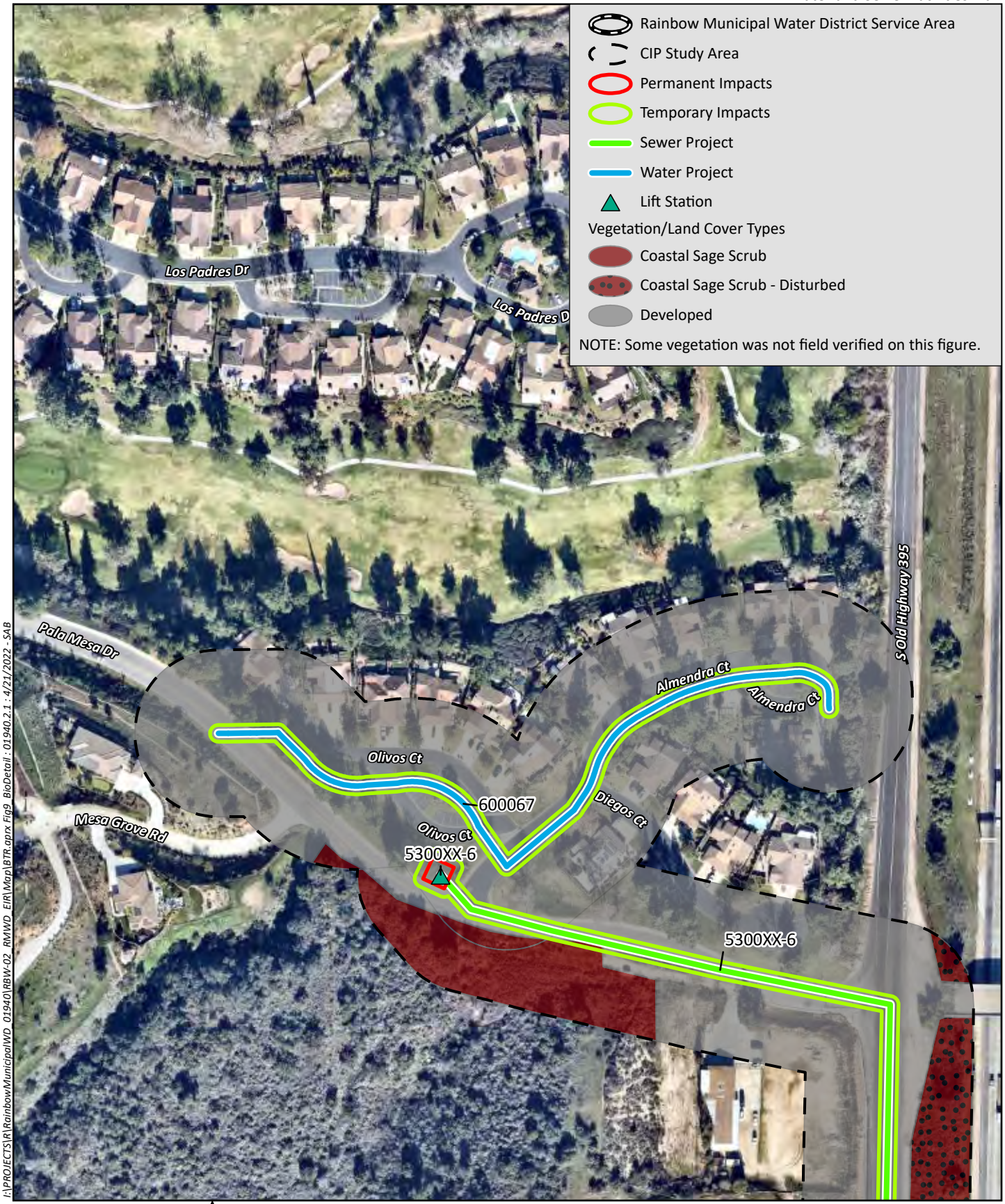
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Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-17 Project #600066 Thibido Water Main Replacement (PUP2)



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

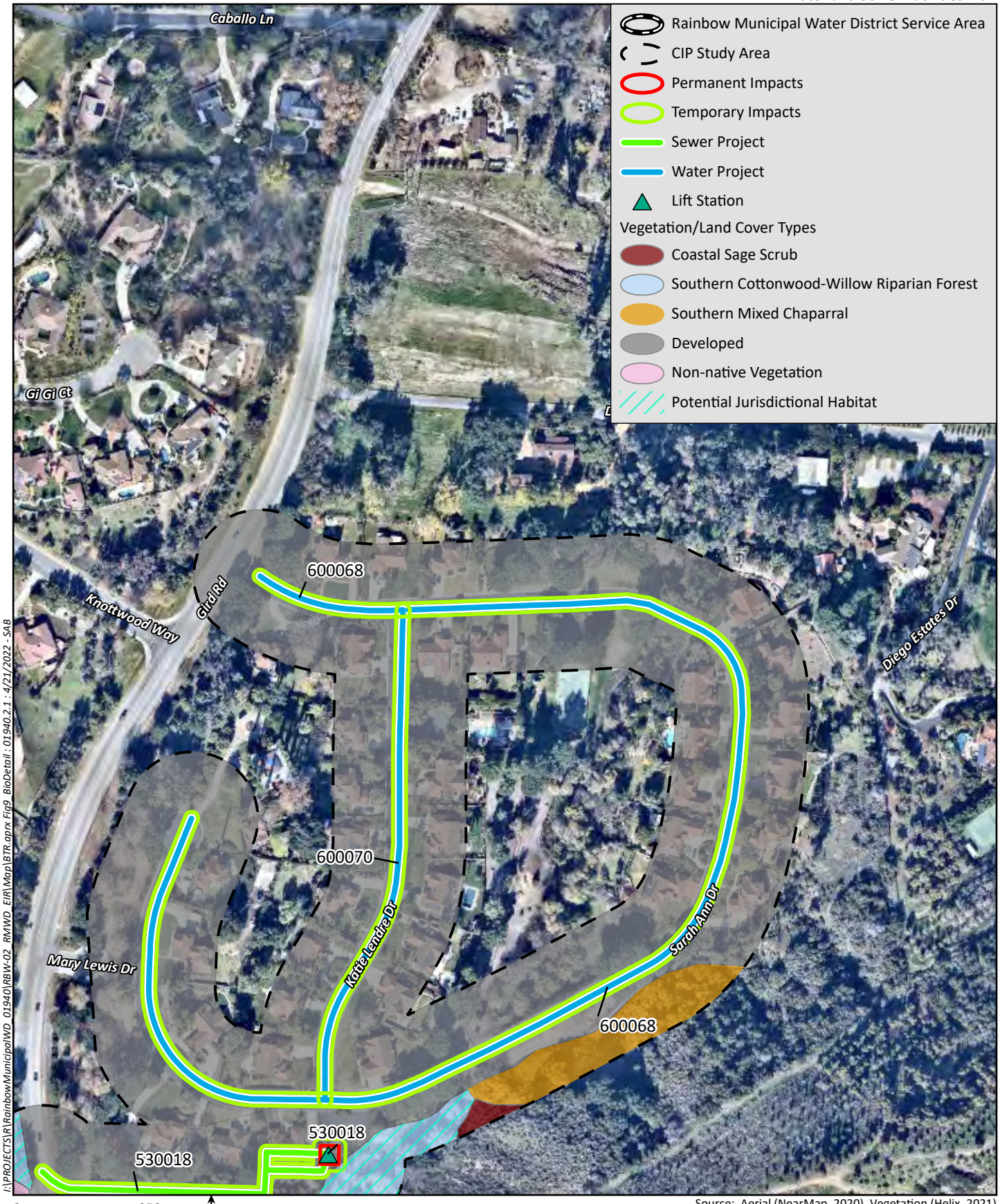
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-18 Project #600067 Pala Mesa Fairways 383 A and C (PUP3)

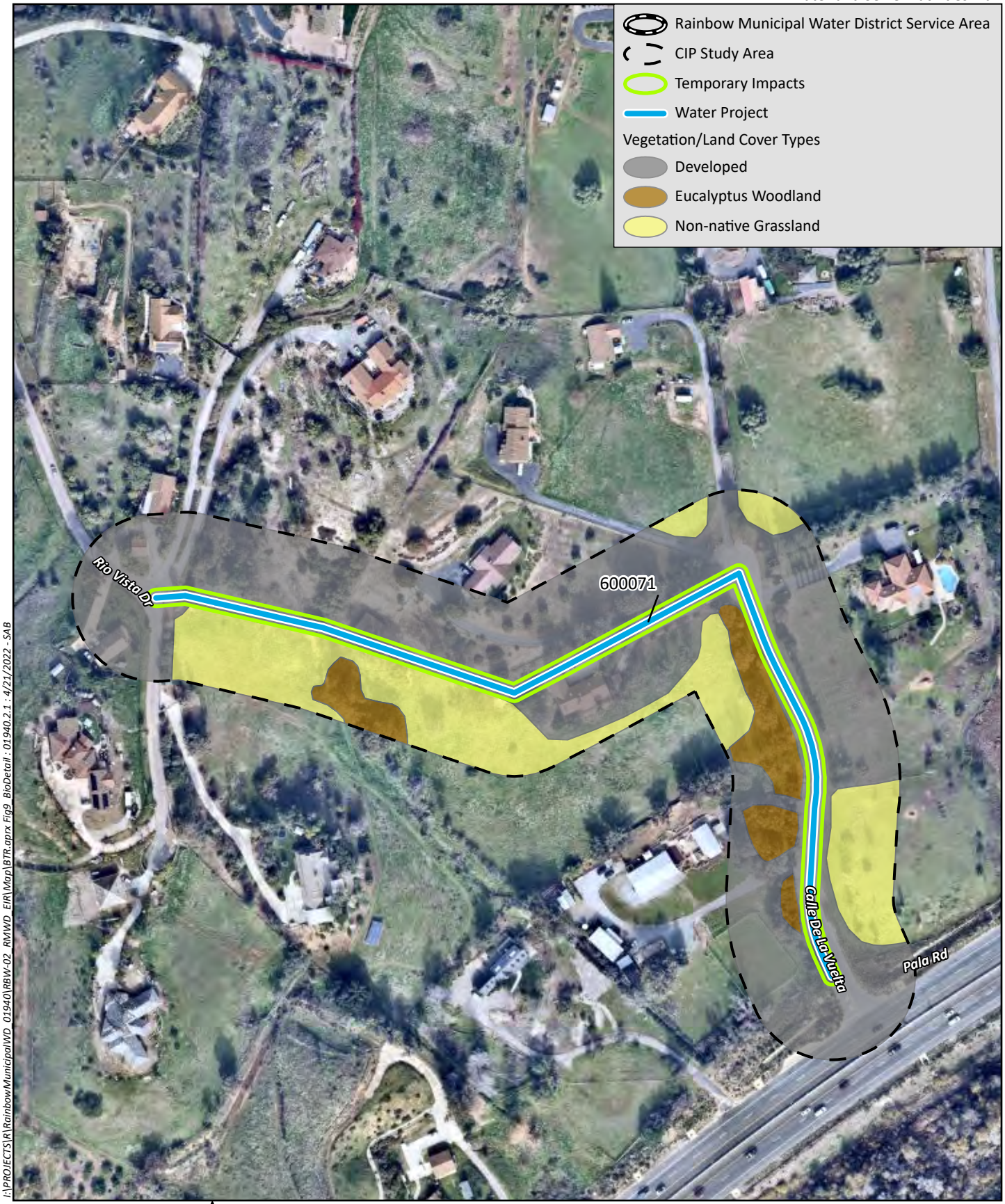


Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-19 Project #600068 & 600070 Sarah Ann Dr. Line 400A (PUP3) & Katie Lendre Drive Line (PUP3)



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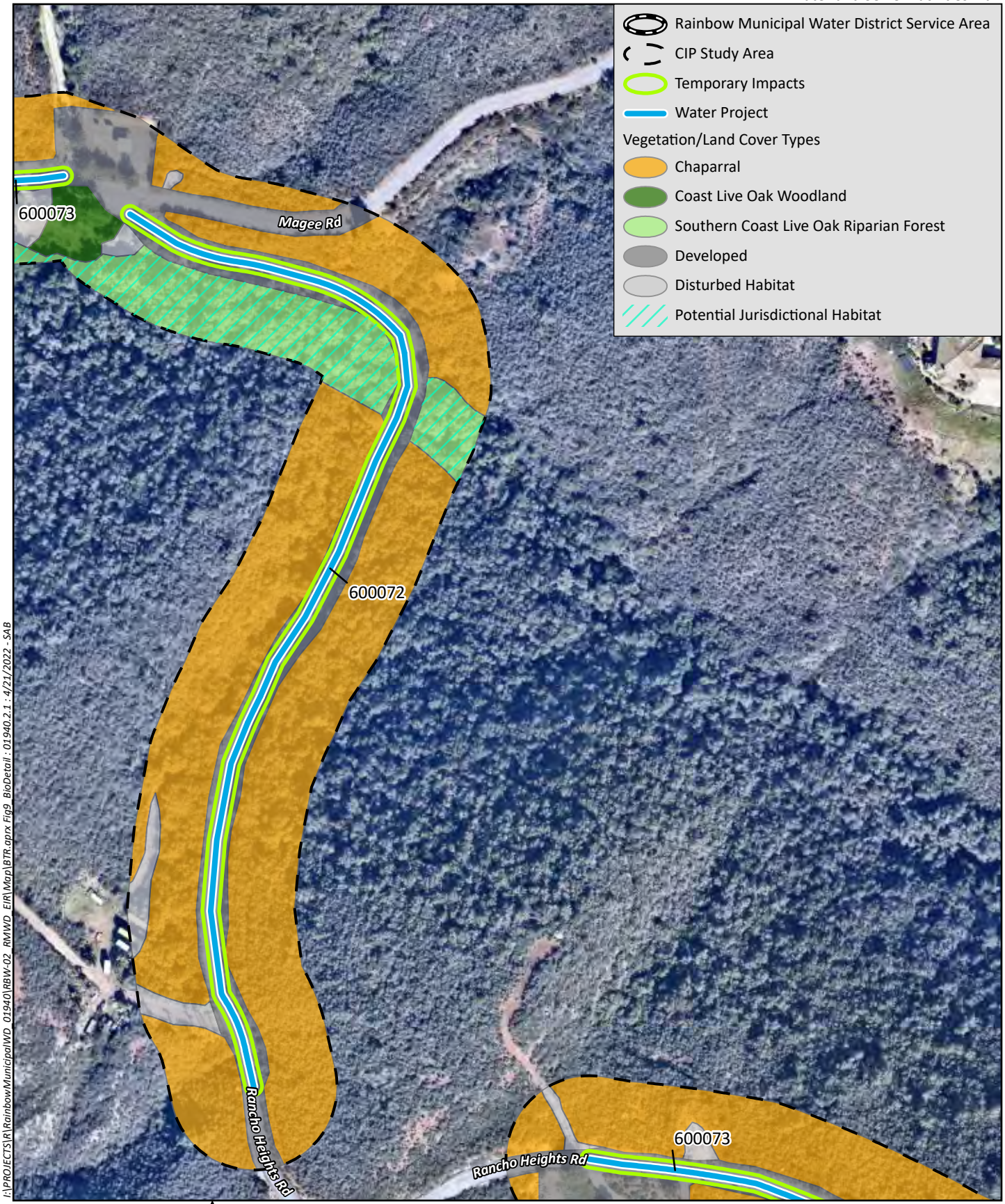
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-20 Project #600071 Del Rio Estates Line Extension 503



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

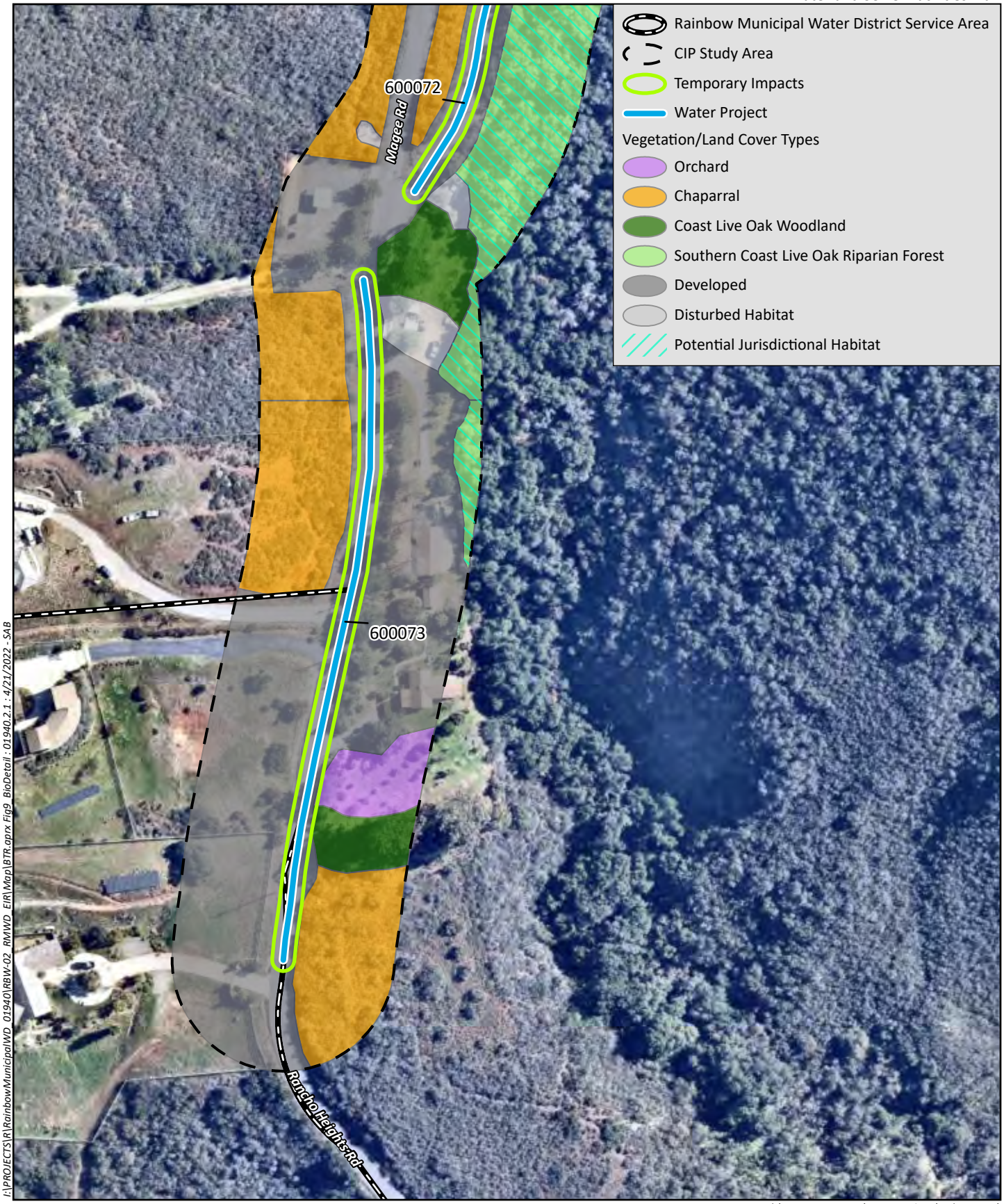
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-21 Project #600072 East Heights Line 147L



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

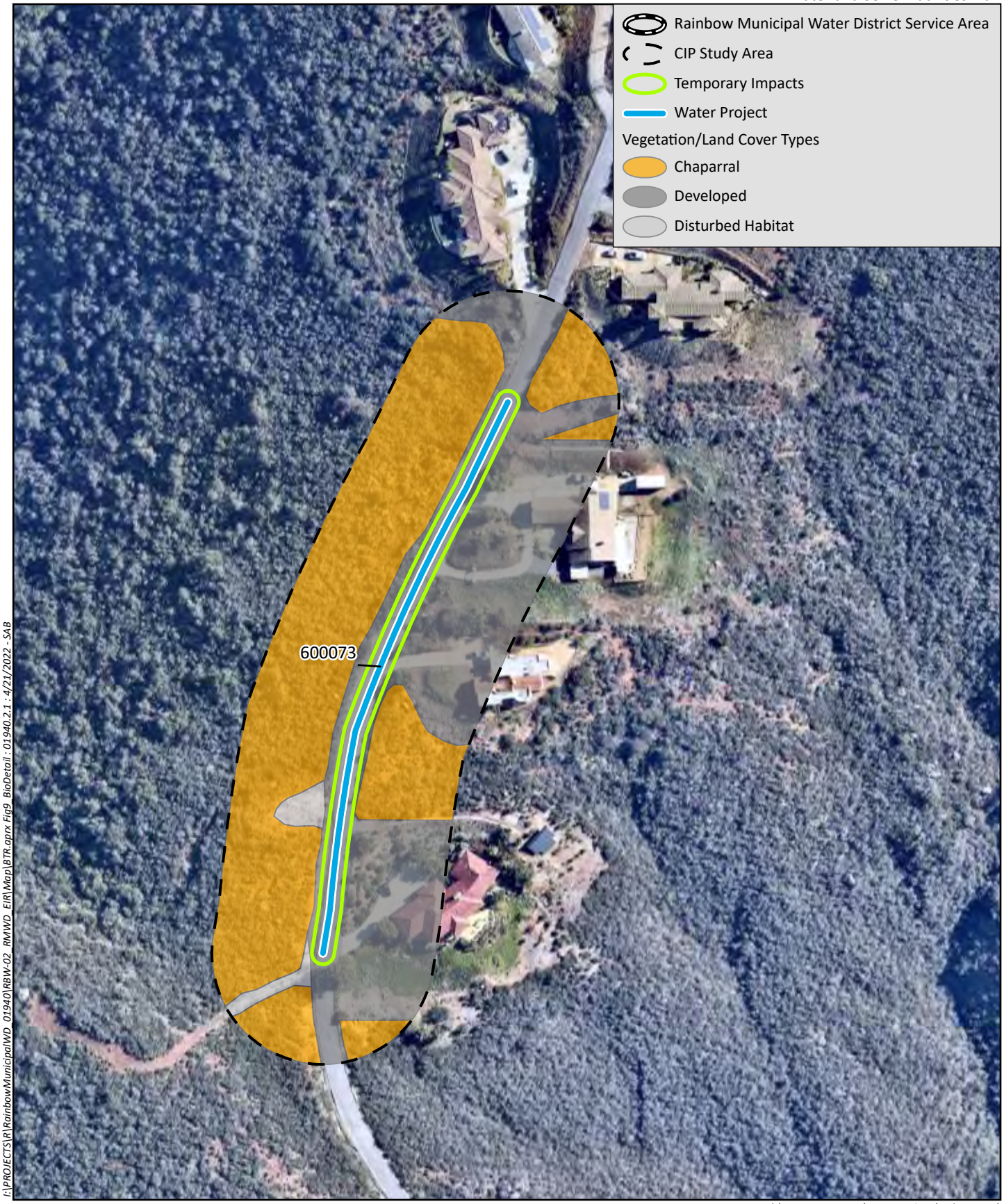
0 150 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-22 Project #600073a East Heights Line 147A



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

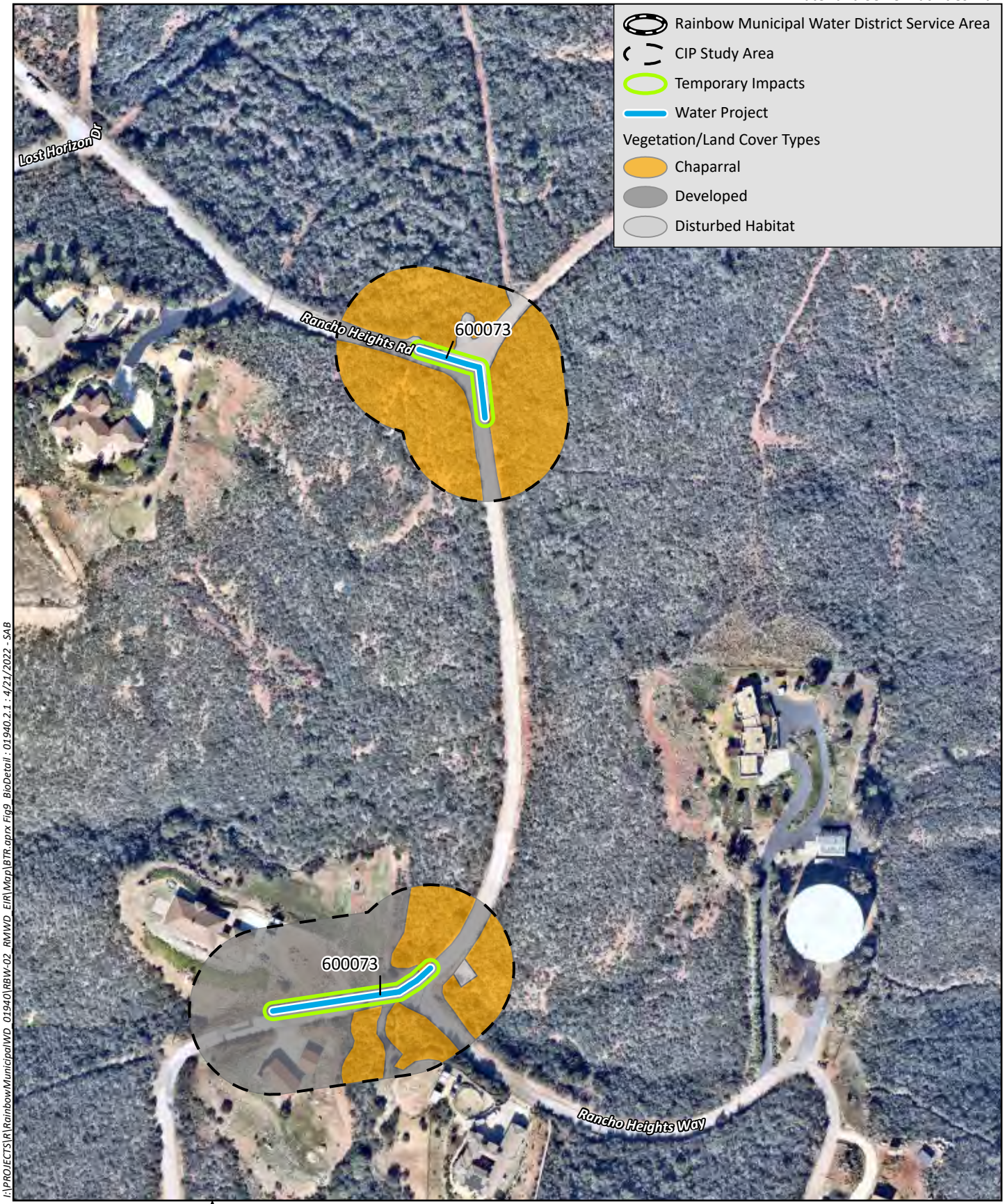
0 150 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-23 Project #600073b East Heights Line 147A



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-24 Project #600073c East Heights Line 147A



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

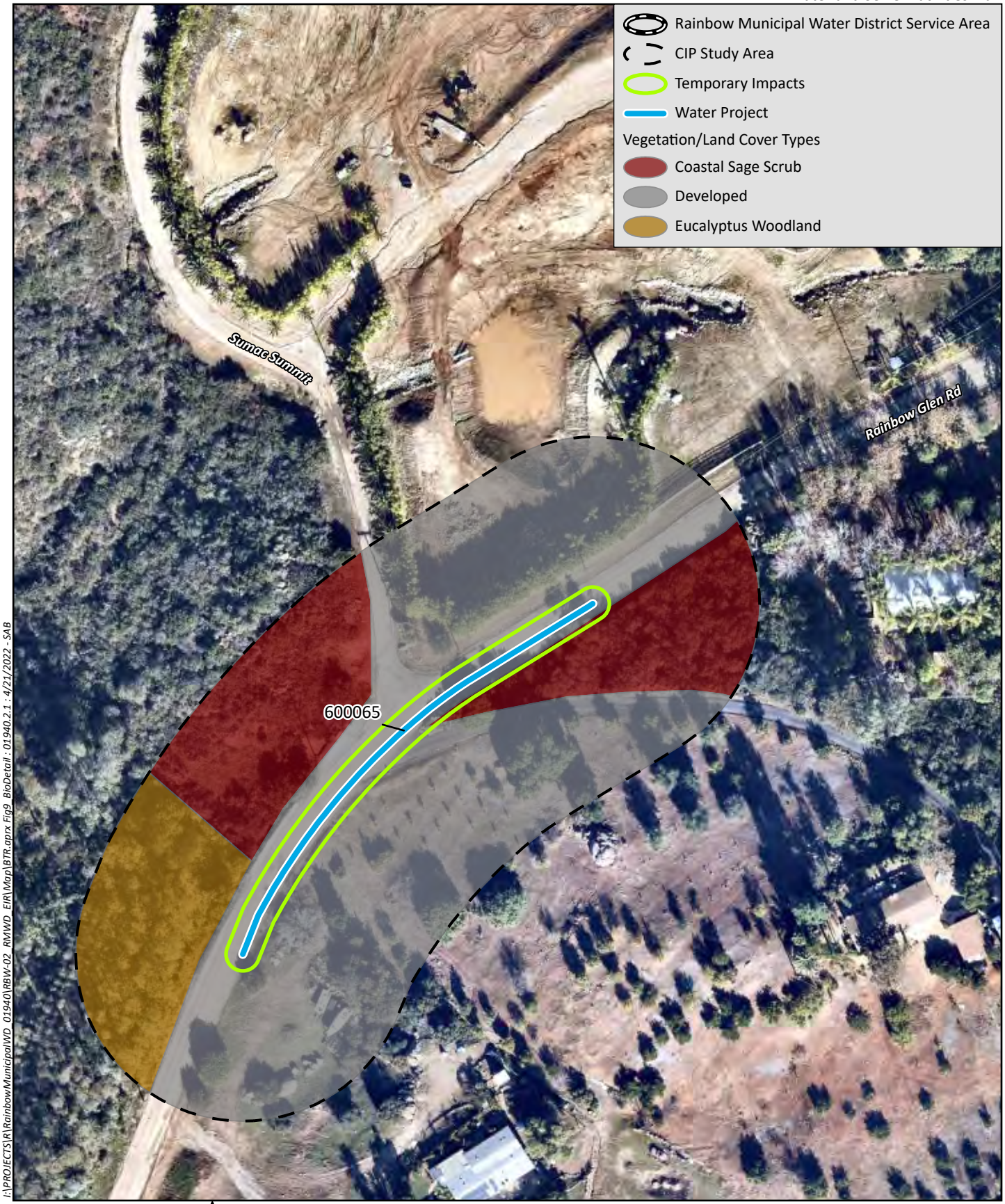
0 150 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-25 Project #600074 320 (Via Zara)



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

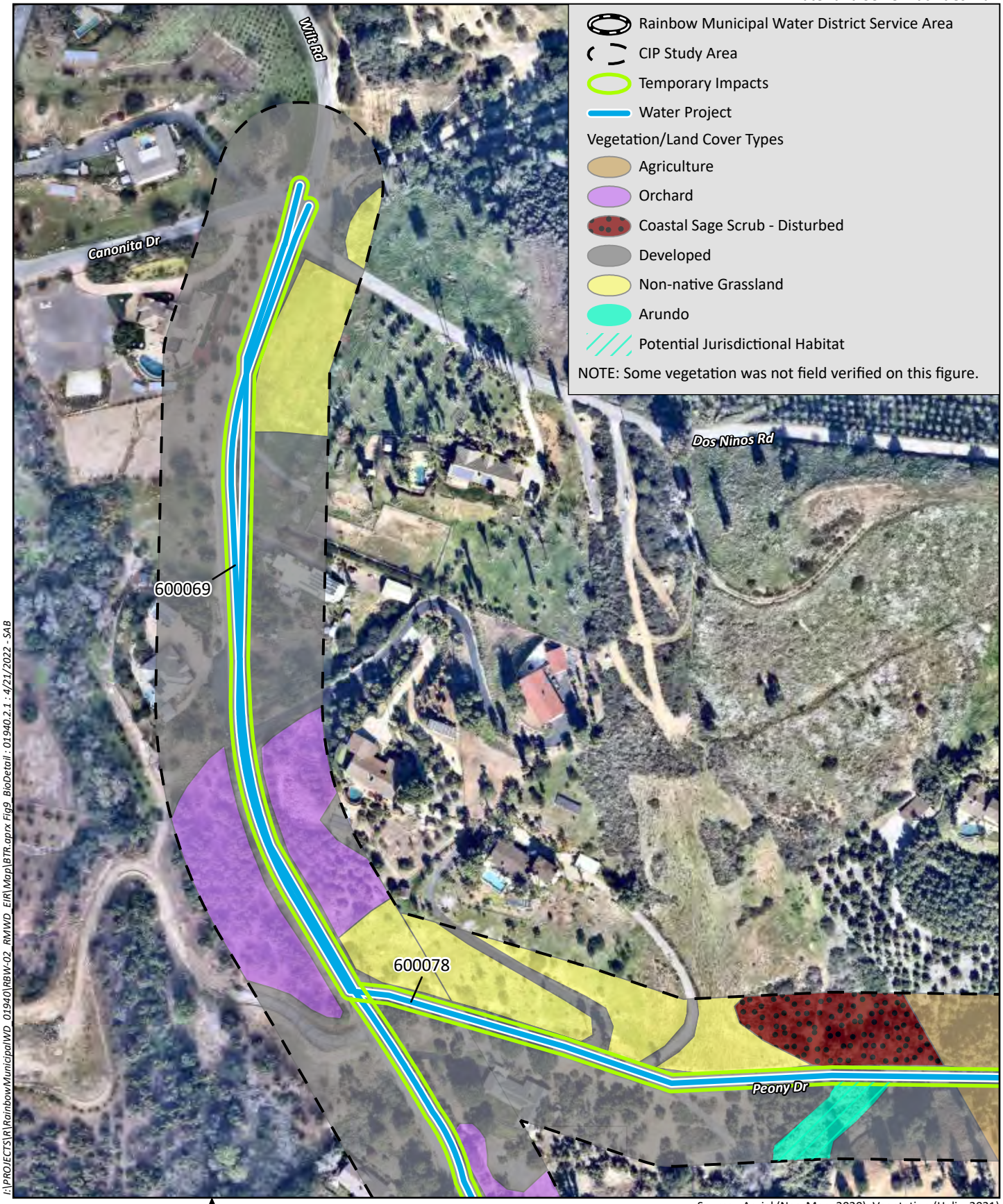
0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-26 Project #600065 Rainbow Glen Water Main Replacement

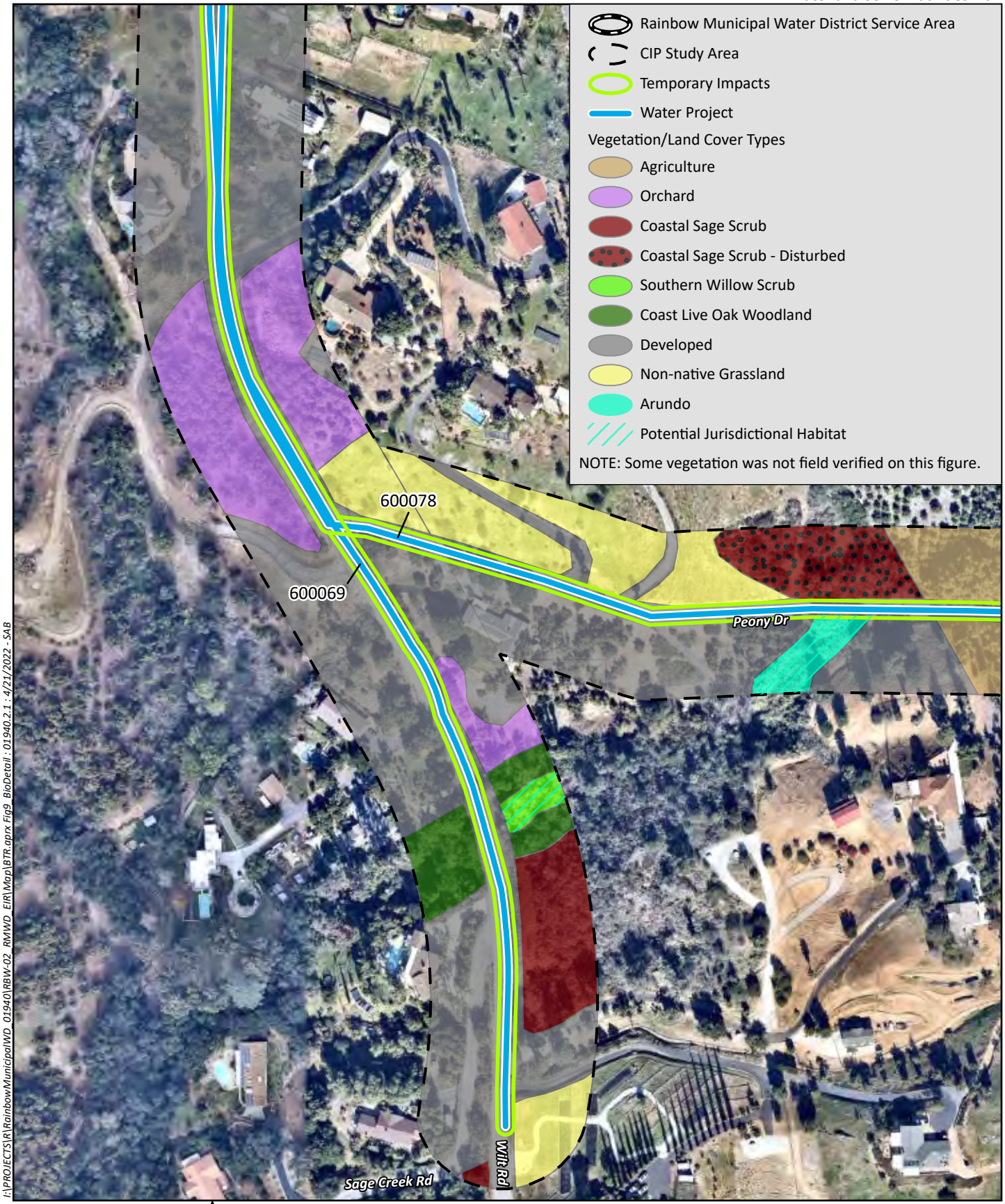


Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

URE 9-27 Project #600069a&600078a Upsize 6in to 10in along Wilt Road & Wilt Road Feeder (16 inch New Water Line)



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-28 Project #600069b Upsize 6in to 10in along Wilt Road



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

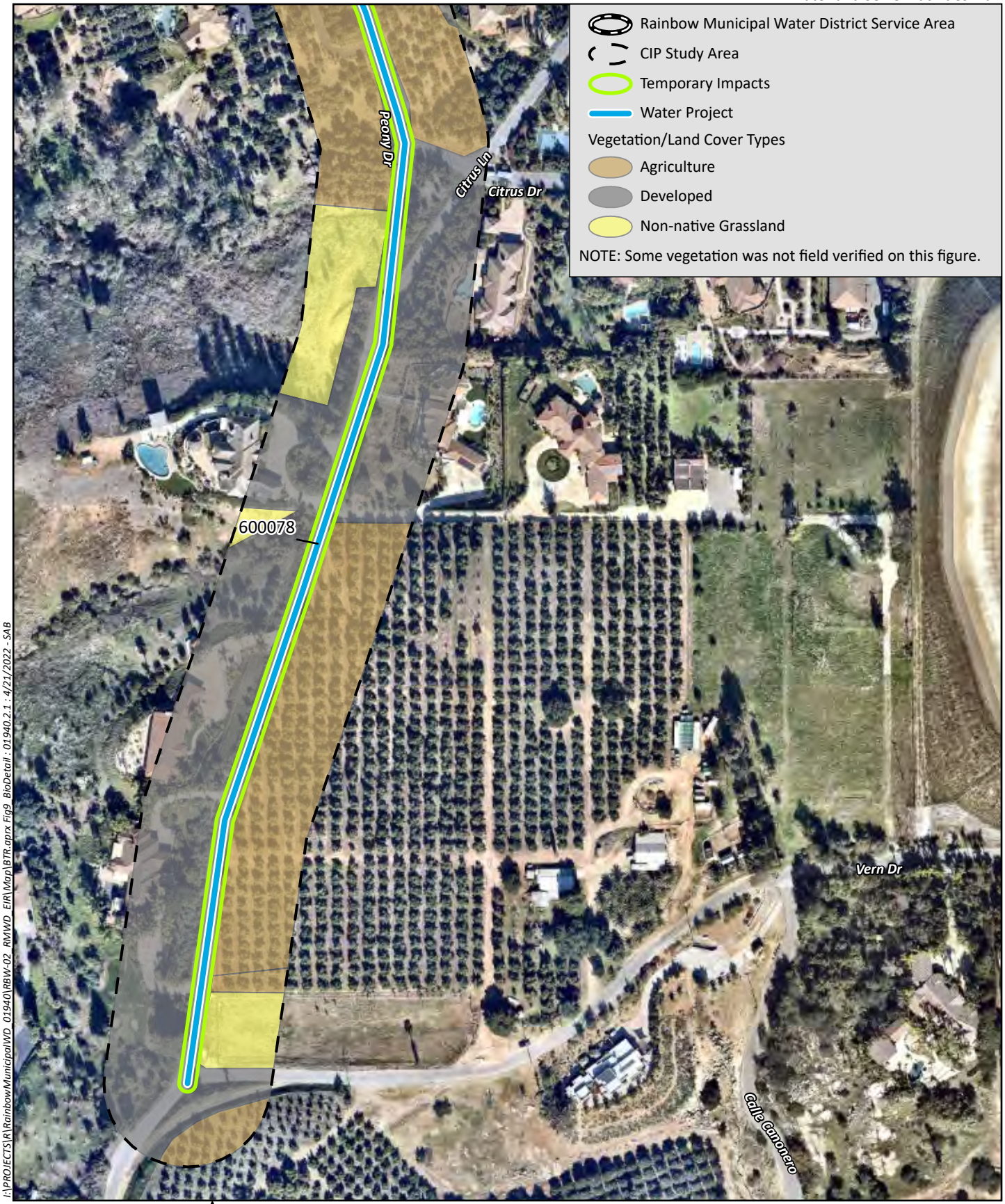
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-29 Project #600078b Wilt Road Feeder (16 inch New Water Line)



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

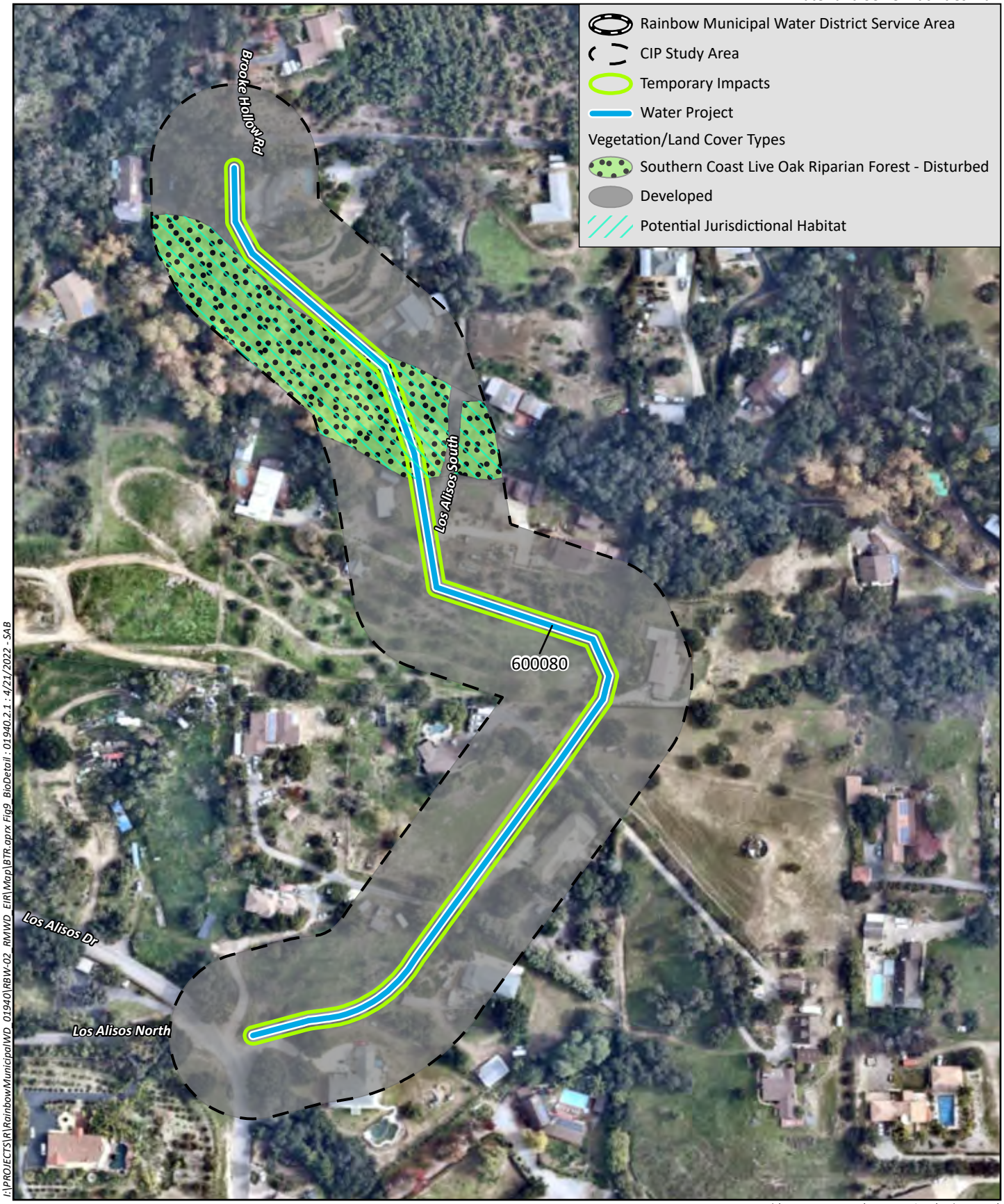
0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-30 Project #600078c Wilt Road Feeder (16 inch New Water Line)



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 200 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-31 Project #600080 Los Alisos South 243L



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

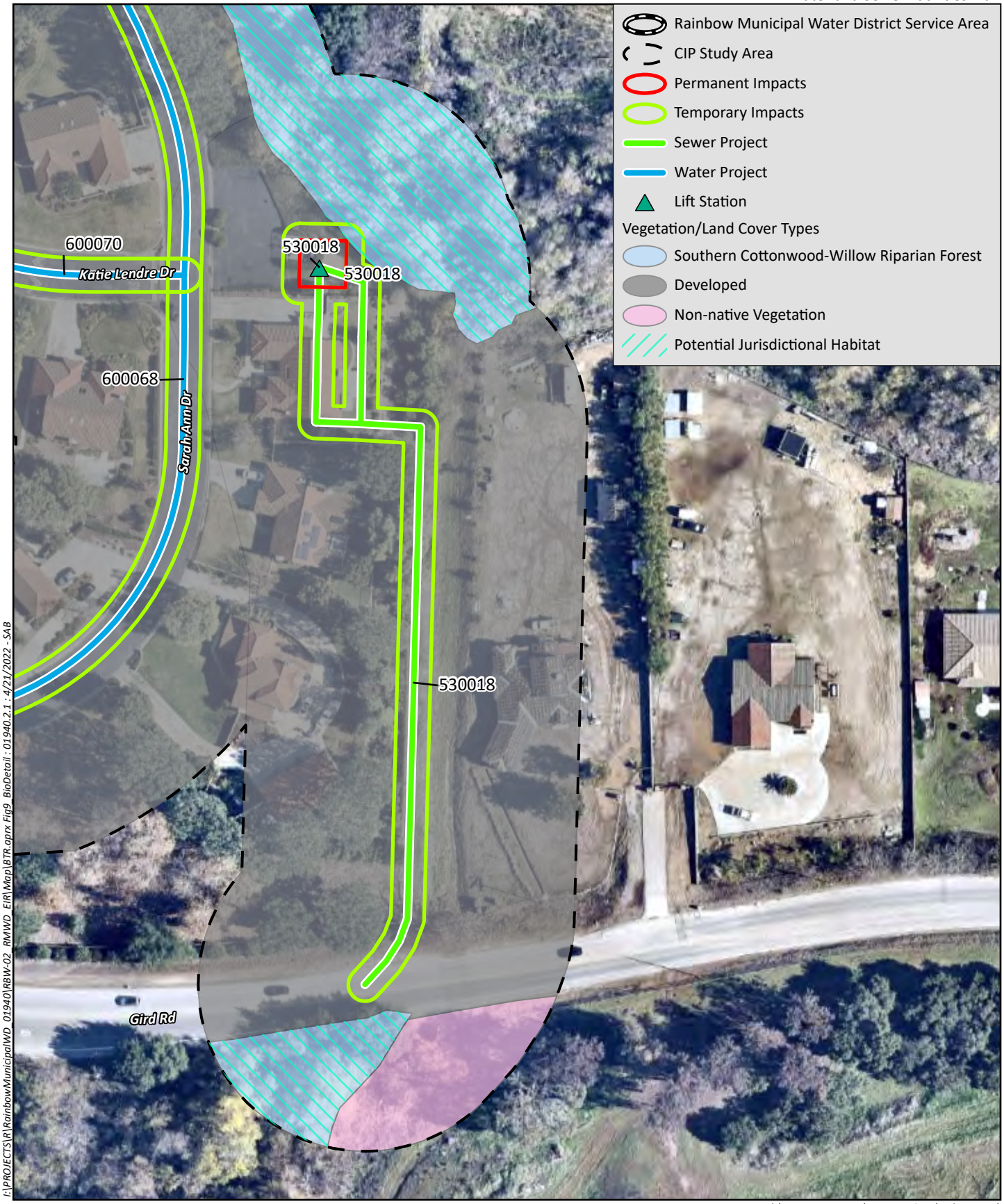
0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-32 Project #600084 Morro Pump Station Upgrades



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-33 Project #530018 Fallbrook Oaks Lift Station Rehabilitation and Force Main Replacement



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-34 Project #530020 Rancho Viejo LS Wet Well Expansion



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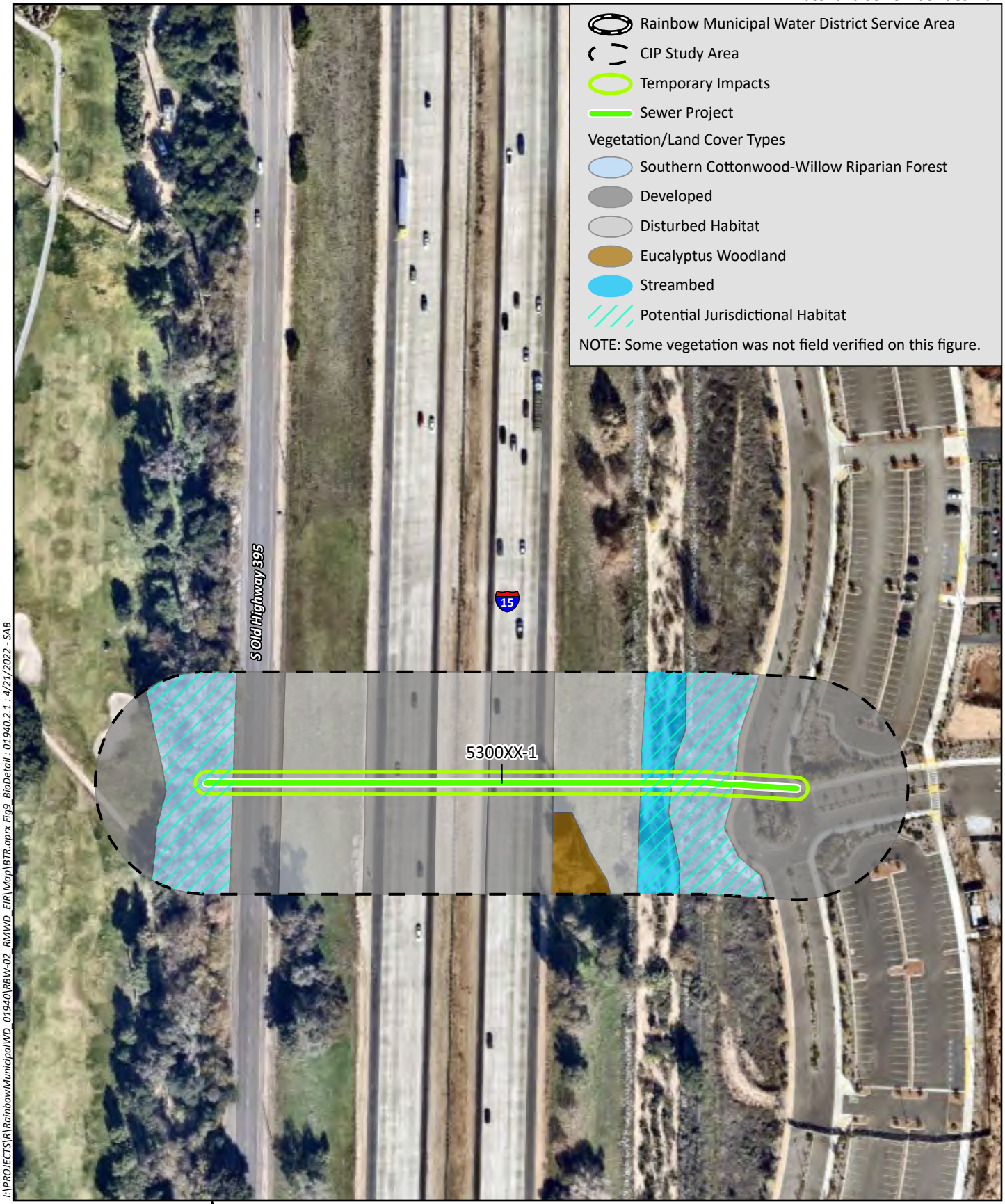
0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-35 Project #530023 Replace Rancho Monserate LS Emergency Generator



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 150 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-36 Project #5300XX-1 Pala Mesa/Palomar CIPP Lining



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 250 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-37 Project #5300XX-2a Pala Mesa Sewer CIPP Lining



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 250 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-38 Project #5300XX-2b Pala Mesa Sewer CIPP Lining



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-39 Project #5300XX-3 Oakcliff Sewer CIPP Lining



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 100 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-40 Project #5300XX-4 & 5 HQ-B Plant Dry Well & HQ-B Plant Generator Replacement



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0 250 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-41 Project #5300XX-6 Campus Park West Bypass Lift Station



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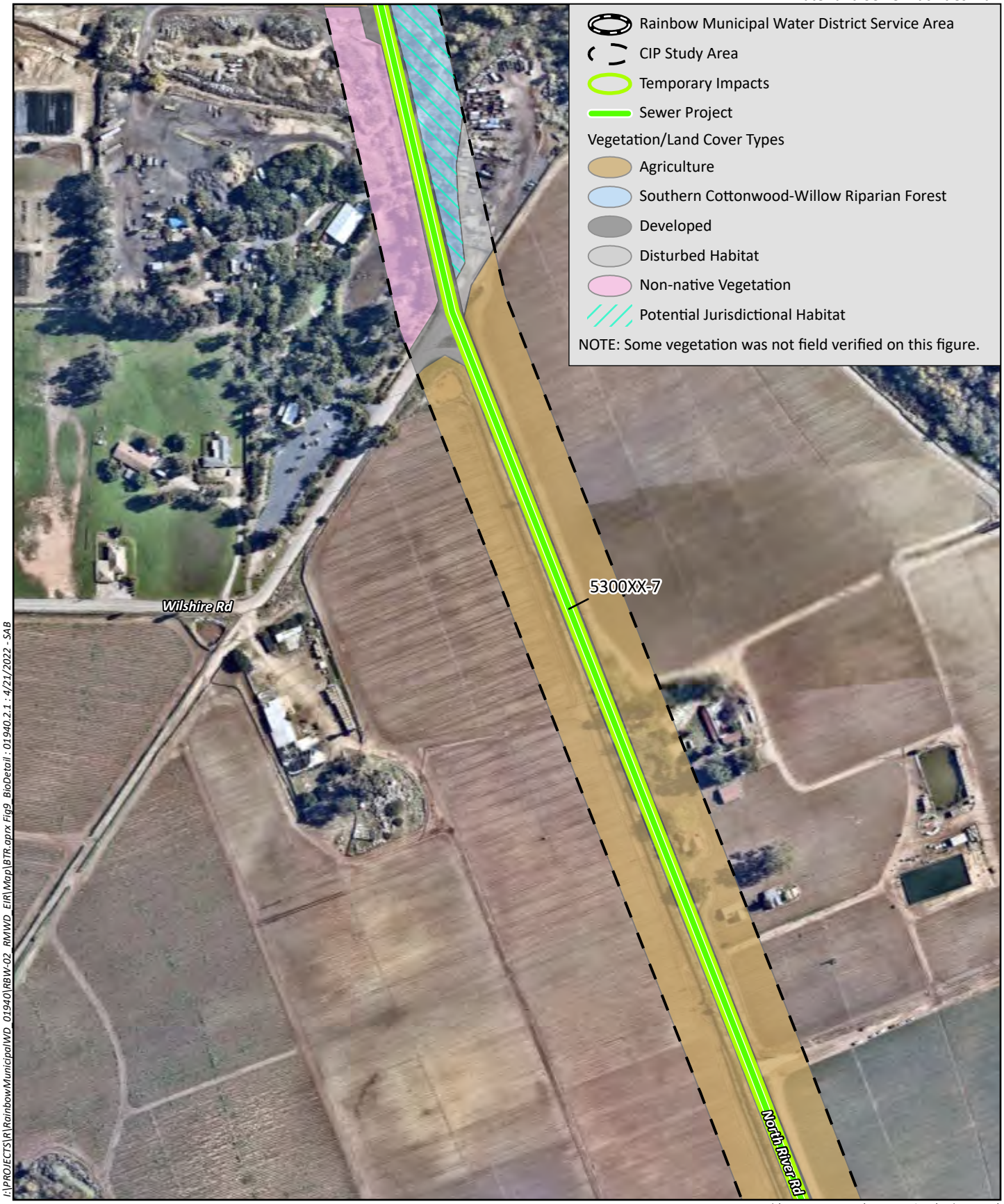
0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-42 Project #5300XX-7a North River Road Sewer Outfall Expansion



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

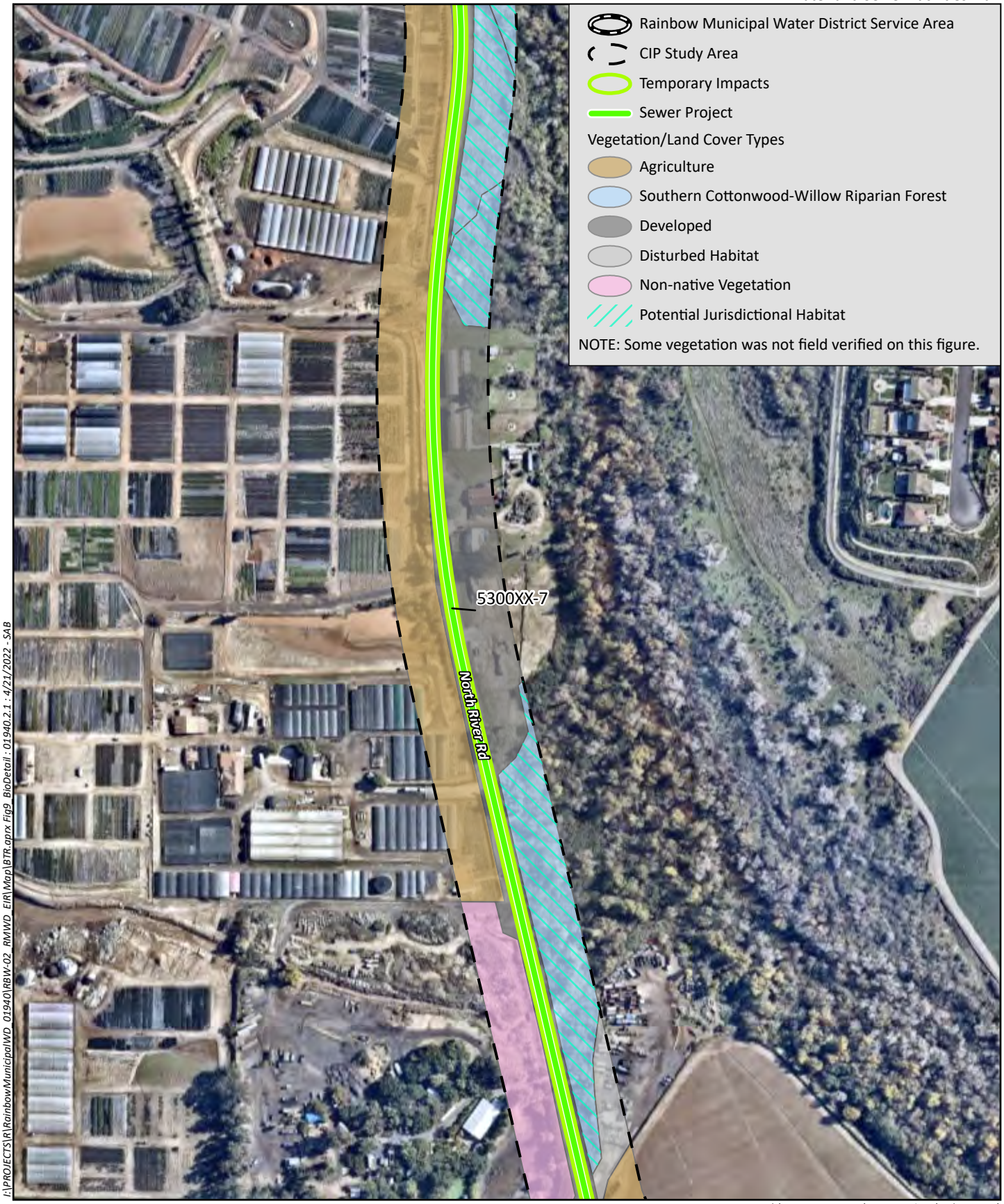
0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-43 Project #5300XX-7b North River Road Sewer Outfall Expansion



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

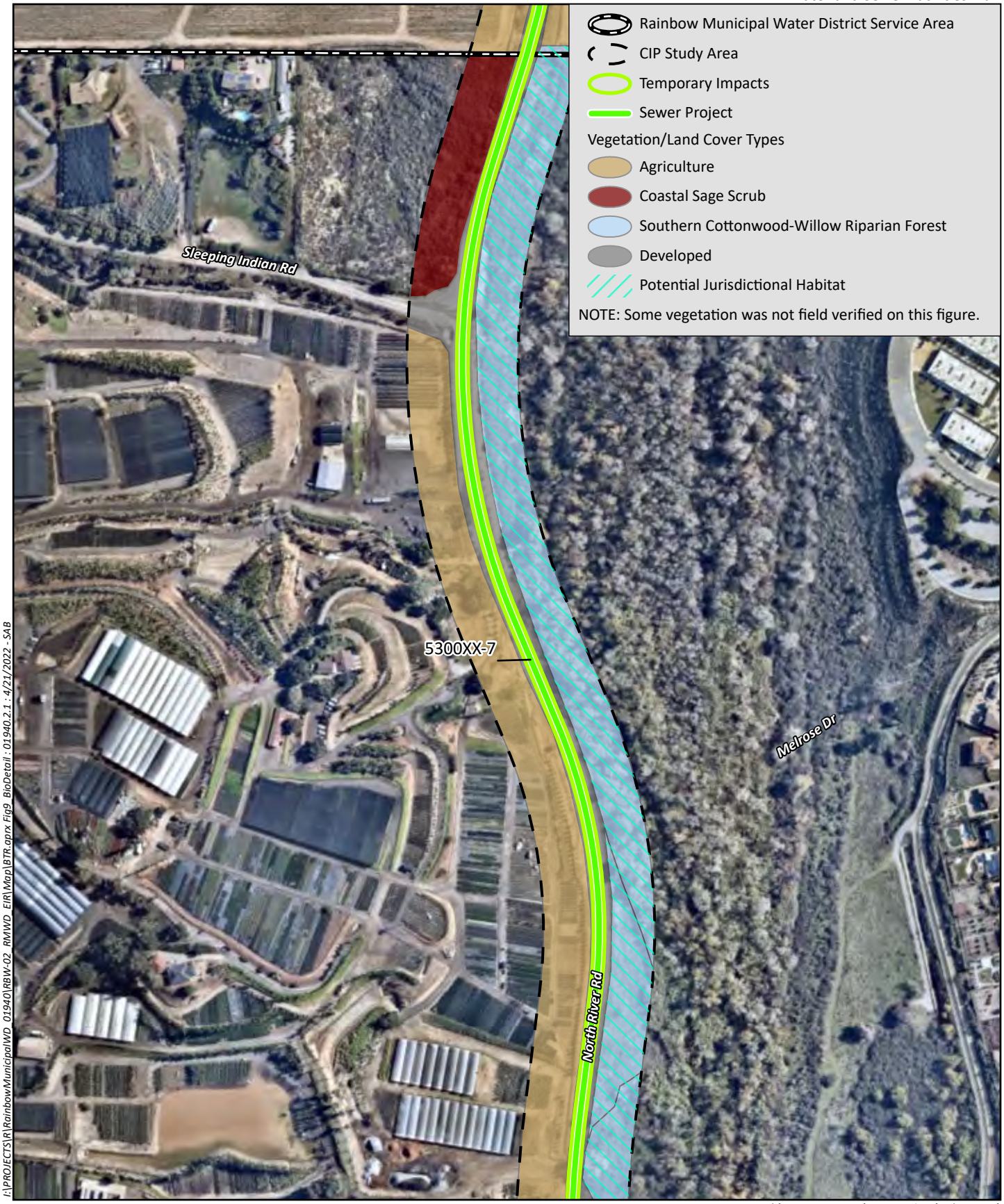
0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-44 Project #5300XX-7c North River Road Sewer Outfall Expansion



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

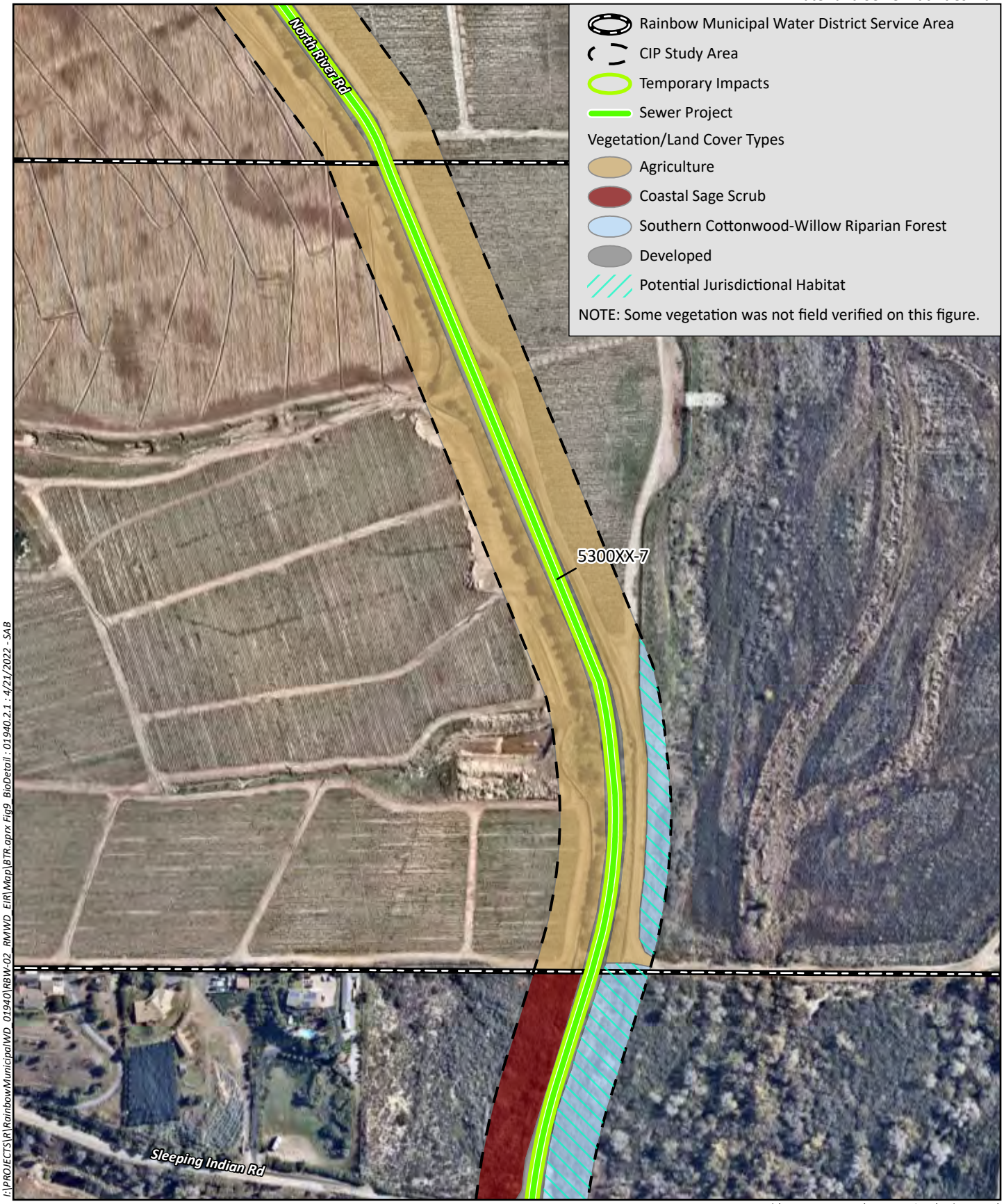
0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-45 Project #5300XX-7d North River Road Sewer Outfall Expansion



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

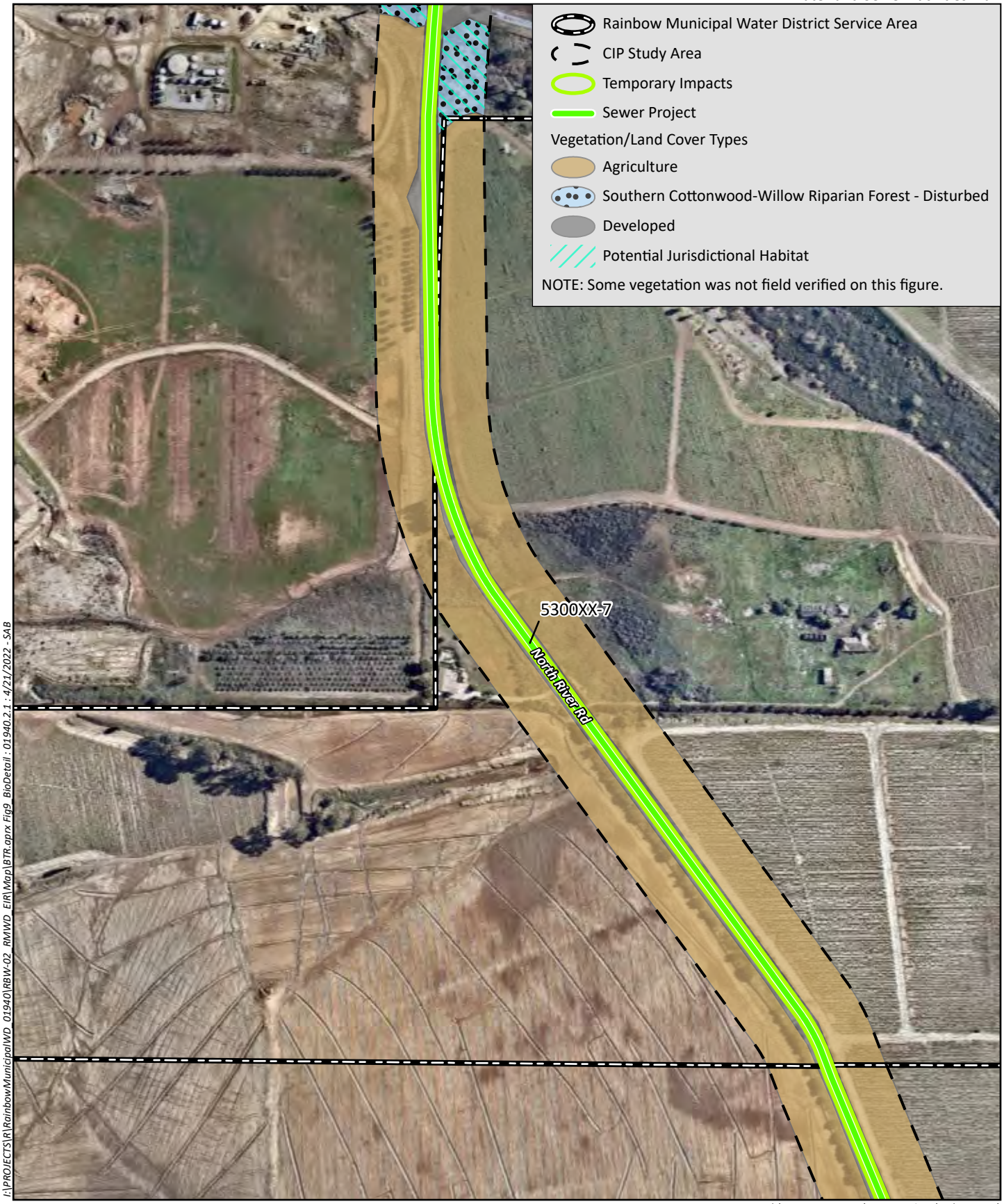
0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-46 Project #5300XX-7e North River Road Sewer Outfall Expansion



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

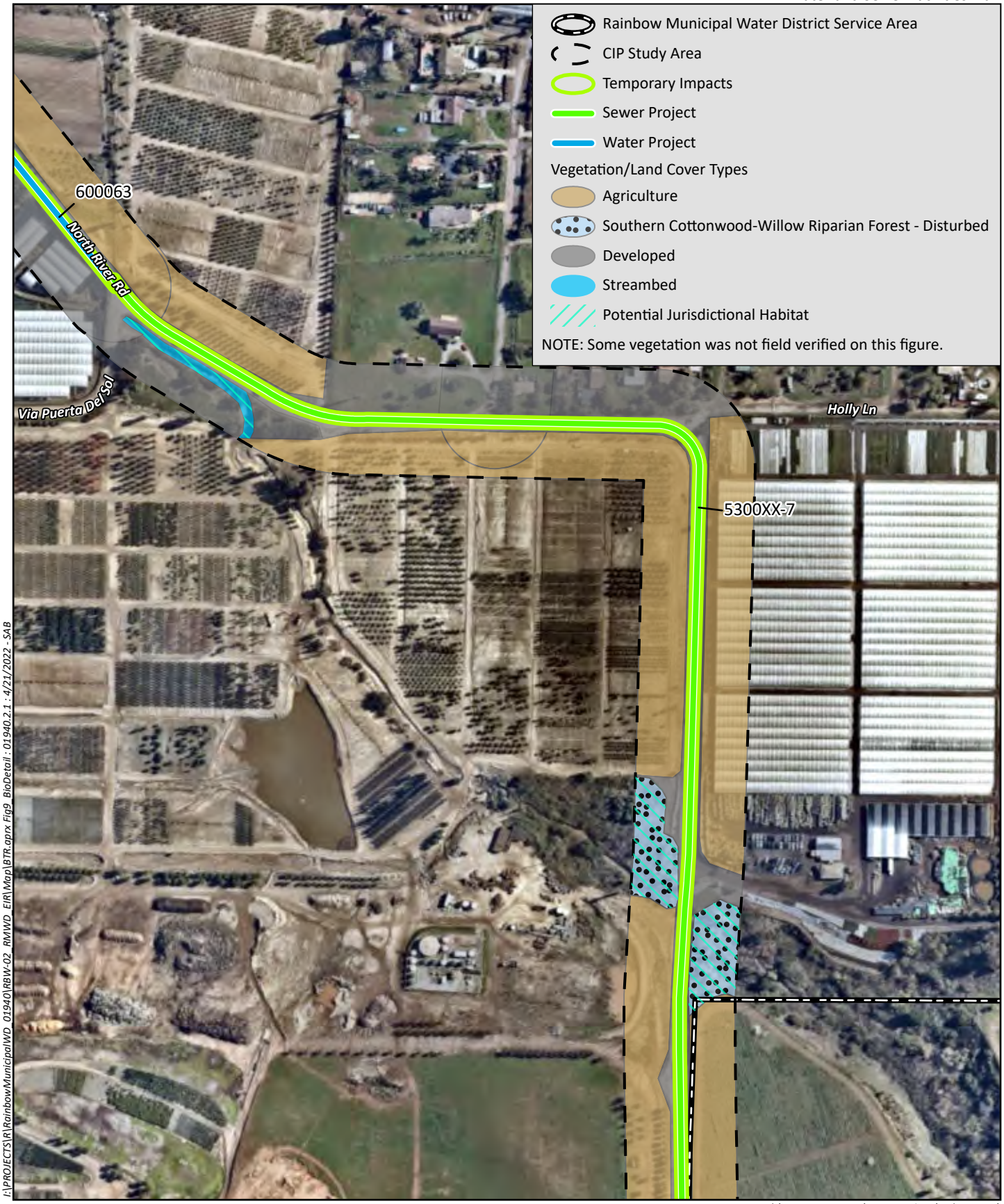
0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-47 Project #5300XX-7f North River Road Sewer Outfall Expansion



I:\PROJECTS\R\RainbowMunicipalWD_01940\RBW-02_RMWD_EIR\Map\BTR.aprx Fig9_BioDetail : 01940.2.1 : 4/21/2022 - SAB

0 300 Feet

Source: Aerial (NearMap, 2020), Vegetation (Helix, 2021)

HELIX Environmental Planning

CIP Project Vegetation and Sensitive Resources Impacts

FIGURE 9-48 Project #5300XX-7g North River Road Sewer Outfall Expansion

coastal sage scrub, chaparral, grasslands, croplands, and open, and disturbed habitats. No CIP project occurs within 500 feet of historical Swainson's hawk observations. Implementation of mitigation measures **Bio-3** through **Bio-5** would reduce potentially significant impacts to below a level of significance.

CIP projects 600066 and 60080 have the potential to impact southern coast live oak riparian forest habitat, and CIP projects 600026, 600051, 600061, 530018, and 5300XX-1 have the potential to impact southern cottonwood-willow riparian forest habitat. Least Bell's vireo and southwestern willow flycatcher occur in riparian forests and woodlands, and arroyo toad occur near washes, rivers, and streams and, therefore, could be impacted through the implementation of CIP projects 600026, 600051, 600061, 600066, 60080, 530018, and 5300XX-1. As shown in Table 2, least Bell's vireo have been historically observed within 500 feet of CIP projects 600002, 600063, 600071, 530020, and 5300XX-7 and CIP projects 530020, 5300XX-4, 5300XX-5, and 5300XX-7 occurs within designated critical habitat. Arroyo toad have been historically observed within 500 feet of CIP projects 600063, 530020, and 5300XX-7 and CIP projects 600002, 600063, 600066, 600068, 600070, 600071, 530018, 530020, 5300XX-4, 5300XX-5, 5300XX-6, 5300XX-7 occur within designated critical habitat. No CIP projects occur within southwestern willow flycatcher designated critical habitat or within 500 feet of historical observations. Implementation of mitigation measures **Bio-3, Bio-4, Bio-7**, and **Bio-8** would reduce the potentially significant impacts to below a level of significance.

If it is determined during the project-level biological resources survey (**Bio-1**) that federally- or state-listed animal species could occur within the project vicinity, and project activities cannot avoid impacts to sensitive vegetation communities (as listed in Table 1), and cannot be restricted to periods outside of the breeding and/or butterfly season, then the District would be required to implement **Bio-3** for the implementation of CIP projects listed in Table 2.

No CIP project proposes impacts to freshwater marsh habitat; therefore, no impacts to California black rail are anticipated. In addition, CIP projects do not occur adjacent to cliff areas near grasslands; therefore, no impacts to American peregrine falcon or golden eagle are anticipated. Tall stands of cacti were not identified within or immediately adjacent to any of the CIP projects; therefore, impacts to coastal cactus wren are not anticipated. The known range is located west of the Service Area. Yellow-billed cuckoo are also known to occur within riparian woodlands and forests; however, this species has only been detected four times within San Diego County since 1980 and is not anticipated. The Service Area does not contain marine or coastal habitats; therefore, implementation of CIP projects would not result in impacts to California least tern, light-footed Ridgeway's rail, or tidewater goby. Vernal pools were not identified within or immediately adjacent to any of the CIP projects; therefore, impacts to western spadefoot toad, San Diego fairy shrimp, and Riverside fairy shrimp are not anticipated.

In addition, the CIP projects listed in Table 2 occur on or in the immediate vicinity of areas that contain trees, shrubs, and artificial structures (e.g., buildings) that provide suitable nesting habitat for a variety of bird species, including raptors, protected under the MBTA and CFG Code. Construction activities could result in the removal or trimming of trees and shrubs during the general bird nesting season (February 1 to September 30) and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. Additional direct impacts could occur as a result of the removal of vegetation supporting an active nest. As specified in mitigation measures **Bio-4**, **Bio-10**, and **Bio-11**, projects that abut sensitive biological resources, including special-status species, would avoid nesting birds and raptors, implement noise attenuation as necessary, and be conducted under the supervision of a biological monitor to avoid

potentially significant impacts related to inadvertent encroachment outside of work limits. These impacts would be considered less than significant.

Prior to construction activities for CIP projects, where it has been demonstrated through a project-level biological resources survey (**Bio-1**) that the USFWS-designated or proposed critical habitat and/or a federally- or state-listed species could be affected by the individual project (i.e., CIP projects listed in Table 2), the project cannot avoid impacts to sensitive vegetation communities (as listed in Table 1), and the breeding and/or butterfly season cannot be avoided, the District would comply with Section 7 and/or Section 10 of Federal Endangered Species Act, as administered by the USFWS; Sections 2081 and 2080.1 of the California Endangered Species Act, as administered by the CDFW; and as specified in mitigation measure **Bio-3**. As a requirement for Federal Endangered Species Act compliance, the District will complete formal consultations with, and/or obtain permits from, the USFWS pursuant to Section 7 or Section 10 of the Federal Endangered Species Act. Formal consultation with the USFWS, pursuant to Section 7 of the Federal Endangered Species Act, would apply to CIP projects requiring federal funding or authorization. The special terms and conditions outlined in the Biological Opinion resulting from Section 7 consultations will be implemented by the District and/or other responsible parties according to the timing required in the Biological Opinion. In the absence of federal funding or authorizations, the District will apply for a Section 10(a)(1)(B) permit from the USFWS pursuant to Section 10 of the Federal Endangered Species Act. The District will prepare a habitat conservation plan or low-effect habitat conservation plan for approval by the USFWS. As a requirement for the California Endangered Species Act compliance, the District will consult with, and/or obtain permits or approvals from, the CDFW pursuant to Sections 2081 and 2080.1 of the California Endangered Species Act. Alternatively, the District can seek permitting coverage through the County of San Diego.

Indirect Impacts

Potential indirect impacts to special-status species and their habitat from the construction of CIP projects listed within Table 2 could include those resulting from temporary increases in noise and vibration, which could adversely affect special-status plant and wildlife species occupying adjacent habitats. Night lighting is also a typical indirect impact of construction; however, night lighting would not be required often and would be shielded from natural, open areas to reduce impacts. These construction activities could result in disturbances that result in a nest failure, which would be a violation of the MBTA and CFG Code. CIP construction activities could also result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones that may support special-status species. These indirect impacts are considered potentially significant.

The project site, including staging areas, contains and is adjacent to suitable nesting habitat for multiple common and sensitive bird species, including raptors, protected under the MBTA and CFG Code. Potential nesting habitat includes along the developed roadways in ornamental plantings, in undeveloped habitat including sensitive habitat communities, and in eucalyptus trees. Implementation of mitigation measure **Bio-4** would reduce potential impacts to less than significant.

Construction activities within 500 feet of coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher locations could result in noise in excess of 60 A-weighted decibels (dBA) generated from construction work areas could adversely affect breeding gnatcatchers, vireos, and flycatchers where existing ambient noise levels are not already in exceedance of 60 dBA. If construction activities at these locations must occur during the respective breeding seasons, noise in excess of 60

dBA or the existing ambient noise generated from construction work areas could adversely affect the breeding of these species. If construction activities at these locations must occur during the breeding season, then the District shall implement monitoring pursuant to the USFWS and CDFW consultation (**Bio-3**). These potential indirect impacts would be considered significant. Implementation of mitigation measures **Bio-3** through **Bio-8**, and **Bio-10** through **Bio-13** would reduce potential impacts to less than significant.

The specific breeding seasons for listed species are listed below:

- General (including raptors): February 1 to September 30
- Coastal California gnatcatcher: February 15 to August 30
- Least Bell's vireo: March 15 to September 15
- Southwestern willow flycatcher: May 15 to July 17

Construction activities outside of developed land and within 50 feet of Quino checkerspot butterfly suitable habitat could result in the disruption of Quino checkerspot butterfly movement and breeding. Construction in these areas would be restricted to outside of the Quino checkerspot butterfly season (third week of February to the second Saturday in May). If construction activities at these locations must occur during the butterfly season, then the District shall implement monitoring pursuant to the USFWS consultation (**Bio-3**). Implementation of mitigation measures **Bio-3** and **Bio-7** would reduce potential impacts to less than significant.

Construction activities outside of developed land and within 1,200 feet of potential breeding pools within arroyo toad designated critical habitat could result in the disruption of arroyo toad breeding if construction occurs during the arroyo toad breeding season (March 1-May 31). If construction activities at these locations must occur during the breeding season, then the District shall implement monitoring pursuant to the USFWS consultation (**Bio-3**). Implementation of mitigation measures **Bio-3** would reduce potential impacts to less than significant.

Construction activities for CIP projects would comply with the federal CWA, California's Porter-Cologne Water Quality Control Act, the implementing regulations of the SWRCB and RWQCB, and the National Pollutant Discharge Elimination System (NPDES) Program, which would include the preparation of Erosion Control Plans and Storm Water Pollution Prevention Plans, and the implementation of prescribed Best Management Practices (BMPs), thereby avoiding and minimizing potential indirect impacts to special-status species and their habitat from water pollution during project construction. In addition, BMPs would be implemented to minimize fugitive dust emissions and other criteria pollutant emissions during the construction of CIP projects, thereby reducing potential indirect impacts associated with fugitive dust to less than significant levels.

Other District Pipeline Projects

Based on a programmatic assessment, the ODP projects could occur on and/or in the immediate vicinity of an undeveloped area that may support special-status plant and wildlife species and, therefore, could result in potentially significant direct and/or indirect impacts on special-status species and their habitat. These ODP projects are listed as Category A Projects (Appendices C-1, *ODP Water Projects with High to Moderate Potential to Result in Significant Direct and Indirect Impacts to Biological Resources,* C-2, *ODP*

Sewer Projects with High to Moderate Potential to Result in Significant Direct and Indirect Impacts to Biological Resources). Similarly, ODP projects could occur outside of undeveloped areas but in the immediate vicinity of an undeveloped area that may support special-status plant and wildlife species and, therefore, could result in potentially significant indirect impacts on special-status species and their habitat. These ODP projects are listed as Category B Projects (Appendices D-1, *ODP Water Projects with High to Moderate Potential to Result in Significant Indirect Impacts to Biological Resources* and D-2, *ODP Sewer Projects with High to Moderate Potential to Result in Significant Indirect Impacts to Biological Resources*). Projects with direct and/or indirect impacts to special-status species are shown on Figures 10-1 and 10-2, *ODP Vegetation and Sensitive Resources Impacts*. ODP projects with no direct or indirect impacts are listed as Category C Projects (Appendices E-1, *ODP Water Projects with No Potential to Result in Significant Direct and Indirect Impacts to Biological Resources*, and E-2, *ODP Sewer Projects with No Potential to Result in Significant Direct and Indirect Impacts to Biological Resources*), and are shown on Figure 10-3, *Vegetation and Sensitive Resources for ODP with No Impacts*.

Direct Impacts

As evaluated above, implementation of the ODP project through the construction of the Category A Projects listed in Appendices C-1 and C-2 would have the potential to result in direct impacts to special-status plant and wildlife species. Special-status species could be inadvertently killed, trapped, trampled, or otherwise harmed by the construction activities of these projects. Project-level biological resources surveys, as described in mitigation measure **Bio-1**, are required for ODP projects with the potential to directly impact sensitive natural communities. The project-level biological resources survey (**Bio-1**) would be required to determine the direct and indirect impacts to special-status plant and animal species within and surrounding the ODP project and guide the required mitigation measures to ensure impacts to special-status species are less than significant.

Special-Status Plant Species

ODP Category A Projects have the potential to impact coastal sage scrub and chaparral habitats (Appendices C-1 and C-2). Thread-leaved brodiaea, San Diego ambrosia, Gander's ragwort, Nevin's barberry, Slender-horned spineflower, and Vail Lake ceanothus occur in coastal sage scrub and chaparral habitats and could be impacted through the implementation of ODP projects. Implementation of mitigation measure **Bio-2** would reduce potential impacts to less than significant.

If it is determined during the project-level biological resources survey (**Bio-1**) that federally- or state-listed plant species could occur within the project vicinity, and project activities cannot avoid impacts to identified individuals through the implementation of mitigation measures **Bio-2** and **Bio-9**, then the District would be required to implement **Bio-3** for the implementation of ODP projects.

Impacts to vernal pools and vernal pool species would be avoided and are not proposed for any of the ODP projects; therefore, impacts to spreading navarretia, San Diego button-celery, and San Diego thorn-mint are not anticipated. Should vernal pools be detected during the project-level biological resources survey (**Bio-1**), implementation of **Bio-2** would reduce the potential impacts to less than significant.

Special-Status Animal Species

As mentioned above, ODP Category A Projects have the potential to impact coastal sage scrub, chaparral, and non-native grassland habitats (Appendices C-1 and C-2). Coastal cactus wren, coastal California gnatcatcher, Dulzura pocket mouse, Quino checkerspot butterfly, and Stephens' kangaroo rat

Rainbow Municipal Water District Service Area
ODP Sewer Lines
ODP Water Lines

Historical Vegetation

Other Mapped Areas
- Open Water
- Unvegetated Habitat
- Disturbed Habitat
- Urban/Developed

Shrub and Chaparral
- Ceanothus crassifolius Chaparral
- Chamise Chaparral
- Coastal Scrub
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Montane Buckwheat Scrub
- Non-Native Grassland
- Valley and Foothill Grassland
- Valley Needlegrass Grassland
- Scrub Oak Chaparral
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Agriculture
- General Agriculture
- Field/Pasture
- Orchards and Vineyards

Forest and Woodlands
- Engelmann Oak Woodland
- Eucalyptus Woodland
- Dense Coast Live Oak Woodland
- Open Coast Live Oak Woodland
- Coast Live Oak Woodland
- Coast Live Oak Forest
- Douglas-Fir Forest

Riparian and Wet Habitats
- Coastal and Valley Freshwater Marsh
- Mule Fat Scrub
- Non-Native Riparian
- Southern Arroyo Willow Riparian For
- Southern Arroyo Willow Riparian Forest
- Southern Coast Live Oak Riparian Fo
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Riparian Woodland
- Southern Sycamore-Alder Riparian Wo
- Southern Willow Scrub
- Non-Vegetated Channel or Floodway

Source: Aerial (Maxar, 2020), Vegetation (SanGIS, 2012)

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ODP Project Vegetation and Sensitive Resources Impacts - Overview

Figure 10

Rainbow Municipal Water District Service Area

EIR Covered Lines

- ODP Sewer Lines
- ODP Water Lines

Historical Vegetation

Other Mapped Areas
- Open Water
- Unvegetated Habitat
- Disturbed Habitat
- Urban/Developed

Shrub and Chaparral
- Ceanothus crassifolius Chaparral
- Chamise Chaparral
- Coastal Scrub
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Montane Buckwheat Scrub
- Non-Native Grassland
- Valley and Foothill Grassland
- Valley Needlegrass Grassland
- Scrub Oak Chaparral
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Agriculture
- General Agriculture
- Field/Pasture
- Orchards and Vineyards

Forest and Woodlands
- Engelmann Oak Woodland
- Eucalyptus Woodland
- Dense Coast Live Oak Woodland
- Open Coast Live Oak Woodland
- Coast Live Oak Woodland
- Coast Live Oak Forest
- Douglas-Fir Forest

Riparian and Wet Habitats
- Coastal and Valley Freshwater Marsh
- Mule Fat Scrub
- Non-Native Riparian
- Southern Arroyo Willow Riparian For
- Southern Arroyo Willow Riparian Forest
- Southern Coast Live Oak Riparian Fo
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Riparian Woodland
- Southern Sycamore-Alder Riparian Wo
- Southern Willow Scrub
- Non-Vegetated Channel or Floodway

Lynda Ln
De Luz Rd
E Mission Rd
Gum Tree Ln
Live Oak Park Rd
E Alvarado St
E Fallbrook St
S Main Ave
Alturas Rd
Fallbrook Rd
Reche Rd
S Stage Coach Ln
Green Canyon Rd
Gird Rd
S Old Highway 395
N Old Highway 395
Rainbow Valley Blvd
Rice Canyon Rd
Pala Temecula Rd
Pala Rd
Pala Mission Rd
Lilac Rd
76
15
Burma Rd
S Mission Rd
Olive Hill Rd
Sage Rd
Dulin Rd
W Lilac Rd
Vio Puerta Del Sol
Camino Del Rey
Mission Rd
Old River Rd
Sleeping Indian Rd
North River Rd
Mission Ave
Hutchison St
E Vista Way
N Santa Fe Ave
Osborne St
Melrose Dr
Taylor St
Oceanside Blvd
Warnalands Ave
Old Highway 395
Champagne Blvd
Circle R Dr
Gopher Canyon Rd
Old Castle Rd
Betsworth Rd
Valley Center Rd

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0 1.5 Miles

N

Source: Base Layer (Maxar, 2020), Vegetation (SanGIS, 2012)

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Vegetation and Sensitive Resources for ODP Facilities with Direct and Indirect Impacts

Figure 10-1

Rainbow Municipal Water District Service Area

EIR Covered Lines

ODP Sewer Lines

ODP Water Lines

Historical Vegetation

Other Mapped Areas

Open Water

Unvegetated Habitat

Disturbed Habitat

Urban/Developed

Shrub and Chaparral

Ceanothus crassifolius Chaparral

Chamise Chaparral

Coastal Scrub

Diegan Coastal Sage Scrub

Maritime Succulent Scrub

Montane Buckwheat Scrub

Non-Native Grassland

Valley and Foothill Grassland

Valley Needlegrass Grassland

Scrub Oak Chaparral

Southern Maritime Chaparral

Southern Mixed Chaparral

Agriculture

General Agriculture

Field/Pasture

Orchards and Vineyards

Forest and Woodlands

Engelmann Oak Woodland

Eucalyptus Woodland

Dense Coast Live Oak Woodland

Open Coast Live Oak Woodland

Coast Live Oak Woodland

Coast Live Oak Forest

Douglas-Fir Forest

Riparian and Wet Habitats

Coastal and Valley Freshwater Marsh

Mule Fat Scrub

Non-Native Riparian

Southern Arroyo Willow Riparian For

Southern Arroyo Willow Riparian Forest

Southern Coast Live Oak Riparian Fo

Southern Coast Live Oak Riparian Forest

Southern Cottonwood-Willow Riparian

Southern Riparian Forest

Southern Riparian Scrub

Southern Riparian Woodland

Southern Sycamore-Alder Riparian Wo

Southern Willow Scrub

Non-Vegetated Channel or Floodway

Source: Aerial (Maxar, 2020), Vegetation (SanGIS, 2012)

0 1.5 Miles

N

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Vegetation and Sensitive Resources for ODP Facilities with Only Indirect Impacts

Figure 10-2

Rainbow Municipal Water District Service Area

EIR Covered Lines

- ODP Sewer Lines
- ODP Water Lines

Historical Vegetation

Other Mapped Areas
- Open Water
- Unvegetated Habitat
- Disturbed Habitat
- Urban/Developed

Shrub and Chaparral
- Ceanothus crassifolius Chaparral
- Chamise Chaparral
- Coastal Scrub
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Montane Buckwheat Scrub
- Non-Native Grassland
- Valley and Foothill Grassland
- Valley Needlegrass Grassland
- Scrub Oak Chaparral
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Agriculture
- General Agriculture
- Field/Pasture
- Orchards and Vineyards

Forest and Woodlands
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- Eucalyptus Woodland
- Dense Coast Live Oak Woodland
- Open Coast Live Oak Woodland
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- Coast Live Oak Forest
- Douglas-Fir Forest

Riparian and Wet Habitats
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- Mule Fat Scrub
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- Southern Arroyo Willow Riparian For
- Southern Arroyo Willow Riparian Forest
- Southern Coast Live Oak Riparian Fo
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Riparian Woodland
- Southern Sycamore-Alder Riparian Wo
- Southern Willow Scrub
- Non-Vegetated Channel or Floodway

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Source: Aerial (Maxar, 2020), Vegetation (SanGIS, 2012)

Vegetation and Sensitive Resources for ODP Facilities with No Impacts

Figure 10-3

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occur in coastal sage scrub, chaparral, and non-native grassland habitats, which could be impacted through the implementation of ODP projects. American peregrine falcon and golden eagle are also known to occur in coastal sage scrub, chaparral, and non-native grassland habitats; however, these species only have the potential to forage, and suitable breeding habitat is not present within the Service Area. Implementation of mitigation measures **Bio-3** through **Bio-5**, and **Bio-9** would reduce potential impacts to less than significant.

ODP Category A Projects also have the potential to impact riparian and wetland habitats (Appendices C-1 and C-2). Least Bell's vireo and southwestern willow flycatcher occur in riparian forests and woodlands, California black rail occur in marsh habitats, and arroyo toad occur near washes, rivers, and streams which could be impacted through the implementation of ODP projects. Implementation of mitigation measures **Bio-3, Bio-4**, and **Bio-7** through **Bio-9** would reduce potential impacts to less than significant.

Swainson's hawk are also known to occur within coastal sage scrub, chaparral, and non-native grassland habitats; however, this species has only been detected once within Service Area since 1933. Yellow-billed cuckoo are also known to occur within riparian woodlands and forests; however, this species has only been detected four times within San Diego County since 1980. The Service Area does not contain marine or coastal habitats; therefore, implementation of CIP projects would not result in impacts to California least tern, light-footed Ridgeway's rail, or tidewater goby. Impacts to vernal pools and vernal pool species would be avoided and are not proposed for any of the ODP projects; therefore, impacts to western spadefoot toad, San Diego fairy shrimp, and Riverside fairy shrimp are not anticipated. Should vernal pools be detected during the project-level biological resources survey (**Bio-1**), implementation of **Bio-9** would reduce the potential impacts to less than significant.

Similar to CIP projects, ODP Category A Projects could occur on or in the immediate vicinity of areas that contain trees, shrubs, and artificial structures (e.g., buildings) that provide suitable nesting habitat for a variety of bird species, including raptors, protected under the MBTA and CFG Code. Construction activities occurring during the general bird nesting season (February 1 to September 30) could result in impacts to nesting birds in violation of the MBTA and CFG Code. Additional direct impacts could occur as a result of the removal of vegetation supporting an active nest. As specified in mitigation measures **Bio-4**, **Bio-10**, and **Bio-11**, projects that abut sensitive biological resources, including special-status species, would avoid nesting birds and raptors, implement noise attenuation as necessary, and be conducted under the supervision of a biological monitor to avoid potentially significant impacts related to inadvertent encroachment outside of work limits. These impacts would be considered less than significant.

Prior to construction activities for ODP projects where it has been demonstrated through a project-level biological resources survey (**Bio-1**) that the USFWS-designated or proposed critical habitat and/or a federally- or state-listed species could be affected by the individual project, and the breeding and/or butterfly season cannot be avoided, the District would comply with Section 7 and/or Section 10 of the Federal Endangered Species Act, as administered by the USFWS; Sections 2081 and 2080.1 of the California Endangered Species Act, as administered by the CDFW; and as specified in mitigation measure **Bio-3**. As a requirement for Federal Endangered Species Act compliance, the District will complete formal consultations with, and/or obtain permits from, the USFWS pursuant to Section 7 or Section 10 of the Federal Endangered Species Act. Formal consultation with the USFWS pursuant to Section 7 of the Federal Endangered Species Act would apply to ODP projects requiring federal funding or authorization. The special terms and conditions outlined in the Biological Opinion resulting from Section 7

consultations will be implemented by the District and/or other responsible parties according to the timing required in the Biological Opinion. In the absence of federal funding or authorizations, the District will apply for a Section 10(a)(1)(B) permit from the USFWS pursuant to Section 10 of the Federal Endangered Species Act. The District will prepare a habitat conservation plan or low-effect habitat conservation plan for approval by the USFWS. As a requirement for the California Endangered Species Act compliance, the District will consult with, and/or obtain permits or approvals from, the CDFW pursuant to Sections 2081 and 2080.1 of the California Endangered Species Act. Alternatively, the District can seek permitting coverage through the County of San Diego.

Indirect Impacts

Potential indirect impacts to special-status species and their habitat from the construction of ODP Category B Projects listed in Appendices D-1 and D-2 could include those resulting from temporary increases in noise and vibration, which could adversely affect special-status wildlife species occupying adjacent habitats. Night lighting is also a typical indirect impact of construction; however, night lighting would not be required often and would be shielded from natural, open areas to reduce impacts. These construction activities could result in disturbances that result in a nest failure, which would be a violation of the MBTA and CFG Code. ODP construction activities could also result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones that may support special-status species. These indirect impacts are considered potentially significant.

The project site, including staging areas, contains and is adjacent to suitable nesting habitat for multiple common and sensitive bird species, including raptors, protected under the MBTA and CFG Code. Potential nesting habitat includes ornamental plantings along the developed roadways, in undeveloped habitat including sensitive habitat communities, and in eucalyptus trees. Implementation of mitigation measure **Bio-4** would reduce potential impacts to less than significant.

Construction activities within 500 feet of coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher locations could result in noise in excess of 60 dBA or the ambient noise level generated from construction work areas could adversely affect breeding gnatcatchers, vireos, and flycatchers where existing ambient noise levels are not already in exceedance of 60 dBA. If construction activities at these locations must occur during the breeding season (February 15 to August 30 for coastal California gnatcatcher; March 15 to September 15 for least Bell's vireo; May 15 to July 17 for southwestern willow flycatcher), noise in excess of 60 dBA or the ambient noise level generated from construction work areas could adversely affect the breeding of these species where existing ambient noise levels are not already in exceedance of 60 dBA. If construction activities at these locations must occur during the breeding season, then the District shall implement monitoring pursuant to the USFWS and CDFW consultation (**Bio-3**). These potential indirect impacts would be considered significant. Implementation of mitigation measures **Bio-3** through **Bio-13** would reduce potential impacts to less than significant.

Construction activities outside of developed land and within 50 feet of Quino checkerspot butterfly suitable habitat could result in the disruption of Quino checkerspot butterfly movement and breeding. Construction in these areas would be restricted to outside of the Quino checkerspot butterfly season (third week of February to the second Saturday in May). If construction activities at these locations must occur during the breeding season, then the District shall implement monitoring pursuant to the USFWS

consultation (**Bio-3**). Implementation of mitigation measures **Bio-3, Bio-9,** and **Bio-11** through **Bio-13** would reduce potential impacts to less than significant.

Construction activities outside of developed land and within 1,200 feet of potential breeding pools within arroyo toad designated critical habitat could result in the disruption of arroyo toad breeding if construction occurs during the arroyo toad breeding season (March 1-May 31). If construction activities at these locations must occur during the breeding season, then the District shall implement monitoring pursuant to USFWS consultation (**Bio-3**). Implementation of mitigation measures **Bio-3, Bio-9**, and **Bio-11** through **Bio-13** would reduce potential impacts to less than significant.

Construction activities for ODP projects would comply with the federal CWA, California's Porter-Cologne Water Quality Control Act, the implementing regulations of the SWRCB and RWQCB, and the NPDES Program, which would include the preparation of Erosion Control Plans and Storm Water Pollution Prevention Plans, and the implementation of prescribed BMPs, thereby avoiding and minimizing potential indirect impacts to special-status species and their habitat from water pollution during project construction. In addition, BMPs would be implemented to minimize fugitive dust emissions and other criteria pollutant emissions during the construction of ODP projects, thereby reducing potential indirect impacts associated with fugitive dust to less than significant levels.

Maintenance Projects

Maintenance projects consist of existing and future CIP and ODP water and sewer pipelines and facility components within and under the jurisdiction of the District that will require routine and regular maintenance to maintain proper function. These projects include the replacement or reconstruction of existing structures and facilities in the same site as the structure being replaced. Examples may also include activities such as maintenance hole replacements or rehabilitation; installation of valves, fire hydrants, air/vacuum relief assemblies, and blow off assemblies; relocation of water meters; asphalt pavement replacement; pipeline abandonment; street improvements such as landscaping; or vegetation trimming and brush management within a District easement.

Direct Impacts

No direct impacts to undeveloped areas or special-status plant or wildlife species are anticipated due to the disturbed and developed nature of maintenance projects. As a result, maintenance projects are not expected to have direct impacts on special-status species and their habitat.

Indirect Impacts

Due to previous disturbance and development, maintenance projects are not expected to result in direct impacts to undeveloped areas; however, these projects could occur in the immediate vicinity of an undeveloped area that may support special-status plant and wildlife species. As a result, maintenance projects could result in potentially significant indirect impacts, but are not expected to have direct impacts on special-status species and their habitat.

Potential indirect impacts to special-status species and their habitat from maintenance projects could include those resulting from temporary increases in noise and vibration, which could adversely affect special-status wildlife species occupying adjacent habitats. Night lighting is also a typical indirect impact of construction; however, night lighting would not be required often and would be shielded from natural, open areas to reduce impacts. Maintenance activities could result in disturbances that result in

a nest failure, which would be a violation of the MBTA and CFG Code. Maintenance activities could also result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones that may support special-status species. These indirect impacts are considered potentially significant. Due to the highly disturbed and developed nature of maintenance projects, indirect impacts to Quino checkerspot butterfly or arroyo toad or their suitable habitats are not anticipated.

The project site, including staging areas, contains and is adjacent to suitable nesting habitat for multiple common and sensitive bird species, as well as raptors, protected under the MBTA and CFG Code. Potential nesting habitat includes ornamental plantings along the developed roadways, in undeveloped habitat including sensitive habitat communities, and in native and non-native trees. Implementation of mitigation measure **Bio-4** would reduce potential impacts to less than significant.

Construction activities within 500 feet of coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher occupied habitats could result in noise in excess of 60 dBA or the ambient noise level generated from construction work areas which could adversely affect breeding gnatcatchers, vireos, and flycatchers during the respective breeding season where existing ambient noise levels are not already in exceedance of 60 dBA. If construction activities at these locations must occur during the breeding season (February 15 to August 30 for coastal California gnatcatcher; March 15 to September 15 for least Bell's vireo; May 15 to July 17 for southwestern willow flycatcher), noise in excess of 60 dBA or the ambient noise level generated from construction work areas could adversely affect the breeding of these species where existing ambient noise levels are not already in exceedance of 60 dBA. These potential indirect impacts would be considered significant. Implementation of mitigation measures **Bio-4** and **Bio-14** would reduce potential impacts to less than significant.

Activities for maintenance projects would comply with the federal CWA, California's Porter-Cologne Water Quality Control Act, the implementing regulations of the SWRCB and RWQCB, and the NPDES Program, which would include implementation of prescribed BMPs, thereby avoiding and minimizing potential indirect impacts to special-status species, their habitat, and potentially jurisdictional areas from water pollution during project construction. Implementation of mitigation measure **Bio-14** would reduce potential impacts to less than significant.

3.1.2 Mitigation Measures

The following mitigation measures would ensure that potential CIP and ODP project impacts on special-status animal species are avoided by the project.

Bio-1 **Project Specific Biological Resource Surveys**. Prior to the construction of CIP projects listed in Table 2 and ODP Category A and Category B Projects identified in Appendices C-1, C-2, D-1, and D-2 that will be sited within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District shall retain a qualified biologist to perform a pre-construction survey to verify existing biological resources on and adjacent to the project construction areas. The District shall provide the biologist with a copy of the CIP and ODP project plans that clearly depict the construction work limits, including construction staging and storage areas, in order to determine which specific portion(s) of the project will require inspection of adjacent open space areas during the pre-construction survey. The surveys shall verify whether the project would occur on or in the immediate vicinity of sensitive natural communities, including habitat suitable

for special-status species, in addition to potential jurisdictional aquatic resources. The surveys shall also verify whether the project could result in direct or indirect impacts to sensitive natural communities, special-status species, and potential jurisdictional aquatic resources. The survey results shall be submitted to the District to determine the need for additional environmental compliance actions. If suitable habitat for special-status plant species is confirmed within or immediately adjacent to potential impact areas of the projects, then the District shall implement mitigation measure **Bio-2**. If suitable habitat for special-status wildlife species is confirmed within or immediately adjacent to potential impact areas of the projects, then the District shall implement mitigation measure **Bio-3**. If potential impacts to sensitive natural communities are identified, then the District shall implement mitigation measure **Bio-15B**. If potential jurisdictional aquatic resources are identified within areas proposed to be impacted, then the District shall implement mitigation measure **Bio-16**.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District.

Bio-2 **Rare Plant Surveys, Avoidance, and Mitigation.** If it is confirmed through the implementation of mitigation measure **Bio-1** that the CIP and ODP project components could impact suitable habitat for special-status (rare) plant species, the District shall retain a qualified biologist to conduct focused presence/absence surveys for rare plants prior to project construction. Surveys shall follow protocols and guidelines approved by the USFWS, CDFW, and CNPS and shall be conducted by qualified biologists.

If a significant population of rare plant species with CNPS California Rare Plant Rank 1A, 1B, 2A, or 2B is identified within a project impact area, then to the extent feasible to implement the project, the District shall avoid impacts to the population through project-level design changes and/or construction methods (e.g., trenchless installation of pipelines) in consultation with the USFWS and the CDFW.

Prior to initiating construction activities, the District shall require that the rare plant locations detected during project-specific rare plant surveys are clearly shown on final construction plans. The District shall further require that the locations are demarcated in the field by a qualified biologist and protected-in-place through the installation of temporary construction fencing or alternative means that are approved by the qualified biologist. The qualified biologist shall monitor construction activities, as appropriate, to help ensure avoidance of the areas. A final compliance report shall be prepared by the qualified biologist and submitted to the District, CDFW, and USFWS for record, verifying that no impacts occurred to the species. Any inadvertent and unavoidable impacts shall be mitigated as specified below:

If complete avoidance is determined not to be feasible, then the District shall restrict and minimize impacts to no more than 20 percent of the population, which is consistent with regional conservation standards. Mitigation for unavoidable impacts shall include one or a combination of the following and occur at a minimum of a ratio of 1:1, as determined by the District in consultation with the CDFW and USFWS:

a. Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and the CDFW;

b. Acquisition and preservation of off-site mitigation land containing occupied habitat; and/or

c. Preparation and implementation of a rare plant salvage and relocation plan, to include the following requirements, at a minimum:

   i. Evaluation of options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within existing or proposed preserved lands;

   ii. Seed collection and/or transplantation to a suitable receptor site based on the most reliable methods of successful relocation;

   iii. Recommendation for the method of salvage and relocation/application based on feasibility of implementation and likelihood of success; and

   iv. Implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

Bio-3 **Special-Status Wildlife Species Surveys, Avoidance, and Mitigation.** If it is confirmed through the implementation of mitigation measure **Bio-1** that the CIP and ODP project components could directly or indirectly impact suitable habitat for special-status wildlife species, the District shall retain a qualified biologist to conduct focused, protocol-level surveys for special-status wildlife species prior to project implementation. Surveys shall follow protocols and guidelines approved by the USFWS and the CDFW and shall be conducted by qualified biologists permitted by the USFWS and the CDFW, as applicable. Impacts to federally-listed species shall require consultation with the USFWS, and impacts to state-listed species shall require consultation with the CDFW as specified below.

If special-status wildlife species are identified within a project impact area, the District shall, in coordination with the CDFW and USFWS, as applicable, avoid impacts to occupied habitat through project-level design changes and/or construction methods (e.g., trenchless installation of pipelines) prior to project implementation.

If complete avoidance is determined not to be feasible, then the District shall compensate for the loss of occupied habitat through one or a combination of the following at a minimum ratio of 1:1, as determined by the District-in consultation with the CDFW and USFWS, as applicable:

a. Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and the CDFW;

b. Acquisition and preservation of off-site mitigation land containing occupied habitat; and

c. Where species protected under Federal law may be impacted, the District shall either consult directly with the USFWS to develop and implement a habitat conservation plan

and obtain an Incidental Take Permit pursuant to the Federal Endangered Species Act Section 10(a), obtain take coverage in coordination with the County of San Diego, if applicable, or in the case of projects with a federal action agency, the District shall adhere to the requirements of Federal Endangered Species Act Section 7, which requires the federal action agency to consult with the USFWS to obtain a Biological Opinion and Incidental Take Statement for the project; or

Where species protected under state law may be impacted, the District shall either consult with the CDFW pursuant to Sections 2081 or 2080.1 of the California Endangered Species Act. For projects with direct or indirect impacts to species that are only State-listed and not federally-listed as endangered or threatened, the District shall obtain a California Endangered Species Act Section Incidental Take Permit from CDFW. For projects with impacts to species that are both state- and federally-listed as endangered or threatened, the District shall obtain a California Endangered Species Act Section 2080.1 Consistency Determination from the CDFW, unless otherwise required by the CDFW.

Off-site mitigation for impacts to special-status wildlife may also be used for off-site mitigation of impacts to sensitive communities and jurisdictional waters.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, USACE, and/or CDFW.

Bio-4 **Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the District shall enforce the following:

Project activities requiring the removal and/or trimming of vegetation suitable for nesting birds shall occur outside of the general bird breeding season (February 1 to September 30) to the extent feasible. If the activities cannot avoid the general bird breeding season, a qualified biologist with experience in conducting bird breeding surveys shall be retained to conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed with the reassurance that no violation of the MBTA and CFG Code would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Avoidance buffers should start at 300 feet for passerine birds and 500 feet for raptors. The buffer should be demarcated by temporary fencing and remain in effect until the nest is no longer active. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, and other factors, as determined by the qualified biologist.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

Bio-5 **Coastal California Gnatcatcher Pre-Construction Surveys and Avoidance.** CIP projects listed in Table 2 are located within and adjacent to suitable coastal California gnatcatcher habitat. CIP projects 600002, 600067, 530020, and 5300XX-6 are located within 500 feet of historical observations. In addition, CIP projects 600002, 600048, 600050, 600051, 600061, 600066, 600068, 600070, 530018, 530020, 5300XX-1, 5300XX-4, 5300XX-5, and 5300XX-6 are located within designated critical habitat.

> If construction activities are planned to occur during the coastal California gnatcatcher breeding season (February 15 to August 30), then prior to initiating construction activities on or within 500 feet of off-site suitable coastal California gnatcatcher habitat, the District shall retain a USFWS-permitted biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The survey efforts shall consist of three surveys spaced one week apart, with the final survey occurring no more than three days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If gnatcatchers are confirmed to be absent on and within 500 feet of planned construction areas, then no additional measures shall be required. If gnatcatchers are confirmed to be present, then the District shall mitigate as specified below or unless otherwise prescribed by the USFWS through the implementation of mitigation measure **Bio-3**:
>
> > If the results of the pre-construction surveys determine the presence of coastal California gnatcatcher within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the gnatcatcher breeding season (February 15 to August 30). If activities at these locations cannot avoid the gnatcatcher breeding season, then the District shall implement required monitoring pursuant to mitigation measures **Bio-10** and **Bio-11**, unless otherwise prescribed by the USFWS through the implementation of mitigation measure **Bio-3** In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures **Bio-12** and **Bio-13**.

If, after implementation of mitigation measures **Bio-10** and **Bio-11**, construction noise levels during the gnatcatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied gnatcatcher habitat, then the District shall implement mitigation measure **Bio-3** or complete the remainder of construction activities outside of the gnatcatcher breeding season.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

Bio-6 **Stephens' Kangaroo Rat Pre-construction Surveys and Avoidance.** CIP projects 600002, 600040, and 600061 are located within potentially suitable Stephens' kangaroo rat habitat, and CIP project 600026 is located within 500 feet of a historical Stephens' kangaroo rat observation.

> Prior to initiating construction activities within potentially suitable Stephens' kangaroo rat habitat, the District shall retain a USFWS-permitted biologist to conduct protocol surveys to confirm the presence or absence of the species. The survey efforts shall consist of live trapping within suitable habitat over five consecutive nights. If Stephens'

kangaroo rat are confirmed to be absent on and within 500 feet of planned construction areas, then no additional measures shall be required. If kangaroo rats are confirmed to be present, then the District shall mitigate as specified below or unless otherwise prescribed by the USFWS, through the implementation of mitigation measure **Bio-3**:

> If the results of the protocol surveys determine the presence of Stephens' kangaroo rat, then the District shall implement required monitoring pursuant to mitigation measures **Bio-10** and **Bio-11**, unless otherwise prescribed by the USFWS through the implementation of mitigation measure **Bio-3**. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures **Bio-12** and **Bio-13**.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

Bio-7 **Least Bell's Vireo Pre-construction Surveys and Avoidance.** CIP projects listed in Table 2 are located within and adjacent to suitable least Bell's vireo habitat. CIP projects 600002, 600063, 600071, 530020, and 5300XX-7 are located within 500 feet of historical observations. In addition, CIP projects 530020, 5300XX-4, 5300XX-5, and 5300XX-7 are located within designated critical habitat. Unavoidable impacts to least Bell's vireo shall mitigate as specified below:

> If construction activities are planned to occur during the least Bell's vireo breeding season (March 15 to September 15), then prior to initiating construction activities in any project construction areas within 500 feet of least Bell's vireo critical habitat or suitable habitat, the District shall retain a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If vireos are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If vireo are confirmed to be present, then the District shall mitigate as specified below:
>
> > If the results of pre-construction surveys determine the presence of least Bell's vireo within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the vireo breeding season (March 15 to September 15). If activities at these locations cannot avoid the vireo breeding season, then the District shall implement required monitoring pursuant to mitigation measures **Bio-10** and **Bio-11**. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures **Bio-12** and **Bio-13**.

If, after implementation of mitigation measures **Bio-10** and **Bio-11**, construction noise levels during the vireo breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds the 60 dBA hourly average from the edge of occupied vireo habitat, then the District shall implement mitigation measures **Bio-3** or complete the remainder of construction activities outside of the vireo breeding season.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

Bio-8 **Southwestern Willow Flycatcher Pre-construction Surveys and Avoidance.** CIP projects listed in Table 2 are located within and adjacent to suitable southwestern willow flycatcher habitat. No CIP projects are located within 500 feet of a historical observation or within designated critical habitat. Unavoidable impacts to southwestern willow flycatcher shall mitigate as specified below:

> If construction activities are planned to occur during the southwestern willow flycatcher breeding season (May 15 and July 17), then prior to initiating construction activities in any project construction areas within 500 feet of southwestern willow flycatcher critical habitat or suitable habitat, the District shall retain a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If flycatcher are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If flycatcher are confirmed to be present, then the District shall mitigate as specified below:
>
> > If the results of pre-construction surveys determine the presence of southwestern willow flycatcher within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the flycatcher breeding season (May 15 and July 17). If activities at these locations cannot avoid the flycatcher breeding season, then the District shall implement required monitoring pursuant to mitigation measures **Bio-10** and **Bio-11**. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures **Bio-12** and **Bio-13**.

If, after implementation of mitigation measures **Bio-10** and **Bio-11**, construction noise levels during the flycatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied vireo habitat, then the District shall implement mitigation measure **Bio-3** or complete the remainder of construction activities outside of the flycatcher breeding season.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

Bio-9 **Pre-Construction Biological Resource Surveys.** Prior to the construction of ODP projects listed in Appendices C and D that will be sited adjacent to or within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District shall retain a qualified biologist to perform a pre-construction survey to verify existing biological resources adjacent to the project construction areas. The District shall provide the biologist with a copy of the ODP project plans that clearly depict the construction work limits, including construction staging and storage areas, in order to determine which specific portion(s) of the project will require inspection of adjacent open space areas during the pre-construction survey. At a minimum, the biologist shall perform a visual

inspection of the adjacent open space area in order to characterize the existing habitat types and determine the likelihood for special-status species to occur, including the Quino checkerspot butterfly, arroyo toad, western spadefoot toad, San Diego fairy shrimp, Riverside fairy shrimp, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, migratory songbirds, and other bird species with the potential to breed in the area. The biologist's inspection shall include all potential habitat for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher that occurs within 500 feet of construction areas. The pre-construction survey results shall be submitted to the District prior to construction in order to verify the need for the additional construction measures proposed within **Bio-10** through **Bio-13** below.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District.

Bio-10 **Construction-Related Noise**. Construction noise created during the general bird breeding season (February 1 to September 30) that could affect the breeding of the coastal California gnatcatcher, least Bell's vireo, and/or southwestern willow flycatcher, and associated with adjacent undeveloped areas, shall be avoided. No loud construction noise (exceeding a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average, adjusted for ambient noise levels, at the nesting site) may take place within 500 feet of active nesting sites during the general breeding season (February 1 to September 30).

If it is confirmed through the implementation of mitigation measures **Bio-1, Bio-3**, and **Bio-5** through **Bio-9** that the CIP and ODP projects could generate construction-related noise in excess of 60 dBA or to the ambient noise level if it already exceeds 60 dBA hourly average at the location of suitable nesting habitat during the general breeding season for coastal California gnatcatcher least Bell's vireo and/or southwestern willow flycatcher, the District shall retain a qualified biologist to monitor the construction operations. The biological monitor shall be present to monitor construction activities that occur adjacent to the undeveloped open space area potentially supporting breeding birds. The monitor shall verify that construction noise levels do not exceed a 60 dBA hourly average or to the ambient noise level and shall have the ability to halt construction work, if necessary, and confer with the District, and if applicable, the USFWS and CDFW, to ensure no breeding birds are adversely affected, and additional protection measures are properly implemented during construction. The biologist shall report any violation to the USFWS and the CDFW within 24 hours of its occurrence.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

Bio-11 Biological Construction Monitoring and Temporary Construction Fencing. If it is confirmed through the implementation of mitigation measures **Bio-1, Bio-2**, and/or **Bio-3** that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, then the District shall retain a qualified biologist to monitor construction activities and supervise the installation of temporary construction fencing, which clearly delineates the edge of the approved limits of grading and clearing, and the edges of environmentally sensitive areas that occur beyond the approved limits. This fencing shall be installed prior to construction and maintained for the duration of construction activity. Fencing shall be installed in a manner that does not impact habitats to be avoided. Once the fencing is installed, the District and qualified biologist shall determine the need for additional inspections and monitoring activities throughout the duration of construction. If determined necessary by the District and qualified biologist, the monitoring shall include the inspection of construction work areas, including staging and storage areas, to confirm that activities are kept within the approved limits and that Best Management Practices are in place to prevent incidental animal entrapment and burrow and nest establishment within equipment and staged materials. If work occurs beyond the fenced or demarcated limits of impact, or if a trapped animal or burrow or nest is found, work in the affected areas shall cease until the problem has been remedied and mitigation identified by the District and qualified biologist. Temporary construction fencing shall be removed upon completion of construction of the project. The District shall verify the implementation of this measure prior to and concurrent with construction.

Timing/Implementation: Prior to and during construction.

Enforcement/Monitoring: District.

Bio-12 Construction Staging Areas. If it is confirmed through the implementation of mitigation measures **Bio-1, Bio-2**, and/or **Bio-3** that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, the District shall design the final project construction staging areas such that no staging areas shall be located within sensitive habitat areas. The construction contractor shall receive approval by the District prior to mobilization and staging of equipment outside of the project boundaries.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District.

Bio-13 Contractor Training. If it is confirmed through the implementation of mitigation measures **Bio-1, Bio-2**, and/or **Bio-3** that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, the District shall retain a qualified biologist to attend pre-construction meetings to inform construction crews of the sensitive resources and associated avoidance and/or minimization requirements.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District.

Bio-14 Maintenance Project Compliance. Maintenance activities will occur within existing or previously disturbed or developed areas such as a facility easement, facility maintenance easement, and/or developed facility footprint. Vegetation clearing and removal will be limited to non-native and invasive species to the extent feasible; however, the trimming of native species is allowable. Additional studies, as specified in mitigation measure **Bio-1**, may be required for impacts outside of existing facility footprints. Furthermore, maintenance projects will implement appropriate BMPs, where applicable, to avoid and minimize potential indirect impacts to special-status species, their habitat, and potentially jurisdictional areas from water pollution during project activities.

Maintenance activities will occur outside of the general bird breeding season (February 1 to September 30). In addition, maintenance activities will occur outside of the coastal California gnatcatcher (February 15 to August 30), least Bell's vireo (March 15 to September 15), and southwestern willow flycatcher (May 15 to July 17) breeding seasons. If activities cannot avoid the gnatcatcher and occur within 500 feet of suitable gnatcatcher habits (i.e., Diegan coastal sage scrub), the project shall implement mitigation measure **Bio-5**. If activities cannot avoid the vireo and/or flycatcher breeding seasons, and occur within 500 feet of suitable vireo and flycatcher habitat (i.e., riparian scrub, woodland, and forest), the project shall implement mitigation measures **Bio-7** and **Bio-8**.

Timing/Implementation: Prior to and during project operations.

Enforcement/Monitoring: District.

3.1.3 Conclusions

CIP, ODP project, and maintenance project implementation could result in direct and/or indirect impacts on special-status plant and wildlife species with the potential to occur within or adjacent to the project site. These impacts would be significant. Implementation of mitigation measures **Bio-1** through **Bio-14** would ensure that the potential impacts are avoided or reduced to less than significant levels.

3.2 ISSUE 2: RIPARIAN HABITAT AND SENSITIVE NATURAL COMMUNITIES

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

3.2.1 Analysis of Project Effects

Less than Significant with Mitigation. Direct impacts include the direct removal or disturbance of riparian habitat or other sensitive natural communities through activities, such as clearing, grubbing, grading, and other land disturbance activities. Potential indirect impacts could include those resulting from inadvertent stormwater runoff and fugitive dust.

CIP Projects

Based on site-specific surveys assessment, the CIP projects listed below within Table 3, *Estimated CIP Project Temporary Impacts on Sensitive Natural Communities* and Table 4, *Estimated CIP Project*

Permanent Impacts on Sensitive Natural Communities, occur on and/or in the immediate vicinity of undeveloped land that supports riparian habitat and/or other sensitive natural communities. These projects could result in potentially significant direct and/or indirect impacts on riparian habitat and/or other sensitive natural communities, as shown on Figures 9-1 through 9-48.

The CIP projects have been designed to avoid and minimize impacts to sensitive natural communities and other sensitive biological resources to the extent feasible. Where feasible, CIP projects have been designed to occur in developed areas, employ trenchless construction techniques, minimize the proposed work area, and/or scheduled to occur outside of the bird breeding season. In addition, CIP projects will implement standard BMPs to avoid and minimize impacts to adjacent sensitive biological resources.

As currently proposed, the CIP projects 600002, 600026, 600040, 600050, 600051, 600061, 600066, 600080, 530018, 5300-1, and 5300XX-2 would result in direct impacts to sensitive natural communities, as shown in Table 3. The remaining CIP projects are located entirely within disturbed and developed lands. Figures 9-1 through 9-48 depict the potential disturbance limits in relation to sensitive natural (vegetation) communities. Implementation of mitigation measures **Bio-15A** and **Bio-15B** would ensure that impacts to vegetation communities identified in Table 3 and Table 4 are compensated in accordance with regional standards for the mitigation ratios identified in Table 5, *Estimated Mitigation for CIP Project Impacts to Sensitive Upland Communities within the Service Area*, and Table 7, *Estimated Mitigation for CIP Project Impacts to Sensitive Wetland/Riparian Communities within the Service Area,* and provides specific requirements for how these mitigation ratios would be achieved.

Table 3
ESTIMATED CIP PROJECT TEMPORARY IMPACTS ON SENSITIVE NATURAL COMMUNITIES

Sensitive Natural Community[1]	CIP Project Temporary Impacts (acres)[2, 3]									
	530018	5300XX-1	5300XX-2	600002	600026	600051	600061	600066	600080	TOTAL
Sensitive Wetland/Riparian										
Southern Coast Live Oak Riparian Forest	--	--	--	--	--	--	--	0.04	0.14	**0.18**
Southern Cottonwood-Willow Riparian Forest	0.01	0.06	--	--	0.24	0.01	0.04	--	--	**0.36**
Streambed/Open Water	--	0.02	--	--	--	--	--	--	--	**0.02**
Subtotal Sensitive Wetland/ Riparian	**0.01**	**0.08**	--	--	**0.24**	**0.01**	**0.04**	**0.04**	**0.14**	**0.56**
Sensitive Uplands										
Coast Live Oak Woodland	--	--	0.1	--	--	--	--	0.1	--	**0.2**
Coastal Sage Scrub	--	--	--	0.3	--	--	0.1	--	--	**0.4**
Non-Native Grassland	--	--	--	0.5	--	0.0	--	--	--	**0.5**
Southern Mixed Chaparral	--	--	--	--	--	--	--	0.2	--	**0.2**
Subtotal Sensitive Uplands	--	--	**0.1**	**0.8**	**--**	**0.0**	**0.1**	**0.2**	--	**1.3**
TOTAL	***0.01***	***0.08***	***0.1***	***0.8***	***0.24***	***0.05***	***0.10***	***0.3***	***0.14***	***1.85***

[1] Vegetation categories are from Holland (1986) and Oberbauer (2008).

[2] All data is in acres rounded to the nearest tenth (0.1) for uplands and thousandth (0.01) for wetlands. Totals reflect rounding. "--" equals no impact.

[3] Assumes no direct impacts to sensitive natural communities for projects located within roads.

Table 4
ESTIMATED CIP PROJECT PERMANENT IMPACTS ON SENSITIVE NATURAL COMMUNITIES

Sensitive Natural Community[1]	CIP Project Permanent Impacts (acres)[2,3]		
	600040	600050	TOTAL
Sensitive Uplands			
Chamise Chaparral	--	0.1	0.1
Coastal Sage Scrub	0.1	--	0.1
TOTAL	***0.1***	***0.1***	***0.2***

[1] Vegetation categories are from Holland (1986) and Oberbauer (2008).
[2] All data is in acres rounded to the nearest tenth (0.1) for uplands and thousandth (0.01) for wetlands. Totals reflect rounding. "--" equals no impact.
[3] Assumes no direct impacts to sensitive natural communities for projects located within roads.

Potential short-term, construction-related indirect impacts could result from the construction of CIP projects listed in Table 2 that occur adjacent to riparian habitat and sensitive natural communities. These indirect impacts would be considered potentially significant. As described above, the District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat stormwater runoff, fugitive dust, and other pollutants at each project construction site. In addition, the implementation of mitigation measures **Bio-11** through **Bio-13** would ensure that construction activities do not inadvertently encroach into or otherwise impact sensitive natural communities occurring adjacent to CIP project sites, thereby further reducing potential indirect impacts to a less than significant level.

Regarding operational impacts, pipelines would be mostly buried underground and would not be a source of runoff. However, above-ground facilities such as pump stations, lift stations, and pressure-reducing stations could increase stormwater runoff to adjacent wetlands and sensitive natural communities, which could cause indirect impacts to wetlands. Impacts from the operation of CIP projects are generally small, less than 0.1 acre, and are less than significant.

Other District Pipeline Projects

Based on a programmatic assessment, ODP Category A Projects and ODP Category B Projects listed in Appendices C-1, C-2, D-1, and D-2, could occur on and/or in the immediate vicinity of undeveloped land that may support riparian habitat and/or other sensitive natural communities. These projects could result in potentially significant direct and/or indirect impacts on riparian habitat and/or other sensitive natural communities. Projects with direct and/or indirect impacts to sensitive natural communities are shown on Figures 10-1 and 10-2.

Construction of ODP Category A Projects have the potential to result in direct impacts to riparian habitat and several types of sensitive natural communities. Habitat loss or disturbance as a consequence of these ODP project construction activities could result in diminishing and degrading of open space areas, reductions or eliminations of habitat functions and values, and impacts to species, among other adverse impacts. These direct impacts would be considered significant. Implementation of mitigation measures **Bio-15A** and **Bio-15B** would ensure that ODP Category A Projects impacts to the sensitive natural communities are compensated in accordance with regional standards for mitigation ratios and methods.

Potential short-term, construction-related indirect impacts could result from the construction of ODP Category B Projects that occur adjacent to riparian habitat and sensitive natural communities. These indirect impacts would be considered potentially significant. The District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat stormwater runoff, fugitive dust, and other pollutants at each project construction site. Implementation of these required practices would reduce the potential indirect impacts during construction to a less than significant level. Further, the implementation of mitigation measures **Bio-11** through **Bio-13** would ensure that construction activities do not inadvertently encroach into or otherwise impact sensitive natural communities occurring adjacent to ODP project sites, thereby further reducing potential indirect impacts to a less than significant level.

Regarding operational impacts, all pipelines, with the exception of lift and pump station piping, would be buried underground and would not be a source of runoff. However, above-ground facilities, such as pump stations, reservoirs, and pressure-reducing stations, have the potential to increase stormwater runoff to adjacent wetlands and sensitive natural communities, which could cause indirect impacts to sensitive natural communities. Impacts from the operation of ODP projects are generally small, less than 0.1 acre, and assessed as not significant. ODP Category C Projects with no direct or indirect impacts are listed in Appendices E-1 and E-2 (Figure 10-3).

Maintenance Projects

No direct impacts to riparian habitat and/or other sensitive natural communities are anticipated due to the disturbed and developed nature of maintenance projects; however, maintenance projects could occur in the immediate vicinity of these habitats and communities. Nesting birds, including sensitive species, could occur adjacent to maintenance projects; however, these potential construction-related indirect impacts would be short-term and would be considered potentially significant if activities occurred during the general bird breeding season. Impacts to nesting birds are discussed in Section 3.1. Implementation of mitigation measures **Bio -5** would ensure against impacts to nesting birds. As specified in mitigation measure **Bio-14**, vegetation clearing and removal will be limited to non-native and invasive species. Native vegetation will not be removed, unless within an existing facility easement, facility maintenance easement, and/or developed facility footprint; however, the trimming of native species is allowable.

The District would be required to implement BMPs to minimize, control, and treat stormwater runoff, fugitive dust, and other pollutants at each maintenance site as specified in mitigation measure **Bio-14**. Implementation of these required practices would reduce potential indirect impacts during construction to a less than significant level. Implementation of mitigation measure **Bio-14** would ensure that the construction activities do not inadvertently encroach into or otherwise impact sensitive natural communities occurring adjacent to ODP project sites, thereby further reducing potential indirect impacts to a less than significant level.

3.2.2 Mitigation Measures

The following mitigation measure would ensure that potential CIP and ODP project impacts on riparian habitat and sensitive natural communities are avoided or compensated for by the project.

Bio-15A Compensatory Mitigation for Project Impacts to Sensitive Upland Communities. If it is demonstrated through the implementation of mitigation measure **Bio-1** that the project, CIP or ODP, could directly impact sensitive upland communities, the District shall mitigate for the loss of habitat according to the ratios provided in Table 5 and Table 6, *Estimated Mitigation for ODP Project Impacts to Sensitive Upland Communities within the Service Area* below, unless otherwise specified in the required agency permits and approvals. Off-site mitigation for impacts to special-status wildlife may also be used for off-site mitigation of impacts to sensitive upland communities.

Table 5
ESTIMATED MITIGATION FOR CIP PROJECT IMPACTS
TO SENSITIVE UPLAND COMMUNITIES WITHIN THE SERVICE AREA

Sensitive Upland Communities	Estimated Impacts[1]	Mitigation Ratio	Estimated Mitigation[1]
Chamise chaparral	0.1	1:1	0.1
Coast live oak woodland	0.2	3:1	0.5
Diegan coastal sage scrub	0.5	1:1	0.5
Non-native grassland	0.5	0.5:1	0.3
Southern mixed chaparral	0.2	1:1	0.2
TOTAL	**1.5**	**--**	**1.6**

Source: CDFW 2021d; HELIX 2021.

[1] All data is in acres rounded to the nearest tenth (0.1) for uplands. Totals reflect rounding. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column.

Table 6
ESTIMATED MITIGATION FOR ODP IMPACTS
TO SENSITIVE UPLAND COMMUNITIES WITHIN THE SERVICE AREA

Sensitive Upland Communities	Global Rank[1]	State Rank[2]	Estimated Impacts[3]	Mitigation Ratio[4]	Estimated Mitigation[3,4]
Chamise chaparral	G4	S4	3.5	1:1	3.5
Coast live oak woodland	G5	S4	7.9	3:1	23.7
Diegan coastal sage scrub	G3	S3.1	44.6	1:1	44.6
Engelmann oak woodland	G3	S3	0.8	2:1	1.6
Maritime succulent scrub	G2	S1.1	--	3:1	--
Native grassland	G3	S3.1	--	1:1	--
Non-native grassland	G4	S4	26.5	0.5:1	13.3
Scrub oak chaparral	G4	S4	2.0	2:1	4.0

Sensitive Upland Communities	Global Rank[1]	State Rank[2]	Estimated Impacts[3]	Mitigation Ratio[4]	Estimated Mitigation[3,4]
Southern maritime chaparral	G1	S1.1	2.2	3:1	6.6
Southern mixed chaparral	G4	S4	7.1	1:1	7.1
TOTAL	--	--	**94.6**	--	**104.4**

Source: CDFW 2021d; HELIX 2021.

1 **Global Rank–**The global rank reflects the overall status of an element throughout its global range. **G1 = Critically Imperiled**–At very high risk of extinction due to extreme rarity, very steep declines, or other factors. Less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000 acres. **G2 = Imperiled**–At high risk of extinction due to very restricted range, very few populations, steep declines, or other factors. Estimated 6-20 viable occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **G3 = Vulnerable**–At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres. **G4 = Apparently Secure**–Uncommon but not rare; some cause for long-term concern due to declines or other factors. This rank is clearly lower than G3 but factors exist to cause some concern, i.e., there is some threat, or somewhat narrow habitat.

2 **State Rank–**The state rank refers to the imperilment status only within California's State boundaries. **S1 = Critically Imperiled**–Critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. Less than 6 occurrences or less than 1,000 individuals or less than 2,000 acres. **S1.1** = very threatened; **S1.2** = threatened; **S1.3** = no current threats known. **S2 = Imperiled**–Imperiled in the state because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. Estimated 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **S2.1** = very threatened; **S2.2** = threatened; **S2.3** = no current threats known. **S3 = Vulnerable**–Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000 -50,000 acres. **S3.1** = very threatened; **S3.2** = threatened; **S3.3** = no current threats known; **S4 = Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

3 All data is in acres rounded to the nearest tenth (0.1) for uplands. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column.

4 Mitigation ratios included in the table are typically required by agency permits and approvals, but may increase or decrease depending on the resources present and where the impact and mitigation is proposed within the planning area, as approved by the regulatory agencies and/or local jurisdiction in which the impact and mitigation occurs.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, and/or CDFW.

Bio-15B Compensatory Mitigation for Project Impacts to Sensitive Wetland/Riparian Communities. If it is demonstrated through the implementation of mitigation measure **Bio-1** that the project, CIP or ODP, could directly impact sensitive wetland and/or riparian communities, the District shall mitigate for the loss of habitat according to the ratios provided in Table 7, *Estimated Mitigation for CIP Project Impacts to Sensitive Wetland/Riparian Communities within the Service Area* and Table 8, *Estimated Mitigation for ODP Project Impacts to Sensitive Wetland/Riparian Communities within the Service Area* below, unless otherwise specified in required agency permits and approvals.

Table 7
ESTIMATED MITIGATION FOR CIP PROJECT IMPACTS
TO SENSITIVE WETLAND/RIPARIAN COMMUNITIES WITHIN THE SERVICE AREA

Sensitive Wetland/Riparian Communities	Estimated Impacts[1]	Mitigation Ratio	Estimated Mitigation[1]
Southern coast live oak riparian forest	0.18	3:1	0.53
Southern cottonwood willow riparian forest	0.36	3:1	1.07

Sensitive Wetland/Riparian Communities	Estimated Impacts[1]	Mitigation Ratio	Estimated Mitigation[1]
Streambed/Open Water	0.02	1:1	0.02
TOTAL	**0.56**	**--**	**1.63**

Source: CDFW 2021d; HELIX 2021.

[1] All data is in acres rounded to the nearest thousandth (0.01) for wetlands. Totals reflect rounding. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column.

Table 8
ESTIMATED MITIGATION FOR ODP IMPACTS
TO SENSITIVE WETLAND/RIPARIAN COMMUNITIES WITHIN THE SERVICE AREA

Sensitive Wetland/Riparian Communities	Global Rank[1]	State Rank[2]	Estimated Impacts[3]	Mitigation Ratio[4]	Estimated Mitigation[3,4]
Freshwater marsh	G3	S2.1	--	3:1	--
Mule fat scrub	G4	S4	0.28	2:1	0.56
Non-native riparian forest	G4	S4	--	3:1	--
Open Water/Stream	--	--	0.49	1:1	0.49
Southern arroyo willow riparian forest	G2	S2.1	2.14	3:1	6.45
Southern coast live oak riparian forest	G3	S4	10.04	3:1	30.12
Southern cottonwood willow riparian forest	G3	S3.2	1.72	3:1	5.16
Southern riparian forest/woodland	G4	S4	15.48	3:1	46.44
Southern sycamore-alder riparian woodland	G3	S3	0.56	3:1	1.68
Southern willow scrub	G3	S2.1	0.85	3:1	2.55
TOTAL	**--**	**--**	**31.19**	**--**	**93.45**

Source: CDFW 2021d; HELIX 2021.

[1] **Global Rank–**The global rank reflects the overall status of an element throughout its global range. **G1 = Critically Imperiled**–At very high risk of extinction due to extreme rarity, very steep declines, or other factors. Less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000 acres. **G2 = Imperiled**–At high risk of extinction due to very restricted range, very few populations, steep declines, or other factors. Estimated 6-20 viable occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **G3 = Vulnerable**–At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres. **G4 = Apparently Secure**–Uncommon but not rare; some cause for long-term concern due to declines or other factors. This rank is clearly lower than G3 but factors exist to cause some concern, i.e., there is some threat, or somewhat narrow habitat.

[2] **State Rank–**The state rank refers to the imperilment status only within California's State boundaries. **S1 = Critically Imperiled**–Critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. Less than 6 occurrences or less than 1,000 individuals or less than 2,000 acres. **S1.1** = very threatened; **S1.2** = threatened; **S1.3** = no current threats known. **S2 = Imperiled**–Imperiled in the state because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. Estimated 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres. **S2.1** = very threatened; **S2.2** = threatened; **S2.3** = no current threats known. **S3 = Vulnerable**–Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Estimated 21-80 occurrences or 3,000-10,000 individuals or 10,000 -50,000 acres. **S3.1** = very threatened; **S3.2** = threatened; **S3.3** = no current threats known; **S4 = Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

[3] All data is in acres rounded to the nearest thousandth (0.01) for wetlands. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column.

[4] Mitigation ratios included in the table are typically required by agency permits and approvals, but may increase or decrease depending on the resources present and where the impact and mitigation is proposed within the planning area, as approved by the regulatory agencies and/or local jurisdiction in which the impact and mitigation occurs.

To comply with state and federal regulations for impacts to jurisdictional resources regulated by the United States and the State of California, prior to project approval or implementation, the District shall either obtain the following permits and agreements or evidence from the respective agency that such permit or agreement is not required if development activities are proposed within jurisdictional waters:

A Clean Water Act section 404 permit issued by the U.S. Army Corps of Engineers for all project-related disturbances of jurisdictional non-wetland waters.

A Clean Water Act section 401 permit issued by the Regional Water Quality Control Board for all project-related disturbances of jurisdictional non-wetland waters.

A Section 1602 Streambed Alteration Agreement issued by the California Department of Fish and Wildlife for all project-related disturbances of any streambed and associated riparian habitat.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, USACE, RWQCB, and/or CDFW.

3.2.3 Conclusion

CIP, ODP project, and maintenance project implementation could result in direct and/or indirect impacts on riparian habitat and/or other sensitive natural communities. These impacts would be significant. Implementation of mitigation measures **Bio-1** and **Bio-11** through **Bio-15B** would ensure that potential impacts are avoided or reduced to less than significant levels.

3.3 ISSUE 3: JURISDICTIONAL WETLANDS AND WATERWAYS

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

3.3.1 Analysis of Project Effects

Less than Significant with Mitigation. Direct impacts include those which pertain to the direct dredge, fill, or discharge into jurisdictional waters and wetlands through activities such as clearing, grubbing, grading, and other land disturbance activities, construction access and staging, and the removal and replacement of existing facilities. Potential indirect impacts could include those resulting from inadvertent stormwater runoff from construction sites, staging areas, and above-ground facilities.

CIP Projects

Based on the project-level surveys, the CIP projects listed below within Table 9, *Estimated CIP Project Impacts on Jurisdictional Wetlands and Waterways*, would occur within areas potentially containing wetlands or other jurisdictional resources, whereby project activities occurring within them would be regulated by the USACE, RWQCB, and/or CDFW. CIP projects 600026, 600051, 600061, 600066, 600080, 530018, and 5300XX-1 occur in the immediate vicinity of areas potentially containing wetlands or other jurisdictional resources regulated by the USACE, RWQCB, and/or CDFW. These projects could result in

significant impacts to wetlands or other jurisdictional resources. Projects with direct or indirect impacts to wetlands are shown on Figures 9-1 through 9-42.

Direct Impacts

Construction of the CIP projects listed in Table 9 could result in direct impacts to riparian and wetland habitat types that could support jurisdictional waters and wetlands. Activities associated with the construction of these CIP projects would be subject to regulation by the USACE, RWQCB, and/or CDFW. As required within mitigation measure **Bio-16**, impacts to sensitive areas potentially supporting wetland habitats shall be avoided to the maximum extent practicable through project-level siting during project design and trenchless pipeline installation methods (e.g., jack and bore, horizontal directional drilling) during project construction.

Table 9
ESTIMATED CIP PROJECT IMPACTS ON JURISDICTIONAL WETLANDS AND WATERWAYS

Sensitive Wetland/Riparian Communities [1]	CIP Project Impacts (acres)[2]							
	530018	5300XX-1	600036	600051	600061	600066	600080	TOTAL
Southern Coast Live Oak Riparian Forest	--	--	--	--	--	0.04	0.14	**0.18**
Southern Cottonwood-Willow Riparian Forest	0.01	0.06	0.24	0.01	0.04	--	--	**0.36**
Streambed/Open Water	--	0.02	--	--	--	--	--	**0.02**
Total	**0.01**	**0.08**	**0.24**	**0.01**	**0.04**	**0.04**	**0.14**	***0.56***

[1] Vegetation categories are from Holland (1986) and Oberbauer (2008).

[2] All data is in acres rounded to the nearest thousandth (0.01) for wetlands. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column. All impacts are temporary. CIP Projects not listed do not propose impacts to wetland/riparian communities.

Further, and as required within mitigation measure **Bio-16**, CIP projects with direct impacts (Table 9) would require a project-level jurisdictional delineation to verify the presence or absence of potential jurisdictional resources, determine the extent of jurisdictional resources, and determine whether or not the project could be constructed to avoid potential jurisdictional resources. To the extent possible, the District would avoid all potential jurisdictional resources through modifications to project design, trenchless construction methods, or other avoidance measures determined during project-level analyses; however, CIP projects may still impact jurisdictional resources. Impacts to jurisdictional resources are assessed as potentially significant and will be permitted and mitigated in accordance with mitigation measures **Bio-15B** and **Bio-17**.

Indirect Impacts

Potential short-term, construction-related indirect impacts could result from the construction of the CIP projects 600002, 600026, 600051, 600061, 600066, 600068, 600069, 600070, 600072, 600078, 600080, 600084, 530018, 530020, and 5300XX-1 which occur adjacent to potential jurisdictional waters and wetlands. Indirect impacts to jurisdictional waters and wetlands would be considered significant.

As previously discussed, the District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat stormwater runoff, fugitive dust, and other pollutants at each project construction site. Implementation of these required practices would reduce potential indirect

impacts during construction to a less than significant level. Further, implementation of mitigation measures **Bio-11** through **Bio-13** would ensure that construction activities do not inadvertently encroach into or otherwise impact potential jurisdictional waters and wetlands occurring adjacent to CIP project sites, thereby further reducing potential indirect impacts to a less than significant level.

Regarding operational impacts, pipelines would be buried underground and would not be a source of runoff. However, above-ground facilities such as pump stations, lift stations, and pressure-reducing stations could increase stormwater runoff to adjacent wetlands, which could cause indirect impacts to wetlands. Indirect impacts from the operation of CIP projects are anticipated to be less than significant.

Other District Pipeline projects

Based on the programmatic assessment of the projects, ODP Category A Projects and ODP Category B Projects listed within Appendices C-1, C-2, D-1, and D-2, could occur on or in the immediate vicinity of areas potentially containing wetlands or other jurisdictional resources whereby project activities occurring within them would be regulated by the USACE, RWQCB, and/or CDFW. Therefore, these projects could result in potentially significant impacts to wetlands or other jurisdictional resources. Projects with direct or indirect impacts to wetlands are shown on Figures 10-1 and 10-2. ODP Category C Projects with no direct or indirect impacts are listed in Appendices E-1 and E-2 (Figure 10-3).

Direct Impacts

Construction of ODP Category A Projects listed in Appendices C-1 and C-2 would have the potential to result in direct impacts to riparian and wetland habitat types that could support jurisdictional waters and wetlands. Activities associated with the construction of these ODP projects could be subject to regulation by the USACE, RWQCB, and/or CDFW. For example, some of the ODP projects involve pipelines or access roads that may require the crossing of drainage features or temporary construction activities within areas potentially supporting jurisdictional waters and wetlands. As discussed throughout this section, and required within mitigation measure **Bio-16**, impacts to sensitive areas potentially supporting wetland habitats shall be avoided to the maximum extent practicable through project-level siting during project design, and trenchless pipeline installation methods (e.g., jack and bore, horizontal directional drilling) during project construction.

Further, and as required within mitigation measures **Bio-1** and **Bio-16**, ODP Category A Projects would require project-level biological studies to verify the presence or absence of potential jurisdictional resources and determine whether or not the project could be constructed to avoid potential jurisdictional resources. To the extent possible, the District would avoid all potential jurisdictional resources through modifications to project design, trenchless construction methods, or other avoidance measures determined during project-level analyses. However, ODP projects may still impact jurisdictional resources, and impacts are potentially significant. Impacts related to ODP projects will be permitted and mitigated in accordance with mitigation measures **Bio-15B** and **Bio-17**.

Indirect Impacts

Potential short-term, construction-related indirect impacts could result from the construction of the ODP Category B Projects that occur adjacent to potential jurisdictional waters and wetlands (Appendices D-1 and D-2). Indirect impacts to jurisdictional waters and wetlands would be considered significant.

The District would be required to prepare and implement prevention plans and BMPs to minimize, control, and treat stormwater runoff, fugitive dust, and other pollutants at each project construction site. Implementation of these required practices would reduce potential indirect impacts during construction to a less than significant level. Further, the implementation of mitigation measures **Bio-11** through **Bio-13** would ensure that the construction activities do not inadvertently encroach into or otherwise impact potential jurisdictional waters and wetlands occurring adjacent to ODP project sites, thereby further reducing potential indirect impacts to a less than significant level.

Regarding operational impacts, pipelines would be mostly buried underground and would not be a source of runoff. However, above-ground facilities such as pump stations, lift stations, and pressure-reducing stations could increase stormwater runoff to adjacent wetlands, which could cause indirect impacts to wetlands. Impacts from the operation of ODP projects would be less than significant.

Maintenance Projects

No direct impacts to potential jurisdictional waters and wetlands are anticipated due to the disturbed and developed nature of the maintenance projects. Potential short-term, construction-related indirect impacts, including pollutants, toxins, and sediment entering the adjacent aquatic resources, could result from the maintenance projects that occur adjacent to potential jurisdictional waters and wetlands habitats. Indirect impacts to jurisdictional waters and wetlands would be considered significant.

The District would be required to implement BMPs to minimize, control, and treat stormwater runoff, fugitive dust, and other pollutants at each project construction site as specified in mitigation measure **Bio-14**. Implementation of these required practices would reduce potential indirect impacts during construction to a less than significant level.

3.3.2 Mitigation Measures

Implementation of required BMPs in combination with Mitigation Measures **Bio-11** through **Bio-13**, which requires the installation of temporary construction fencing, biological monitoring, construction staging in non-sensitive uplands, and contractor training, would ensure that construction activities are contained within the proposed work limits, and that potentially significant indirect impacts on jurisdictional resources are avoided.

The following mitigation measures would ensure that the potential impacts on jurisdictional resources are formally delineated and the necessary permitting and compensatory mitigation is implemented by the project.

Bio-16 **Project-Level Jurisdictional Delineations**. If it is demonstrated through the implementation of mitigation measure **Bio-1** that a CIP and/or ODP project could impact potential jurisdictional waters and/or wetlands, the District shall retain a qualified biologist to perform formal jurisdictional delineations of the project sites prior to project approval and implementation. If the formal jurisdictional delineations determine that there are no resources present that could be subject to the regulatory jurisdiction of the USACE, RWQCB, or CDFW, then no further action shall be required. However, if the formal jurisdictional delineations determine that the features are subject to the USACE, RWQCB, and/or CDFW jurisdiction, then the District shall avoid and/or minimize impacts through redesign and/or implementing trenchless construction methods (i.e., jack-and-bore or horizontal directional drilling) and obtain USACE, RWQCB, and/or CDFW

concurrence prior to project implementation that impacts have been avoided. If concurrence is not obtained, the District shall implement mitigation measure **Bio-15B**.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USACE, RWQCB, and/or CDFW

Bio-17 **Compensatory Mitigation for Impacts to Jurisdictional Resources**. Compensatory mitigation in accordance with the permit conditions imposed by USACE, RWQCB, and CDFW, for the unavoidable impacts to jurisdictional waters and wetlands would include one or a combination of the following measures:

- Purchase of preservation, establishment, re-establishment, rehabilitation, and/or enhancement credits from a mitigation bank approved by the USACE and CDFW, such as the San Luis Rey Mitigation Bank, Brook Forest Conservation and Mitigation Bank, or another approved mitigation bank in the region; or

- Implement Permittee-responsible preservation, establishment, re-establishment, rehabilitation, and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.

- Plans for restoration or revegetation should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on-site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for the conservation of the mitigation.

A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area, and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. Off-site mitigation for impacts to jurisdictional waters may also be used for off-site mitigation of impacts to sensitive communities and special-status wildlife.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: District, USFWS, USACE, RWQCB, and/or CDFW.

3.3.3 Conclusion

CIP, ODP project, and maintenance projects would avoid direct impacts to jurisdictional resources present within the project sites to the maximum extent possible. Where direct impacts are unavoidable, the implementation of mitigation measures **Bio-16** and **Bio-17** would reduce impacts to less than significant. Implementation of mitigation measures **Bio-11** through **Bio-13** would ensure that construction activities remain within the approved limits of work and avoid unauthorized direct and indirect impacts to jurisdictional resources.

3.4 ISSUE 4: WILDLIFE MOVEMENT AND NURSERY SITES

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

3.4.1 Analysis of Project Effects

Less than Significant. Many of the projects are proposed within disturbed and developed land that contains existing developments. Most of the proposed above-ground projects (i.e., generators, lift stations, pressure stations, and pump stations) would occur within previously disturbed or developed lands, and all are associated with very small impact footprints. Due to the small size and limited above-ground developments proposed for pump stations, no adverse effects on wildlife movement from operation are anticipated to occur. All pipeline developments would be placed beneath the ground such that there would be no above-ground hindrances to wildlife movement during project operation.

CIP Projects

Some of the CIP projects are located near sensitive species. Construction noise and the removal or trimming of habitat may have an impact on sensitive and migratory nesting birds using these areas and, therefore, an impact on wildlife corridors. Thus, impacts to wildlife corridors from construction are assessed as potentially significant.

CIP projects 600002, 600026, 600040, 600050, 600061, 600066, 600080, 530018, 5300XX-1, and 5300XX-2 listed in Table 3 would result in impacts to sensitive natural communities; however, impacts related to these projects would be localized, and the individual project areas would be restricted to the greatest extent feasible such that the width of existing wildlife corridors and linkages would not be affected or reduced. CIP projects 600002, 600026, 600066, 600080, 5300XX-1, and 5300XX-2 are underground pipeline utilities. CIP projects 600026, 600061, 5300XX-1, and 5300XX-2 are located primarily within an existing roadway but may result in impacts to adjacent habitat; however, the proximity to the existing roadway would likely discourage wildlife movement within the proposed impact area for this project. CIP projects 600002, 600066, and 600080 would bisect open, undeveloped habitat. These projects would have the potential to temporarily disrupt local wildlife movement areas; however, disruptive effects would be minimal, and wildlife would be expected to move back into the area once activities have ceased. Existing wildlife corridors and linkages would continue to function in their current capacity; therefore, impacts would be less than significant, and no additional mitigation is required.

CIP projects 600040, 600050, and 530018 are small, above-ground pump stations located adjacent to existing development. The above-ground pump stations are small, generally less than 0.1 acre in size, and would allow continued access to open habitat surrounding the pump stations. The pump stations would not act as major impediments to wildlife movement, including access to nursery sites, foraging habitat, breeding habitat, water sources, or other areas necessary for their life history; therefore, impacts would be less than significant, and no additional mitigation is required.

To further reduce impacts, Implementation of Mitigation Measures **Bio-1, Bio-4, Bio-11** through **Bio-13**, **Bio-15A**, and **Bio-15B** would reduce indirect impacts to sensitive habitats related to CIP projects to less than significant, thereby reducing indirect impacts to wildlife corridors.

Other District Pipeline projects

ODP Category A Projects listed in Appendices C-1 and C-2 have the potential to result in direct impacts to sensitive natural communities; however, these impacts would be localized, and the individual project areas would be restricted to the greatest extent feasible such that the width of existing wildlife corridors and linkages would not be affected or reduced. Because the majority of ODP project components are underground utilities, impacts within sensitive natural communities would primarily be temporary without permanent obstacles or impediments to wildlife. Small above-ground elements (i.e., small generators, lift stations, pressure stations, and pump stations) are also proposed; however, these components are small, generally less than 0.1 acre in size, and would allow continued access to open habitat surrounding each component. Furthermore, the components are generally located within and/or adjacent to existing disturbed lands or development, reducing the potential for wildlife use. ODP project activities have the potential to temporarily disrupt local wildlife movement areas. These potential disruptive effects would be minimal, and wildlife would be expected to move back into the area once activities have ceased. Existing wildlife corridors and linkages would continue to function in their current capacity; therefore, impacts would be less than significant, and no additional mitigation is required.

To further reduce impacts, Implementation of Mitigation Measures **Bio-1, Bio-4, Bio-11** through **Bio-13**, **Bio-15A**, and **Bio-15B** would reduce indirect impacts to sensitive habitats related to ODP projects to less than significant, thereby reducing indirect impacts to wildlife corridors.

Maintenance Projects

Maintenance projects will occur on, within, and/or immediately surrounding the existing District facilities, pipelines, and components primarily located within disturbed habitat or developed lands; therefore, impacts to wildlife corridors and linkages are not expected. If required, additional impacts outside of existing facility easements, facility maintenance easements, and/or developed facility footprints would be addressed under CIP and ODP projects. Maintenance projects would be localized, and the individual project areas would be restricted to the greatest extent feasible such that the width of existing wildlife corridors and linkages would not be affected or reduced. Maintenance activities would not alter wildlife movement, including access to nursery sites, foraging habitat, breeding habitat, water sources, or other areas necessary for their life history, due to the disturbed and developed nature of these project sites. Existing wildlife corridors and linkages would continue to function in their current capacity; therefore, impacts would be less than significant, and no additional mitigation is required.

To further reduce impacts, implementation of mitigation measures **Bio-4** and **Bio-14** would reduce indirect impacts to sensitive habitats related to maintenance projects to less than significant, thereby reducing indirect impacts to wildlife corridors.

3.4.2 Mitigation Measures

No mitigation is required

3.4.3 Conclusion

CIP, ODP project, and maintenance projects impacts related to wildlife corridors would be less than significant with the implementation of mitigation measures **Bio-1, Bio-4,** and **Bio-11** through **Bio-15B**.

3.5 ISSUE 5: LOCAL POLICIES AND ORDINANCES

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

3.5.1 Analysis of Project Effects

No Impact. No local policies or ordinances pertaining to biological resources are applicable to the project.

CIP Projects

Most of the CIP projects are either below-ground facilities, such as pipelines and pressure-reducing stations, or improvements or upgrades to existing infrastructure. Underground facilities, improvements to existing facilities, replacement of existing structures, and construction of new facilities on sites would not conflict with local policies or ordinances. CIP projects listed in Table 2 have the potential for direct and indirect impacts to impact biologically sensitive species, habitat, and wetlands. Implementation of mitigation measures **Bio-1** through **Bio-17**, which would avoid and minimize impacts to these CIP projects and would comply with local policies and ordinances. Therefore, implementation of the CIP projects would not conflict with local policies or ordinances protecting biological resources.

Other District Pipeline projects

As with the CIP projects, the implementation of mitigation measures **Bio-1** through **Bio-17** would avoid and minimize impacts for ODP Category A Projects and ODP Category B Projects identified in Appendices C-1, C-2, D-1, and D-2 that have the potential for direct and indirect impacts to biologically sensitive species, habitat, and wetlands, which would be consistent with the goals of the local policies and ordinances. Implementation of the ODP projects would not conflict with local policies or ordinances protecting biological resources.

Maintenance Projects

As discussed in Section 1.2.3, maintenance projects will occur on, within, and/or immediately surrounding the existing facilities primarily located within disturbed habitat or developed lands; therefore, impacts to biologically sensitive species, habitat, and wetlands are not anticipated. Implementation of mitigation measures **Bio-4** and **Bio-14** for maintenance projects would avoid and minimize impacts for projects that have the potential for impacts to biologically sensitive resources, which would be consistent with the goals of the local policies and ordinances. Implementation of maintenance projects would not conflict with local policies or ordinances protecting biological resources.

3.5.2 Mitigation Measures

No additional mitigation is required.

3.5.3 Conclusion

The CIP, ODP project, and maintenance projects would not conflict with local policies or ordinances protecting biological resources.

3.6 ISSUE 6: ADOPTED CONSERVATION PLANS

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

3.6.1 Analysis of Project Effects

No Impact. No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan are applicable to the project.

CIP Projects

CIP projects would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, and other approved local, regional, or state habitat conservation plan as the Service Area does not occur within an adopted plan. Nevertheless, implementation of mitigation measures **Bio-1** through **Bio-17** would reduce or avoid impacts for projects that have the potential for impacts to biologically sensitive habitats and resources, which would be consistent with the goals of the North County Draft MSCP plan.

Other District Pipeline projects

While the Service Area does not occur within an adopted plan, the implementation of ODP projects would be consistent with the goals of the proposed North County Draft MSCP plan. Implementation of mitigation measures **Bio-1** through **Bio-17** would avoid or minimize impacts to biologically sensitive resources related to ODP projects; therefore, implementation of the ODP projects would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Maintenance Projects

As with the CIP and ODP projects, the implementation of mitigation measures **Bio-4** and **Bio-14** for maintenance projects would reduce or avoid impacts for projects that have the potential for impacts to biologically sensitive resources. As discussed in Section 1.2.3, maintenance projects will occur on, within, and/or immediately surrounding the existing facilities primarily located within disturbed habitat or developed lands. Implementation of the maintenance projects would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan and would be consistent with the goals of the North County Draft MSCP plan.

3.6.2 Mitigation Measures

No additional mitigation is required.

3.6.3 Conclusion

The CIP, ODP project, and maintenance projects would not conflict with habitat conservation plans, and there would be no significant impacts.

4.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

The proposed project has the potential to cause significant impacts to special-status plant and animal species, sensitive natural communities, jurisdictional wetlands, and/or riparian habitats as defined by the USACE, RWQCB, and CDFW (Table 10, *Summary of Potentially Significant Biological Resources Impacts*). In each case, however, the identified significant impact can be mitigated to a less than significant level. Table 11, *Summary of Biological Resources Mitigation Measures*, provides a summary of the proposed mitigation measures.

Table 10
SUMMARY OF POTENTIALLY SIGNIFICANT BIOLOGICAL RESOURCES IMPACTS

Criteria	Project Activity	
	CIP Projects	**ODP Projects**
Issue 1: Special-Status Species	**Potentially Significant Impact (Bio-4 – Bio-14)**	**Potentially Significant Impact (Bio-1 – Bio-14)**
Issue 2: Riparian Habitat and Sensitive Natural Communities	**Potentially Significant Impact (Bio-15A and Bio-15B)**	**Potentially Significant Impact (Bio-15A and Bio-15B)**
Issue 3: Jurisdictional Wetlands and Waterways	**Potentially Significant Impact (Bio-16 - Bio-17)**	**Potentially Significant Impact (Bio-16 - Bio-17)**
Issue 4: Wildlife Movement and Nursery Sites	Less than Significant Impact	Less than Significant Impact
Issue 5: Local Policies, and Ordinances	No Impact	No Impact
Issue 6: Adopted Conservation Plans	No Impact	No Impact

Table 11
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
Direct and indirect impacts to special-status plant and animal species due to habitat modification (Guideline Number 3.1)	**Bio-1**	**Project Specific Biological Resource Surveys**. Prior to the construction of CIP projects listed in Table 2 and ODP Category A and Category B Projects identified in Appendices C-1, C-2, D-1, and D-2 that will be sited within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District shall retain a qualified biologist to perform a pre-construction survey to verify existing biological resources on and adjacent to the project construction areas. The District shall provide the biologist with a copy of the CIP and ODP project plans that clearly depict the construction work limits, including construction staging and storage areas, in order to determine which specific portion(s) of the project will require inspection of adjacent open space areas during the pre-construction survey. The surveys shall verify whether the project would occur on or in the immediate vicinity of sensitive natural communities, including habitat suitable for special-status species, in addition to potential jurisdictional aquatic resources. The surveys shall also verify whether the project could result in direct or indirect impacts to sensitive natural communities, special-status species, and potential jurisdictional aquatic resources. The survey results shall be submitted to the District to determine the need for additional environmental compliance actions. If suitable habitat for special-status plant species is confirmed within or immediately adjacent to potential impact areas of the projects, then the District shall implement mitigation measure **Bio-2**. If suitable habitat for special-status wildlife species is confirmed within or immediately adjacent to potential impact areas of the projects, then the District shall implement mitigation measure **Bio-3**. If potential impacts to sensitive natural communities are identified, then the District shall implement mitigation measure **Bio-15B**. If potential jurisdictional aquatic resources are identified within areas proposed to be impacted, then the District shall implement mitigation measure **Bio-16**. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District.	Less than significant
Direct impacts to special-status plant species due to habitat modification	**Bio-2**	**Rare Plant Surveys, Avoidance, and Mitigation.** If it is confirmed through the implementation of mitigation measure **Bio-1** that the CIP and ODP project components could impact suitable habitat for special-status (rare) plant species, the District shall retain a qualified biologist to conduct focused presence/absence surveys for rare plants prior to project construction. Surveys shall	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
(Guideline Number 3.1)		follow protocols and guidelines approved by the USFWS, CDFW, and CNPS, and shall be conducted by qualified biologists. If a significant population of rare plant species with CNPS California Rare Plant Rank 1A, 1B, 2A, or 2B is identified within a project impact area, then to the extent feasible to implement the project, the District shall avoid impacts to the population through project-level design changes and/or construction methods (e.g., trenchless installation of pipelines) in consultation with the USFWS and the CDFW. Prior to initiating construction activities, the District shall require that the rare plant locations detected during project-specific rare plant surveys are clearly shown on final construction plans. The District shall further require that the locations are demarcated in the field by a qualified biologist and protected-in-place through the installation of temporary construction fencing or alternative means that are approved by the qualified biologist. The qualified biologist shall monitor construction activities, as appropriate, to help ensure avoidance of the areas. A final compliance report shall be prepared by the qualified biologist and submitted to the District, CDFW, and USFWS for record, verifying that no impacts occurred to the species. Any inadvertent and unavoidable impacts shall be mitigated as specified below: If complete avoidance is determined not to be feasible, then the District shall restrict and minimize impacts to no more than 20 percent of the population, which is consistent with regional conservation standards. Mitigation for unavoidable impacts shall include one or a combination of the following and occur at a minimum of a ratio of 1:1, as determined by the District in consultation with the CDFW and USFWS: a. Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and the CDFW; b. Acquisition and preservation of off-site mitigation land containing occupied habitat; and/or c. Preparation and implementation of a rare plant salvage and relocation plan, to include the following requirements, at a minimum: i. Evaluation of options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within existing or proposed preserved lands;	

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
		ii. Seed collection and/or transplantation to a suitable receptor site based on the most reliable methods of successful relocation; iii. Recommendation for the method of salvage and relocation/application based on feasibility of implementation and likelihood of success; and iv. Implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District, USFWS, and/or CDFW.	
Direct and indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-3**	**Special-Status Wildlife Species Surveys, Avoidance, and Mitigation.** If it is confirmed through the implementation of mitigation measure **Bio-1** that the CIP and ODP project components could directly or indirectly impact suitable habitat for special-status wildlife species, the District shall retain a qualified biologist to conduct focused, protocol-level surveys for special-status wildlife species prior to project implementation. Surveys shall follow protocols and guidelines approved by the USFWS and the CDFW and shall be conducted by qualified biologists permitted by the USFWS and the CDFW, as applicable. Impacts to federally-listed species shall require consultation with the USFWS and impacts to state-listed species shall require consultation with the CDFW as specified below. If special-status wildlife species are identified within a project impact area, the District shall, in coordination with the CDFW and USFWS, as applicable, avoid impacts to occupied habitat through project-level design changes and/or construction methods (e.g., trenchless installation of pipelines) prior to project implementation. If complete avoidance is determined not to be feasible, then the District shall compensate for the loss of occupied habitat through one or a combination of the following at a minimum ratio of 1:1, as determined by the District-in consultation with the CDFW and USFWS, as applicable: a. Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and the CDFW; b. Acquisition and preservation of off-site mitigation land containing occupied habitat; and c. Where species protected under Federal law may be impacted, the District shall either consult directly with the USFWS to develop and implement a habitat conservation plan and obtain an Incidental Take Permit pursuant to the Federal Endangered Species Act Section 10(a), obtain	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
		take coverage in coordination with the County of San Diego, if applicable, or in the case of projects with a federal action agency, the District shall adhere to the requirements of Federal Endangered Species Act Section 7, which requires the federal action agency to consult with the USFWS to obtain a Biological Opinion and Incidental Take Statement for the project; or Where species protected under state law may be impacted, the District shall either consult with the CDFW pursuant to Sections 2081 or 2080.1 of the California Endangered Species Act. For projects with direct or indirect impacts to species that are only State-listed and not federally-listed as endangered or threatened, the District shall obtain a California Endangered Species Act Section Incidental Take Permit from CDFW. For projects with impacts to species that are both state- and federally-listed as endangered or threatened, the District shall obtain a California Endangered Species Act Section 2080.1 Consistency Determination from CDFW, unless otherwise required by CDFW. Off-site mitigation for impacts to special-status wildlife may also be used for off-site mitigation of impacts to sensitive communities and jurisdictional waters. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District, USFWS, USACE, and/or CDFW.	

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
Direct and indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-4**	**Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the District shall enforce the following: Project activities requiring the removal and/or trimming of vegetation suitable for nesting birds shall occur outside of the general bird breeding season (February 1 to September 30) to the extent feasible. If the activities cannot avoid the general bird breeding season, a qualified biologist with experience in conducting bird breeding surveys shall be retained to conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed with the reassurance that no violation of the MBTA and CFG Code would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Avoidance buffers should start at 300 feet for passerine birds and 500 feet for raptors. The buffer should be demarcated by temporary fencing and remain in effect until the nest is no longer active. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, and other factors, as determined by the qualified biologist. Timing/Implementation: Prior to and during construction. Enforcement/Monitoring: District, USFWS, and/or CDFW.	Less than significant
Direct and indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-5**	**Coastal California Gnatcatcher Pre-Construction Surveys and Avoidance.** CIP projects listed in Table 2 are located within and adjacent to suitable coastal California gnatcatcher habitat. CIP projects 600002, 600067, 530020, and 5300XX-6 are located within 500 feet of historical observations. In addition, CIP projects 600002, 600048, 600050, 600051, 600061, 600066, 600068, 600070, 530018, 530020, 5300XX-1, 5300XX-4, 5300XX-5, and 5300XX-6 are located within designated critical habitat. If construction activities are planned to occur during the coastal California gnatcatcher breeding season (February 15 to August 30), then prior to initiating construction activities on or within 500 feet of off-site suitable coastal California gnatcatcher habitat, the District shall retain a USFWS-permitted biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The survey efforts shall consist of three surveys spaced one week apart, with the final survey occurring no more than three days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If gnatcatchers are confirmed to be	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
		absent on and within 500 feet of planned construction areas, then no additional measures shall be required. If gnatcatchers are confirmed to be present, then the District shall mitigate as specified below or unless otherwise prescribed by the USFWS through the implementation of mitigation measure **Bio-3**: If the results of the pre-construction surveys determine the presence of coastal California gnatcatcher within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the gnatcatcher breeding season (February 15 to August 30). If activities at these locations cannot avoid the gnatcatcher breeding season, then the District shall implement required monitoring pursuant to mitigation measures **Bio-10** and **Bio-11**, unless otherwise prescribed by the USFWS through the implementation of mitigation measure **Bio-3**. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures **Bio-12** and **Bio-13**. If, after implementation of mitigation measures **Bio-10** and **Bio-11**, construction noise levels during the gnatcatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied gnatcatcher habitat, then the District shall implement mitigation measure **Bio-3** or complete the remainder of construction activities outside of the gnatcatcher breeding season. Timing/Implementation: Prior to and during construction. Enforcement/Monitoring: District, USFWS, and/or CDFW.	
Direct and indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-6**	**Stephens' Kangaroo Rat Pre-construction Surveys and Avoidance.** CIP projects 600002, 600040, and 600061 are located within potentially suitable Stephens' kangaroo rat habitat, and CIP project 600026 is located within 500 feet of a historical Stephens' kangaroo rat observation. Prior to initiating construction activities within potentially suitable Stephens' kangaroo rat habitat, the District shall retain a USFWS-permitted biologist to conduct protocol surveys to confirm the presence or absence of the species. The survey efforts shall consist of live trapping within suitable habitat over five consecutive nights. If Stephens' kangaroo rat are confirmed to be absent on and within 500 feet of planned construction areas, then no additional measures shall be required. If kangaroo rats are confirmed to be present, then the District shall mitigate as specified below or unless otherwise prescribed by the USFWS through the implementation of mitigation measure **Bio-3**:	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
		If the results of the protocol surveys determine the presence of Stephens' kangaroo rat, then the District shall implement required monitoring pursuant to mitigation measures **Bio-10** and **Bio-11**, unless otherwise prescribed by the USFWS through the implementation of mitigation measure **Bio-3**. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures **Bio-12** and **Bio-13**. Timing/Implementation: Prior to and during construction. Enforcement/Monitoring: District, USFWS, and/or CDFW.	
Direct and indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-7**	**Least Bell's Vireo Pre-construction Surveys and Avoidance.** CIP projects listed in Table 2 are located within and adjacent to suitable least Bell's vireo habitat. CIP projects 600002, 600063, 600071, 530020, and 5300XX-7 are located within 500 feet of historical observations. In addition, CIP projects 530020, 5300XX-4, 5300XX-5, and 5300XX-7 are located within designated critical habitat. Unavoidable impacts to least Bell's vireo shall mitigate as specified below: If construction activities are planned to occur during the least Bell's vireo breeding season (March 15 to September 15), then prior to initiating construction activities in any project construction areas within 500 feet of least Bell's vireo critical habitat or suitable habitat, the District shall retain a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If vireos are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If vireo are confirmed to be present, then the District shall mitigate as specified below: If the results of pre-construction surveys determine the presence of least Bell's vireo within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the vireo breeding season (March 15 to September 15). If activities at these locations cannot avoid the vireo breeding season, then the District shall implement required monitoring pursuant to mitigation measures **Bio-10** and **Bio-11**. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures **Bio-12** and **Bio-13**. If, after implementation of mitigation measures **Bio-10** and **Bio-11**, construction noise levels during the vireo breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds the 60 dBA hourly average from the edge of occupied vireo habitat,	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
		then the District shall implement mitigation measures **Bio-3** or complete the remainder of construction activities outside of the vireo breeding season. Timing/Implementation: Prior to and during construction. Enforcement/Monitoring: District, USFWS, and/or CDFW.	

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
Direct and indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-8**	**Southwestern Willow Flycatcher Pre-construction Surveys and Avoidance.** CIP projects listed in Table 2 are located within and adjacent to suitable southwestern willow flycatcher habitat. No CIP projects are located within 500 feet of a historical observation or within designated critical habitat. Unavoidable impacts to southwestern willow flycatcher shall mitigate as specified below: If construction activities are planned to occur during the southwestern willow flycatcher breeding season (May 15 and July 17), then prior to initiating construction activities in any project construction areas within 500 feet of southwestern willow flycatcher critical habitat or suitable habitat, the District shall retain a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If flycatcher are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If flycatcher are confirmed to be present, then the District shall mitigate as specified below: If the results of pre-construction surveys determine the presence of southwestern willow flycatcher within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the flycatcher breeding season (May 15 and July 17). If activities at these locations cannot avoid the flycatcher breeding season, then the District shall implement required monitoring pursuant to mitigation measures **Bio-10** and **Bio-11**. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures **Bio-12** and **Bio-13**. If, after implementation of mitigation measures **Bio-10** and **Bio-11**, construction noise levels during the flycatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied vireo habitat, then the District shall implement mitigation measure **Bio-3** or complete the remainder of construction activities outside of the flycatcher breeding season. Timing/Implementation: Prior to and during construction. Enforcement/Monitoring: District, USFWS, and/or CDFW.	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
Direct and indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-9**	**Pre-Construction Biological Resource Surveys.** Prior to the construction of ODP projects listed in Appendices C and D that will be sited adjacent to or within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District shall retain a qualified biologist to perform a pre-construction survey to verify existing biological resources adjacent to the project construction areas. The District shall provide the biologist with a copy of the ODP project plans that clearly depict the construction work limits, including construction staging and storage areas, in order to determine which specific portion(s) of the project will require inspection of adjacent open space areas during the pre-construction survey. At a minimum, the biologist shall perform a visual inspection of the adjacent open space area in order to characterize the existing habitat types and determine the likelihood for special-status species to occur, including the Quino checkerspot butterfly, arroyo toad, western spadefoot toad, San Diego fairy shrimp, Riverside fairy shrimp, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, migratory songbirds, and other bird species with the potential to breed in the area. The biologist's inspection shall include all potential habitat for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher that occurs within 500 feet of construction areas. The pre-construction survey results shall be submitted to the District prior to construction in order to verify the need for the additional construction measures proposed within **Bio-10** through **Bio-13** below. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District.	Less than significant
Indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-10**	**Construction-Related Noise**. Construction noise created during the general bird breeding season (February 1 to September 30) that could affect the breeding of the coastal California gnatcatcher, least Bell's vireo, and/or southwestern willow flycatcher, and associated with adjacent undeveloped areas, shall be avoided. No loud construction noise (exceeding a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average, adjusted for ambient noise levels, at the nesting site) may take place within 500 feet of active nesting sites during the general breeding season (February 1 to September 30). If it is confirmed through the implementation of mitigation measures **Bio-1, Bio-3**, and **Bio-5** through **Bio-9** that the CIP and ODP projects could generate construction-related noise in excess of 60 dBA or to the ambient noise level if it already exceeds 60 dBA hourly average at the location of suitable nesting habitat during the general breeding season for coastal California gnatcatcher least Bell's vireo and/or southwestern willow flycatcher, the District shall retain a qualified biologist to	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
		monitor the construction operations. The biological monitor shall be present to monitor construction activities that occur adjacent to the undeveloped open space area potentially supporting breeding birds. The monitor shall verify that construction noise levels do not exceed a 60 dBA hourly average or to the ambient noise level and shall have the ability to halt construction work, if necessary, and confer with the District, and if applicable, the USFWS and CDFW, to ensure no breeding birds are adversely affected, and additional protection measures are properly implemented during construction. The biologist shall report any violation to the USFWS and the CDFW within 24 hours of its occurrence. Timing/Implementation: Prior to and during construction. Enforcement/Monitoring: District, USFWS, and/or CDFW.	

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
Direct and indirect impacts to special-status animal species (Guideline Number 3.1)	**Bio-11**	**Biological Construction Monitoring and Temporary Construction Fencing**. If it is confirmed through the implementation of mitigation measures **Bio-1, Bio-2**, and/or **Bio-3** that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, then the District shall retain a qualified biologist to monitor construction activities and supervise the installation of temporary construction fencing, which clearly delineates the edge of the approved limits of grading and clearing, and the edges of environmentally sensitive areas that occur beyond the approved limits. This fencing shall be installed prior to construction and maintained for the duration of construction activity. Fencing shall be installed in a manner that does not impact habitats to be avoided. Once the fencing is installed, the District and qualified biologist shall determine the need for additional inspections and monitoring activities throughout the duration of construction. If determined necessary by the District and qualified biologist, the monitoring shall include inspection of construction work areas, including staging and storage areas, to confirm that activities are kept within the approved limits and that Best Management Practices are in place to prevent incidental animal entrapment and burrow and nest establishment within equipment and staged materials. If work occurs beyond the fenced or demarcated limits of impact, or if a trapped animal or burrow or nest is found, work in the affected areas shall cease until the problem has been remedied and mitigation identified by the District and qualified biologist. Temporary construction fencing shall be removed upon completion of construction of the project. The District shall verify the implementation of this measure prior to and concurrent with construction. Timing/Implementation: Prior to and during construction. Enforcement/Monitoring: District.	Less than significant
Direct and indirect impacts to special-status plant and animal species (Guideline Number 3.1)	**Bio-12**	**Construction Staging Areas**. If it is confirmed through the implementation of mitigation measures **Bio-1, Bio-2**, and/or **Bio-3** that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, the District shall design the final project construction staging areas such that no staging areas shall be located within sensitive habitat areas. The construction contractor shall receive approval by the District prior to mobilization and staging of equipment outside of the project boundaries. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District.	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
Direct and indirect impacts to special-status plant and animal species (Guideline Number 3.1)	**Bio-13**	**Contractor Training.** If it is confirmed through the implementation of mitigation measures **Bio-1, Bio-2**, and/or **Bio-3** that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, the District shall retain a qualified biologist to attend pre-construction meetings to inform construction crews of the sensitive resources and associated avoidance and/or minimization requirements. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District.	Less than significant
Indirect impacts to special-status plant and animal species, riparian habitat and sensitive natural communities, and jurisdictional wetlands and waterways due to habitat modification (Guideline Numbers 3.1, 3.2, and 3.3)	**Bio-14**	**Maintenance Project Compliance.** Maintenance activities will occur within existing or previously disturbed or developed areas such as a facility easement, facility maintenance easement, and/or developed facility footprint. Vegetation clearing and removal will be limited to non-native and invasive species to the extent feasible; however, the trimming of native species is allowable. Additional studies, as specified in mitigation measure **Bio-1**, may be required for impacts outside of existing facility footprints. Furthermore, maintenance projects will implement appropriate BMPs, where applicable, to avoid and minimize potential indirect impacts to special-status species, their habitat, and potentially jurisdictional areas from water pollution during project activities. Maintenance activities will occur outside of the general bird breeding season (February 1 to September 30). In addition, maintenance activities will occur outside of the coastal California gnatcatcher (February 15 to August 30), least Bell's vireo (March 15 to September 15), and southwestern willow flycatcher (May 15 to July 17) breeding seasons. If activities cannot avoid the gnatcatcher and occur within 500 feet of suitable gnatcatcher habits (i.e., Diegan coastal sage scrub), the project shall implement mitigation measure **Bio-5**. If activities cannot avoid the vireo and/or flycatcher breeding seasons, and occur within 500 feet of suitable vireo and flycatcher habitat (i.e., riparian scrub, woodland, and forest), the project shall implement mitigation measures **Bio-7** and **Bio-8**. Timing/Implementation: Prior to and during project operations. Enforcement/Monitoring: District.	Less than significant
Direct impacts to riparian habitat and sensitive natural communities due to	**Bio-15A**	**Compensatory Mitigation for Project Impacts to Sensitive Upland Communities.** If it is demonstrated through the implementation of mitigation measure **Bio-1** that the project, CIP or ODP, could directly impact sensitive upland communities, the District shall mitigate for the loss of habitat according to the ratios provided in Table 5 and Table 6, unless otherwise specified in the	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
habitat modification		required agency permits and approvals. Off-site mitigation for impacts to special-status wildlife may also be used for off-site mitigation of impacts to sensitive upland communities. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District, USFWS, and/or CDFW.	
(Guideline Number 3.2)	**Bio-15B**	**Compensatory Mitigation for Project Impacts to Sensitive Wetland/Riparian Communities**. If it is demonstrated through the implementation of mitigation measure **Bio-1** that the project, CIP or ODP, could directly impact sensitive wetland and/or riparian communities, the District shall mitigate for the loss of habitat according to the ratios provided in Table 7 and Table 8, unless otherwise specified in required agency permits and approvals. To comply with state and federal regulations for impacts to jurisdictional resources regulated by the United States and the State of California, prior to project approval or implementation the District shall either obtain the following permits and agreements or evidence from the respective agency that such permit or agreement is not required if development activities are proposed within jurisdictional waters: A Clean Water Act section 404 permit issued by the U.S. Army Corps of Engineers for all project-related disturbances of jurisdictional non-wetland waters. A Clean Water Act section 401 permit issued by the Regional Water Quality Control Board for all project-related disturbances of jurisdictional non-wetland waters. A Section 1602 Streambed Alteration Agreement issued by the California Department of Fish and Wildlife for all project-related disturbances of any streambed and associated riparian habitat. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District, USFWS, USACE, RWQCB, and/or CDFW.	Less than significant
Direct impacts to jurisdictional wetlands and waterways due to habitat modification (Guideline Number 3.3)	**Bio-16**	**Project-Level Jurisdictional Delineations**. If it is demonstrated through the implementation of mitigation measure **Bio-1** that a CIP and/or ODP project could impact potential jurisdictional waters and/or wetlands, the District shall retain a qualified biologist to perform formal jurisdictional delineations of the project sites prior to project approval and implementation. If the formal jurisdictional delineations determine that there are no resources present that could be subject to the regulatory jurisdiction of the USACE, RWQCB, or CDFW, then no further action shall be required. However, if the formal jurisdictional delineations determine that the features are	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
		subject to USACE, RWQCB, and/or CDFW jurisdiction, then the District shall avoid and/or minimize impacts through redesign and/or implementing trenchless construction methods (i.e., jack-and-bore or horizontal directional drilling) and obtain USACE, RWQCB, and/or CDFW concurrence prior to project implementation that impacts have been avoided. If concurrence is not obtained, the District shall implement mitigation measure **Bio-15B**. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District, USACE, RWQCB, and/or CDFW.	
Direct impacts to jurisdictional wetlands and waterways due to habitat modification (Guideline Number 3.3)	**Bio-17**	**Compensatory Mitigation for Impacts to Jurisdictional Resources**. Compensatory mitigation in accordance with the permit conditions imposed by the USACE, RWQCB, and CDFW, for the unavoidable impacts to jurisdictional waters and wetlands would include one or a combination of the following measures: • Purchase of preservation, establishment, re-establishment, rehabilitation, and/or enhancement credits from a mitigation bank approved by the USACE and CDFW, such as the San Luis Rey Mitigation Bank, Brook Forest Conservation and Mitigation Bank, or another approved mitigation bank in the region; or • Implement Permittee-responsible preservation, establishment, re-establishment, rehabilitation, and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. • Plans for restoration or revegetation should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on-site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for the conservation of the mitigation. A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area, and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. Off-site	Less than significant

Impact Summary	MM No.	Mitigation Measure	Level of Significance After Mitigation
		mitigation for impacts to jurisdictional waters may also be used for off-site mitigation of impacts to sensitive communities and special-status wildlife. Timing/Implementation: Prior to construction. Enforcement/Monitoring: District, USFWS, USACE, RWQCB, and/or CDFW.	

5.0 CERTIFICATION/QUALIFICATION

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Appendix A

Special Status Plant Species with Potential to Occur

Common Name	Scientific Name	Status			Habitat Associations
		Federal[1]	State[2]	CNPS[3]	
NON-VASCULAR					
Bryophytes					
Bottle liverwort	*Sphaerocarpos drewei*	--	--	1B.1	Grows in shady spots in coastal sage scrub.
California screw moss	*Tortula californica*	--	--	1B.2	Grows on sandy, soil in chenopod scrub and valley and foothill grassland.
Shevock's copper moss	*Mielichhoferia shevockii*	--	--	1B.2	Cismontane woodland.
VASCULAR					
Angiosperms – Monocotyledons					
Chaparral nolina	*Nolina cismontana*	--	--	1B.2	Chaparral, coastal scrub.
Orcutt's brodiaea	*Brodiaea orcuttii*	--	--	1B.1	Vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows and seeps.
Prairie false oat	*Sphenopholis interrupta ssp. californica*	--	--	1B.1	Previously thought to be extinct. Rediscovered in Carlsbad. Found within a vernal pool (CDFW 2020)
Thread-leaved brodiaea	*Brodiaea filifolia*	FT	SE	1B.1	Clay, chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pools.
Yucaipa onion	*Allium marvinii*	--	--	1B.2	Clay, chaparral.
Angiosperms – Dicotyledons					
Alkali marsh aster	*Almutaster pauciflorus*	--	--	2B.2	Alkali Sink, wetland-riparian.
Blochman's dudleya	*Dudleya blochmaniae ssp. blochmaniae*	--	--	1B.1	Coastal Sage Scrub, Valley Grassland.
Chaparral ragwort	*Senecio aphanactis*	--	--	2B.2	Open coastal scrub, cismontane woodland, and alkaline flats
Chaparral sand-verbena	*Abronia villosa var. aurita*	--	--	1B.1	Sandy floodplains, flats inland, areas of sage scrub, open chaparral
cliff spurge	*Euphorbia misera*	--	--	2B.2	Sea bluffs in maritime sage scrub.
Coulter's goldfields	*Lasthenia glabrata ssp. coulteri*	--	--	1B.1	Coastal salt marsh, upper end of tidal inundation areas, and vernal pools.

Common Name	Scientific Name	Status			Habitat Associations
		Federal[1]	State[2]	CNPS[3]	
Decumbent goldenbush	*Isocoma menziesii var. decumbens*	--	--	1B.2	Coastal sage scrub, grasslands.
Delicate clarkia	*Clarkia delicata*	--	--	1B.2	Oak woodlands and cismontane chaparral.
Felt-leaved monardella	*Monardella hypoleuca ssp. lanata*	--	--	1B.2	Chaparral understory, typically beneath mature stands of chamise in xeric situations.
Gander's ragwort	*Packera ganderi*	--	SR	1B.2	Chaparral.
Hall's monardella	*Monardella macrantha ssp. hallii*	--	--	1B.3	Lower montane coniferous forest and montane chaparral.
Heart-leaved pitcher sage	*Lepechinia cardiophylla*	--	--	1B.2	Chaparral, cismontane woodland, and closed-cone coniferous forest.
Intermediate monardella	*Monardella hypoleuca ssp. intermedia*	--	--	1B.3	Chaparral, cismontane woodland, and lower montane coniferous forest.
Jaeger's milk-vetch	*Astragalus pachypus var. jaegeri*	--	--	1B.1	Chaparral understory with a coastal/desert ecotonal mix of shrubs, Cismontane woodlands, coastal sage scrub, grasslands, sandy, rocky soils.
Latimer's woodland-gilia	*Saltugilia latimeri*	--	--	1B.2	Dry desert slopes, coarse sand to rocky soil.
Long-spined spineflower	*Chorizanthe polygonoides var. longispina*	--	--	1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools.
Many-stemmed dudleya	*Dudleya multicaulis*	--	--	1B.2	Dry, stony places associated with coastal sage scrub and valley grasslands.
mesa horkelia	*Horkelia cuneata var. puberula*	--	--	1B.1	Sandy or gravelly areas in chaparral, coastal sage scrub, and coastal mesas.
Mud nama	*Nama stenocarpa*	--	--	2B.2	Muddy lake edges.
Nevin's barberry	*Berberis nevinii*	FE	SE	1B.1	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub.
Nuttall's scrub oak	*Quercus dumosa*	--	--	1B.1	Chaparral, coastal scrub, north-facing slopes, sandy or clay loam soils.

Common Name	Scientific Name	Status			Habitat Associations
		Federal[1]	State[2]	CNPS[3]	
Orcutt's linanthus	*Linanthus orcuttii*	--	--	1B.3	Open, gravelly areas in montane coniferous forest or chaparral.
Orcutt's pincushion	*Chaenactis glabriuscula var. orcuttiana*	--	--	1B.1	Open Diegan coastal sage scrub.
Palmer's grapplinghook	*Harpagonella palmeri*	--	--	4.2	Clay soils in annual grasslands and coastal sage scrub.
Parry's tetracoccus	*Tetracoccus dioicus*	--	--	1B.2	Chaparral, coastal scrub.
Payson's jewelflower	*Caulanthus simulans*	--	--	4.2	Chaparral or pinyon-juniper woodland.
Rainbow manzanita	*Arctostaphylos rainbowensis*	--	--	1B.1	Chaparral.
Ramona horkelia	*Horkelia truncata*	--	--	1B.3	Chaparral communities and chamise chaparral.
Robinson's pepper-grass	*Lepidium virginicum var. robinsonii*	--	--	4.3	Chaparral, coastal scrub.
Salt spring checkerbloom	*Sidalcea neomexicana*	--	--	2B.2	Alkali playa, chaparral, coastal scrub lower montane coniferous forest, Mojavean desert scrub, and wetland.
San Diego ambrosia	*Ambrosia pumila*	FE	--	1B.1	Chaparral, coastal scrub, valley and foothill grassland.
San Diego button-celery	*Eryngium aristulatum var. parishii*	FE	SE	1B.1	Vernal pools, coastal scrub, valley and foothill grassland.
San Diego sunflower	*Hulsea californica*	--	--	1B.3	Montane coniferous forest and lightly disturbed chaparral.
San Diego thorn-mint	*Acanthomintha ilicifolia*	FT	SE	1B.1	Grassy openings in the chaparral or sage scrub, or near vernal pools.
San Miguel savory	*Clinopodium chandleri*	--	--	1B.2	Coastal Sage Scrub, Foothill Woodland, Chaparral, Valley Grassland
Sand-loving wallflower	*Erysimum ammophilum*	--	--	1B.2	Coastal dunes and coastal strand.
Santiago Peak phacelia	*Phacelia keckii*	--	--	1B.3	Closed-cone Pine Forest, Chaparral.
Slender-horned spineflower	*Dodecahema leptoceras*	FE	SE	1B.1	Sandy soils in chaparral, cismontane woodland, and coastal scrub (alluvial fan).

Common Name	Scientific Name	Status			Habitat Associations
		Federal[1]	State[2]	CNPS[3]	
Smooth tarplant	*Centromadia pungens ssp. laevis*	--	--	1B.1	Valley and foothill grassland, chenopod scrub, meadows, playas, and riparian woodland.
South coast saltscale	*Atriplex pacifica*	--	--	1B.2	Coastal bluff scrub, open Diegan coastal bluff scrub, alkaline flats.
Spreading navarretia	*Navarretia fossalis*	FE	--	1B.1	Vernal pools, vernal swales, or roadside depressions.
Sticky dudleya	*Dudleya viscida*	--	--	1B.2	Coastal Sage Scrub, Chaparral.
Summer holly	*Comarostaphylis diversifolia ssp. diversifolia*	--	--	1B.2	Chaparral and cismontane woodland.
Vail Lake ceanothus	*Ceanothus ophiochilus*	FT	SE	1B.1	Chaparral.
Wart-stemmed ceanothus	*Ceanothus verrucosus*	--	--	2B.2	Xeric chamise chaparral
White rabbit-tobacco	*Pseudognaphalium leucocephalum*	--	--	2B.2	Sandy or gravelly stream locations and canyon bottoms.

1 **Federal Status – FE** = Federally Endangered; **FT =** Federally Threatened; **FC =** Candidate for federal listing; **FD =** Delisted

2 **State Status – SE** = State Endangered; **ST =** State Threatened; **SR =** State Rare.

3 **CNPS – 1A =** Plants presumed extinct in California; **1B =** Plants rare, threatened, or endangered in California and elsewhere; **2 =** Plants rare, threatened, or endangered in California, but more common elsewhere; **3 =** Plants in need of more information; **4 =** Plants of limited distribution. **X.1 =** Seriously endangered in California (>80% of occurrences threatened or high degree and immediacy of threat). **X.2 =** Fairly endangered in California (20-80% of occurrences threatened). **X.3 =** Not very endangered in California (<20% of occurrences threatened or no current threats known)

Source: CDFW 2021; CNPS 2021; USFWS 2021

Appendix B

Special Status Animal Species with Potential to Occur

Common Name	Scientific Name	Status		Habitat
		Federal[1]	State[2]	
INVERTEBRATES				
Crotch bumble bee	*Bombus crotchii*	--	SSC	Grasslands and shrublands
Quino checkerspot butterfly	*Euphydryas editha quino*	FE	--	Open stands of sage scrub and chaparral, adjacent open meadows, old foot trails and dirt roads.
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	--	Typically deep vernal pools and seasonal wetlands at least 30 centimeters deep (Simovich 1990).
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE	--	Seasonally astatic pools which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.
FISH				
Arroyo chub	*Gila orcuttii*	--	SSC	Aquatic animal found in south coast flowing waters.
Tidewater goby	*Eucyclogobius newberryi*	FE	--	Aquatic animal found in coastal lagoons, estuaries, and marshes.
AMPHIBIANS				
Arroyo toad	*Anaxyrus californicus*	FE	SSC	Semi-arid regions near washes, rivers, or intermittent streams, including valley-foothill and desert riparian areas and desert washes.
Western spadefoot	*Spea hammondii*	--	SSC	Occurs primarily in ponds located in grassland habitats but can be found in valley-foothill hardwood woodlands.
REPTILES/INSECTS				
California glossy snake	*Arizona elegans occidentalis*	--	SSC	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.
Coast (San Diego) horned lizard	*Phrynosoma coronatum* (blainvillii population)	--	SSC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions.
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	--	SSC	Found in deserts and semiarid areas with sparse vegetation and open areas and in woodland and riparian areas.
Coronado skink	*Plestiodon skiltonianus interparietalis*	--	WL	Found in grassland, chaparral, pinyon-juniper and juniper sage woodland, and pine-oak and pine forests.
Red-diamond rattlesnake	*Crotalus ruber*	--	SSC	Found in chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.
Orange-throated whiptail	*Aspidoscelis hyperythra*	--	WL	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats.

Common Name	Scientific Name	Status		Habitat
		Federal[1]	State[2]	
South coast gartersnake	*Thamnophis sirtalis pop. 1*	--	SSC	Forest, mixed woodland, grassland, chaparral, near ponds, marshes, or streams.
Southern California legless lizard	*Anniella stebbinsi*	--	SSC	Found in broadleaved upland forest, chaparral, coastal dunes, and coastal scrub.
Two-striped gartersnake	*Thamnophis hammondii*	--	SSC	Permanent and intermittent streams bordered by dense riparian vegetation, but occasionally. associated with vernal pools or stock ponds
Western pond turtle	*Emys marmorata*	--	SSC	Freshwater marshes, creeks, ponds, rivers and streams, particularly where basking sites, deep water retreats.
Western spadefoot	*Spea hammondii*	--	SSC	Open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas.
BIRDS				
American peregrine falcon	*Falco peregrinus anatum*	FC	ST	Agricultural fields, meadows, marshes, and lakes. Nesting usually occurs on cliff ledges or in a scrape in debris.
Bell's sage sparrow	*Artemisiospiza belli belli*	--	WL	Chaparral and sage scrub with modest leaf-litter on the ground.
Burrowing owl	*Athene cunicularia*	--	SSC	Grassland or open scrub habitats.
California black rail	*Laterallus jamaicensis coturniculus*	--	SFP	Wetland habitats.
California least tern	*Sternula antillarum browni*	FE	SFP	Coastal areas adjacent to the ocean.
Coastal cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	--	SSC	Coastal sage scrub with tall *Opuntia* cactus for nesting and roosting.
Coastal California gnatcatcher	*Polioptila californica californica*	FT	SSC	Coastal sage scrub in arid washes, on mesas, and on slopes.
Cooper's hawk	*Accipiter cooperii*	--	WL	Open, interrupted, or marginal type woodland. Nest sites mainly found in riparian growths of deciduous trees in canyon bottoms on river floodplains.
Golden eagle	*Aquila chrysaetos*	--	WL	Found in broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinon and juniper woodlands, upper montane coniferous forest, and valley and foothill grassland.
Least Bell's vireo	*Vireo bellii pusillus*	FE	SE	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet.
Least bittern	*Ixobrychus exilis*	--	SSC	Found in marshlands and borders of ponds and reservoirs which provide ample cover.

Common Name	Scientific Name	Status		Habitat
		Federal[1]	State[2]	
Light-footed Ridgeway's rail	*Rallus obsoletus levipes*	FE	SFP	Salt marshes and lagoons.
Northern harrier	*Circus hudsonius*	--	SSC	Open grassland and marsh.
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	--	WL	Found in coastal sage scrub and sparse mixed chaparral.
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE	SE	Riparian woodlands.
Swainson's hawk	*Buteo swainsoni*	--	ST	Found in prairie and dry grasslands.
Tri-colored blackbird	*Agelaius tricolor*	--	ST	Marsh habitat near grasslands, pastures, and agricultural fields.
White-faced ibis	*Plegadis chihi*	--	WL	Occurs in marsh, swamp, and wetland.
White-tailed kite	*Elanus leucurus*	--	SFP	Riparian woodlands and oak or sycamore groves adjacent to grassland.
Yellow-billed cuckoo	*Coccyzus americanus*	FT	SE	Inhabits riparian forests.
Yellow-breasted chat	*Icteria virens*	--	SSC	Summer resident that inhabits riparian thickets of willow and other brushy tangles near watercourses.
Yellow warbler	*Setophaga petechia*	--	SSC	Found in riparian forest, riparian scrub, and riparian woodland.
MAMMALS				
American badger	*Taxidea taxus*	--	SSC	Open plains and prairies, farmland, and sometimes edges of woods.
Dulzura pocket mouse	*Chaetodipus californicus femoralis*	--	SSC	Found in coastal scrub, chaparral, and grasslands.
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	--	SSC	Gravelly soils in desert areas, often in rolling terrain or in areas with ravines or rock outcroppings. Associated with sage scrub plants and yucca.
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	--	SSC	Open areas of coastal sage scrub and weedy growth, often on sandy substrates.
Pallid bat	*Antrozous pallidus*	--	SSC	Deserts and canyons.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	--	SSC	Desert; roosts in rock outcrops
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	--	SCC	Open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas
San Diego desert woodrat	*Neotoma lepida intermedia*	--	SSC	Moderate to dense canopies of coastal scrub. Abundant in rock outcrops, rocky cliffs, and slopes.
Stephens' kangaroo rat	*Dipodomys stephensi*	FE	ST	Found in coastal scrub, valley and foothill grassland.
Townsend's big-eared bat	*Corynorhinus townsendii*	--	SSC	Deserts scrubs as well as pine and piñon-juniper forests.

Common Name	Scientific Name	Status		Habitat
		Federal[1]	State[2]	
Western mastiff bat	*Eumops perotis californicus*	--	SSC	Chaparral and where coast live oaks are found.
Western yellow bat	*Lasiurus xanthinus*	--	SSC	Found in wooded areas and desert scrub.

[1] Federal Status – FE = Federally Endangered; FT = Federally Threatened; FC = Candidate for federal listing; FD = Delisted

[2] State Status – SE = State Endangered; ST = State Threatened; SFP = State Fully Protected; SSC = State Species of Special Concern; WL = State Watch List

Source: CDFW 2021, USFWS 2021

Appendix C-1

ODP Water Projects with High to Moderate Potential to Result in Significant Direct and Indirect Impacts to Biological Resources

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A1.1	LINE A-18703B	Yes-CH	Yes	AG DCSS SCLORF SMC	DCSS SCLORF SMC	Yes	Yes
A1.2	LINE A3663E	Yes-CH	Yes	DCSS SMC	DCSS SCLORF SMC	No	Yes
A1.3	LINE R680	No	No	AG	None	Yes	Yes
A1.4	LINES A-17 & A-16703A	Yes-CH	Yes	DCSS	DCSS SCLORF	Yes	Yes
A1.5	LOS BANCOS 8" BRANCH LINE683B	Yes	Yes	AG DCSS SWS	DCSS SWS	Yes	Yes
A1.6	MEISNER CROSSING (Blueprint only)I1	Yes-CH	Yes	DCSS	DCSS SCLORF	Yes	Yes
A1.7	MEISNER LINE (Blueprint Only)MLBP	Yes-CH	Yes	DCSS	DCSS SCLORF	Yes	Yes
A1.8	SAFALAND LINE EXT. #2706	Yes-CH	Yes	AG CC	CC	No	No
A1.9	THIBODO632	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF	Yes	Yes
A1.10	VAN CLEAVE LINE EXTENSION761	Yes-CH	Yes	DCSS	DCSS SMC	Yes	Yes
A1.11	Vista Health and Spa Relocation659A	No	Yes	None	SCLORF	Yes	Yes
A1.12	VISTA VALLEY BYPASS687	Yes-CH	Yes	DCSS	DCSS	No	No
A1.13	EMERGENCY DAMAGE REPAIR773	Yes	Yes	SCLORF	SCLORF	Yes	Yes
A1.14	SOUTHSIDE RELOCATION682B	Yes-CH	Yes	DCSS	DCSS NNG	No	No
A1.15	GOPHER CANYON LINE EXT. #2 (PINAMON	Yes-CH	Yes	SAWRF	DCSS SAWRF	Yes	Yes
A1.16	GOPHER CANYON LINE EXT. #1 (PASHGIA	Yes-CH	Yes	DCSS SAWRF	DCSS SAWRF	Yes	Yes
A1.17	Emergency Access Road900B	Yes-CH	Yes	SMC	SMC	No	No
A1.18	EMERGENCY DAMAGE REPAIR773	Yes-CH	Yes	SCLORF	SCLORF	Yes	Yes
A1.19	GOPHER CANYON LINE EXT. #1 (PASHGIA	Yes-CH	Yes	DCSS SAWRF	DCSS SAWRF	Yes	Yes
A1.20	SOUTHSIDE RELOCATION682B	Yes-CH	Yes	CLOW DCSS NNG	CLOW DCSS NNG	No	No
A1.21	MOSSY ROCK DR	Yes-CH	Yes	SMC	SMC	No	Yes
A1.22	FERN FOREST RD	Yes-CH	Yes	DCSS NNG	DCSS NNG	No	Yes
A1.23	GOPHER CANYON LINE EXT. #2 (PINAMON	Yes-CH	Yes	DCSS SAWRF SCLORF	DCSS SAWRF	Yes	Yes
A1.24	ATTERBURY LINE681	Yes-CH	Yes	AG DCSS SCLORF	DCSS SCLORF	Yes	Yes
A1.25	SOUTHSIDE RELOCATOIN682C	Yes	Yes	None	None	Yes	Yes
A1.26	CAMPGROUND FIRE SERVICE WATER LINEQ	Yes	Yes	OW	DCSS OW SCLORF	Yes	Yes
A1.27	HUSS-TYBERG EXTENSION668A	Yes	Yes	AG DCSS	DCSS	Yes	Yes
A1.28	LINE A-15 (VANCLEAVE)701	Yes-CH	Yes	DCSS	DCSS SMC SRF	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A1.29	LINE A-1662B	Yes-CH	Yes	AG DCSS	DCSS	No	No
A1.30	TRES AMIGOS LINE EXT633	Yes-CH	Yes	DCSS NNG	DCSS NNG SCLORF SMC	Yes	Yes
A1.31	TWIN OAKS VALLEY RD - a	No	Yes	None	DCSS SAWRF	Yes	Yes
A1.32	GOPHER CANYON RD - a	No	Yes	CC DCSS SCLORF	CC DCSS NNG SCLORF	Yes	Yes
A1.33	GOPHER CANYON RD - b	No	Yes	None	CLOW DCSS NNG SCLORF SMC	Yes	Yes
A1.34	LITTLE GOPHER CANYON RD	No	Yes	SCLORF	DCSS NNG SCLORF SMC	Yes	Yes
A1.35	PROTEA VISTA TER	No	Yes	None	DCSS	Yes	Yes
A1.36	GOPHER CANYON LINE EXT. #3 (EL FARR	No	Yes	DCSS SWS	DCSS SWS	Yes	Yes
A1.37	HALL-GRISSOM LINE EXT690	No	Yes	None	DCSS	Yes	Yes
A1.38	KAROUNOS LINE EXTENSION695	No	Yes	DCSS	DCSS	No	No
A1.39	LINE A-11 (PASHGIAN)691A	No	Yes	DCSS	DCSS NNG	No	No
A1.40	LINE A-11 (PASHGIAN)691B	No	Yes	DCSS	DCSS NNG	No	No
A1.41	LINE A-20 (HUTTON)700	No	Yes	None	DCSS SCLORF	Yes	Yes
A1.42	LITTLE GOPHER CANYON RD851	No	Yes	None	DCSS SCLORF	Yes	Yes
A1.43	SOUTHSIDE RELOCATOIN682C	No	Yes	SCLORF	DCSS SCLORF	No	Yes
A1.44	SOWA EXTENSION635	No	Yes	None	DCSS SCLORF	Yes	Yes
A1.45	THIBODO632	No	Yes	SCLORF	SCLORF	Yes	Yes
A2.1	1551	Yes	Yes	SCLORF	SCLORF	Yes	Yes
A2.2	CROONQUIST LINE527	Yes-CH	Yes	DCSS	DCSS	No	No
A2.3	Hill Ranch859N	Yes	Yes	AG DCSS	DCSS	No	No
A2.4	IRVINE LINE EXT.489	Yes	Yes	None	DCSS	No	No
A2.5	LA BROUSSE LINE EXT.482	Yes	Yes	DCSS	CLOF CLOW DCSS	No	No
A2.6	1569	Yes	Yes	DCSS SCLORF	DCSS SCLORF	Yes	Yes
A2.7	LINE C597B	Yes	Yes	AG DCSS	DCSS	Yes	Yes
A2.8	LINE H565A	Yes	Yes	None	SCLORF	Yes	Yes
A2.9	LINE K-K558A	Yes	Yes	AG SCLORF	SCLORF	Yes	Yes
A2.10	LINE L-L559A	Yes	Yes	SRF	SRF	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A2.11	MOOSA CANYON LINE583A1414	Yes-CH	Yes	AG DCSS	DCSS NNG	No	No
A2.12	MOOSA CANYON LINE583A2482	Yes	Yes	NNG	NNG	No	No
A2.13	MOOSA CANYON LINE583A2483	Yes-CH	Yes	AG CLOW NNG	CLOW NNG	No	No
A2.14	MOOSA CANYON LINE583A2484	No	Yes	DCSS	CLOW DCSS	No	No
A2.15	MORRO-SUMAC LINE483E	Yes	Yes	AG SCLORF	SCLORF	Yes	Yes
A2.16	NORTHSIDE TRANSM. REPLMT.806A	Yes	Yes	DCSS SCLORF	DCSS SCLORF	Yes	Yes
A2.17	Northside Transmission Main1941108	Yes	Yes	NNG SSARW	DCSS NNG SSARW	Yes	Yes
A2.18	Northside Transmission Main1941288	Yes	Yes	None	SCLORF	Yes	Yes
A2.19	Northside Transmission Main1941567	Yes	Yes	None	SCLORF	Yes	Yes
A2.20	Northside Transmission Main1941568	Yes	Yes	NNG	NNG	No	No
A2.21	Northside Transmission Main1942814	Yes	Yes	CLOW DCSS SRS	CLOW NNG SRS	Yes	Yes
A2.22	TEMP EXT. TO CROONQUIST526	No	Yes	DCSS	DCSS SRW	No	Yes
A2.23	Northside Transmission Main1941045	Yes	Yes	CLOW	CLOW NNG	No	No
A2.24	Esterlina901D	Yes	Yes	None	NNG	No	No
A2.25	MORRO SUMAC TRANS MAIN483D	Yes-CH	Yes	SCWRF	DCSS SCWRF	Yes	Yes
A2.26	PITCHER LINE EXT.394	Yes	Yes	None	None	Yes	Yes
A2.27	Line F-3422	Yes	Yes	NNG	NNG SSARW	No	Yes
A2.28	DRESSER LINE EXT #3439B	Yes	Yes	None	None	No	No
A2.29	CREASY LINE EXT.486	Yes	Yes	None	SSARW	No	Yes
A2.30	CANNON. LINE EXT #2444	Yes	Yes	CLOW	CLOW DCSS	No	No
A2.31	CLAY LINE EXT.427	Yes	Yes	None	None	No	No
A2.32	Constructing Water Mains Solenoid V	Yes	Yes	None	None	No	No
A2.33	1768	Yes	Yes	None	None	Yes	Yes
A2.34	205	No	No	AG	None	Yes	Yes
A2.35	MOOSA CANYON LINE583A2048	Yes	Yes	AG DCSS	DCSS	No	No
A2.36	Northside Transmission Main1941472	Yes	Yes	NNG	NNG SCWRF	No	Yes
A2.37	944	Yes	Yes	AG NNG	SCWRF	No	Yes
A2.38	CANONITA LINE** (Blueprint Only)CLB	Yes	Yes	CLOW	CLOW	No	No
A2.39	COLEMAN LINE EXT487	Yes	Yes	NNG	NNG	No	No
A2.40	Daniels Sleeping Indian Line Extens	Yes	Yes	NNG	NNG SCLORF	No	Yes
A2.41	Esterlina Pressure Reducing Station	Yes	Yes	None	None	Yes	Yes
A2.42	EVANS LINE EXT. #1560	Yes	Yes	None	DCSS SCLORF	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A2.43	FALLSBRAE ROAD493B	Yes	Yes	None	SCLORF	Yes	Yes
A2.44	GAINES LINE EXTENSION449A	Yes	Yes	NNG	CLOW NNG	No	No
A2.45	IBBETSON LINE EXT.386	Yes	Yes	None	NNG	No	No
A2.46	ID "D" IMPROVEMENTS401A	Yes	Yes	CLOW NNG	CLOW DCSS NNG	No	No
A2.47	KROME LINE EXTENSION787	Yes-CH	Yes	AG NNG	DCSS NNG	No	No
A2.48	LINE F2485D	Yes	Yes	None	None	No	Yes
A2.49	MYERS LINE EXT.430	Yes	Yes	None	SCLORF	No	Yes
A2.50	2638	Yes	Yes	None	None	Yes	Yes
A2.51	PASO DEL LAGOS	No	Yes	None	DCSS SRS	Yes	Yes
A2.52	PRIVATE DRWY - a	No	Yes	None	SCLORF	Yes	Yes
A2.53	PRIVATE RD - b	No	Yes	None	SSARW	Yes	Yes
A2.54	PRIVATE RD - d	No	Yes	None	None	Yes	Yes
A2.55	PUERTA DE LOMAS - a	No	Yes	None	CLOW SCLORF SSARW	Yes	Yes
A2.56	VIA ENCINOS DR	No	Yes	None	SCWRF	Yes	Yes
A2.57	DEL VALLE DR - a	No	Yes	None	SCLORF SRS	Yes	Yes
A2.58	MORRO HILLS RD	No	Yes	None	SSARW	Yes	Yes
A2.59	OLIVE HILL RD - a	No	Yes	None	SCLORF	Yes	Yes
A2.60	943	No	Yes	None	SCWRF	Yes	Yes
A2.61	Bridlewood	No	Yes	None	NNG SCWRF	Yes	Yes
A2.62	CANNON LINE EXT.443A	No	Yes	DCSS	DCSS SCLORF SSARW	No	Yes
A2.63	CREASY LINE EXT.486	No	No	None	None	Yes	Yes
A2.64	EGGER LINE EXT.433	No	Yes	None	NNG SCLORF	Yes	Yes
A2.65	HAWKINS LINE EXTENSION599	No	Yes	None	NNG SCLORF	Yes	Yes
A2.66	Highland Oaks Street857C	No	Yes	None	CLOW NNG SSARW SRS	Yes	Yes
A2.67	HILL RANCHTM5095-1	No	Yes	None	NNG SCLORF	Yes	Yes
A2.68	Knottwood Way	No	Yes	None	CLOW NNG SCWRF	Yes	Yes
A2.69	LINE "E"484	No	Yes	None	CLOW NNG SSARW	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A2.70	1024	No	No	AG	None	Yes	Yes
A2.71	LINE C597A	No	Yes	None	NNG SRS	Yes	Yes
A2.72	LINE C597B	No	Yes	AG	NNG SRS	Yes	Yes
A2.73	LINE F1485A	No	Yes	None	CLOW NNG SSARW	Yes	Yes
A2.74	LINE G565A	No	Yes	AG	DCSS NNG SRS	Yes	Yes
A2.75	LINE Q-3398B	No	Yes	None	CLOW NNG SRW	Yes	Yes
A2.76	LOCKETT LINE EXT.393	No	Yes	None	CLOW	Yes	Yes
A2.77	Morro-Sumac Line483E	No	No	None	None	Yes	Yes
A2.78	PITCHER LINE EXT.394	No	No	None	None	Yes	Yes
A2.79	REV DEV'T LINE EXTENSION600	No	Yes	None	NNG	Yes	Yes
A2.80	ROSETTA LANE EXTENSION598	No	Yes	None	FWM OW	Yes	Yes
A2.81	SUMAC-MORRO TRANSMISSION MAIN483C	No	Yes	None	SCWRF	Yes	Yes
A2.82	1768	No	No	None	None	Yes	Yes
A2.83	VIA MONSERATE (Blueprint Only)BHBPJ	No	Yes	None	SCWRF	Yes	Yes
A2.84	VIA MONSERATE RELOCATION450	No	Yes	None	SCWRF	Yes	Yes
A2.85	2014	No	Yes	None	SRW	Yes	Yes
A2.86	2690	No	Yes	None	SCLORF	Yes	Yes
A3.1	BONSALL MAIN LINE556A1014	Yes-CH	Yes	DCSS NNG	DCSS NNG	No	No
A3.2	BONSALL WEST LATERAL556B	Yes-CH	Yes	AG SRF	DCSS SRF	Yes	Yes
A3.3	HuttonTurnerGopher	Yes	Yes	DCSS	DCSS	No	No
A3.4	LYON LINE EXTENSION582	Yes-CH	Yes	DCSS	DCSS	No	No
A3.5	441	Yes	Yes	SMC	SMC	No	No
A3.6	448	Yes	Yes	None	None	No	No
A3.7	1645	Yes-CH	Yes	DCSS	DCSS	No	No
A3.8	BONSALL MAIN LINE556A906	Yes-CH	Yes	NNG	DCSS NNG	No	No
A3.9	LINE "P"554A	Yes	Yes	OW	OW	Yes	Yes
A3.10	CIP ADD Golf Club	Yes	Yes	SCWRF	FWM NNG SCWRF SWS	Yes	Yes
A3.11	2511	No	Yes	AG	DCSS SRF	Yes	Yes
A3.12	2512	No	Yes	DCSS	SRF	No	Yes
A3.13	488	No	Yes	NNG SCWRF	NNG SCWRF	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A3.14	LINE Q1542	No	Yes	None	DCSS NNG	Yes	Yes
A3.15	LINE Q-2398C	No	Yes	None	DCSS	Yes	Yes
A3.16	MOOSA CANYON LINE583B814	No	Yes	None	MFS SRW	Yes	Yes
A3.17	1725	No	Yes	None	SRW	Yes	Yes
A3.18	TOWNHOUSES UNIT 1, SAN LUIS REY DOW	No	No	None	None	Yes	Yes
A3.19	URNER LINE EXT.592A	No	No	None	None	Yes	Yes
A3.20	WEST LILAC ROAD WATERMAIN REPAIR906	No	No	None	None	Yes	Yes
A3.21	500	No	Yes	None	DCSS SAWRF	Yes	Yes
A3.22	1370	No	Yes	None	SWS	Yes	Yes
A3.23	BONSALL MAIN LINE556E	No	No	None	None	Yes	Yes
A3.24	BONSALL NORTH LATERAL556D	No	Yes	None	DCSS SCLORF	Yes	Yes
A3.25	FRAWVER LINE EXT.550	No	Yes	None	SCLORF	Yes	Yes
A4.2	LINE "S-S" NORTHSIDE TRANS328	Yes	Yes	AG CLOW NNG	CLOW NNG	No	No
A4.3	LYPPS LINE EXTENSION466	Yes-CH	Yes	AG DCSS SCLORF	DCSS SCLORF	Yes	Yes
A4.4	RANCHO DIEGO UNIT 1464C	Yes-CH	Yes	AG DCSS	DCSS	Yes	Yes
A4.5	SECRET LAKE LANE IMPROVEMENTS364	Yes	Yes	SCWRF	DCSS SCWRF	Yes	Yes
A4.6	SYCAMORE RANCH UNIT 1784B	Yes	Yes	None	SCLORF	Yes	Yes
A4.7	IMPROVE DISTRICT #U-4 UNIT A418	No	Yes	AG	DCSS	Yes	Yes
A4.8	Lake Rancho Viejo471A2786	Yes-CH	Yes	None	DCSS SRW	No	Yes
A4.9	IMPROVE DISTRICT #U-4 UNIT A418	Yes-CH	Yes	SMC	DCSS NNG SMC	No	No
A4.10	CROWELL LUNG LINE EXT.408A	Yes	Yes	None	CLOW	No	No
A4.11	VOZNICK LINE EXTENSION322	Yes	Yes	None	DCSS	No	No
A4.12	LOWEN #3325	Yes	Yes	None	CLOW	No	No
A4.13	Lake Rancho Viejo471A2786	Yes-CH	Yes	DCSS	SRF	Yes	Yes
A4.14	LINE "S-S" NORTHSIDE TRANS328	Yes	Yes	CLOW NNG	CLOW NNG	No	No
A4.15	LOWEN #3325	Yes	Yes	None	CLOW	No	No
A4.16	KARN LINE EXT.379	Yes-CH	Yes	AG DCSS	DCSS SCLORF SOC	No	Yes
A4.17	KING LINE369	Yes	Yes	NNG	CLOW NNG	No	No
A4.18	KNIEFEL LINE EXT.381	Yes	Yes	SCLORF	SCLORF	Yes	Yes
A4.19	LINE "B" (Blueprint Only)LBBPB	Yes	Yes	AG CLOW DCSS NNG SCWRF	CLOW DCSS NNG SCWRF	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A4.20	LINE "C"377A	Yes-CH	Yes	AG DCSS NNG SCWRF SWS	DCSS NNG SCWRF SWS	Yes	Yes
A4.21	LINE "I-I"414	No	No	AG	None	Yes	Yes
A4.22	VIA DEL ROBLES	No	Yes	None	CLOW NNG	Yes	Yes
A4.23	Lake Rancho Viejo471A1931	No	Yes	None	NNG SRW	Yes	Yes
A4.24	Lake Rancho Viejo471A244	No	Yes	None	DCSS SRW	Yes	Yes
A4.25	LAKE TREE ESTATES376A	No	No	None	None	Yes	Yes
A4.26	LINE "I-I"414	No	No	None	None	Yes	Yes
A4.27	MORRO SUMAC TRANS MAIN483A1580	No	Yes	None	SRS	Yes	Yes
A4.28	MORRO SUMAC TRANS MAIN483A870	No	Yes	None	SRW	Yes	Yes
A4.29	Pala Mesa	No	Yes	None	SRW	Yes	Yes
A4.30	SECRET LAKE LANE IMPROVEMENTS364	No	Yes	None	DCSS SCWRF	Yes	Yes
A4.31	SPANISH OAKS400A	No	Yes	None	CLOW SCWRF	Yes	Yes
A4.32	SUMAC-MORRO TRANSMISSION MAIN483A	No	Yes	None	CLOW DCSS NNG SMC	Yes	Yes
A4.33	SYCAMORE RANCH UNIT 1784B	No	No	None	None	Yes	Yes
A4.34	SYCAMORE RANCH UNIT 1784C	No	No	None	None	Yes	Yes
A4.35	SYCAMORE RANCH UNIT 2783A	No	No	None	None	Yes	Yes
A4.36	SYCAMORE RANCH UNIT 2783B	No	No	None	None	Yes	Yes
A4.37	2014	No	Yes	None	DCSS SRW	Yes	Yes
A4.38	SYCAMORE RANCHTM3786-12479	No	Yes	None	CLOW DCSS NNG SCWRF	Yes	Yes
A4.39	W.O. 77-34 REPLACEMENT767	No	Yes	None	SRW	Yes	Yes
A4.40	1007	No	Yes	None	CLOW NNG	Yes	Yes
A4.41	76 & Gird Pressure Reducing Station	No	Yes	None	SRW	Yes	Yes
A4.42	CROWELL LUNG LINE EXT.408A	No	No	None	None	Yes	Yes
A4.43	HAUGH/ADAMS WATERLINE EXTENSION5872	No	Yes	None	SCWRF	Yes	Yes
A5.1	TM 4971-1835	Yes	Yes	DCSS	DCSS	No	No
A5.2	CANONITA LINE** (Blueprint Only)CLB	Yes	Yes	AG CLOW NNG SCWRF	CLOW NNG SCWRF	Yes	Yes
A5.3	ID "D" IMPROVEMENTS401A	Yes	Yes	CLOW NNG	CLOW DCSS NNG	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A5.4	ID "D" IMPROVEMENTS401C	Yes	Yes	CLOW NNG SCWRF	CLOW DCSS NNG SCWRF	Yes	Yes
A5.5	Northside Transmission Main1941046	Yes	Yes	CLOW NNG	CLOW NNG	Yes	Yes
A5.6	VIA ALICIA\ VIA VONNIE WATERLINE926	No	Yes	None	SWS	Yes	Yes
A6.1	2055	No	Yes	NNG	CLOW	No	No
A6.2	2220	Yes	Yes	CLOW	CLOW	No	No
A6.3	2278	Yes	Yes	AG DCSS	DCSS	No	No
A6.4	2281	Yes	Yes	DCSS	DCSS	No	No
A6.5	2284	Yes	Yes	DCSS NNG	DCSS NNG	No	No
A6.6	2285	Yes	Yes	DCSS	DCSS	No	No
A6.7	805	Yes	Yes	CLOW	CLOW	Yes	Yes
A6.8	1328	Yes	Yes	AG CLOW	CLOW	No	No
A6.9	ASSUMED DATE	Yes	Yes	AG CLOW	CLOW	No	No
A6.10	LINE 'N'299	Yes-CH	Yes	AG SCLORF	SCLORF	Yes	Yes
A6.11	Pala Mesa Oaks303A	No	Yes	SCLORF	SCLORF	No	Yes
A6.12	PORTER & FRANZEN EXT.298	Yes-CH	Yes	DCSS	CLOW DCSS	Yes	Yes
A6.13	YUCCA PHASE II REPLACEMENT PROJECT8	Yes	Yes	DCSS NNG	DCSS NNG	Yes	Yes
A6.14	2963	Yes	Yes	NNG	DCSS NNG	No	No
A6.15	3433	Yes	Yes	None	DCSS	No	No
A6.16	1217	Yes	Yes	None	DCSS	No	No
A6.17	3172	Yes	Yes	DCSS	DCSS	Yes	Yes
A6.18	Northside Transmission Main1942633	Yes	Yes	DCSS	DCSS	No	No
A6.19	LOS ALISOS NORTH242	Yes	Yes	NNG	DCSS NNG	No	No
A6.20	1164	Yes	Yes	None	CLOW	No	No
A6.21	1518	Yes	Yes	MFS NNG	MFS NNG	Yes	Yes
A6.22	PALA MESA RESERVOIR PIPING339C	Yes	Yes	NNG	DCSS	No	No
A6.23	USSHER WATER MAIN320	Yes	Yes	CLOW	CLOW	No	No
A6.24	USSHER WATER MAIN320	Yes	Yes	CLOW	CLOW	No	No
A6.25	DODGE LINE EXT.350	Yes-CH	Yes	DCSS	DCSS	No	No
A6.26	LINE 'N'299	Yes	Yes	NNG	DCSS NNG SCLORF	Yes	Yes
A6.27	LIVE OAK PARK RD.213	Yes	Yes	CLOW	CLOW	Yes	Yes
A6.28	Truitt Line Extension212	Yes	Yes	CLOW	CLOW	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A6.29	WHITE LIVE OAK PARK LINE EXT.278	Yes	Yes	CLOW	CLOW	No	No
A6.30	YUCCA REPL. PHASE I LINE "A"790A	Yes	Yes	AG CLOW SWS	CLOW SCWRF SWS	Yes	Yes
A6.31	YUCCA REPL. PHASE I LINE "B"790B	Yes	Yes	AG CLOW	CLOW	No	No
A6.32	1520	Yes	Yes	CLOW	CLOW	No	No
A6.33	1238	Yes	Yes	AG DCSS	DCSS NNG	No	Yes
A6.34	1985	Yes	Yes	CLOW	CLOW	Yes	Yes
A6.35	2053	Yes	Yes	CLOW	CLOW	No	No
A6.36	PRIVATE RD - a	No	Yes	NNG	SCLORF	No	Yes
A6.37	SYDNEY VIEW WAY	No	Yes	None	NNG SCLORF	Yes	Yes
A6.38	CARRIAGE LN	No	Yes	None	CLOW DCSS	Yes	Yes
A6.39	YUCCA RD	No	No	None	None	Yes	Yes
A6.40	GIRD RD	No	Yes	None	CLOW	Yes	Yes
A6.41	LOS ALISOS SOUTH	No	Yes	None	DCSS SCLORF	Yes	Yes
A6.42	"S" & FES" LINES (STEWART CANYON &	No	Yes	None	DCSS SCWRF	Yes	Yes
A6.43	BARTEL EXT.307	No	Yes	None	CLOW	Yes	Yes
A6.44	BINNEY LINE EXT.349B	No	Yes	None	DCSS	Yes	Yes
A6.45	CONNECTION NO. 8 TO CANONITA TANK26	No	Yes	None	CLOW DCSS NNG SCWRF SRW	Yes	Yes
A6.46	GRIMM TECALOTE LINE EXT.310	No	Yes	None	CLOW	Yes	Yes
A6.47	HOMESTEAD LINE EXT.211	No	Yes	None	CLOW	Yes	Yes
A6.48	Live Oak Park276	No	Yes	None	CLOW DCSS NNG	Yes	Yes
A6.49	LOS ALISOS NORTH244	No	Yes	None	CLOW	Yes	Yes
A6.50	Pala Mesa C.C. Unit #1305A	No	Yes	None	DCSS	Yes	Yes
A6.51	PALA MESA LINE EXT.309	No	No	None	None	Yes	Yes
A6.52	Pala Mesa Oaks303A	No	Yes	None	DCSS SCLORF SMC SOC	Yes	Yes
A6.53	RIDDLE LINE EXT.219	No	No	None	None	Yes	Yes
A6.54	ROBERTSON LINE EXT.252	No	No	None	None	Yes	Yes
A6.55	TUDOR LINE EXT. YUCCA REPLACEMENT21	No	No	None	None	Yes	Yes
A6.56	YUCCA PHASE II REPLACEMENT PROJECT8	No	Yes	None	CLOW DCSS	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A6.57	2292	No	Yes	None	CLOW	Yes	Yes
A6.58	2642	No	No	None	None	Yes	Yes
A6.59	3433	No	No	None	None	Yes	Yes
A6.60	3434	No	Yes	None	CS NNG	Yes	Yes
A6.61	424	No	No	None	None	Yes	Yes
A6.62	425	No	No	None	None	Yes	Yes
A7.1	3192	Yes-CH	Yes	SCLORF	SCLORF	Yes	Yes
A7.2	Rice Canyon Tank Waterline314	Yes-CH	Yes	CC	CC SRF	Yes	Yes
A7.3	RAINBOW HEIGHTS LINE1822219	Yes	Yes	None	SMC	No	No
A7.4	TAZA-CANONITA WATERLINE REHABILITAT	Yes-CH	Yes	AG SCLORF	SCLORF	Yes	Yes
A7.5	2653	Yes	Yes	DCSS	DCSS	No	No
A7.6	2654	Yes	Yes	DCSS	DCSS	No	No
A7.7	3600	Yes-CH	Yes	None	DCSS NNG	No	No
A7.8	3601	Yes-CH	Yes	DCSS	DCSS NNG	No	No
A7.9	GOLFCRAFT LINE267	Yes-CH	Yes	DCSS	CLOW DCSS SCLORF	Yes	Yes
A7.10	2653	Yes	Yes	DCSS	DCSS	No	No
A7.11	2654	Yes	Yes	DCSS	DCSS	No	No
A7.12	3601	Yes-CH	Yes	DCSS	DCSS	No	No
A7.13	CANONITA LINE (Blueprint Only)CLBP	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF	Yes	Yes
A7.14	MITCHELL LINE EXT.312	Yes-CH	Yes	DCSS	DCSS NNG	No	No
A7.15	CONNECTION NO. 8 TO CANONITA TANK26	Yes-CH	Yes	DCSS SMC	CLOW DCSS NNG SCLORF SMC SOC	Yes	Yes
A7.16	LEVIN-IVES LINE EXT.192	Yes	Yes	SMC	SMC	No	No
A7.17	COOPER LINE EXT.229	Yes	Yes	AG DCSS	DCSS	No	No
A7.18	I.D. #6 Phase III - Goran Line Exte	Yes-CH	Yes	AG SMC	SMC	No	No
A7.19	LEMON LINE EXT.240A	Yes-CH	Yes	DCSS SMC SRW	DCSS SMC SRW	Yes	Yes
A7.20	LINE "M1"198C	Yes-CH	Yes	AG SRF	SRF	Yes	Yes
A7.21	LINE "M-2"201	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF	Yes	Yes
A7.22	MURPHY LINE EXT.266A	No	Yes	NNG SOC	NNG SCLORF SOC	No	Yes
A7.23	WHITE LILAC RD	No	Yes	None	SCLORF	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A7.24	CLEARWATER RD	No	Yes	None	SCLORF	Yes	Yes
A7.25	MOON RIDGE RD	No	Yes	None	DCSS SMC	Yes	Yes
A7.26	PRIVATE RD - d	No	Yes	None	FWM SMC	Yes	Yes
A7.27	LINE "T"263	No	Yes	None	DCSS SCLORF SMC SOC	Yes	Yes
A7.28	RANCHO TAZA LINE EXT.223	No	Yes	AG	NNG SCLORF	Yes	Yes
A7.29	RICE CANYON LINE 1D #3357	No	Yes	None	DCSS SCLORF	Yes	Yes
A7.30	RICE CANYON LINE EXT.358	No	Yes	None	SMC SRF	Yes	Yes
A7.31	RICE CANYON UNIT "A"354	No	Yes	None	SCLORF	Yes	Yes
A7.32	RMWD Recycled Water and Sewer Plan	No	Yes	None	SRW	Yes	Yes
A7.33	STEWART CANYON LINE EXT.222	No	Yes	None	NNG SCLORF	Yes	Yes
A7.34	2335 (Rice Canyon)	No	Yes	None	DCSS SCWRF SMS	Yes	Yes
A7.35	12 CANONITA LINE (B/W LINE "M-2" &	No	Yes	None	CLOW DCSS NNG SCLORF	Yes	Yes
A7.36	Caltrans Interchange	No	Yes	None	NNG SRW	Yes	Yes
A7.37	Horse Ranch Creek RoadH-936G	No	No	None	None	Yes	Yes
A7.38	Huntley Road Transmission Main313	No	Yes	AG	CC DCSS SMC SRF SRW	Yes	Yes
A7.39	I.D. #6 Phase III - Gomez Creek Fee	No	Yes	AG	CC DCSS SMC SRF SRW	Yes	Yes
A7.40	INDIA LANE LINE EXT.792	No	Yes	None	SCLORF	Yes	Yes
A7.41	JOSTEN GROUP LINE EXT.200	No	Yes	None	SCLORF	Yes	Yes
A7.42	JURGENSEN LINE EXT.227	No	No	AG	None	Yes	Yes
A7.43	LINE "M-2"201	No	Yes	AG	SCLORF	Yes	Yes
A8.1	"16 NORTHSIDE TRANSMISSION LINE (I-	Yes	Yes	AG DCSS	DCSS	No	No
A8.2	YUCCA REPL. PHASE I LINE "A"790A	Yes	Yes	NNG	CLOW NNG SCWRF SWS	Yes	Yes
A8.3	2289	Yes	Yes	AG NNG	DCSS NNG	No	No
A8.4	Northside Transmission Main1942324	No	No	AG	None	Yes	Yes
A8.5	Northside Transmission Main1942701	Yes	Yes	DCSS	DCSS	No	No
A8.6	LEON-MADDOCK LINE EXT.195C	No	Yes	AG	SWS	Yes	Yes
A8.7	Northside Transmission Main1942382	No	Yes	None	SWS	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A9.1	120D	Yes-CH	Yes	CLOW SMC	CC CLOW NNG SMC	Yes	Yes
A9.2	RAINBOW HEIGHTS ALTITUDE VALVE187	Yes	Yes	DCSS	DCSS	No	No
A9.3	RED MTN. TRANS. MAIN155	Yes-CH	Yes	CC CLOW SMC	CC CLOW SMC	Yes	Yes
A9.4	RESEVOIR BRANCH (TO U-1 TANKS)120MN	Yes	Yes	DCSS	DCSS	No	No
A9.5	SNOW EXT.106	Yes-CH	Yes	EOW SOC	EOW SOC	No	No
A9.6	UNIT A FROM BOTTOM OF B5 TO #117120	Yes-CH	Yes	AG SMC	SMC	No	No
A9.7	WESTRUP LINE EXT.108A	Yes-CH	Yes	EOW OW SCLORF	EOW OW SCLORF	Yes	Yes
A9.8	120MN	Yes	Yes	None	SMC	No	No
A9.9	WHITE LINE EXT.175	Yes	Yes	SMC	SMC	No	No
A9.10	U1Tank	Yes-CH	Yes	SMC	SMC	No	No
A9.11	Northside Transmission Main194323	Yes	Yes	None	CLOW DCSS NNG	No	No
A9.12	14" LINE "M" (I-15 RELOCATION)168B2	Yes-CH	Yes	None	DCSS NNG	No	No
A9.13	20" NORTHSIDE TRANSMISSION LIN168A1	Yes-CH	Yes	None	DCSS NNG	No	No
A9.14	U-1 Pump Station Expansion156	Yes-CH	Yes	SMC	SMC	No	No
A9.15	120	Yes-CH	Yes	SMC	SMC	No	No
A9.16	PFIZEN-MAIER LINE EXT.102	Yes-CH	Yes	DCSS	DCSS SMC	No	No
A9.17	WALLACE-MOORE-LINE EXT.105	Yes-CH	Yes	None	CC DCSS NNG	No	No
A9.18	SECTION 3 BRANCH UNIT "A" (ASP120OP	Yes-CH	Yes	SMC	DCSS SMC	No	No
A9.19	ANDERSON LINE EXT.114B	Yes	Yes	SMC	SMC	No	No
A9.20	2331	Yes	Yes	SMC	DCSS SMC	No	No
A9.21	Pump Sta. No. 3 Expansion156	Yes	Yes	DCSS	DCSS	No	No
A9.22	Northside Transmission Main1942629	Yes	Yes	None	CLOW	No	No
A9.23	2533	Yes	Yes	DCSS	DCSS	No	No
A9.24	WILLIAMS LINE EXT.143E	Yes	Yes	SMC	SMC	No	No
A9.25	120	Yes-CH	Yes	SMC	SMC	No	No
A9.26	RED MTN. TRANS. MAIN155	Yes-CH	Yes	SMC	SMC	No	No
A9.27	BROWN LINE EXT.145	Yes	Yes	SMC	SMC	No	No
A9.28	East Heights Tie Line147B	Yes	Yes	SCLORF SMC	SCLORF SMC	Yes	Yes
A9.29	442	Yes	Yes	DCSS	DCSS	No	No
A9.30	East Heights Tie Line147C	Yes	Yes	SMC	SMC	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A9.31	JAMES LINE EXT. "B"139	Yes	Yes	SMC	SMC	Yes	Yes
A9.32	General Plot Plan Booster Station #	Yes	Yes	CLOW	CLOW SMC	No	No
A9.33	HICKEY LINE127	Yes	Yes	SMC	SMC	No	No
A9.34	2714	Yes	Yes	DCSS	DCSS	No	No
A9.35	8th Street Pumping Station182	Yes	Yes	CLOW	CLOW SMC	No	No
A9.36	East Heights Tie Line147C	Yes	Yes	SMC	SMC	No	Yes
A9.37	East Heights Tie Line147B	Yes	Yes	SMC	SMC	Yes	Yes
A9.38	BROWN LINE EXT.145	Yes	Yes	None	SMC	No	No
A9.39	JAMES LINE EXT. "B"139	Yes	Yes	None	SMC	No	No
A9.40	AQUEDUCT LINE134	No	No	AG	None	Yes	Yes
A9.41	#N/A-C	Yes	Yes	SMC	SMC	Yes	Yes
A9.42	PFIZEN-MAIER LINE EXT.102	Yes-CH	Yes	SMC	SMC	No	No
A9.43	PUERTA DE ALEGRE EXT.167	Yes-CH	Yes	SCLORF	DCSS NNG SCLORF	Yes	Yes
A9.44	RAINBOW HEIGHTS LINE1822972	Yes	Yes	None	SMC	No	No
A9.45	RAINBOW TRUCK-STOP LINE110	Yes-CH	Yes	AG DCSS	SMC	Yes	Yes
A9.46	RAINBOW TRUCK-STOP LINE110A	Yes	Yes	DCSS	NNG	No	No
A9.47	Rainbow Valley Blvd. (North of East	Yes	Yes	DCSS SMC	CLOW DCSS NNG SMC	No	No
A9.48	WAUMAN U1 LINE EXT.119	Yes-CH	Yes	SMC	SMC	No	No
A9.49	WILLIAMS LINE EXT. NO. 2144B	Yes	Yes	DCSS	DCSS	No	No
A9.50	ANDERSON LINE EXT.114A	Yes	Yes	SMC	NNG SCLORF SMC	No	Yes
A9.51	East Heights Line147L	Yes	Yes	SCLORF SMC	SCLORF SMC	Yes	Yes
A9.52	HICKEY LINE127	Yes	Yes	SMC	SMC	No	No
A9.53	INLET-OUTLET LINE TO U1 TANK 2123C	Yes	Yes	SMC	SMC	No	No
A9.54	LINE "L"177A	Yes	Yes	AG SMC	SMC	Yes	Yes
A9.55	MORDIGAN LINE "A"190	Yes	Yes	NNG	NNG	Yes	Yes
A9.56	RAINBOW HEIGHTS RD - b	No	No	None	None	Yes	Yes
A9.57	RAINBOW GLEN RD - a	No	Yes	None	SMaC	Yes	Yes
A9.58	OSWALD LINE EXTENSION1269WL	No	Yes	None	SMC	Yes	Yes
A9.59	RAINBOW VALLEY BLVD. (BTWN 8TH AND	No	Yes	AG	DCSS CLOW NNG	Yes	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A9.60	RED MTN. TRANS. MAIN	No	Yes	None	DCSS SMC	Yes	Yes
A9.61	TRAILER PARK SUPPLY LINE (PART OF I	No	Yes	None	DCSS SRF	Yes	Yes
A9.62	WALCOTT LINE EXT. #1100	No	Yes	None	CC SMC NNG	Yes	Yes
A9.63	WALLACE-MOORE-LINE EXT.105	No	Yes	None	SMC	Yes	Yes
A9.64	WEST 5TH ST. (WEST OF HUFFSTATLER)1	No	Yes	None	DCSS NNG SCLORF	Yes	Yes
A9.65	WEST HEIGHTS LINE146	No	Yes	None	NNG SCLORF SMC	Yes	Yes
A9.66	2332	No	Yes	None	SMC	Yes	Yes
A9.67	East Heights Line147K	No	Yes	None	SCLORF SMC	Yes	Yes
A9.68	HUFFSTATLER ROAD130	No	Yes	None	SCLORF	Yes	Yes
A9.69	LAKE ACRES LINE EXT.142	No	Yes	None	CLOW SMC	Yes	Yes
A9.70	LINE "I" 1ST ST.138	No	No	None	None	Yes	Yes
A9.71	LINE"A-A" (AT VALLECITOS TANK)135	No	Yes	None	SMC	Yes	Yes
A9.72	MORDIGAN LINE "A"190	No	Yes	None	SMC	Yes	Yes
A9.73	NORTH RESERVOIR FEEDER LINE REPLAC	No	Yes	None	SMC	Yes	Yes
A9.74	NORTH RESERVOIR FEEDER LINE REPLACE	No	Yes	None	SMC	Yes	Yes
A10.1	LINE A-7663B	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF	Yes	Yes
A10.2	Line N-N - Schedule 3642A1422	Yes-CH	Yes	AG DCSS	DCSS	No	No
A10.3	Line N-N - Schedule 3642A1424	Yes-CH	Yes	DCSS	DCSS	No	No
A10.4	Line N-N - Schedule 3642A1425	Yes-CH	Yes	AG DCSS	DCSS	No	No
A10.5	Line N-N - Schedule 3642A1841	Yes-CH	Yes	DCSS	DCSS	No	No
A10.6	Line N-N - Schedule 3642A1842	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF	Yes	Yes
A10.7	Line N-N - Schedule 3642A1843	Yes-CH	Yes	DCSS NG NNG	DCSS NG NNG SCLORF	No	Yes
A10.8	10" TIELINE B/W HAILEAH ESTATES & S	Yes	Yes	DCSS SCWRF	DCSS SCWRF	No	No
A10.9	LOS BLANCOS LINE683	Yes	Yes	DCSS	DCSS	No	No
A10.10	LOS BLANCOS LINE683C	Yes	Yes	DCSS	DCSS	No	No
A10.11	SAN LUIS REY HIALEAH EXT. LINE641A	No	Yes	CLOW	CLOW DCSS SMC	No	No
A10.12	2750	Yes-CH	Yes	DCSS	DCSS	No	No
A10.13	Guy C. Earl Extension646A	No	Yes	NNG	DCSS NNG	No	No
A10.14	3527	Yes-CH	Yes	DCSS	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A10.15	LINES A8 & A6662A	Yes-CH	Yes	DCSS SCLORF	DCSS NNG SCLORF	Yes	Yes
A10.16	3270	No	Yes	DCSS SRW	DCSS SRW	No	Yes
A10.17	WHISPER TRACE RD	Yes-CH	Yes	DCSS SCLORF	DCSS NNG SCLORF	Yes	Yes
A10.18	OAK BRG DR	Yes-CH	Yes	NNG	DCSS NNG SMaC SCLORF	No	Yes
A10.19	RANCHO CAMARGO UNIT 3	Yes	Yes	NNG	DCSS	No	No
A10.20	AERIE HEIGHTS ROAD849	Yes-CH	Yes	DCSS	DCSS	No	No
A10.21	GEHRING LINE EXTENSION673	No	Yes	AG	DCSS	Yes	Yes
A10.22	Guy C. Earl Extension646A	Yes	Yes	AG DCSS	DCSS	No	No
A10.23	VISTA DEL MAR	No	Yes	None	DCSS NNG SCLORF	Yes	Yes
A10.24	GOPHER CANYON RD - b	No	Yes	None	SAWRF	Yes	Yes
A10.25	SAN LUIS REY RANCHES824	No	Yes	None	CLOW NNG	Yes	Yes
A10.26	DENTRO DE LOMAS RD660B	No	Yes	None	CLOW DCSS SWS	Yes	Yes
A10.27	HANSON & HIBBINS671	No	Yes	None	NNG SCWRF	Yes	Yes
A10.28	JAOUDI EXTENSION664	No	Yes	None	SCWRF	Yes	Yes
A10.29	LINE A-10663C	No	No	None	None	Yes	Yes
A10.30	Line N-N - Schedule 2642A	No	Yes	None	DCSS NNG SCLORF	Yes	Yes
A10.31	LINES A-4 & A-5663D	No	Yes	None	NNG SAWRF SMC	Yes	Yes
A10.32	MENDEZ LINE EXTENSION661	No	Yes	None	NNG SMC SWS	Yes	Yes
A10.33	Moody Creek Turn Around933-C	No	Yes	None	CLOW	Yes	Yes
A11.1	#N/A	No	Yes	DCSS SRW	DCSS SRW	No	Yes
A11.2	SOUTHSIDE RESTORATION682A	Yes-CH	Yes	DCSS SCWRF	DCSS SCWRF	Yes	Yes
A11.3	410	Yes	Yes	None	DCSS	No	No
A11.4	Line N-N - 24'' Tie Line642A	Yes	Yes	DCSS	DCSS	No	No
A11.5	397	Yes	Yes	DCSS	DCSS	No	No
A11.6	402	Yes	Yes	DCSS	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A11.7	16" MOOSA CREST W/L REPLACEMENT768	Yes-CH	Yes	CLOW DCSS NNG SCWRF	CLOW DCSS NNG SCWRF	Yes	Yes
A11.8	South Reservoir Piping654A	Yes	Yes	DCSS	DCSS	No	No
A11.9	South Reservoir Connection658A	Yes	Yes	DCSS	DCSS	No	No
A11.10	SOUTH RESERVOIR PRESSURE SUSTAINING	Yes	Yes	DCSS	DCSS	No	No
A11.11	403	Yes	Yes	DCSS	DCSS	No	No
A11.12	#N/A	Yes-CH	Yes	DCSS	DCSS	No	No
A11.13	#N/A	Yes-CH	Yes	DCSS	DCSS	No	No
A11.14	South Reservoir Connection658A	Yes	Yes	DCSS	DCSS	No	No
A11.15	South Reservoir Piping654A	Yes	Yes	DCSS	DCSS	No	No
A11.16	410	Yes-CH	Yes	AG DCSS	DCSS SRW	No	Yes
A11.17	SOUTH RESERVOIR PRESSURE SUSTAINING	Yes	Yes	DCSS	DCSS	Yes	Yes
A11.18	397	Yes	Yes	DCSS	DCSS	No	No
A11.19	402	Yes	Yes	DCSS	DCSS	No	No
A11.20	410	Yes	Yes	DCSS	DCSS	No	No
A11.21	Line N-N - 24'' Tie Line642A	Yes	Yes	DCSS	DCSS	No	No
A11.22	Line N-N - Schedule 3642A1422	Yes-CH	Yes	DCSS	DCSS	No	No
A11.23	LOS BLANCOS LINE683	Yes	Yes	DCSS	DCSS	No	No
A11.24	LOS BLANCOS LINE683C	Yes	Yes	DCSS	DCSS	No	No
A11.25	16" MOOSA CREST W/L REPLACEMENT768	Yes-CH	Yes	DCSS	DCSS SRW	No	Yes
A11.26	MOOSA CANYON LINE583B1002	Yes-CH	Yes	DCSS	DCSS SRW	Yes	Yes
A11.27	MOOSA CANYON LINE583B1003	Yes-CH	Yes	DCSS SAWRF	DCSS SAWRF	Yes	Yes
A12.1	#N/A	No	Yes	SRW	SRW	No	Yes
A4.1	RMWDAsbuilts OFFICE417B	Yes-CH	Yes	DCSS	DCSS SRW	No	Yes
A12.2	MOOSA CANYON LINE583A1667	Yes-CH	Yes	MFS NNG	MFS NNG SRW	Yes	Yes
A12.3	MOOSA CANYON LINE583A1743	Yes-CH	Yes	DCSS NNG	DCSS NNG	No	No
A12.4	MOOSA CANYON LINE583A1784	Yes-CH	Yes	SRW	NNG SRW	No	Yes
A12.5	Morro	Yes-CH	Yes	MFS NNG	MFS NNG SRW	Yes	Yes
A12.6	SAN LUIS REY BRIDGE LINE623A	Yes-CH	Yes	None	DCSS SRW	Yes	Yes
A12.7	Cal Trans Relocation	Yes-CH	Yes	SRW	NNG SRW	Yes	Yes
A12.8	2014	Yes-CH	Yes	None	DCSS	No	No
A12.9	3551	Yes-CH	Yes	NNG	DCSS NNG SRF	No	No
A12.10	LINE MM571B	Yes-CH	Yes	NNG	DCSS NNG SRF	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A12.11	1995	Yes-CH	Yes	DCSS	DCSS SRW	No	Yes
A12.12	2014	No	Yes	None	SRW	Yes	Yes
A12.13	326	Yes-CH	Yes	NNG SRF	NNG SRF	Yes	Yes
A12.14	LINE NN MOOSA CANYON RIVER CROSSING	Yes-CH	Yes	SRF	NNG SRF	Yes	Yes
A12.15	Line NN pipeline replacement	Yes-CH	Yes	DCSS NNG SRF	DCSS NNG SRF	Yes	Yes
A12.16	LINE Q-3 RIVER CROSSING782	Yes-CH	Yes	DCSS SRF	DCSS SRF	Yes	Yes
A12.17	CAMINO DEL REY	No	Yes	None	SRW	Yes	Yes
A12.18	GOLF CLUB DR	No	Yes	None	SRW	Yes	Yes
A12.19	PALA RD - a	No	Yes	None	SRW	Yes	Yes
A12.20	PALA RD - b	No	Yes	None	NNG SRW	Yes	Yes
A12.21	429	No	Yes	AG	OW	Yes	Yes
A12.22	BONSALL SCHOOL DISTRICT W/L EXTENS	No	Yes	None	FWM NNG SCLORF	Yes	Yes
A12.23	BONSALL SCHOOL DISTRICT W/L EXTENSI	No	Yes	None	FWM NNG SCLORF	Yes	Yes
A12.24	Cal Trans Relocation	No	Yes	None	NNG SCLORF	Yes	Yes
A12.25	E VISTA WAY RELOCATION803	No	Yes	None	CLOW SCLORF	Yes	Yes
A12.26	FRIES LINE EXTENSION532	No	Yes	None	NNG	Yes	Yes
A12.27	LINE B629	No	Yes	None	NNG SCS SRW	Yes	Yes
A12.28	NORTH RIVER ROAD LINE A625	No	No	None	None	Yes	Yes
A12.29	2014	No	Yes	None	DCSS NNG SCLORF	Yes	Yes
A12.30	OLD RIVER ROAD REPAIR PLAN800B	No	Yes	None	DCSS NNG SCLORF	Yes	Yes
A12.31	SAN LUIS REY BRIDGE LINE623A	No	Yes	None	DCSS NNG SRW	Yes	Yes
A12.32	TRIPLE CROWN DRIVE530A	No	No	None	None	Yes	Yes
A12.33	2554	No	No	AG	None	Yes	Yes

[1] CH=designated Federal Critical Habitat

[2] Sensitive Vegetation Communities: CC= chamise chaparral; CLOF=Coast live oak forest; CLOW=Coast live oak woodland; CS=Coastal scrub; DCSS=Diegan Coastal sage scrub; EOW=Engelmann oak woodland; FWM= Freshwater marsh; MFS= mule fat scrub; NG=native grassland; NNG= Non-native grassland; NNR=Non-native riparian; OW=Open water; SAWRF=Southern arroyo willow riparian forest; SCLORF= Southern coast live oak riparian forest; SCLORW=Southern coast live oak riparian woodland; SCWRF=Southern cottonwood-willow riparian forest; SMaC=Southern maritime chaparral; SMC=Southern mixed chaparral; SOC= Scrub oak chaparral; SRF=Southern riparian forest; SRS=Southern riparian scrub; SRW=Southern riparian woodland; SSARW=southern sycamore-alder riparian woodland; SWS=Southern willow scrub.

Appendix C-2

ODP Sewer Projects with High to Moderate Potential to Result in Significant Direct and Indirect Impacts to Biological Resources

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A1.Bonsall Elementary	1	Yes-CH	Yes	NNG	DCSS SWS	Yes	Yes
A1.Camino Del Rey	1	Yes	Yes	SCLORF	NNG	Yes	Yes
A1.Camino Del Rey Crossing	1	Yes-CH	Yes	NNG SRF	NNG SRW	Yes	Yes
A1.Gopher Canyon Rd	1	Yes-CH	Yes	CLO SCLORF SMaC SMC	CLO SMC	Yes	Yes
A1.Lake Circle Old Hwy 395	1	Yes-CH	Yes	DCSS	SRF	Yes	Yes
A1.Little Gopher Canyon Rd	1	Yes-CH	Yes	SRF	SRF	Yes	Yes
A1.North River Rd SLRR Crossing	1	Yes-CH	Yes	SRF	SRF	Yes	Yes
A1.San Luis Rey River	1	Yes-CH	Yes	SRF	SRF	No	Yes
A1.Scolamieri Thoroughbreds	1	No	No	None	None	Yes	Yes
A1.Spa Havens Way	1	Yes-CH	Yes	SMC	SMC	No	No
A1.Vista Valley Golf	1	No	Yes	None	DCSS SCLORF	Yes	Yes
A2.Bridlewood Rd	2	No	Yes	None	SCLORF	Yes	Yes
A2.Bridlewood Via Monserate	2	Yes	Yes	NNG	SRF	No	Yes
A2.La Canada Rd	2	No	Yes	None	SCLORF	Yes	Yes
A2.Mission Road	2	No	Yes	None	SRW	Yes	Yes
A2.North River Rd	2	Yes-CH	Yes	None	SRW	Yes	Yes
A2.Pala Rd	2	No	Yes	None	SCLORF	Yes	Yes
A2.Ramona Dr	2	No	Yes	None	SCLORF	Yes	Yes
A2.Rancho Del Caballo	2	No	Yes	None	SCLORF	Yes	Yes
A2.Triple Crown Dr	2	No	No	None	None	Yes	Yes
A2.Via Monserate	2	No	Yes	None	NNG	Yes	Yes
A2.Via Monserate Marci	2	Yes	Yes	NNG	SRF	No	Yes
A3.Cedar Vale Gird	3	No	No	None	None	Yes	Yes
A3.Cedar Vale Way	3	No	No	None	None	Yes	Yes
A3.Flowerwood Blue Gum	3	Yes-CH	Yes	DCSS SRF	DCSS SRF	Yes	Yes
A3.Fox Bridge Ct	3	No	No	None	None	Yes	Yes
A3.Gird Rd	3	No	Yes	None	CLO DCSS SCLORF	Yes	Yes
A3.Gird Road	3	No	Yes	None	SCLORF	Yes	Yes
A3.Horse Ranch Creek Tecalote	3	No	No	None	None	Yes	Yes
A3.Knottwood Way	3	No	Yes	None	SCLORF	Yes	Yes
A3.La Canada Linda Vista	3	Yes	Yes	NNG	NNG	No	No

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A3.Lakemont Gird	3	No	No	AG	None	Yes	Yes
A3.Laketree Dr	3	No	No	None	None	Yes	Yes
A3.Larkwood Ct	3	No	No	None	None	Yes	Yes
A3.Logwood Pl	3	No	No	None	None	Yes	Yes
A3.Oak Cliff Dr	3	No	No	None	None	Yes	Yes
A3.Private Road 1	3	No	No	None	None	Yes	Yes
A3.Private Road 2	3	No	No	None	None	Yes	Yes
A3.Puerto Del Mundo Tecalote	3	Yes-CH	Yes	DCSS OW	DCSS OW	Yes	Yes
A3.Sarah Ann Dr	3	No	No	None	None	Yes	Yes
A3.Secret Lake Ln	3	No	Yes	None	SCLORF	Yes	Yes
A3.Tecalote Dr	3	No	Yes	None	DCSS	Yes	Yes
A3.Village Drive	3	Yes	Yes	CLO	CLO	No	No
A4.Bravo	4	No	Yes	None	DCSS	Yes	Yes
A4.Camino Del Cielo	4	No	Yes	None	DCSS	Yes	Yes
A4.Flowerwood Lane	4	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF SRF	Yes	Yes
A4.Flowerwood Pala	4	Yes-CH	Yes	SRW	SRW	Yes	Yes
A4.Horse Ranch Creek Tecalote	4	Yes-CH	Yes	SCLORF	SCLORF	Yes	Yes
A4.I-15 Pala	4	Yes-CH	Yes	DCSS NNG SRW	DCSS NNG SRW	Yes	Yes
A4.Lake Circle Old Hwy 395	4	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF SRF	Yes	Yes
A4.Los Padres Dr	4	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF SRF	Yes	Yes
A4.Los Padres Serranos	4	Yes	Yes	SRF	SRF	Yes	Yes
A4.Pala Flowerwood	4	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF SRF	Yes	Yes
A4.Pala Rd	4	Yes-CH	Yes	DCSS SCLORF	DCSS SCLORF SRF	Yes	Yes
A4.Pankey Pl	4	No	Yes	None	SCLORF	Yes	Yes
A4.Pankey Rd	4	No	No	None	None	Yes	Yes
A4.S Old Highway 395	4	Yes-CH	Yes	SRW	SRW	Yes	Yes
A4.Via Almonte	4	Yes-CH	Yes	DCSS	DCSS	No	No
A4.Via Altamira	4	Yes-CH	Yes	DCSS	DCSS SRW	No	Yes
A4.Via Casitas	4	No	No	None	None	Yes	Yes
A4.Via De Todos Santos	4	Yes-CH	Yes	DCSS	DCSS	No	No
A4.Via Inca	4	Yes-CH	Yes	DCSS	DCSS	No	No
A4.Via Tala	4	Yes-CH	Yes	DCSS	DCSS SRW	No	Yes

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
A5.Pala Resort	5	No	Yes	None	DCSS	Yes	Yes
A5.Tecalote Dr	5	No	No	None	None	Yes	Yes
A5.Valley Oaks Park	5	Yes	Yes	None	SCLORF	Yes	Yes

[1] CH=designated Federal Critical Habitat

[2] Sensitive Vegetation Communities: CC= chamise chaparral; CLOF=Coast live oak forest; CLOW=Coast live oak woodland; CS=Coastal scrub; DCSS=Diegan Coastal sage scrub; EOW=Engelmann oak woodland; FWM= Freshwater marsh; MFS= mule fat scrub; NG=native grassland; NNG= Non-native grassland; NNR=Non-native riparian; OW=Open water; SAWRF=Southern arroyo willow riparian forest; SCLORF= Southern coast live oak riparian forest; SCLORW=Southern coast live oak riparian woodland; SCWRF=Southern cottonwood-willow riparian forest; SMaC=Southern maritime chaparral; SMC=Southern mixed chaparral; SOC= Scrub oak chaparral; SRF=Southern riparian forest; SRS=Southern riparian scrub; SRW=Southern riparian woodland; SSARW=southern sycamore-alder riparian woodland; SWS=Southern willow scrub.

Appendix D-1

ODP Water Projects with High to Moderate Potential to Result in Significant Indirect Impacts to Biological Resources

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B1.1	#N/A	No	Yes	AG	DCSS SMC	No	No
B1.2	LINE A-1662F	No	Yes	None	DCSS SCLORF SMC	No	Yes
B1.3	LINE A-20 EXT. A705	No	Yes	AG	SCLORF	No	Yes
B1.4	24	No	Yes	AG	DCSS SMC	No	No
B1.5	59	No	Yes	AG	DCSS SMC	No	No
B1.6	LAUREL VALLEY DR685B	No	Yes	None	DCSS SCLORF	No	Yes
B1.7	TWIN OAKS VALLEY RD - b	No	Yes	None	DCSS	No	No
B1.8	N TWIN OAKS VALLEY RD	No	Yes	None	DCSS	No	No
B1.9	SPA HAVENS WAY	No	Yes	None	CLOW DCSS SCLORF SMC	No	Yes
B1.10	#N/A - b	No	Yes	None	NNG SCLORF	No	Yes
B1.11	Guy C. Earl Extension646A	No	Yes	None	DCSS SCLORF	No	Yes
B1.12	HAYS LINE EXTENSION702	No	Yes	None	DCSS	No	No
B1.13	1361	No	Yes	None	SWS	No	Yes
B1.14	HOLLY VALLEY DR685C	No	Yes	None	DCSS	No	No
B1.15	HUSS-TYBERG EXTENSION668A	No	Yes	None	AG DCSS	No	Yes
B1.16	HUSS-TYBERG EXTENSION668B	No	Yes	None	DCSS	No	No
B1.17	HUTTON LINE EXTENSION #2704	No	Yes	None	DCSS SCLORF NNG	No	Yes
B1.18	John Havens Water line Extension89	No	Yes	None	SMC	No	No
B1.19	john Havens Water line Extension892	No	Yes	None	DCSS SMC	No	No
B1.20	LAUREL VALLEY DR685B	No	Yes	None	DCSS	No	No
B1.21	1985	No	Yes	None	DCSS	No	No
B1.22	LINE A-1662E	No	Yes	None	DCSS SMC	No	No
B1.23	LINE A3663E	No	Yes	None	SCLORF SMC	No	Yes
B1.24	LINES A-17 & A-16703A	No	Yes	None	DCSS	No	No
B1.25	LITTLE GOPHER CANYON PFRESSURE REDU	No	Yes	None	DCSS NNG	No	Yes
B1.26	2005	No	Yes	None	SRW	No	Yes
B1.27	LOS BANCOS LINE683	No	Yes	None	DCSS	No	No
B1.28	MORIATY EXTENSION634	No	Yes	None	SCLORF	No	Yes
B1.29	NORTH RIVER ROAD LINE A614	No	Yes	None	SRW	No	Yes
B1.30	OAK VALLEY LANE685D	No	Yes	None	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B1.31	Onsite Waterline915B	No	Yes	None	DCSS SCLORF SMC	No	Yes
B1.32	TPM 20489826	No	Yes	None	DCSS	No	No
B1.33	TRES AMIGOS LINE EXT633	No	Yes	None	DCSS NNG SCLORF	No	Yes
B1.34	TUNRIF CT684H	No	Yes	None	DCSS	No	No
B1.35	VISTA VALLEY BYPASS687	No	Yes	None	DCSS	No	No
B1.36	VISTA VALLEY DR. #2686A	No	Yes	None	DCSS	No	No
B1.37	3381	No	Yes	None	SMC	No	No
B1.38	VISTA VALLEY DR. #2686C	No	Yes	None	DCSS	No	No
B1.39	VISTA VALLEY DR685A	No	Yes	None	DCSS	No	No
B1.40	VISTA VALLEY DRIVE684A	No	Yes	None	DCSS SMC	No	No
B1.41	VISTA VALLEY DRIVE684A-O	No	Yes	None	SMC	No	No
B1.42	VISTA VALLEY DRIVE684F	No	Yes	None	DCSS	No	No
B1.43	VISTA VALLEY DRIVE684G	No	Yes	None	DCSS	No	No
B1.44	VISTA VALLEY LANE686B	No	Yes	None	DCSS SCLORF	No	Yes
B1.45	#N/A	No	Yes	None	DCSS SCLORF	No	No
B1.46	ARNESON LINE EXTENSION699	No	Yes	AG	DCSS	No	No
B1.47	ATTERBURY LINE681	No	Yes	AG	CLOW DCSS	No	No
B2.1	HILL RANCHTM5095-1	No	Yes	AG	SRF	No	Yes
B2.2	LINE E484	No	Yes	AG	SCLORF	No	Yes
B2.3	LINE E484C	No	Yes	AG	SCLORF	No	Yes
B2.4	MOOSA CANYON LINE583A1079	No	Yes	AG	SCLORF	No	Yes
B2.5	MOOSA CANYON LINE583A765	No	Yes	AG	SCLORF	No	Yes
B2.6	Olive Hill Estates Transmission Lin	No	Yes	None	DCSS	No	No
B2.7	1752	No	Yes	AG	DCSS	No	No
B2.8	LINE G565B	No	Yes	AG	DCSS NNG	No	No
B2.9	1025	No	Yes	AG	DCSS NNG	No	No
B2.10	BERGEZ LINE EXT.384	No	Yes	AG	CLOF CLOW SRW	No	Yes
B2.11	BURMA RD	No	Yes	None	SRS	No	Yes
B2.12	OLIVE HILL RD - b	No	Yes	None	SCLORF	No	Yes
B2.13	PRIVATE RD - a	No	Yes	None	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.14	PRIVATE RD - c	No	Yes	None	CLOW DCSS	No	Yes
B2.15	PRIVATE RD - e	No	Yes	None	None	No	No
B2.16	PRIVATE RD - f	No	Yes	None	CLOW SSARW	No	Yes
B2.17	PRIVATE RD - g	No	Yes	None	SSARW	No	Yes
B2.18	PUERTA DE LOMAS - b	No	Yes	None	DCSS SRS	No	Yes
B2.19	RANCHO BONITO RD	No	Yes	None	SCLORF	No	Yes
B2.20	S MISSION RD - a	No	Yes	None	CLOW DCSS SSARW SWS	No	Yes
B2.21	S MISSION RD - b	No	Yes	None	SCWRF	No	Yes
B2.22	S MISSION RD - c	No	Yes	None	NNG SRW	No	Yes
B2.23	CATHERINE RD	No	No	None	None	No	Yes
B2.24	SHAMROCK CT	No	Yes	None	CLOW DCSS	No	No
B2.25	SHAMROCK RD	No	Yes	None	CLOW DCSS	No	No
B2.26	VIA MONSERATE - b	No	Yes	None	SRW	No	Yes
B2.27	VIA PUERTA DEL SOL - a	No	Yes	None	DCSS	No	No
B2.28	VIA PUERTA DEL SOL - b	No	Yes	None	DCSS SRS	No	No
B2.29	LOWER SPRINGS RD	No	Yes	None	SCLORF	No	Yes
B2.30	MILES RANCH RD	No	Yes	None	CLOW SCLORF	No	Yes
B2.31	638	No	Yes	None	SWS	No	Yes
B2.32	718	No	Yes	AG	SWS	No	Yes
B2.33	1479	No	Yes	None	SCWRF	No	Yes
B2.34	935	No	Yes	AG	DCSS	No	No
B2.35	AMBROSE LINE EXTENSION451	No	Yes	None	CLOW NNG	No	No
B2.36	ASSUMED DATE4908-1	No	Yes	None	NNG	No	No
B2.37	BAIN WATER MAIN441	No	Yes	None	CLOW SCLORW SCWRF	No	Yes
B2.38	BECKER LINE EXTENSION516	No	Yes	None	NNG	No	No
B2.39	1488	No	Yes	AG	CLOW	No	No
B2.40	BIVINS LINE EXTENSION461	No	Yes	None	NNG	No	No
B2.41	BRILES LINE EXT.432	No	Yes	None	SCLORF	No	Yes
B2.42	Brookhills Road (Blueprint Only)BH	No	Yes	None	CLOW	No	No
B2.43	Brookhills Road (Blueprint Only)BHB	No	Yes	None	CLOW NNG	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.44	BURMA CT. LINE EXT.421B	No	Yes	None	CLOW SRS NNG	No	No
B2.45	BURMA ROAD LINE421A	No	Yes	AG	CLOW SRS NNG	No	Yes
B2.46	CAMERON LINE EXTENSION812	No	Yes	None	CLOW NNG	No	No
B2.47	CAMPOBASSO LINE EXT518	No	Yes	None	CLOW NNG	No	No
B2.48	CANDICE CT. (Blueprint Only)BHBPC	No	Yes	None	NNG SCWRF	No	Yes
B2.49	CARLSON LINE EXTENSION457	No	Yes	None	NNG	No	No
B2.50	CATHER'S LINE EXT.425	No	Yes	None	NNG	No	No
B2.51	CONEJO LINE EXT.478	No	Yes	None	CLOW NNG	No	No
B2.52	1554	No	Yes	None	NNG SSARW	No	Yes
B2.53	CUERNAVACA RD490E	No	Yes	None	CLOW DCSS NNG	No	No
B2.54	DEL RIO ESTATES LINE EXT.503	No	Yes	None	NNG	No	No
B2.55	DRESSER LINE EXT #3439A	No	Yes	None	NNG	No	No
B2.56	DRESSER LINE EXT. #2438A	No	Yes	None	NNG SCLORF	No	Yes
B2.57	DRESSER LINE EXT. #2438B	No	Yes	None	NNG SCLORF	No	Yes
B2.58	EDMUNDS LINE EXTENSION498	No	Yes	None	CLOW NNG SCWRF	No	Yes
B2.59	1555	No	Yes	None	NNG SSARW	No	Yes
B2.60	EL NIDO IMRPOVEMENTS392	No	Yes	None	CLOW NNG	No	No
B2.61	ELLSWORTH LINE EXTENSION522	No	Yes	None	CLOW NNG	No	No
B2.62	FALLSBRAE ROAD494	No	Yes	None	NNG	No	No
B2.63	FISCH LINE EXTENSION564	No	Yes	AG	NNG	No	No
B2.64	FRANCIS LINE EXT.396	No	Yes	None	NNG SWS	No	Yes
B2.65	1556	No	Yes	None	NNG	No	No
B2.66	FRIESTAD LINE EXT. #2477	No	Yes	None	CLOW NNG	No	No
B2.67	GAINES LINE EXTENSION449B	No	Yes	None	CLOW NNG SWS	No	No
B2.68	GRACE COURT LINE EXT.391	No	Yes	None	CLOW NNG	No	No
B2.69	GROVE VIEW RD596	No	Yes	None	DCSS NNG SRS	No	Yes
B2.70	HAND W/L EXTENSION453	No	Yes	None	CLOW NNG SWS	No	Yes
B2.71	Highland Oaks Court857C	No	Yes	None	CLOW NNG SSARW	No	Yes
B2.72	highland Oaks Lane857	No	Yes	None	NNG SSARW	No	Yes
B2.73	1561	No	Yes	None	CLOW NNG SSARW	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.74	Hill Ranch859L	No	Yes	None	DCSS NNG	No	No
B2.75	Hill Ranch859N	No	Yes	None	NNG	No	No
B2.76	HILLRISE ROAD493A	No	Yes	None	CLOW NNG SCWRF	No	Yes
B2.77	HOLWICK LINE EXTENSION448	No	Yes	None	NNG	No	No
B2.78	HOPE LINE EXT459	No	Yes	AG	NNG	No	No
B2.79	ID "D" IMPROVEMENTS401B	No	Yes	None	CLOW DCSS NNG	No	No
B2.80	INGLIS LINE EXT.447	No	Yes	AG	NNG	No	No
B2.81	1562	No	Yes	None	CLOW NNG	No	No
B2.82	IRVINE LINE EXT.489	No	Yes	None	DCSS	No	No
B2.83	JENNIFER CT. (Blueprint Only)BHBPG	No	Yes	AG	CLOW NNG	No	No
B2.84	JOHNSON EXTENSION562	No	Yes	None	NNG	No	No
B2.85	JOHNSON LINE EXT.424	No	Yes	None	NNG	No	No
B2.86	KATIE CT. (Blueprint Only)BHBPD	No	Yes	None	DCSS NNG	No	No
B2.87	KEPLEY LINE EXT440	No	Yes	None	NNG SCLORF	No	Yes
B2.88	KERI WAY (Blueprint Only)BHBPB	No	Yes	None	CLOW NNG SCWRF	No	Yes
B2.89	KRISTI CT. (Blueprint Only)BHBPH	No	Yes	None	CLOW NNG	No	No
B2.90	1586	No	Yes	AG	NNG	No	No
B2.91	LA CANADA LINE EXT497	No	Yes	None	NNG	No	No
B2.92	LA CANADA ROAD494	No	Yes	None	CLOW NNG SCWRF	No	Yes
B2.93	LAKE SYCAMORE ROAD493D	No	Yes	None	CLOW NNG SSARW	No	Yes
B2.94	LANSING LINE434	No	Yes	AG	CLOW NNG SSARW	No	Yes
B2.95	LAS FLORES DR. LINE RELOCAT.446	No	Yes	AG	NNG	No	No
B2.96	LAS FLORES LINE EXT.445	No	Yes	AG	DCSS NNG	No	No
B2.97	LEECH LINE EXT.436	No	Yes	AG	CLOW NNG	No	No
B2.98	LINDA VISTA DR. 16" WATERLINE REPLA	No	Yes	None	CLOW NNG	No	No
B2.99	LINDA VISTA POTABLE WATER LINE REPL	No	Yes	None	CLOW NNG SCWRF	No	Yes
B2.100	1588	No	Yes	None	SCLORF	No	Yes
B2.101	LINE "JJ-1"481	No	Yes	None	DCSS	No	No
B2.102	LINE "Q-3"398A	No	Yes	None	CLOW NNG SCWRF	No	Yes
B2.103	LINE E484	No	Yes	None	NNG SCLORF	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.104	LINE E484B	No	Yes	None	NNG SCLORF	No	Yes
B2.105	LINE F1423	No	Yes	None	CLOW SRS	No	Yes
B2.106	LINE F-1485A	No	Yes	AG	CLOW DCSS NNG SRS	No	Yes
B2.107	LINE F2485C	No	Yes	None	NNG SCLORF	No	Yes
B2.108	1589	No	Yes	None	NNG	No	No
B2.109	LINE F2485E	No	Yes	None	CLOW DCSS NNG	No	No
B2.110	LINE F3422A	No	Yes	None	CLOW NNG SSARW	No	Yes
B2.111	LINE F3422B	No	Yes	AG	CLOW NNG	No	No
B2.112	LINE F3422C	No	Yes	None	NNG	No	No
B2.113	LINE F3422D	No	Yes	AG	NNG	No	No
B2.114	LINE F3422E	No	Yes	None	NNG	No	No
B2.115	LINE F3422F	No	Yes	None	NNG	No	No
B2.116	1590	No	Yes	None	NNG	No	No
B2.117	LINE H565A	No	Yes	AG	NNG	No	No
B2.118	LINE JJ-2475	No	Yes	None	DCSS NNG SCLORF	No	Yes
B2.119	LINE KK558A	No	Yes	AG	NNG	No	No
B2.120	LINE K-K558A	No	Yes	AG	NNG SCLORF SRS	No	Yes
B2.121	LINE K-K558B	No	Yes	None	NNG	No	No
B2.122	LINE L-L559A	No	Yes	None	NNG SRS	No	Yes
B2.123	LINE L-L559C	No	Yes	None	NNG	No	No
B2.124	MACGREGOR LINE EXT.428	No	Yes	None	CLOW NNG	No	No
B2.125	MAHR LINE EXT.480	No	Yes	AG	CLOW NNG	No	No
B2.126	MISSION RD: STATE RT. 76525	No	Yes	None	NNG SRW	No	Yes
B2.127	MOOSA CANYON LINE583A1079	No	Yes	AG	DCSS NNG SCLORF	No	Yes
B2.128	MOOSA CANYON LINE583A2483	No	Yes	None	CLOW NNG	No	No
B2.129	MOOSA CANYON LINE583A563	No	Yes	None	DCSS NNG SCLORF	No	Yes
B2.130	1592	No	Yes	None	NNG SCLORF	No	Yes
B2.131	MOOSA CANYON LINE583A763	No	Yes	None	CLOW NNG	No	No
B2.132	Moro Chloramination Injection System	No	Yes	None	CLOW DCSS NNG	No	No
B2.133	Morro	No	Yes	AG	NNG	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.134	MORRO SUMAC TRANS MAIN483A1080	No	Yes	None	CLOW NNG SWS	No	Yes
B2.135	MORRO SUMAC TRANS MAIN483A194	No	Yes	None	CLOW NNG	No	No
B2.136	MORRO SUMAC TRANS MAIN483A2044	No	Yes	None	NNG	No	No
B2.137	MORRO SUMAC TRANS MAIN483A567	No	Yes	None	NNG SWS	No	No
B2.138	MORRO SUMAC TRANS MAIN483A719	No	Yes	None	CLOW NNG SWS	No	Yes
B2.139	MORRO SUMAC TRANS MAIN483D	No	Yes	None	CLOW SCWRF	No	Yes
B2.140	1595	No	Yes	None	DCSS	No	No
B2.141	MYERS LINE EXT. #3385	No	Yes	None	CLOW NNG	No	No
B2.142	NIOTIS LINE EXTENSION567	No	Yes	None	CLOW NNG	No	No
B2.143	NORTH CO. AVOCADO ESTATES490A	No	Yes	None	CLOW DCSS	No	No
B2.144	NORTH CO. AVOCADO ESTATES490B	No	Yes	AG	DCSS NNG	No	No
B2.145	NORTH CO. AVOCADO ESTATES490C	No	Yes	None	SCLORF SSARW	No	Yes
B2.146	NORTH CO. AVOCADO ESTATES490D	No	Yes	None	CLOW	No	No
B2.147	NORTH CO. AVOCADO ESTATES490E	No	Yes	None	NNG SRS	No	Yes
B2.148	1596	No	Yes	None	NNG SSARW	No	Yes
B2.149	NORTH CO. AVOCADO ESTATES490F	No	Yes	None	CLOW NNG	No	No
B2.150	NORTH LA CANADA EXT.397	No	Yes	None	CLOW NNG	No	No
B2.151	NORTH PALOMAR LINE RELOC458	No	Yes	None	NNG SWS	No	Yes
B2.152	NORTHSIDE TRANS. W/L REPLACEMENT (M	No	Yes	AG	NNG SCLORF	No	Yes
B2.153	NORTHSIDE TRANSM. REPLMT.806A	No	Yes	None	NNG SCLORF	No	Yes
B2.154	Northside Transmission Main1941043	No	Yes	None	CLOW DCSS NNG	No	No
B2.155	Northside Transmission Main1941093	No	Yes	None	CLOW DCSS NNG	No	No
B2.156	Northside Transmission Main1941094	No	Yes	None	NNG	No	No
B2.157	Northside Transmission Main1941095	No	Yes	None	NNG	No	No
B2.158	Northside Transmission Main1941097	No	Yes	None	NNG	No	No
B2.159	Northside Transmission Main1941099	No	Yes	AG	SCWRF	No	Yes
B2.160	Northside Transmission Main1941100	No	Yes	None	NNG	No	No
B2.161	Northside Transmission Main1941123	No	Yes	None	NNG SCLORF	No	Yes
B2.162	Northside Transmission Main1941288	No	Yes	None	CLOW NNG	No	No
B2.163	Northside Transmission Main1941593	No	Yes	None	DCSS NNG	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.164	Northside Transmission Main1941594	No	Yes	None	NNG	No	No
B2.165	1748	No	Yes	AG	DCSS	No	No
B2.166	Northside Transmission Main1941654	No	Yes	None	CLOW NNG	No	No
B2.167	Northside Transmission Main194929	No	Yes	None	CLOW NNG	No	No
B2.168	PALESIK LINE EXTENSIONN-912B	No	Yes	None	NNG	No	No
B2.169	PALOMAR DRIVE RELOCATION395	No	Yes	None	NNG SCWRF	No	Yes
B2.170	PALOMAR LINE RELOCATION455	No	Yes	None	CLOW NNG	No	No
B2.171	PALOMAR TIE LINE452	No	Yes	None	CLOW NNG	No	No
B2.172	PASEO LINDO WATERMAIN - VALLE DEL S	No	Yes	None	NNG	No	No
B2.173	PINCKNEY LINE EXT.426	No	Yes	None	NNG	No	No
B2.174	POPP LINE EXTENSION462	No	Yes	None	CLOW NNG	No	No
B2.175	POPP-SWISHNER LINE EXT505	No	Yes	None	CLOW NNG	No	No
B2.176	PRIVATE ROAD (TPM 19469)794	No	Yes	None	NNG	No	No
B2.177	RABUCHIN LINE EXTENSION813	No	Yes	None	CLOW DCSS NNG	No	No
B2.178	RAMONA DRIVE493C	No	Yes	None	CLOW NNG	No	No
B2.179	RAMONA LINE EXTENSION500	No	Yes	None	DCSS SRW	No	Yes
B2.180	RANCH ACRES LINE EXT566	No	Yes	None	DCSS NNG	No	No
B2.181	RANCHO LINE EXT.435	No	Yes	AG	NNG	No	No
B2.182	RIO VISTA REPLACEMENT501	No	Yes	None	NNG	No	No
B2.183	RIVER VILLAGE SHOPPING CENTER524A	No	Yes	None	SCWRF	No	Yes
B2.184	RIVER VILLAGE SHOPPING CENTER524B	No	Yes	None	SRW	No	Yes
B2.185	RIVER VILLAGE SHOPPING CENTER524C	No	Yes	None	NNG	No	No
B2.186	RIVER VILLAGE SHOPPING CENTER524D	No	Yes	None	SRW	No	Yes
B2.187	SAWDAY LINE EXT. #2496	No	Yes	None	NNG	No	Yes
B2.188	SUMAC-MORRO TRANSMISSION MAIN483D	No	Yes	None	CLOW DCSS SSARW	No	Yes
B2.189	SUMAC-MORRO TRANSMISSION MAIN483E	No	Yes	None	SSARW	No	Yes
B2.190	SWEETGRASS CT492E	No	Yes	None	SRW	No	Yes
B2.191	Sweetgrass Lane Pipeline Replacement	No	Yes	None	SRW	No	Yes
B2.192	Sweetgrass Pipeline Replacement	No	Yes	None	SRW	No	Yes
B2.193	SYCAMORE RANCH UNIT 3831	No	Yes	None	SCWRF	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.194	TAMARRA SAWDAY TIE LINE495	No	Yes	None	SCWRF	No	Yes
B2.195	TEDESCO WATERMAIN EXT.476	No	Yes	None	SCLORF	No	Yes
B2.196	TM 4971-1835	No	Yes	None	CLOW	No	No
B2.197	TRACY CT. (Blueprint Only)BHBPE	No	Yes	None	NNG SCWRF	No	Yes
B2.198	VAN DER LINDEN LINE EXT491	No	Yes	None	NNG SCWRF	No	Yes
B2.199	VAN GAS LINE EXTENSION601	No	Yes	None	DCSS NNG	No	No
B2.200	VAN VITHOVEN LINE EXT511	No	Yes	None	NNG SCWRF	No	Yes
B2.201	VERDE AVE WATERLINE REPLACEMENT840	No	Yes	None	SSARW	No	Yes
B2.202	VERDE AVE. REPAIR799	No	Yes	None	SSARW	No	Yes
B2.203	VIA ENCINAS DRIVE (SC130)387	No	Yes	None	SCWRF	No	Yes
B2.204	VIA ENCINAS LINE EXT #2388	No	Yes	None	SCWRF	No	Yes
B2.205	VIA ENCINAS LINE EXT #3389	No	Yes	None	SCWRF	No	Yes
B2.206	VIA ENCINAS LINE EXT #4390	No	Yes	None	SCWRF	No	Yes
B2.207	WALKER LINE EXT.442	No	Yes	None	SCWRF	No	Yes
B2.208	WAYMAN & RANNEY LINE EXT.488	No	Yes	None	CLOW SCWRF SRS	No	Yes
B2.209	WILLIS LINE EXTENSION456	No	Yes	None	SWS	No	Yes
B2.210	1551	No	Yes	AG	NNG SRS	No	Yes
B2.211	234	No	Yes	None	SCLORF	No	Yes
B2.212	252	No	Yes	None	SCWRF	No	Yes
B2.213	253	No	Yes	None	SCWRF	No	Yes
B2.214	1138	No	Yes	None	SSARW	No	Yes
B2.215	1239	No	Yes	None	SSARW	No	Yes
B2.216	3568	No	Yes	None	SCWRF	No	Yes
B2.217	3569	No	Yes	None	SCWRF	No	Yes
B2.218	3570	No	Yes	None	SCWRF	No	Yes
B2.219	1292	No	Yes	None	SCLORF	No	Yes
B2.220	3572	No	Yes	None	SCWRF	No	Yes
B2.221	431	No	Yes	None	SRW	No	Yes
B2.222	576	No	Yes	None	SCWRF	No	Yes
B2.223	1294	No	Yes	None	SCLORF	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.224	621	No	Yes	None	SSARW	No	Yes
B3.1	CALLE DE TALAR PIPELINE REPLACEMENT	No	Yes	AG	SRF	No	Yes
B3.2	HORMUTH 8" WATER MAIN EXTENSION827	No	Yes	AG	CLOW	No	Yes
B3.3	182	No	Yes	None	DCSS	No	No
B3.4	Redondo Pressure Station901F	No	Yes	None	DCSS	No	No
B3.5	2014	No	Yes	AG	DCSS	No	No
B3.6	W LILAC RD - b	No	Yes	None	SCWRF SSARF	No	Yes
B3.7	W LILAC RD - c	No	Yes	None	NNG SCRWF	No	Yes
B3.8	W LILAC RD - e	No	Yes	None	DCSS NNG	No	No
B3.9	MOUNTAIN VIEW RD	No	Yes	None	DCSS	No	No
B3.10	PRIVATE RD - a	No	Yes	None	DCSS	No	No
B3.11	PRIVATE RD - b	No	Yes	None	DCSS NNG	No	No
B3.12	1721	No	Yes	None	DCSS	No	No
B3.13	LINE P554	No	Yes	None	DCSS	No	No
B3.14	LINE Q-2398D	No	Yes	None	DCSS	No	No
B3.15	LOT 4 ASCOT PARK ESTATES531	No	Yes	None	DCSS	No	No
B3.16	LYON LINE EXTENSION582	No	Yes	None	DCSS	No	No
B3.17	MOOSA CANYON LINE	No	Yes	None	MFS SRW	No	Yes
B3.18	MOOSA CANYON LINE583B816	No	Yes	None	MFS SRW	No	Yes
B3.19	Redondo Pressure Station901F	No	Yes	None	DCSS	No	No
B3.20	1794	No	Yes	None	NNG	No	No
B3.21	VIA MARGARITA586B	No	Yes	None	SRW	No	Yes
B3.22	1795	No	Yes	None	NNG	No	No
B3.23	WATERHOUSE LINE549	No	Yes	None	SCLORF	No	Yes
B3.24	WRIGHT-WOOD EXTENSION581	No	Yes	None	DCSS SAWRF	No	Yes
B3.25	1804	No	Yes	None	DCSS	No	No
B3.26	1805	No	Yes	None	DCSS	No	No
B3.27	1808	No	Yes	None	NNG	No	No
B3.28	1811	No	Yes	None	DCSS	No	No
B3.29	1812	No	Yes	None	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B3.30	1813	No	Yes	None	DCSS	No	No
B3.31	1815	No	Yes	None	DCSS	No	No
B3.32	2014	No	Yes	None	DCSS	No	No
B3.33	2743	No	Yes	None	SRW	No	Yes
B3.34	438	No	Yes	None	DCSS SCLORF	No	Yes
B3.35	439	No	Yes	None	DCSS SCLORF	No	Yes
B3.36	440	No	Yes	None	DCSS	No	No
B3.37	491	No	Yes	None	DCSS	No	No
B3.38	493	No	Yes	None	DCSS	No	No
B3.39	501	No	Yes	None	DCSS	No	No
B3.40	502	No	Yes	None	NNG	No	No
B3.41	810	No	Yes	None	SRW	No	Yes
B3.42	811	No	Yes	None	SRW	No	Yes
B3.43	812	No	Yes	None	SRW	No	Yes
B3.44	813	No	Yes	None	SRW	No	Yes
B3.45	815	No	Yes	None	SRW	No	Yes
B3.46	AKNIN LINE EXTENSION580	No	Yes	None	DCSS SWS	No	Yes
B3.47	ASCOT PARK STUB LINE538	No	Yes	None	DCSS	No	No
B3.48	BONSALL WEST LATERAL556B	No	Yes	AG	DCSS	No	No
B3.49	GRAVEL MAIN588	No	Yes	None	DCSS	No	No
B3.50	HORMUTH 8" WATER MAIN EXTENSION827	No	Yes	None	SCLORF	No	Yes
B3.51	HUTTON RESERVOIR FILL LINE507A	No	Yes	None	DCSS SCLORF	No	Yes
B3.52	HUTTON RESERVOIR FILL LINE507B	No	Yes	None	DCSS	No	No
B3.53	HUTTON RESERVOIR FILL LINE507D	No	Yes	None	DCSS	No	No
B4.1	SUMAC-MORRO TRANSMISSION MAIN483A	No	Yes	None	DCSS SMC	No	No
B4.2	SUMAC-MORRO TRANSMISSION MAIN483B	No	Yes	AG	DCSS	No	No
B4.3	2644	No	Yes	None	CLOW DCSS	No	No
B4.4	LINE "B" (Blueprint Only)LBBPA	No	Yes	AG	DCSS	No	No
B4.5	CANONITA DR	No	Yes	None	CLOW NNG	No	No
B4.6	SKYCREST DR	No	Yes	None	DCSS NNG	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B4.7	SUGAR PINE LN	No	Yes	None	DCSS NNG SCWRF	No	Yes
B4.8	VIA LOMA	No	Yes	None	CLOW	No	Yes
B4.9	VISTA DE PALOMAR RD	No	Yes	None	DCSS NNG	No	No
B4.10	WESTMONT DR	No	Yes	None	NNG	No	No
B4.11	WINTER HAVEN RD	No	Yes	None	SWS	No	Yes
B4.12	GIRD RD	No	Yes	None	CLOW DCSS NNG	No	No
B4.13	OLD POST RD	No	Yes	None	NNG	No	No
B4.14	PRIVATE RD - a	No	Yes	None	NNG	No	No
B4.15	PRIVATE RD - b	No	Yes	None	DCSS SCLORF SMC SOC	No	Yes
B4.16	PRIVATE RD - c	No	Yes	None	CLOW	No	No
B4.17	SAGE RD	No	Yes	None	DCSS SAWRF SCLORF	No	Yes
B4.18	Lake Rancho Viejo471A1932	No	Yes	None	SRW	No	Yes
B4.19	Lake Rancho Viejo471A1933	No	Yes	None	NNG	No	No
B4.20	Lake Rancho Viejo471A2250	No	Yes	None	DCSS SRW	No	Yes
B4.21	Lake Rancho Viejo471A2251	No	Yes	None	DCSS SRW	No	Yes
B4.22	Lake Rancho Viejo471A238	No	Yes	None	DCSS SRW	No	Yes
B4.23	1299	No	Yes	None	DCSS	No	No
B4.24	Lake Rancho Viejo471A239	No	Yes	None	DCSS SRW	No	Yes
B4.25	Lake Rancho Viejo471A240	No	Yes	None	DCSS SRW	No	Yes
B4.26	Lake Rancho Viejo471A241	No	Yes	None	DCSS SRW	No	Yes
B4.27	Lake Rancho Viejo471A242	No	Yes	None	DCSS SRW	No	Yes
B4.28	Lake Rancho Viejo471A243	No	Yes	None	DCSS SRW	No	Yes
B4.29	Lake Rancho Viejo471A245	No	Yes	None	DCSS SRW	No	Yes
B4.30	Lake Rancho Viejo471A2555	No	Yes	None	DCSS SRW	No	Yes
B4.31	Lake Rancho Viejo471A2556	No	Yes	None	DCSS SRW	No	Yes
B4.32	Lake Rancho Viejo471A2557	No	Yes	None	DCSS SRW	No	Yes
B4.33	Lake Rancho Viejo471A2558	No	Yes	None	DCSS SRW	No	Yes
B4.34	Lake Rancho Viejo471A2559	No	Yes	None	DCSS SRW	No	Yes
B4.35	Lake Rancho Viejo471A2560	No	Yes	None	DCSS SRW	No	Yes
B4.36	Lake Rancho Viejo471A2787	No	Yes	None	DCSS SRW	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B4.37	Lake Rancho Viejo471A2788	No	Yes	None	SRW	No	Yes
B4.38	Lake Rancho Viejo471A989	No	Yes	None	SRW	No	Yes
B4.39	Lake Rancho Viejo856C	No	Yes	None	FWM OW SAWRF	No	Yes
B4.40	Lake Rancho Viejo931E	No	Yes	None	DCSS	No	No
B4.41	Lake Rancho Viejo931J	No	Yes	None	FWM OW SAWRF	No	Yes
B4.42	Lake Shore Road856C	No	Yes	None	FWM OW SAWRF	No	Yes
B4.43	LAKERANCHO MONSERATEK931M	No	Yes	None	FWM OW SAWRF	No	Yes
B4.44	LINE "B" (Blueprint Only)LBBPB	No	Yes	None	CLOW DCSS NNG	No	No
B4.45	LINE "B" (Blueprint Only)LBBPD	No	Yes	None	CLOW DCSS NNG	No	No
B4.46	1454	No	Yes	None	DCSS	No	No
B4.47	LOWEN #2326A	No	Yes	None	CLOW DCSS NNG	No	No
B4.48	LOWEN #2326B	No	Yes	None	CLOW DCSS NNG	No	No
B4.49	1496	No	Yes	None	DCSS	No	No
B4.50	LUMSDEN LINE EXT324	No	Yes	None	CLOW NNG	No	No
B4.51	MILLER EXT #2404	No	Yes	None	DCSS	No	No
B4.52	MONSERATE HILL ROAD464B	No	Yes	None	SCLORF	No	Yes
B4.53	MORRO SUMAC TRANS MAIN483A2046	No	Yes	None	SRW	No	Yes
B4.54	MORRO SUMAC TRANS MAIN483A2784	No	Yes	None	NNG SRS	No	Yes
B4.55	1535	No	Yes	None	DCSS	No	No
B4.56	OAK CLIFF WATERLINE REPLACEMENT846	No	Yes	None	CLOW	No	No
B4.57	PALA MESA VILLAGE UNIT #1415A	No	Yes	None	DCSS NNG	No	No
B4.58	Private Road PM1002614623	No	Yes	None	DCSS	No	No
B4.59	RANCHO DIEGO UNIT 1464B	No	Yes	None	DCSS SCLORF	No	Yes
B4.60	RANCHO MONSERATE M/H PARK469A	No	Yes	None	DCSS	No	No
B4.61	RANCHO MONSERATE M/H PARK469E	No	Yes	None	SMC	No	No
B4.62	RANCHO MONSERATE MOBILE HOME PARK E	No	Yes	None	DCSS SCLORF SRS SRW	No	Yes
B4.63	REINEMAN-MILLER LINE REPLACMENT411	No	Yes	None	DCSS	No	No
B4.64	RMWDAsbuilts OFFICE417A	No	Yes	None	DCSS SRW	No	No
B4.65	SARAH ANN DRIVE LINE400A	No	Yes	None	SCWRF	No	Yes
B4.66	SCHMIDT-JOHNSON LINE EXT.316	No	No	None	None	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B4.67	1005	No	Yes	None	DCSS NNG SCWRF	No	Yes
B4.68	1550	No	Yes	None	DCSS SRW	No	Yes
B4.69	SUBDIVISION LINE EXT360F	No	Yes	None	CLOW DCSS NNG	No	No
B4.70	SUMAC 8" LINE RELOCATION409	No	Yes	None	NNG	No	No
B4.71	SUMAC 8" LINE RELOCATION410	No	Yes	None	DCSS NNG SCLORF	No	Yes
B4.72	SUMAC DRIVE LINE EXT.382	No	Yes	None	SMC	No	No
B4.73	SYCAMORE RANCH UNIT 2830	No	Yes	None	SRS SWS	No	Yes
B4.74	SYCAMORE RANCH UNIT 2833	No	Yes	None	OW SCWRF	No	Yes
B4.75	SYCAMORE RANCH UNIT 3831	No	Yes	None	SCWRF	No	Yes
B4.76	SYCAMORE RANCHTM3786-12045	No	Yes	None	SRW	No	Yes
B4.77	SYCAMORE RANCHTM3786-12047	No	Yes	None	SCWRF SSARW	No	Yes
B4.78	SYCAMORE RANCHTM3786-12049	No	Yes	None	DCSS NNG	No	No
B4.79	SYCAMORE RANCHTM3786-12299	No	Yes	None	SCWRF SSARW	No	Yes
B4.80	SYCAMORE RANCHTM3786-12471	No	Yes	None	OW SSARW	No	Yes
B4.81	SYCAMORE RANCHTM3786-12472	No	Yes	None	DCSS NNG	No	No
B4.82	SYCAMORE RANCHTM3786-12477	No	Yes	None	DCSS	No	No
B4.83	SYCAMORE RANCHTM3786-12478	No	Yes	None	NNG SCWRF	No	Yes
B4.84	2016-05-17 IP Pala Mesa-Full Size	No	Yes	None	DCSS SRF	No	Yes
B4.85	TPM 19187 - WELDON WAY829	No	Yes	None	CLOW NNG	No	No
B4.86	URNER LINE EXT.336	No	Yes	None	DCSS NNG SCWRF	No	Yes
B4.87	VISTA DE PALOMAR WATERLINE REOLCATI	No	Yes	None	CLOW DCSS NNG	No	No
B4.88	VOZNICK LINE EXTENSION322	No	Yes	None	CLOW DCSS NNG	No	No
B4.89	YARNELL LINE EXT.323A	No	Yes	None	CLOW	No	No
B4.90	2570	No	Yes	None	NNG	No	No
B4.91	3178	No	Yes	None	SRW	No	Yes
B4.92	1006	No	Yes	None	DCSS NNG SCWRF	No	Yes
B4.93	524	No	Yes	None	CLOW	No	No
B4.94	651	No	Yes	None	CLOW DCSS	No	No
B4.95	653	No	Yes	None	CLOW	No	No
B4.96	658	No	Yes	None	CLOW NNG	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B4.97	659	No	Yes	None	DCSS	No	No
B4.98	828B	No	Yes	None	NNG	No	No
B4.99	BOYLE LINE EXTENSION467	No	Yes	None	DCSS	No	No
B4.100	CANONITA LINE (Blueprint Only)CLBPB	No	Yes	None	CLOW	No	No
B4.101	CANONITA LINE** (Blueprint Only)CLB	No	Yes	AG	CLOW NNG	No	No
B4.102	CANONITA PHASE 2 WATERLINE RELOCATI	No	Yes	None	CLOW	No	No
B4.103	CHAFFIN LINE EXT.321	No	Yes	None	CLOW	No	No
B4.104	COLLINS LINE ON BRODEN LANE413	No	Yes	None	DCSS SCLORF	No	Yes
B4.105	CROWELL LUNG LINE EXT.408	No	Yes	None	CLOW DCSS	No	No
B4.106	FIRE ROAD W/L464A	No	Yes	None	DCSS	No	No
B4.107	GLASGOW LINE362	No	Yes	None	CLOW	No	No
B4.108	KATIE LENDRE DRIVE LINE400B	No	Yes	None	SCWRF	No	Yes
B4.109	KING LINE369	No	Yes	None	DCSS NNG SCWRF	No	Yes
B4.110	KRAUSE LINE EXT. #2405	No	Yes	None	CLOW	No	No
B4.111	LAKE GARDEN LINE EXT.371	No	Yes	None	DCSS	No	No
B4.112	Lake Rancho Monserate856A	No	Yes	None	NNG	No	No
B4.113	Lake Rancho Monserate856C	No	Yes	None	FWM OW SAWRF	No	Yes
B4.114	1264	No	Yes	None	OW	No	Yes
B4.115	Lake Rancho Vejio931E	No	Yes	None	DCSS	No	No
B4.116	Lake Rancho Viejo - Phase II796A	No	Yes	None	DCSS FWM NNG OW SAWRF	No	Yes
B4.117	Lake Rancho Viejo TM4249856B	No	Yes	None	NNG	No	No
B4.118	Lake Rancho Viejo471A1376	No	Yes	None	DCSS NNR SRW	No	Yes
B4.119	Lake Rancho Viejo471A1377	No	Yes	None	SRW	No	Yes
B4.120	Lake Rancho Viejo471A1378	No	Yes	None	SRW	No	Yes
B4.121	1265	No	Yes	None	OW	No	Yes
B4.122	Lake Rancho Viejo471A1380	No	Yes	None	SRW	No	Yes
B4.123	1266	No	Yes	None	OW	No	Yes
B4.124	Lake Rancho Viejo471A1402	No	Yes	None	SRW	No	Yes
B5.1	CALLE DE LOMAS399A	No	Yes	None	SCLORW SCWRF	No	Yes
B5.2	CALLE DOS LOMAS WATERLINE INSTALLAT	No	Yes	None	SCLORW SCWRF	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B5.3	SKYCREST DR	No	Yes	None	CLOW DCSS NNG	No	No
B5.4	DOS LOMAS PLACE360B	No	Yes	None	SWS	No	Yes
B5.5	ID "D" IMPROVEMENTS401C	No	Yes	None	CLOW	No	No
B5.6	LEAHY LINE361B	No	Yes	None	CLOW	No	No
B5.7	VIA AALICIA\ VIA VONNIE WATERLINE92	No	Yes	None	SWS	No	Yes
B5.8	VIA ALICIA\VIA VONNIE WATERLINE926D	No	Yes	None	SWS	No	Yes
B5.9	VIA RANCHEROS LINE EXT. #2785	No	Yes	None	CLOW NNG	No	No
B5.10	360B	No	Yes	None	SWS	No	Yes
B5.11	CALLE DE LOMAS399B	No	Yes	None	SCWRF SRS	No	No
B6.1	1326	No	Yes	AG	DCSS	No	No
B6.2	BAILEY LINE EXT.259	No	Yes	AG	SCWRF SMC	No	Yes
B6.3	1439	No	Yes	AG	MFS	No	Yes
B6.4	LOS PADRES DR	No	Yes	None	SCLORF	No	Yes
B6.5	N RIDGE DR	No	Yes	None	CLOW	No	No
B6.6	PRIVATE RD - b	No	Yes	None	CLOW	No	No
B6.7	PRIVATE RD - c	No	Yes	None	DCSS NNG SCLORF	No	Yes
B6.8	PRIVATE RD - d	No	Yes	None	DCSS NNG SCLORF	No	Yes
B6.9	PUERTO DEL MUNDO - a	No	Yes	None	DCSS NNG SCLORF	No	Yes
B6.10	PUERTO DEL MUNDO - b	No	Yes	None	CLOW SCLORF	No	Yes
B6.11	COUNTRY RD	No	Yes	None	SCLORF	No	Yes
B6.12	KENDI LN	No	Yes	None	CLOW	No	No
B6.13	LIVE OAK PARK RD	No	Yes	None	SCLORF	No	Yes
B6.14	LOS ALISOS DR	No	Yes	None	SCLORF	No	Yes
B6.15	1309	No	Yes	None	DCSS NNG	No	No
B6.16	853	No	Yes	None	DCSS	No	No
B6.17	927F	No	Yes	None	SMC SOC	No	No
B6.18	BAILEY LINE EXT.259	No	Yes	None	DCSS NNG	No	No
B6.19	BARDER EXT.286	No	Yes	None	DCSS NNG	No	No
B6.20	BERGSTROM LINE EXT #2342	No	Yes	AG	SCWRF	No	Yes
B6.21	BINNEY LINE EXT.349A	No	Yes	None	DCSS SRF	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B6.22	BRAEBEL WL EXT.380	No	Yes	None	SRW	No	Yes
B6.23	CANONITA LINE (Blueprint Only)CLBPA	No	Yes	None	CLOW DCSS NNG	No	No
B6.24	CANONITA LINE (Blueprint Only)CLBPB	No	Yes	None	CLOW	No	No
B6.25	Chipman Line Extension909B	No	Yes	None	DCSS SCWRF	No	Yes
B6.26	COAKLEY LINE EXT.261	No	Yes	None	DCSS	No	No
B6.27	CONNECTION NO. 8 TO CANONITA TANK2	No	Yes	None	DCSS SCWRF	No	Yes
B6.28	1320	No	Yes	None	DCSS	No	No
B6.29	Daisy Lane WaterLine Extension854B	No	Yes	None	DCSS SCLORF	No	Yes
B6.30	DATE ASSUMED	No	Yes	None	SCWRF	No	Yes
B6.31	DIXON LINE284	No	Yes	None	CLOW DCSS NNG	No	No
B6.32	EDMONOSON LINE EXT.255	No	Yes	None	CLOW	No	No
B6.33	EFC LINE329A	No	Yes	None	DCSS	No	No
B6.34	EINECKE LINE EXT345	No	Yes	None	DCSS SCWRF	No	Yes
B6.35	1326	No	Yes	AG	CLOW	No	No
B6.36	FOELL LINE EXT.279	No	Yes	None	CLOW	No	No
B6.37	FRANZEN LINE EXT. #2 LINE "A"260A	No	Yes	None	CLOW DCSS	No	No
B6.38	FRANZEN LINE EXT. #2 LINE "B"260B	No	Yes	None	DCSS	No	No
B6.39	FRANZEN LINE EXT. #2 LINE "B"260B;2	No	Yes	None	DCSS	No	No
B6.40	1327	No	Yes	None	CLOW	No	No
B6.41	HERWEG LINE EXT.297	No	Yes	None	CLOW SMC	No	No
B6.42	Hewlett Packard Campus Line332A	No	Yes	None	DCSS NNG SMC SRW	No	Yes
B6.43	HOMESTEAD LINE EXTENSION211	No	Yes	None	CLOW	No	No
B6.44	IMPROVE DISTRICT #U-4 UNIT A418	No	Yes	None	DCSS NNG SMC SWS	No	Yes
B6.45	LINE "B" (Blueprint Only)LBBPA	No	Yes	None	DCSS	No	No
B6.46	LINE "B" (Blueprint Only)LBBPB	No	Yes	None	DCSS	No	No
B6.47	LINE "C"377A	No	Yes	None	DCSS	No	No
B6.48	LINE "H-H"281A	No	Yes	None	CLOW NNG SCWRF	No	Yes
B6.49	LINE "H-H"281B	No	Yes	None	NNG	No	No
B6.50	LINE "Q-Q"333	No	Yes	None	DCSS NNG	No	No
B6.51	LOS ALISOS EAST245	No	Yes	None	CLOW	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B6.52	Los Alisos South243	No	Yes	None	CLOW DCSS NNG	No	No
B6.53	1331	No	Yes	None	DCSS SCWRF	No	Yes
B6.54	Mesa Groves	No	Yes	None	SMC	No	No
B6.55	Mesa Groves927G	No	Yes	None	CLOW NNG SOC	No	No
B6.56	MILLAGRA DRIVE789	No	Yes	None	CLOW DCSS	No	No
B6.57	MILLER LINE EXT.344	No	Yes	AG	DCSS	No	No
B6.58	NIEHOEHNER EXT.308	No	Yes	None	CLOW	No	No
B6.59	NORTHSIDE TRANSMISSION LINE REPLACE	No	Yes	AG	CLOW	No	No
B6.60	1336	No	Yes	None	CLOW	No	No
B6.61	Northside Transmission Main1942519	No	Yes	None	CLOW DCSS	No	No
B6.62	1337	No	Yes	None	CLOW	No	No
B6.63	Northside Transmission Main1943115	No	Yes	None	CLOW	No	No
B6.64	NOVAK LINE EXT.343	No	Yes	None	SCWRF	No	Yes
B6.65	Pala Mesa	No	Yes	None	DCSS	No	No
B6.66	Pala Mesa C.C. Unit #2 - Pressure S	No	Yes	None	DCSS	No	No
B6.67	Pala Mesa C.C. Unit #2306B	No	Yes	None	DCSS	No	No
B6.68	PALA MESA COURT WATERLINE815	No	Yes	None	CLOW SWS	No	Yes
B6.69	PALA MESA FAIRWAYS383A	No	Yes	None	SMC	No	No
B6.70	1164	No	Yes	None	CLOW	No	No
B6.71	PALA MESA FAIRWAYS383B	No	Yes	None	SOC	No	No
B6.72	PALA MESA FAIRWAYS383C	No	Yes	None	SMC SOC	No	No
B6.73	PALA MESA FAIRWAYS383G	No	Yes	None	SCLORF	No	Yes
B6.74	PALA MESA RESERVOIR PIPING339	No	Yes	None	DCSS	No	No
B6.75	PALA MESA RESERVOIR PIPING339A	No	Yes	None	DCSS	No	No
B6.76	PALA MESA RESERVOIR PIPING339B	No	Yes	None	DCSS	No	No
B6.77	PALA MESA RESERVOIR PIPING339E	No	Yes	None	DCSS	No	No
B6.78	PALA MESA RESERVOIR PIPING339F	No	Yes	None	DCSS	No	No
B6.79	POPP & GRIFFITH LINE346	No	Yes	None	SCWRF	No	Yes
B6.80	1443	No	Yes	None	CLOW	No	No
B6.81	PORTER & FRANZEN EXT.298	No	Yes	None	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B6.82	RABBIT HILL LINE EXT275	No	Yes	None	CLOW	No	No
B6.83	RANCHO LOS ALISOS249A	No	Yes	None	CLOW	No	No
B6.84	RECHE EAST257	No	Yes	None	SCWRF	No	Yes
B6.85	Reche Road262	No	Yes	None	SCWRF	No	Yes
B6.86	RECHE WEST282A	No	Yes	None	SCWRF	No	Yes
B6.87	RMWDAsbuilts IMPROVEMENTS LINE Q-Q3	No	Yes	None	DCSS	No	No
B6.88	SORENSON LINE EXT370	No	Yes	AG	CLOW DCSS	No	No
B6.89	SUMAC-MORRO TRANSMISSION MAIN483B	No	Yes	None	CLOW DCSS	No	No
B6.90	THOMAS LINE EXT.248	No	Yes	None	CLOW	No	No
B6.91	VIA VISTA LINE EXTENSION810	No	Yes	AG	CLOW DCSS	No	No
B6.92	VIA ZARA EXT.247	No	Yes	AG	CLOW DCSS	No	No
B6.93	WILDFLOWER LANE IMPR.295A	No	Yes	None	DCSS	No	No
B6.94	WILSON LINE EXT. #2340	No	Yes	AG	SCWRF	No	Yes
B6.95	WILSON LINE EXT. #3341	No	Yes	AG	SWS	No	Yes
B6.96	WILSON LINE EXT290	No	Yes	AG	SCWRF	No	Yes
B6.97	WILT LINE #1285	No	Yes	None	CLOW SCWRF	No	Yes
B6.98	WILT LINE EXT #2258	No	Yes	None	SCWRF	No	Yes
B6.99	WILT LINE282B	No	Yes	None	CLOW SCWRF	No	Yes
B6.100	1644	No	Yes	None	DCSS NNG	No	No
B6.101	YUCCA REPLACEMENT LINE214A	No	Yes	None	NNG	No	No
B6.102	YUCCA TIE LINE256	No	Yes	None	SCWRF	No	Yes
B6.103	Truitt Line Extension212	No	Yes	None	CLOW	No	No
B6.104	1647	No	Yes	None	CLOW	No	No
B6.105	1968	No	Yes	None	SCWRF	No	Yes
B6.106	1978	No	Yes	None	DCSS	No	No
B6.107	1980	No	No	None	None	No	Yes
B6.108	1986	No	Yes	None	CLOW	No	No
B6.109	2017	No	Yes	None	DCSS	No	No
B6.110	2086	No	Yes	AG	DCSS	No	No
B6.111	2160	No	Yes	None	SCWRF NNG	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B6.112	2221	No	Yes	None	CLOW	No	No
B6.113	2274	No	Yes	None	DCSS NNG	No	No
B6.114	2281	No	Yes	None	CLOW DCSS	No	No
B6.115	2286	No	Yes	AG	CLOW DCSS	No	No
B6.116	2287	No	Yes	None	DCSS	No	No
B6.117	2288	No	Yes	AG	DCSS SWS	No	Yes
B6.118	2428	No	Yes	None	CLOW	No	No
B6.119	2587	No	Yes	None	NNG	No	No
B6.120	2695	No	Yes	None	CLOW	No	No
B6.121	2707	No	Yes	None	DCSS	No	No
B6.122	2710	No	Yes	None	DCSS	No	No
B6.123	2927	No	Yes	None	CLOW NNG	No	No
B6.124	2928	No	Yes	None	CLOW NNG	No	No
B6.125	2960	No	Yes	None	DCSS	No	No
B6.126	2962	No	Yes	None	DCSS	No	No
B6.127	2963	No	Yes	None	CLOW NNG	No	No
B6.128	3169	No	Yes	AG	NNG	No	No
B6.129	3170	No	Yes	None	DCSS	No	No
B6.130	3176	No	Yes	AG	DCSS NNG	No	No
B6.131	3177	No	Yes	AG	DCSS	No	No
B6.132	1285	No	Yes	None	DCSS NNG	No	No
B6.133	3269	No	Yes	None	SWS	No	Yes
B6.134	3429	No	Yes	None	DCSS	No	No
B6.135	3431	No	Yes	None	DCSS	No	No
B6.136	3432	No	Yes	None	DCSS	No	No
B6.137	347	No	Yes	AG	CS NNG	No	No
B6.138	3523	No	Yes	None	SMC SOC	No	No
B6.139	3543	No	Yes	None	SMC	No	No
B6.140	469	No	Yes	None	DCSS	No	No
B6.141	642	No	Yes	None	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B6.142	752	No	Yes	AG	CLOW	No	No
B6.143	805	No	Yes	None	CLOW	No	No
B7.1	KELLY LINE EXT.226	No	Yes	None	SCLORF	No	Yes
B7.2	RAINBOW CREST RD	No	Yes	None	SMC	No	No
B7.3	RAINBOW HEIGHTS RD - a	No	Yes	None	SMC	No	No
B7.4	RAINBOW HEIGHTS RD - b	No	Yes	None	SMC	No	No
B7.5	MOUNTAIN RIM DR	No	Yes	None	SMC	No	No
B7.6	PRIVATE RD - a	No	Yes	None	SMC	No	No
B7.7	PRIVATE RD - b	No	Yes	None	SMC	No	No
B7.8	PRIVATE RD - c	No	Yes	None	SCLORF	No	Yes
B7.9	PRIVATE RD - e	No	Yes	None	SMC SRW	No	Yes
B7.10	#N/A	No	Yes	None	CLOW DCSS SCLORF	No	Yes
B7.11	MACKENZIE LINE EXT.351	No	Yes	None	DCSS SCLORF	No	Yes
B7.12	MARTIN-STORY LINE EXT.270	No	Yes	AG	SRW	No	Yes
B7.13	MUNROE LINE EXT352	No	Yes	None	DCSS SCLORF	No	Yes
B7.14	MURPHY LINE EXT. #2266B	No	Yes	None	SOC	No	No
B7.15	PALA MESA MTN	No	Yes	None	DCSS	No	No
B7.16	RAINBOW HEIGHTS LINE1822217	No	Yes	None	SMC	No	No
B7.17	RAINBOW HEIGHTS LINE1822354	No	Yes	None	DCSS SMC	No	No
B7.18	2125	No	No	AG	None	No	Yes
B7.19	RAINBOW HEIGHTS LINE1822618	No	Yes	None	SCLORF SMC	No	No
B7.20	RAINBOW HEIGHTS LINE182298	No	Yes	None	SMC	No	No
B7.21	RAINBOW HEIGHTS PIPELINE205	No	Yes	AG	DCSS SMC	No	No
B7.22	RAINBOW HEIGHTS PIPELINE205B	No	Yes	None	SMC	No	No
B7.23	RICE CANYON EXT. LINE #4355	No	Yes	None	DCSS NNG SMC SRW	No	Yes
B7.24	RICE CANYON LINE EXT. #5356	No	Yes	None	DCSS NNG SCLORF	No	Yes
B7.25	2126	No	Yes	None	SMC	No	No
B7.26	RICKS LINE EXT.191	No	Yes	None	CLOW	No	No
B7.27	SHINDLER LINE EXT.232	No	Yes	None	SMC	No	No
B7.28	SMITH LINE EXT. "B"207	No	Yes	None	SMC	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B7.29	SMITH LINE EXT.206	No	Yes	None	SMC	No	No
B7.30	SOUZA LINE EXT.230	No	Yes	None	DCSS SMC	No	No
B7.31	SROUFE-SHIBLEY LINE EXT. 2235	No	Yes	None	SMC	No	No
B7.32	SROUFE-SHIBLEY LINE EXT.234	No	Yes	None	DCSS	No	No
B7.33	STANTON LINE EXT.188	No	Yes	None	SMC	No	No
B7.34	2186	No	Yes	None	SMC	No	No
B7.35	2212	No	Yes	None	SMC	No	No
B7.36	2213	No	Yes	None	SMC	No	No
B7.37	2214	No	Yes	None	SMC	No	No
B7.38	2215	No	Yes	None	SMC	No	No
B7.39	2218	No	Yes	None	SMC	No	No
B7.40	2333 (Rice Canyon)	No	Yes	None	DCSS SCWRF SMS	No	Yes
B7.41	2334 (Rice Canyon)	No	Yes	None	DCSS SCWRF SMS	No	Yes
B7.42	2336 (Rice Canyon)	No	Yes	None	DCSS SCWRF SMS	No	Yes
B7.43	2353	No	Yes	None	SMC	No	No
B7.44	2355	No	Yes	None	DCSS	No	No
B7.45	263	No	Yes	None	DCSS SMC	No	No
B7.46	3448	No	Yes	None	NNG	No	No
B7.47	3530	No	Yes	None	NNG	No	No
B7.48	3557	No	Yes	None	NNG	No	No
B7.49	3600	No	Yes	None	DCSS	No	No
B7.50	66e3-Approved HCR Backbone Unit 1	No	Yes	None	DCSS SCLORF	No	Yes
B7.51	ASSUMED DATE431	No	Yes	AG	DCSS	No	No
B7.52	BERNBECK LINE EXT.228	No	Yes	AG	NNR	No	No
B7.53	COLE & VANDER LINDEN LINE EXT.204	No	Yes	None	SCLORF	No	Yes
B7.54	DAVIS LINE EXT.237	No	Yes	None	CLOW DCSS	No	No
B7.55	1262	No	Yes	None	SRF	No	Yes
B7.56	FORD-RUSKIN LINE EXT.233	No	Yes	None	DCSS	No	No
B7.57	GAMBLE LINE EXT.241	No	Yes	None	DCSS SMC	No	No
B7.58	GOLFCRAFT LINE267	No	Yes	None	CLOW	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B7.59	GOMEZ CREEK LINE 2231B	No	Yes	None	DCSS SRW	No	Yes
B7.60	GOMEZ CREEK LINE231C	No	Yes	None	SMC SRW	No	No
B7.61	GomezCrTank	No	Yes	None	SMC	No	No
B7.62	1988	No	Yes	None	SCLORF	No	Yes
B7.63	HCR Unit 5 Improvements through De	No	Yes	None	DCSS SCLORF	No	Yes
B7.64	HCR Unit 6 Improvements through De	No	Yes	None	DCSS SCLORF	No	Yes
B7.65	HOFMAN-YERKES LINE EXT.271	No	Yes	None	SMC SRW	No	Yes
B7.66	Horse Ranch Cree k RoadI-936N	No	Yes	None	NNG	No	No
B7.67	Horse Ranch Creek RoadG-936D	No	Yes	None	DCSS	No	No
B7.68	Horse Ranch Creek RoadG-936E	No	Yes	None	DCSS	No	No
B7.69	Horse Ranch Creek RoadG-936F	No	Yes	None	DCSS	No	No
B7.70	198C	No	Yes	AG	SCLORF SCS NNG	No	Yes
B7.71	Horse Ranch Creek RoadH-936I	No	Yes	None	MFS SCLORF SRW	No	Yes
B7.72	Horse Ranch Creek RoadH-936J	No	Yes	None	MFS SRW	No	Yes
B7.73	Horse Ranch Creek RoadI-936K	No	Yes	None	SRW	No	Yes
B7.74	Horse Ranch Creek RoadI-936L	No	Yes	None	DCSS	No	No
B7.75	Horse Ranch Creek RoadI-936M	No	Yes	None	DCSS	No	No
B7.76	Horse Ranch Creek RoadI-936N	No	Yes	None	NNG	No	No
B7.77	Horse Ranch CreekI-936K	No	Yes	None	DCSS	No	No
B7.78	Horse Rnch Creek RoadI- 936M	No	Yes	None	DCSS	No	No
B7.79	1994	No	Yes	AG	DCSS	No	No
B7.80	I.D. #6 Phase III - 20'' Pump Sucti	No	Yes	AG	SMC SRW	No	Yes
B7.81	I.D. #6 Phase III - 8'' Tie Line274	No	Yes	None	DCSS SRF SRW	No	Yes
B7.82	I.D. #6 Phase III - Gomez Creek Tan	No	Yes	None	SMC	No	No
B7.83	I.D. #6 Phase III - Goran Line Exte	No	Yes	None	SMC	No	No
B7.84	I-937NHorse Ranch Creek Road	No	Yes	None	NNG	No	No
B7.85	JONES LINE EXT.189	No	Yes	None	SMC	No	No
B7.86	KAPLAN LINE EXT.759	No	Yes	None	SRW	No	Yes
B7.87	LEMON LINE EXT.240A	No	Yes	None	DCSS	No	No
B7.88	LEMON LINE EXT.240B	No	Yes	None	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B7.89	LINE "F"239	No	Yes	None	DCSS	No	No
B7.90	LINE "L"177B	No	Yes	None	SMC	No	No
B8.1	E MISSION RD	No	Yes	None	SWS	No	Yes
B8.2	KESTREL RD	No	Yes	None	DCSS SWS	No	Yes
B8.3	PAMELA DR	No	Yes	None	SWS	No	Yes
B8.4	RANGER RD	No	Yes	None	DCSS SWS	No	Yes
B8.5	STERLING VIEW DR	No	Yes	None	DCSS	No	No
B8.6	STONEGATE PL	No	Yes	None	DCSS	No	No
B8.7	1445	No	Yes	AG	DCSS	No	No
B8.8	LEON-GOTTS DANKER BALLARD LINE195E	No	Yes	None	DCSS	No	No
B8.9	MADDOCK-CORNWALL LINE221BC	No	Yes	AG	DCSS SWS	No	No
B8.10	NORTHSIDE TRANSMISSION LINE REPLACE	No	Yes	None	SWS	No	Yes
B8.11	Northside Transmission Main1942159	No	Yes	None	DCSS	No	No
B8.12	Northside Transmission Main1942322	No	Yes	None	DCSS SWS	No	Yes
B8.13	Northside Transmission Main194314	No	Yes	None	DCSS	No	No
B8.14	STERLING VIEW DR. & I-15 RELOCATION	No	Yes	None	NNG SMC	No	No
B8.15	WHITE EXT.216	No	Yes	None	DCSS NNG	No	No
B8.16	ALFA LINE EXT.220	No	Yes	None	DCSS	No	No
B8.17	CARR-THOMPSON LINE EXT.199	No	Yes	AG	DCSS	No	No
B8.18	ECKIS NO. 2 LINE196	No	Yes	None	DCSS	No	No
B9.1	155	No	Yes	None	SMC SRF	No	No
B9.2	CANONITA LINE (Blueprint Only)CLBP	No	Yes	None	SCLORF	No	Yes
B9.3	FALLBROOK 7TH DAY ADVENTIST LINE EX	No	Yes	None	None	No	No
B9.4	08TH ST	No	Yes	None	CLOW NNG	No	No
B9.5	RAINBOW HEIGHTS PL	No	Yes	None	SMC	No	No
B9.6	RAINBOW HEIGHTS RD - a	No	Yes	None	NNG SCLORF SMC	No	Yes
B9.7	RAINBOW PEAKS TRL	No	Yes	None	SMC	No	No
B9.8	RANCHBROOK RD	No	Yes	None	SMC	No	No
B9.9	SELECT WAY	No	Yes	None	CLOW DCSS SMC	No	No
B9.10	ASPEN DR - a	No	Yes	None	SMaC	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B9.11	ASPEN DR - b	No	Yes	None	DCSS NNG SMaC SMC	No	No
B9.12	JUBILEE WAY	No	Yes	None	SMC	No	No
B9.13	LOOKOUT MOUNTAIN RD	No	Yes	None	SMaC SMC	No	No
B9.14	PRIVATE RD - a	No	Yes	None	DCSS SCLORF SMC	No	Yes
B9.15	PRIVATE RD - b	No	Yes	None	DCSS SCLORF	No	Yes
B9.16	RAINBOW GLEN RD - b	No	Yes	None	SMaC SMC	No	No
B9.17	"LINE A" 1D NO. 6 PHASE IV148	No	Yes	None	SCLORF SMC	No	Yes
B9.18	Northside Transmission Main1941514	No	Yes	None	DCSS NNG	No	No
B9.19	Northside Transmission Main1942202	No	Yes	None	NNG SCLORF	No	Yes
B9.20	Northside Transmission Main1942209	No	Yes	None	CLOW NNG	No	No
B9.21	Northside Transmission Main1942630	No	Yes	None	CLOW DCSS	No	No
B9.22	Northside Transmission Main1942631	No	Yes	None	DCSS CLOW	No	No
B9.23	Northside Transmission Main1942666	No	Yes	None	DCSS CLOW	No	No
B9.24	Northside Transmission Main1942757	No	Yes	None	NNG SCLORF	No	Yes
B9.25	Northside Transmission Main1942759	No	Yes	None	NNG SCLORF	No	Yes
B9.26	Northside Transmission Main1942763	No	Yes	AG	NNG SCLORF	No	No
B9.27	Northside Transmission Main1942764	No	Yes	None	NNG SCLORF	No	Yes
B9.28	Northside Transmission Main194680	No	Yes	None	NNG SCLORF	No	Yes
B9.29	OGLE LINE EXT.109	No	Yes	None	CLOW DCSS SMC	No	No
B9.30	PALA-TEMECULA CONNECTOR147E	No	Yes	None	SMC SRW	No	Yes
B9.31	PARKER LINE EXT.165	No	Yes	None	DCSS SCLORF	No	Yes
B9.32	1989	No	Yes	None	DCSS SMC	No	No
B9.33	Pump Sta. No. 1 Expansion156	No	Yes	None	CLOW NNG SMC	No	No
B9.34	RAINBOW CREEK ROAD IMPROVEMENTS136	No	Yes	None	CLOW NNG SMC	No	No
B9.35	RAINBOW GLEN LINE REPL.117B	No	Yes	None	DCSS NNG SMC	No	No
B9.36	RAINBOW GLEN LINE REPL.117C	No	Yes	None	SMC SRF	No	Yes
B9.37	RAINBOW HEIGHTS LINE1821193	No	Yes	None	DCSS SCLORF	No	Yes
B9.38	RAINBOW HEIGHTS LINE1822217	No	Yes	None	DCSS NNG SMC	No	No
B9.39	RAINBOW HEIGHTS LINE1822973	No	Yes	None	DCSS NNG SMC	No	No
B9.40	198C	No	Yes	AG	DCSS NNG	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B9.41	RAINBOW HEIGHTS TANK WATER LINE186	No	Yes	None	NNG SMC	No	No
B9.42	RAINBOW HEIGHTS TANK184	No	Yes	None	SMC	No	No
B9.43	RAINBOW VALLEY BLVD. (NORTH OF EAS	No	Yes	AG	DCSS	No	No
B9.44	REDDISH LINE EXT.116	No	Yes	None	DCSS SMC	No	No
B9.45	RUSSELL LINE EXT.164	No	Yes	None	DCSS NNG	No	No
B9.46	SECOND ST. IMPROVEMENT128	No	Yes	AG	CLOW NNG	No	No
B9.47	SECTION 3 BRANCH UNIT "A" (ASP120O	No	Yes	None	DCSS SMC	No	No
B9.48	SHORT LINE EXT.179B	No	Yes	None	DCSS SCLORF SMC	No	Yes
B9.49	U-1 Pump Station Expansion156	No	Yes	None	SMC	No	No
B9.50	U1 TANK 2 PIPING123B	No	Yes	None	DCSS SMC	No	No
B9.51	2098	No	Yes	None	CLOW DCSS	No	No
B9.52	UNIT "A" (B/W #109 AND #117)120J	No	Yes	None	CLOW NNG SMC	No	No
B9.53	UNIT "A" (B/W #109 AND #117)120K	No	Yes	None	NNG SMC	No	No
B9.54	UNIT A FROM BOTTOM OF B5 TO #117120	No	Yes	None	NNG SMC	No	No
B9.55	VARGAS LINE EXT. #2112	No	Yes	None	CLOW DCSS NNG	No	No
B9.56	VARGAS LINE EXT. (#1)111	No	Yes	None	CLOW DCSS NNG	No	No
B9.57	WALCOTT LINE EXT. #2101	No	Yes	None	DCSS NNG SMC	No	No
B9.58	WEGNER LINE EXT.171	No	Yes	AG	DCSS NNG SCLORF	No	Yes
B9.59	2309	No	Yes	None	DCSS SMC	No	No
B9.60	WESTRUP LINE EXT.108A	No	Yes	None	SCLORF SMC	No	Yes
B9.61	WHITE LINE EXT.175	No	Yes	None	DCSS SMC	No	No
B9.62	WILLIAMS LINE EXT.143B	No	Yes	None	SMC	No	No
B9.63	WILLIAMS LINE EXT.143E	No	Yes	None	SMC	No	No
B9.64	CIP ADD Rainbow Hills	No	Yes	None	NNG	No	No
B9.65	2331	No	Yes	None	CC SMC	No	No
B9.66	2385	No	Yes	None	DCSS NNG	No	No
B9.67	"LINE C" 1D NO. 6 PHASE IV150A	No	Yes	None	SCLORF SMC	No	Yes
B9.68	24" NORTHSIDE RESERVOIR FEEDER LINE	No	Yes	None	CC SMC	No	No
B9.69	2530	No	Yes	None	CLOW SMC	No	No
B9.70	2667	No	Yes	None	CLOW SMC	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B9.71	2668	No	Yes	None	CLOW SMC	No	No
B9.72	27" NORTH RESERVOIR FEEDER LINE (AC	No	Yes	None	SCLORF	No	Yes
B9.73	"LINE C" 1D NO. 6 PHASE IV150B	No	Yes	None	SMC	No	No
B9.74	3071	No	Yes	None	DCSS	No	No
B9.75	3072	No	Yes	None	SCLORF	No	Yes
B9.76	3073	No	Yes	None	SCLORF	No	Yes
B9.77	3076	No	Yes	None	SMC	No	No
B9.78	3078	No	Yes	None	SMC	No	No
B9.79	3080	No	Yes	None	SMC	No	No
B9.80	3081	No	Yes	None	SMC	No	No
B9.81	3086	No	Yes	None	CLOW SMC	No	No
B9.82	3187	No	Yes	None	SMC	No	No
B9.83	3188	No	Yes	None	SMC	No	No
B9.84	"LINE C" 1D NO. 6 PHASE IV150C	No	Yes	None	SMC	No	No
B9.85	AQUEDUCT LINE134	No	Yes	None	DCSS	No	No
B9.86	BRACEY LINE EXT.807	No	Yes	None	SMC	No	No
B9.87	"LINE C" 1D NO. 6 PHASE IV150E	No	Yes	None	SCLORF SMC	No	Yes
B9.88	BUIE WATERLINE126	No	Yes	None	SMC	No	No
B9.89	CAMINO RAINBOW EXT.169	No	Yes	None	SCLORF	No	Yes
B9.90	CANONITA LINE (Blueprint Only)CLBP	No	Yes	None	DCSS SCLORF	No	Yes
B9.91	CASEY LINE EXT.107A	No	Yes	None	SMC	No	No
B9.92	CHICA ROAD UNIT "A"131A	No	Yes	None	DCSS	No	No
B9.93	DRESSEL-HAUS LINE EXT.104	No	Yes	None	DCSS SMC	No	No
B9.94	East 1st Street133	No	Yes	None	DCSS	No	No
B9.95	East Heights Line147A	No	Yes	None	SCLORF SMC	No	Yes
B9.96	East Heights Line147G	No	Yes	None	EOW SCLORF SMC SRW	No	Yes
B9.97	East Heights Line147I	No	Yes	None	SCLORF SMC	No	Yes
B9.98	East Heights Line147J	No	Yes	None	SCLORF SMC	No	Yes
B9.99	East Heights Line147M	No	Yes	None	SMC	No	No
B9.100	East Heights Line147N	No	Yes	None	SMC	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B9.101	East Heights Line147O	No	Yes	None	SCLORF SMC	No	Yes
B9.102	East Heights Line147P	No	Yes	None	SMC	No	No
B9.103	East Heights Line147Q	No	Yes	None	SMC	No	No
B9.104	1190	No	Yes	None	CLOW SMC	No	No
B9.105	East Heights Line147R	No	Yes	None	SMC	No	No
B9.106	HAYNES LINE EXT.118	No	Yes	None	SMC	No	No
B9.107	HORSTMAN LINE EXT.162	No	Yes	AG	SCLORF	No	Yes
B9.108	HUFFSTATLER LINE EXT.174	No	Yes	AG	SCLORF	No	Yes
B9.109	HUFFSTATLER TIELINE ID #3170	No	Yes	None	NNG SCLORF	No	No
B9.110	1191	No	Yes	None	CLOW SMC	No	No
B9.111	INLET-OUTLET LINE TO U1 TANK 2123	No	Yes	None	SMC	No	No
B9.112	JAMES LINE EXT. "C" AND "D"140C	No	Yes	None	SMC	No	No
B9.113	JAMES LINE EXT. "C" AND "D"140D	No	Yes	None	SMC	No	No
B9.114	LAKE ACRES LINE EXT. #2113	No	Yes	None	CLOW SMC	No	No
B9.115	LEE LINE EXT.115	No	Yes	None	SMC	No	No
B9.116	LINE "A-A" PIPING135B	No	Yes	None	SMC	No	No
B9.117	LINE "B" (@ RANCHO HEIGHTS ROAD)149	No	Yes	None	SMC	No	No
B9.118	LINE "D" (OFF LINE "B")151	No	Yes	None	SMC	No	No
B9.119	LINE "L"177A	No	Yes	None	CLOW SMC	No	No
B9.120	Magee Pump Station152	No	Yes	None	SMC	No	No
B9.121	MARTIN LINE EXT.103	No	Yes	None	CC SMC	No	No
B9.122	METZNER LINE EXT.124	No	Yes	None	SCLORF	No	Yes
B10.1	RANCHO CAMARGO UNIT 1O-894G	No	Yes	None	DCSS	No	No
B10.2	RANCHO CAMARGO UNIT 3TM5037-3	No	Yes	None	DCSS NNG	No	No
B10.3	SAN LUIS REY RANCHES824	No	Yes	None	DCSS	No	No
B10.4	2751	No	Yes	None	DCSS	No	No
B10.5	GRAMMER LINE EXTENSION678	No	Yes	AG	DCSS	No	No
B10.6	GOPHER CANYON RD - a	No	Yes	None	None	No	No
B10.7	GRAMMER RD	No	Yes	None	None	No	No
B10.8	PRIVATE RD - a	No	Yes	None	SAWRF	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B10.9	PRIVATE RD - c	No	Yes	None	DCSS	No	No
B10.10	SAGEWOOD RD	No	Yes	None	NNG	No	No
B10.11	#N/A - a	No	Yes	None	NNG SCWRF	No	Yes
B10.12	3286	No	Yes	None	DCSS SRW	No	Yes
B10.13	SOUTH RESERVOIR EXT650	No	Yes	None	DCSS	No	No
B10.14	RANCHO CAMARGO UNIT 1TM5037-1	No	Yes	None	DCSS SRW	No	Yes
B10.15	#N/A - b	No	Yes	None	CLOW DCSS NNG	No	No
B10.16	#N/A - c	No	Yes	None	CLOW DCSS NNG	No	No
B10.17	#N/A - d	No	Yes	None	CLOW DCSS NNG	No	No
B10.18	#N/A - e	No	Yes	None	CLOW DCSS NNG	No	No
B10.19	3287	No	Yes	None	DCSS SRW	No	Yes
B10.20	3526	No	Yes	None	DCSS	No	No
B10.21	AERIE HEIGHTS ROAD849	No	Yes	None	DCSS	No	No
B10.22	ALLEN LINE EXTENSION606	No	Yes	None	DCSS	No	No
B10.23	CHEHADE LINE EXTENSION667	No	Yes	None	NNG SAWRF	No	Yes
B10.24	DENTRO DE LOMAS RD660B-O	No	Yes	None	DCSS	No	No
B10.25	DISNEY LANE764	No	Yes	None	DCSS NNG	No	No
B10.26	1148	No	Yes	None	SMC	No	No
B10.27	GRAMMAR LINE EXT #2677	No	Yes	None	CLOW SWS	No	Yes
B10.28	GRAMMER LINE EXTENSION678	No	Yes	None	DCSS	No	No
B10.29	Guy C. Earl Extension646A	No	Yes	AG	DCSS	No	No
B10.30	Hialeah Estates638A	No	Yes	None	CLOW DCSS NNG SCWRF	No	No
B10.31	HIALEAH EXTENSION #2612	No	Yes	None	CLOW	No	No
B10.32	HIALEAH EXTENSION #2612B	No	Yes	None	CLOW	No	No
B10.33	19707TPM	No	Yes	None	DCSS NNG	No	No
B10.34	HIALEAH EXTENSION #2612C	No	Yes	None	CLOW	No	No
B10.35	HOFFMAN LINE EXTENSION672	No	Yes	None	NNG SCWRF	No	Yes
B10.36	HOWELLS-SYBRANDY LINE EXTENSION607	No	Yes	None	DCSS NNG	No	No
B10.37	HOWELLS-SYBRANDY LINE EXTION #2608	No	Yes	None	DCSS NNG	No	No
B10.38	LAKE VISTA DR573A	No	Yes	None	DCSS NNG	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B10.39	LAKE VISTA TERRACE	No	Yes	None	DCSS NNG	No	No
B10.40	LAKE VISTA TERRACE573C	No	Yes	None	DCSS NNG	No	No
B10.41	LINE A-10663S	No	Yes	None	CLOW NNG SWS	No	Yes
B10.42	LINE A2662C	No	Yes	None	DCSS SMC	No	No
B10.43	LINE A3663E	No	Yes	None	DCSS NNG SMC	No	No
B10.44	LINE A-8 & A-8 EXT.662A	No	Yes	None	DCSS	No	No
B10.45	LINE A-9663A	No	Yes	None	DCSS	No	No
B10.46	Line N-N - 12'' Tie Line642A	No	Yes	None	DCSS NNG	No	No
B10.47	Line N-N - Schedule 1642A	No	Yes	None	DCSS SRW	No	Yes
B10.48	Line N-N - Schedule 3642A1423	No	Yes	None	DCSS NNG	No	No
B10.49	Line N-N - Schedule 3642A1425	No	Yes	None	DCSS NNG	No	No
B10.50	Line N-N - Schedule 3642A1843	No	Yes	None	DCSS NNG	No	No
B10.51	LINE NN MOOSA CANYON RIVER CROSSING	No	Yes	None	DCSS SRW	No	Yes
B10.52	LONG LINE EXTENSION637	No	Yes	AG	CLOW DCSS	No	No
B10.53	LOS BLANCOS LINE683	No	Yes	AG	CLOW DCSS	No	No
B10.54	Margale Lane Water Main858C	No	Yes	None	NNG SAWRF	No	Yes
B10.55	MCGINNIS LINE EXT. #2618	No	Yes	None	NNG SRW	No	Yes
B10.56	MCGINNIS LINE EXTENSION617	No	Yes	None	NNG SRW	No	Yes
B10.57	NELLA LN660A	No	Yes	None	NNR	No	No
B10.58	3284	No	Yes	None	DCSS SRW	No	Yes
B10.59	RANCHO CAMARGO UNIT 1O-894G	No	Yes	None	DCSS	No	No
B10.60	RANCHO CAMARGO UNIT 1TM5037-1	No	Yes	None	DCSS	No	No
B10.61	RANCHO CAMARGO UNIT 2TM5037-2	No	Yes	None	DCSS	No	No
B10.62	RANCHO CAMARGO UNIT 3TM5037-3	No	Yes	None	DCSS	No	No
B10.63	ROSS EXTENSION LINE C611	No	Yes	None	DCSS SCWRF	No	Yes
B10.64	ROSS LINE EXT. A614	No	Yes	None	DCSS	No	No
B10.65	ROSS LINE EXT. F616	No	Yes	None	DCSS	No	No
B10.66	3285	No	Yes	None	DCSS SRW	No	Yes
B10.67	ROSS LINE EXTENSION B615	No	Yes	None	DCSS	No	No
B10.68	ROSS LINE EXTENSION E610	No	Yes	None	DCSS	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B10.69	SAN LUIS REY GOLF CLUB ESTATES (CLU	No	Yes	None	DCSS SRW	No	Yes
B10.70	SAN LUIS REY GOLF CLUB ESTATES (LAK	No	Yes	None	DCSS	No	No
B10.71	SAN LUIS REY GOLF CLUB ESTATES (TIE	No	Yes	None	DCSS NNG	No	No
B10.72	SAN LUIS REY GOLF CLUB ESTATES576A	No	Yes	None	SRW	No	Yes
B10.73	SAN LUIS REY HIALEAH EXT. LINE641A	No	Yes	None	DCSS	No	No
B10.74	SAN LUIS REY HIALEAH EXT. LINE641B	No	Yes	None	DCSS SWS	No	Yes
B10.75	SAN LUIS REY PRESSURE STATION579A	No	Yes	None	DCSS	No	No
B10.76	SAN LUIS REY PRESSURE STATION579B	No	Yes	None	DCSS	No	No
B11.1	BONSALL MAIN LINE556E	No	Yes	AG	DCSS	No	Yes
B11.2	AQUADUCT RD - a	No	Yes	None	DCSS	No	No
B11.3	AQUADUCT RD - b	No	Yes	None	DCSS	No	No
B11.4	CALLE JOYA	No	Yes	None	DCSS	No	No
B11.5	Line N-N - Schedule 3642A1881	No	Yes	AG	CLOW DCSS	No	No
B11.6	MOOSA CANYON EMERGENCY PUMP STATION	No	Yes	None	SRW	No	Yes
B11.7	1186	No	Yes	None	DCSS	No	No
B11.8	SAN LUIS REY DOWNS UNIT 1586C	No	Yes	None	NNG SRW	No	Yes
B11.9	TRENDEL LINE NORTH620	No	Yes	AG	DCSS	No	No
B11.10	TRENDEL LINE SOUTH619	No	Yes	AG	DCSS	No	No
B11.11	TRES AMIGIOS LINE #2594A	No	Yes	None	DCSS NNG	No	No
B11.12	1187	No	Yes	None	DCSS	No	No
B11.13	VIA MARIPOSA CT.585	No	Yes	AG	DCSS NNG	No	No
B11.14	#N/A	No	Yes	None	CLOW SRW	No	Yes
B11.15	16" MOOSA CREST W/L REPLACEMENT768	No	Yes	AG	CLOW DCSS	No	No
B12.1	LINE Q-3398B	No	Yes	None	DCSS SRF	No	No
B12.2	MOOSA CANYON LINE583A277	No	Yes	None	SRW	No	Yes
B12.3	CIP ADD Rio Vista	No	Yes	None	NNG	No	No
B12.4	HuttonTurnerGopher	No	Yes	None	DCSS MFS SRW	No	Yes
B12.5	VIA MONTELLANO	No	Yes	None	DCSS NNG SRW	No	Yes
B12.6	FLOWERWOOD LN	No	Yes	None	SRW	No	Yes
B12.7	MISSION RD - a	No	Yes	None	NNG SRW	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B12.8	MISSION RD - b	No	Yes	None	SRW	No	Yes
B12.9	MISSION RD NB	No	Yes	None	NNG SCLORF SRW	No	Yes
B12.10	#N/A	No	Yes	None	OW	No	Yes
B12.11	3169	No	Yes	None	NNG SCLORF	No	Yes
B12.12	326	No	Yes	None	NNG SRW	No	Yes
B12.13	3397	No	Yes	None	NNG SRW	No	Yes
B12.14	3401	No	Yes	None	NNG SRW	No	Yes
B12.15	3552	No	Yes	None	DCSS NNG	No	No
B12.16	3605	No	Yes	None	DCSS NNG	No	No
B12.17	908B	No	Yes	None	NNG SRW	No	Yes
B12.18	Golf Greens Onsite Improvements	No	Yes	None	FWM	No	Yes
B12.19	HEIDENREICH LINE EXT502	No	Yes	None	SRW	No	Yes
B12.20	HIGHWAY 76 - OLIVE HILL ROAD WAT RE	No	Yes	None	NNG	No	Yes
B12.21	LINE MM571	No	Yes	None	DCSS NNG SRW	No	Yes
B12.22	Line M-M571	No	Yes	None	NNG	No	No
B12.23	MONTGOMERY LINE EXTENSION #1533	No	Yes	None	NNG	No	No
B12.24	MONTGOMERY LINE EXTENSION #2570	No	Yes	None	DCSS NNG	No	No
B12.25	Morro	No	Yes	AG	SRW	No	Yes
B12.26	NORTH RIVER ROAD LINE A604	No	Yes	None	NNG SRW	No	Yes
B12.27	NORTH RIVER ROAD LINE A605	No	Yes	None	NNG SRW	No	Yes
B12.28	NORTH RIVER ROAD LINE A611	No	Yes	None	NNG SRW	No	Yes
B12.29	2001	No	Yes	None	NNG	No	No
B12.30	NORTH RIVER ROAD LINE A612	No	Yes	None	NNG SRW	No	Yes
B12.31	NORTH RIVER ROAD LINE A615	No	Yes	None	NNG SRW	No	Yes
B12.32	NORTH RIVER ROAD LINE A616	No	Yes	None	NNG SRW	No	Yes
B12.33	NORTH RIVER ROAD LINE A617	No	Yes	None	NNG SRW	No	Yes
B12.34	NORTH RIVER ROAD LINE A627	No	Yes	None	NNG SRW	No	Yes
B12.35	NORTH RIVER ROAD LINE A628	No	Yes	None	NNG SRW	No	Yes
B12.36	OLD RIVER ROAD REPAIR800	No	Yes	None	DCSS NNG SCLORF	No	Yes
B12.37	OLD RIVER ROAD908B	No	Yes	None	NNG SRW	No	Yes

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B12.38	Olive Hill Estates Transmission Line	No	Yes	None	DCSS NNG SCLORF	No	Yes
B12.39	REVISION #2627	No	Yes	None	DCSS NNG SRW	No	Yes
B12.40	ROY LINE EXTENSION602	No	Yes	None	NNG	No	No
B12.41	2016	No	Yes	None	SRW	No	Yes
B12.42	SAN LUIS REY BRIDGE LINE623B	No	Yes	None	SRW	No	Yes
B12.43	THOROUGHBRED LANE530B	No	Yes	None	CLOW NNG	No	Yes
B12.44	TUSHAK LINE EXTENSION622	No	Yes	None	CLOW NNG SCLORF	No	Yes
B12.45	VAN GAS LINE EXTENSION601	No	Yes	None	NNG	No	No
B12.46	WEST LILAC RD529B	No	Yes	None	DCSS NNG	No	No
B12.47	WESTCO LINE626	No	Yes	None	SRW	No	Yes
B12.48	WILKENS LINE EXTENSION603	No	Yes	None	NNG	No	No

[1] Sensitive Vegetation Communities: CC= chamise chaparral; CLOF=Coast live oak forest; CLOW=Coast live oak woodland; CS=Coastal scrub; DCSS=Diegan Coastal sage scrub; EOW=Engelmann oak woodland; FWM= Freshwater marsh; MFS= mule fat scrub; NG=native grassland; NNG= Non-native grassland; NNR=Non-native riparian; OW=Open water; SAWRF=Southern arroyo willow riparian forest; SCLORF= Southern coast live oak riparian forest; SCLORW=Southern coast live oak riparian woodland; SCWRF=Southern cottonwood-willow riparian forest; SMaC=Southern maritime chaparral; SMC=Southern mixed chaparral; SOC= Scrub oak chaparral; SRF=Southern riparian forest; SRS=Southern riparian scrub; SRW=Southern riparian woodland; SSARW=southern sycamore-alder riparian woodland; SWS=Southern willow scrub.

Appendix D-2

ODP Sewer Projects with High to Moderate Potential to Result in Significant Indirect Impacts to Biological Resources

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B1.Bonsall Elementary	1	No	Yes	None	NNG	No	No
B1.Delta	1	No	Yes	None	DCSS	No	No
B1.Dulin Old Hwy 395	1	No	Yes	None	DCSS SRF SWS	No	Yes
B1.Echo	1	No	Yes	None	DCSS	No	No
B1.Lake Circle Ln	1	No	Yes	None	SCLORF	No	Yes
B1.Lake Shore St	1	No	Yes	None	SCLORF	No	Yes
B1.Lake Vista Cir	1	No	Yes	None	DCSS	No	No
B1.Lake Vista Dr	1	No	Yes	None	DCSS	No	No
B1.Lake Vista Ter	1	No	Yes	None	DCSS	No	No
B1.North River Rd	1	No	Yes	None	DCSS SCLORF SRF	No	Yes
B1.Old River Rd	1	No	Yes	None	DCSS SCLORF SRF	No	Yes
B1.Pala Old Hwy 395	1	No	Yes	None	CLO	No	Yes
B1.Pala Rd	1	No	Yes	None	SCLORF	No	Yes
B1.Racetrack Access	1	No	Yes	None	SCLORF	No	Yes
B1.Rainbow MWD	1	No	Yes	None	CLO	No	No
B1.Via Casitas	1	No	Yes	None	DCSS	No	No
B1.Vista Valley Golf	1	No	Yes	None	DCSS SCLORF	No	Yes
B1.W Lilac Rd	1	No	Yes	None	DCSS	No	No
B2.Bridlewood Rd	2	No	Yes	None	SCLORF	No	Yes
B2.Camino Del Rey	2	No	Yes	None	NNG	No	No
B2.Candice Ct	2	No	Yes	None	SCLORF	No	Yes
B2.La Canada Rd	2	No	Yes	None	SCLORF	No	Yes
B2.Lake Sycamore Dr	2	No	Yes	None	SCLORF	No	Yes
B2.Marci Way	2	No	Yes	None	SCLORF	No	Yes
B2.Mission Rd	2	No	Yes	None	SCLORF	No	Yes
B2.Mission Road	2	No	Yes	None	SCLORF	No	Yes
B2.North River Rd	2	No	Yes	None	SRW	No	Yes
B2.Pala Rd	2	No	Yes	None	SCLORF	No	Yes
B2.Ramona Dr	2	No	Yes	None	SCLORF	No	Yes
B2.Rancho Del Caballo	2	No	Yes	None	SCLORF	No	Yes
B2.San Luis Rey River	2	No	Yes	None	SRF	No	Yes

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B2.Sweetgrass Ct	2	No	Yes	None	SCLORF	No	Yes
B2.Sweetgrass Ln	2	No	Yes	None	SRW	No	Yes
B2.Thoroughbred Triple Crown	2	No	Yes	None	NNG	No	No
B2.Via Del Caballero	2	No	Yes	None	DCSS	No	No
B2.Via Monserate	2	No	Yes	None	NNG	No	No
B3.Blue Gum Court	3	No	Yes	None	SCLORF	No	Yes
B3.Cedar Vale Gird	3	No	Yes	None	SCWRF	No	Yes
B3.Cherrypoint Ct	3	No	Yes	None	CLO	No	No
B3.Flowerwood Lane	3	No	Yes	None	SCLORF	No	Yes
B3.Flowerwood Ln	3	No	Yes	None	SCLORF	No	Yes
B3.Gird Oak Cliff	3	No	Yes	None	CLO DCSS SCLORF	No	Yes
B3.Gird Rd	3	No	Yes	None	CLO DCSS SCLORF	No	Yes
B3.Horse Ranch Creek Tecolote	3	No	No	None	None	No	Yes
B3.Katie Lendre Connector	3	No	Yes	None	SCWRF	No	Yes
B3.Katie Lendre Dr	3	No	Yes	None	SCLORF	No	Yes
B3.Knottwood Way	3	No	Yes	None	SCLORF	No	Yes
B3.La Canada Rd	3	No	Yes	None	SCLORF	No	Yes
B3.Lake Garden Dr	3	No	Yes	None	DCSS	No	No
B3.Pala Mesa Oaks Dr	3	No	Yes	None	SCLORF	No	Yes
B3.Pala Rd	3	No	Yes	None	SCLORF	No	Yes
B3.Sarah Ann Dr	3	No	No	None	None	No	Yes
B3.Secret Lake Ln	3	No	Yes	None	SCLORF	No	Yes
B3.Skycrest Westmont	3	No	Yes	None	NNG	No	No
B3.Tecalote Dr	3	No	Yes	None	DCSS	No	Yes
B3.Via Monserate	3	No	Yes	None	SCLORF	No	Yes
B3.Village Dr	3	No	Yes	None	CLO	No	No
B4.Alpha	4	No	Yes	None	DCSS SCLORF SRF SWS	No	Yes
B4.Andalusian Way	4	No	Yes	None	SCLORF	No	Yes
B4.Bravo	4	No	Yes	None	DCSS	No	No
B4.Camino Del Cielo	4	No	Yes	None	DCSS	No	No

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
B4.Foxtrot	4	No	Yes	None	DCSS	No	No
B4.Golf	4	No	Yes	None	DCSS	No	No
B4.Horse Ranch Creek Rd	4	No	Yes	None	SCLORF	No	Yes
B4.Pala Old Hwy 395	4	No	Yes	None	SCLORF	No	Yes
B4.Pankey Pl	4	No	Yes	None	SCLORF	No	Yes
B5.Bravo	5	No	Yes	None	DCSS	No	No
B5.Pala Resort	5	No	Yes	None	DCSS	No	No
B5.Tecalote Dr	5	No	No	None	None	No	Yes
B5.Valley Oaks Park	5	No	Yes	None	SCLORF	No	Yes

[1] Sensitive Vegetation Communities: CC= chamise chaparral; CLOF=Coast live oak forest; CLOW=Coast live oak woodland; CS=Coastal scrub; DCSS=Diegan Coastal sage scrub; EOW=Engelmann oak woodland; FWM= Freshwater marsh; MFS= mule fat scrub; NG=native grassland; NNG= Non-native grassland; NNR=Non-native riparian; OW=Open water; SAWRF=Southern arroyo willow riparian forest; SCLORF= Southern coast live oak riparian forest; SCLORW=Southern coast live oak riparian woodland; SCWRF=Southern cottonwood-willow riparian forest; SMaC=Southern maritime chaparral; SMC=Southern mixed chaparral; SOC= Scrub oak chaparral; SRF=Southern riparian forest; SRS=Southern riparian scrub; SRW=Southern riparian woodland; SSARW=southern sycamore-alder riparian woodland; SWS=Southern willow scrub.

Appendix E-1

ODP Water Projects with no Potential to Result In Significant Direct or Indirect Impacts to Biological Resources

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C1.1	52	No	No	AG	None	No	No
C1.2	EL PASEO	No	No	None	AG	No	No
C1.3	CastlegardenCastlegarden TPM 20835	No	No	None	None	No	No
C1.4	Gopher Canyon Tank Piping692	No	No	None	None	No	No
C1.5	HuttonTurnerGopher	No	No	None	None	No	No
C1.6	LANDER-KRANE LINE636	No	No	None	None	No	No
C1.7	LINE O-O694	No	No	None	None	No	No
C1.8	LINE P-P689	No	No	None	None	No	No
C1.9	NORTH RIVER ROAD LINE A609	No	No	None	None	No	No
C1.10	NORTH RIVER ROAD LINE A610	No	No	None	None	No	No
C1.11	Plan of Site Formation, Site Piping	No	No	AG	None	No	No
C1.12	3053	No	No	None	None	No	No
C1.13	VALLEY OF THE KINGS ROADQ-897C	No	No	None	None	No	No
C1.14	Vista Health and Spa Relocation659A	No	No	None	None	No	No
C1.15	#N/A	No	No	None	None	No	No
C1.16	#N/A	No	No	None	None	No	No
C1.17	#N/A	No	No	None	None	No	No
C1.18	#N/A - a	No	No	None	None	No	No
C1.19	CIP ADD Silverleaf	No	No	None	None	No	No
C2.1	CAMPOBASSO LINE EXT518	No	No	AG	None	No	No
C2.2	DRESSER LINE EXT. #2438A	No	No	None	None	No	No
C2.3	EDMUNDS LINE EXTENSION498	No	No	None	None	No	No
C2.4	GOLAND EXTENSION557	No	No	AG	None	No	No
C2.5	LAKE SYCAMORE ROAD493D	No	No	None	None	No	No
C2.6	LAS FLORES LINE EXT.445	No	No	AG	None	No	No
C2.7	LINE E484B	No	No	None	None	No	No
C2.8	LINE KK558A	No	No	AG	None	No	No
C2.9	LOMBARDO LINE EXTENSION499	No	No	None	None	No	No
C2.10	1748	No	No	AG	None	No	No
C2.11	Northside Transmission Main1941093	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C2.12	1776	No	No	AG	None	No	No
C2.13	Northside Transmission Main1941284	No	No	None	None	No	No
C2.14	RAMONA LINE EXTENSION500	No	No	None	None	No	No
C2.15	SUMAC-MORRO TRANSMISSION MAIN483E	No	No	None	None	No	No
C2.16	Sweetgrass Lane Pipeline Replacemen	No	No	None	None	No	No
C2.17	2011	No	No	None	None	No	No
C2.18	808	No	No	None	None	No	No
C2.19	PRECIOUS HILLS RD	No	No	None	None	No	No
C2.20	PRIVATE DRWY - b	No	No	None	None	No	No
C2.21	CAMINO JASMINE	No	No	None	None	No	No
C2.22	PRIVATE RD - h	No	No	None	None	No	No
C2.23	PRIVATE RD - i	No	No	None	None	No	No
C2.24	SLEEPING INDIAN RD	No	No	None	None	No	No
C2.25	VIA MONSERATE - a	No	No	None	None	No	No
C2.26	DEL VALLE DR - b	No	No	None	None	No	No
C2.27	#N/A	No	No	AG	AG	No	No
C2.28	1477	No	No	None	None	No	No
C2.29	635	No	No	None	None	No	No
C2.30	636	No	No	None	None	No	No
C2.31	637	No	No	None	None	No	No
C2.32	757	No	No	AG	None	No	No
C2.33	770	No	No	AG	None	No	No
C2.34	771	No	No	AG	None	No	No
C2.35	778	No	No	AG	None	No	No
C2.36	806	No	No	AG	None	No	No
C2.37	933	No	No	None	None	No	No
C2.38	Babcock Line Extension893B	No	No	None	None	No	No
C2.39	CLAY LINE EXT.427	No	No	None	None	No	No
C2.40	Constructing Water Mains Solenoid V	No	No	None	None	No	No
C2.41	DRESSER LINE EXT #3439B	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C2.42	Esterlina901D	No	No	None	None	No	No
C2.43	EVANS LINE EXT. #2561	No	No	None	None	No	No
C2.44	Line F-3422	No	No	None	None	No	No
C2.45	LINE G565B	No	No	None	None	No	No
C2.46	LINE L-L559D	No	No	AG	None	No	No
C2.47	1591	No	No	None	None	No	No
C2.48	LINE S (Blueprint Only)LSBP	No	No	None	None	No	No
C2.49	M-938	No	No	None	None	No	No
C2.50	MOOSA CANYON LINE583A765	No	No	None	None	No	No
C2.51	MorroTank	No	No	None	None	No	No
C2.52	NORTH CO. AVOCADO ESTATES490G	No	No	None	None	No	No
C2.53	Northside Transmission Main1941045	No	No	None	None	No	No
C2.54	168	No	No	None	None	No	No
C2.55	Northside Transmission Main1942814	No	No	None	None	No	No
C2.56	1025	No	No	None	None	No	No
C2.57	1758	No	No	None	None	No	No
C2.58	ROCK LINE EXT.437	No	No	None	None	No	No
C2.59	San Jacinto W/L Replacement473	No	No	None	None	No	No
C2.60	SAWDAY LINE EXTENSION454A	No	No	None	None	No	No
C2.61	SAWDAY LINE EXTENSION454B	No	No	None	None	No	No
C2.62	1759	No	No	AG	None	No	No
C2.63	SAWDAY LINE EXTENSION454C	No	No	None	None	No	No
C2.64	SCHMIDT LINE EXT.479	No	No	None	None	No	No
C2.65	SHERMAN LINE EXTENSION521	No	No	None	None	No	No
C2.66	Sumac Morro Transmission Main483	No	No	None	None	No	No
C2.67	1776	No	No	None	None	No	No
C2.68	Via Corto4777-1	No	No	None	None	No	No
C2.69	VIA DULCEA4777-1	No	No	None	None	No	No
C2.70	VIA MONSERATE (Blueprint Only)	No	No	None	None	No	No
C2.71	VIA MONSERATE (Blueprint Only)BHBP	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C2.72	VIA MONSERATE (Blueprint Only)BHBPI	No	No	None	None	No	No
C2.73	1786	No	No	None	None	No	No
C2.74	VIA SERENA771	No	No	None	None	No	No
C2.75	WENDI CT. (Blueprint Only)BHBPF	No	No	None	None	No	No
C2.76	1551	No	No	None	None	No	No
C2.77	1836	No	No	None	None	No	No
C2.78	1909	No	No	None	None	No	No
C2.79	1910	No	No	None	None	No	No
C2.80	1913	No	No	None	None	No	No
C2.81	2011	No	No	None	None	No	No
C2.82	1026	No	No	None	None	No	No
C2.83	2505	No	No	AG	None	No	No
C2.84	2515	No	No	None	None	No	No
C2.85	2536	No	No	AG	AG	No	No
C2.86	2636	No	No	None	None	No	No
C2.87	2639	No	No	None	None	No	No
C2.88	2640	No	No	None	None	No	No
C2.89	2677	No	No	None	None	No	No
C2.90	2678	No	No	None	None	No	No
C2.91	2679	No	No	None	None	No	No
C2.92	2680	No	No	None	None	No	No
C2.93	2681	No	No	None	None	No	No
C2.94	2682	No	No	None	None	No	No
C2.95	2683	No	No	None	None	No	No
C2.96	2687	No	No	None	None	No	No
C2.97	2688	No	No	None	None	No	No
C2.98	12" MORRO LINE REPLACEMENT510	No	No	None	None	No	No
C2.99	2728	No	No	None	None	No	No
C2.100	3020	No	No	None	None	No	No
C2.101	3031	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C2.102	3033	No	No	None	None	No	No
C2.103	3120	No	No	None	None	No	No
C2.104	3126	No	No	None	None	No	No
C2.105	3254	No	No	None	None	No	No
C2.106	3257	No	No	None	None	No	No
C2.107	3407	No	No	None	None	No	No
C2.108	3412	No	No	None	None	No	No
C2.109	3416	No	No	None	None	No	No
C2.110	3417	No	No	None	None	No	No
C2.111	3418	No	No	None	None	No	No
C2.112	3421	No	No	None	None	No	No
C2.113	3422	No	No	None	None	No	No
C2.114	3428	No	No	None	None	No	No
C2.115	3571	No	No	None	None	No	No
C2.116	426	No	No	None	None	No	No
C2.117	523	No	No	None	None	No	No
C2.118	559	No	No	None	None	No	No
C2.119	560	No	No	None	None	No	No
C2.120	561	No	No	None	None	No	No
C2.121	562	No	No	None	None	No	No
C2.122	605	No	No	None	None	No	No
C2.123	607	No	No	None	None	No	No
C2.124	610	No	No	None	None	No	No
C2.125	629	No	No	None	None	No	No
C2.126	630	No	No	None	None	No	No
C2.127	631	No	No	None	None	No	No
C2.128	632	No	No	None	None	No	No
C2.129	633	No	No	None	None	No	No
C2.130	634	No	No	None	None	No	No
C3.1	1814	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C3.2	489	No	No	None	None	No	No
C3.3	490	No	No	None	None	No	No
C3.4	505	No	No	None	None	No	No
C3.5	506	No	No	None	None	No	No
C3.6	688	No	No	AG	None	No	No
C3.7	894	No	No	AG	None	No	No
C3.8	ALLEN & ALVERSON LINE595	No	No	AG	None	No	No
C3.9	BONSALL MAIN LINE556A1017	No	No	AG	None	No	No
C3.10	BONSALL MAIN LINE556A358	No	No	AG	None	No	No
C3.11	1819	No	No	AG	None	No	No
C3.12	BONSALL MAIN LINE556A513	No	No	AG	None	No	No
C3.13	BONSALL RESERVOIR LINE556C	No	No	AG	None	No	No
C3.14	BONSALL WEST LATERAL	No	No	None	None	No	No
C3.15	LINE "P"554A1015	No	No	AG	None	No	No
C3.16	LINE "P"554A1016	No	No	AG	None	No	No
C3.17	LINE "P"554A2490	No	No	None	None	No	No
C3.18	LINE "P"554A2491	No	No	None	None	No	No
C3.19	NORMAN L SULLIVAN MIDDLE SCHOOL LI	No	No	None	None	No	No
C3.20	NORMAN L SULLIVAN MIDDLE SCHOOL LIN	No	No	None	None	No	No
C3.21	URNER LINE EXT.592B	No	No	AG	None	No	No
C3.22	HuttonTurnerGopher	No	No	AG	None	No	No
C3.23	2739	No	No	None	None	No	No
C3.24	2740	No	No	None	None	No	No
C3.25	ANNA MARIE LN	No	No	None	None	No	No
C3.26	W LILAC RD - d	No	No	None	None	No	No
C3.27	WRIGHTWOOD RD	No	No	None	None	No	No
C3.28	PRIVATE RD - c	No	No	None	None	No	No
C3.29	REDONDO DR	No	No	None	None	No	No
C3.30	UNNAMED RD	No	No	None	None	No	No
C3.31	VIA ARARAT DR	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C3.32	W LILAC RD - a	No	No	None	None	No	No
C3.33	LINE "P"554A2491	No	No	None	None	No	No
C3.34	LINE "P"554A3010	No	No	None	None	No	No
C3.35	LINE "P"554A3011	No	No	None	None	No	No
C3.36	LINE "P"554A907	No	No	None	None	No	No
C3.37	LINE "P"554A908	No	No	None	None	No	No
C3.38	LINE "P"554A909	No	No	None	None	No	No
C3.39	1724	No	No	None	None	No	No
C3.40	MOOSA CANYON LINE583B496	No	No	None	None	No	No
C3.41	MOOSA CANYON LINE583B497	No	No	None	None	No	No
C3.42	MOOSA CANYON LINE583B504	No	No	None	None	No	No
C3.43	MOOSA CANYON LINE583B896	No	No	None	None	No	No
C3.44	MOOSA CANYON LINE583B897	No	No	None	None	No	No
C3.45	NIEBLAS LINE EXTENSION541	No	No	None	None	No	No
C3.46	NIVA LANE LINE EXT.788	No	No	None	None	No	No
C3.47	PENNEY LINE EXT552	No	No	None	None	No	No
C3.48	RAY SAMUELSON APTS.528	No	No	None	None	No	No
C3.49	ROCHELLE LINE EXT.587	No	No	None	None	No	No
C3.50	STILLMAN LINE EXT.547	No	No	None	None	No	No
C3.51	TALIESIN WAY539	No	No	None	None	No	No
C3.52	TOLEN LINE EXT.548	No	No	None	None	No	No
C3.53	TRES AMIGOS LINE593A	No	No	None	None	No	No
C3.54	TRES AMIGOS LINE593B	No	No	AG	None	No	No
C3.55	UMER LILAC LINE EXT.544	No	No	None	None	No	No
C3.56	URNER LINE EXT.592B	No	No	None	None	No	No
C3.57	VIA ARARAT PIPELINE IMPROVEMENT PR	No	No	None	None	No	No
C3.58	VILLAS FORE535A	No	No	None	None	No	No
C3.59	VILLAS FORE535B	No	No	None	None	No	No
C3.60	VILLAS FORE535C	No	No	None	None	No	No
C3.61	WEST LILAC WATERLINE842	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C3.62	#N/A	No	No	None	None	No	No
C3.63	#N/A	No	No	None	None	No	No
C3.64	180	No	No	None	None	No	No
C3.65	1802	No	No	None	None	No	No
C3.66	1803	No	No	None	None	No	No
C3.67	1012	No	No	None	None	No	No
C3.68	1810	No	No	None	None	No	No
C3.69	1819	No	No	None	None	No	No
C3.70	2015	No	No	None	None	No	No
C3.71	2511	No	No	AG	None	No	No
C3.72	1013	No	No	None	None	No	No
C3.73	260	No	No	None	None	No	No
C3.74	2870	No	No	None	None	No	No
C3.75	3055	No	No	None	None	No	No
C3.76	3058	No	No	None	None	No	No
C3.77	3059	No	No	None	None	No	No
C3.78	435	No	No	None	None	No	No
C3.79	1362	No	No	None	None	No	No
C3.80	441	No	No	AG	None	No	No
C3.81	494	No	No	AG	None	No	No
C3.82	506	No	No	None	None	No	No
C3.83	508	No	No	None	None	No	No
C3.84	688	No	No	AG	None	No	No
C3.85	689	No	No	None	None	No	No
C3.86	A	No	No	None	None	No	No
C3.87	ALLEN & ALVERSON LINE595	No	No	AG	None	No	No
C3.88	ALLPORT LINE EXT.590	No	No	None	None	No	No
C3.89	ASCOT PARK ESTATES IMP.537A	No	No	None	None	No	No
C3.90	ASCOT PARK ESTATES IMP.537B	No	No	None	None	No	No
C3.91	ASCOT PARK ESTATES536	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C3.92	BONSALL MAIN LINE556A1014	No	No	AG	None	No	No
C3.93	BONSALL MAIN LINE556A1020	No	No	None	None	No	No
C3.94	BONSALL MAIN LINE556A1648	No	No	None	None	No	No
C3.95	BONSALL MAIN LINE556A1716	No	No	None	None	No	No
C3.96	BONSALL MAIN LINE556A358	No	No	None	None	No	No
C3.97	1703	No	No	AG	None	No	No
C3.98	BONSALL RESERVIOR LINE553C	No	No	AG	None	No	No
C3.99	BONSALL RESERVOIR LINE553A	No	No	AG	None	No	No
C3.100	BONSALL RESERVOIR LINE556C	No	No	AG	None	No	No
C3.101	BONSALL WEST LATERAL	No	No	AG	None	No	No
C3.102	CAMINO DEL REY PRESSURE REDUCING ST	No	No	None	None	No	No
C3.103	CON. 6 REHABM-919A	No	No	AG	None	No	No
C3.104	Con. 6 RehabM-919E	No	No	AG	None	No	No
C3.105	1704	No	No	None	None	No	No
C3.106	CRAWFORD LINE EXT.591	No	No	AG	None	No	No
C3.107	DATE ASSUMED	No	No	AG	None	No	No
C3.108	EL RANCHO GRANDE LINE EXT.589	No	No	None	None	No	No
C3.109	ESPOSITO PIPELINE RELOCATION543	No	No	AG	None	No	No
C3.110	FAIRGREEN WAY529A	No	No	None	None	No	No
C3.111	GARDINER-GORAN LINE EXT506	No	No	None	None	No	No
C3.112	1717	No	No	None	None	No	No
C3.113	HUTTON RESERVOIR FILL LINE507C	No	No	None	None	No	No
C3.114	Las Casitas Pressure Station891D	No	No	None	None	No	No
C3.115	Las Casitas TM 5387-1891D	No	No	None	None	No	No
C3.116	Las Casitas891D	No	No	None	None	No	No
C3.117	LINE "P"554A1015	No	No	AG	None	No	No
C3.118	LINE "P"554A1343	No	No	AG	None	No	No
C3.119	LINE "P"554A198	No	No	AG	None	No	No
C4.1	654	No	No	AG	None	No	No
C4.2	TPM 20084804	No	No	AG	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C4.3	SUMAC RD	No	No	None	None	No	No
C4.4	VIA DEL AGUACATE	No	No	None	None	No	No
C4.5	VIA RANCHEROS	No	No	None	None	No	No
C4.6	FOXGLOVE LN	No	No	None	None	No	No
C4.7	MONSERATE PL	No	No	None	None	No	No
C4.8	#N/A-C	No	No	None	None	No	No
C4.9	1268	No	No	None	None	No	No
C4.10	Lake Rancho Viejo471A1546	No	No	None	None	No	No
C4.11	Lake Rancho Viejo471A1547	No	No	None	None	No	No
C4.12	Lake Rancho Viejo471A1548	No	No	None	None	No	No
C4.13	Lake Rancho Viejo471A1549	No	No	None	None	No	No
C4.14	1426	No	No	AG	None	No	No
C4.15	Lake Rancho Viejo471A670	No	No	None	None	No	No
C4.16	Lake Rancho Viejo856A	No	No	None	None	No	No
C4.17	1428	No	No	None	None	No	No
C4.18	Lake Rancho Viejo931F	No	No	None	None	No	No
C4.19	Lake Rancho Viejo931H	No	No	None	None	No	No
C4.20	Lake Rancho Viejo931I	No	No	None	None	No	No
C4.21	Lake Rancho Viejo931K	No	No	None	None	No	No
C4.22	Lake Rancho Viejo931L	No	No	None	None	No	No
C4.23	LAKE TREE ESTATES376B	No	No	None	None	No	No
C4.24	1453	No	No	None	None	No	No
C4.25	LAKE TREE ESTATES376C	No	No	None	None	No	No
C4.26	LAKE TREE ESTATES376D	No	No	None	None	No	No
C4.27	LAKEMONT DRIVE IMPROVE.374A	No	No	None	None	No	No
C4.28	LAKEMONT DRIVE IMPROVE.374B	No	No	None	None	No	No
C4.29	LAKEMONT DRIVE IMPROVE.374C	No	No	None	None	No	No
C4.30	LAKETREE PRESSURE STATION376E	No	No	None	None	No	No
C4.31	LINE "C"377A	No	No	None	None	No	No
C4.32	LIVE OAK ESTATES375A	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C4.33	LIVE OAK ESTATES375B	No	No	None	None	No	No
C4.34	LIVE OAK ESTATES375C	No	No	None	None	No	No
C4.35	LIVE OAK ESTATES375D	No	No	None	None	No	No
C4.36	LOS SICOMOROS LANE327B	No	No	None	None	No	No
C4.37	LOWEN LINE #1334	No	No	None	None	No	No
C4.38	MARY LEWIS DRIVE LINE400C	No	No	None	None	No	No
C4.39	MUNGER LINE412	No	No	AG	None	No	No
C4.40	NUESTRA LANE WATERLINE EXTENSION843	No	No	None	None	No	No
C4.41	OAK CLIFF PIPELINE REPLACEMENT846	No	No	None	None	No	No
C4.42	OGDEN LINE EXTENSION465	No	No	None	None	No	No
C4.43	PALA MESA VILLAGE UNIT #1415B	No	No	None	None	No	No
C4.44	PALA MESA VILLAGE UNIT #1415C	No	No	None	None	No	No
C4.45	PALA MESA VILLAGE UNIT #1415D	No	No	None	None	No	No
C4.46	PALA MESA VILLAGE UNIT #1415E	No	No	None	None	No	No
C4.47	1536	No	No	None	None	No	No
C4.48	PALA MESA VILLAGE UNIT #1415F	No	No	None	None	No	No
C4.49	PALA MESA VILLAGE UNIT #1415G	No	No	None	None	No	No
C4.50	PRINS LINE EXT. #2373	No	No	None	None	No	No
C4.51	PRINS LINE EXT.372	No	No	None	None	No	No
C4.52	RANCHO MONSERATE M/H PARK469B	No	No	None	None	No	No
C4.53	RANCHO MONSERATE M/H PARK469C	No	No	None	None	No	No
C4.54	RANCHO MONSERATE M/H PARK469D	No	No	None	None	No	No
C4.55	1537	No	No	None	None	No	No
C4.56	RANCHO MONSERATE M/H PARK469F	No	No	None	None	No	No
C4.57	SHANDRICK LINE EXT.318	No	No	AG	None	No	No
C4.58	SYCAMORE RANCH UNIT 1784A	No	No	None	None	No	No
C4.59	1981	No	No	None	None	No	No
C4.60	SYCAMORE RANCH UNIT 2783C	No	No	None	None	No	No
C4.61	SYCAMORE RANCH UNIT 2783D	No	No	None	None	No	No
C4.62	SYCAMORE RANCH UNIT 2783I	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C4.63	SYCAMORE RANCHTM3786-12043	No	No	None	None	No	No
C4.64	SYCAMORE RANCHTM3786-12473	No	No	None	None	No	No
C4.65	SYCAMORE RANCHTM3786-12474	No	No	None	None	No	No
C4.66	SYCAMORE RANCHTM3786-12475	No	No	None	None	No	No
C4.67	SYCAMORE RANCHTM3786-12476	No	No	None	None	No	No
C4.68	SYCAMORE RANCHTM3786-12480	No	No	None	None	No	No
C4.69	SYCAMORE RANCHTM3786-12481	No	No	None	None	No	No
C4.70	SYCAMORE RANCHTM3786-1881	No	No	None	None	No	No
C4.71	TPM 20084804	No	No	None	None	No	No
C4.72	2247	No	No	None	None	No	No
C4.73	YARNELL LINE EXT.323B	No	No	None	None	No	No
C4.74	237	No	No	None	None	No	No
C4.75	2644	No	No	None	None	No	No
C4.76	3316	No	No	None	None	No	No
C4.77	3533	No	No	None	None	No	No
C4.78	3534	No	No	None	None	No	No
C4.79	3536	No	No	None	None	No	No
C4.80	3537	No	No	None	None	No	No
C4.81	640	No	No	None	None	No	No
C4.82	655	No	No	None	None	No	No
C4.83	988	No	No	None	None	No	No
C4.84	BOWEN LINE EXT.407	No	No	None	None	No	No
C4.85	BOWLES LANE327A	No	No	None	None	No	No
C4.86	BOWMAN LINE EXT.368	No	No	None	None	No	No
C4.87	1116	No	No	None	None	No	No
C4.88	CROWELL LUNG LINE EXT.408B	No	No	None	None	No	No
C4.89	DAY LINE319	No	No	AG	None	No	No
C4.90	DRYDEN LINE EXT.317	No	No	None	None	No	No
C4.91	ENGEL LINE EXT.315	No	No	None	None	No	No
C4.92	1166	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C4.93	LA ESTANCIA416	No	No	None	None	No	No
C4.94	Lake Park Road856D	No	No	None	None	No	No
C4.95	LAKE RANCHO MONSERATEK931M	No	No	None	None	No	No
C4.96	Lake Rancho Veijo856D	No	No	None	None	No	No
C4.97	Lake Rancho Veijo931K	No	No	None	None	No	No
C4.98	Lake Rancho Viejo TM 4249-3931L	No	No	None	None	No	No
C4.99	Lake Rancho Viejo471A1379	No	No	None	None	No	No
C4.100	Lake Rancho Viejo471A1381	No	No	None	None	No	No
C4.101	Lake Rancho Viejo471A1382	No	No	None	None	No	No
C4.102	Lake Rancho Viejo471A1383	No	No	None	None	No	No
C4.103	Lake Rancho Viejo471A1384	No	No	None	None	No	No
C4.104	Lake Rancho Viejo471A1386	No	No	None	None	No	No
C4.105	Lake Rancho Viejo471A1387	No	No	None	None	No	No
C4.106	Lake Rancho Viejo471A1400	No	No	None	None	No	No
C4.107	Lake Rancho Viejo471A1401	No	No	None	None	No	No
C4.108	Lake Rancho Viejo471A1403	No	No	None	None	No	No
C4.109	Lake Rancho Viejo471A1404	No	No	None	None	No	No
C4.110	Lake Rancho Viejo471A1539	No	No	None	None	No	No
C4.111	Lake Rancho Viejo471A1540	No	No	None	None	No	No
C4.112	Lake Rancho Viejo471A1541	No	No	None	None	No	No
C4.113	Lake Rancho Viejo471A1542	No	No	None	None	No	No
C4.114	Lake Rancho Viejo471A1543	No	No	None	None	No	No
C4.115	Lake Rancho Viejo471A1544	No	No	None	None	No	No
C4.116	Lake Rancho Viejo471A1545	No	No	None	None	No	No
C5.1	1470	No	No	None	None	No	No
C5.2	Northside Transmission Main1941471	No	No	None	None	No	No
C5.3	SYCAMORE RANCH UNIT 3831	No	No	None	None	No	No
C5.4	DOUGLAS RANCHO LINE402	No	No	AG	None	No	No
C5.5	Northside Transmission Main1941094	No	No	None	None	No	No
C5.6	#N/A	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C5.7	DOS LOMAS/ VIA ALICIA828C	No	No	AG	None	No	No
C5.8	DOUGLAS RANCHO LINE402	No	No	AG	None	No	No
C5.9	Northside Transmission Main1941492	No	No	None	None	No	No
C5.10	Northside Transmission Main1941493	No	No	AG	None	No	No
C5.11	Northside Transmission Main1942455	No	No	None	None	No	No
C5.12	SYCAMORE RANCH UNIT 2783I	No	No	None	None	No	No
C5.13	1903	No	No	None	None	No	No
C5.14	TRES LOMAS360C	No	No	None	None	No	No
C5.15	TRES LOMAS360D	No	No	None	None	No	No
C5.16	VIA ALICIA/VIA VONNIE WATERLINE	No	No	None	None	No	No
C5.17	VIA ALICIA\ VIA VONNIE WATERLINE	No	No	None	None	No	No
C5.18	VIA ALICIA926B	No	No	None	None	No	No
C5.19	VIA LOMA360G	No	No	None	None	No	No
C5.20	VIA RANCHEROS360E	No	No	None	None	No	No
C5.21	WITSCHEGER LINE EXT.403	No	No	None	None	No	No
C5.22	8 " WATERMAINS IN DOS LOMAS/ VIA AL	No	No	None	None	No	No
C5.23	828B	No	No	None	None	No	No
C5.24	CALLE DOS LOMAS WATERLINE INSTALLAT	No	No	None	None	No	No
C5.25	DOS LOMAS AND VIA ALICIA828B	No	No	None	None	No	No
C5.26	DOS LOMAS PLACE360A	No	No	None	None	No	No
C6.1	2270	No	No	AG	None	No	No
C6.2	2277	No	No	None	None	No	No
C6.3	2279	No	No	AG	None	No	No
C6.4	Northside Transmission Main1942810	No	No	AG	None	No	No
C6.5	RED MTN. RANCH LINE EXT.218	No	No	None	None	No	No
C6.6	SCHULLER LINE EXTENSION246	No	No	AG	None	No	No
C6.7	2050	No	No	None	None	No	No
C6.8	2052	No	No	None	None	No	No
C6.9	CANONITA DR	No	No	None	None	No	No
C6.10	PRIVATE RD - e	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C6.11	WILT RD	No	No	None	None	No	No
C6.12	JUNIPER RIDGE LN	No	No	None	None	No	No
C6.13	852	No	No	None	None	No	No
C6.14	BERGSTROM LINE EXT. #3289	No	No	AG	None	No	No
C6.15	BERGSTROM LINE288	No	No	None	None	No	No
C6.16	1311	No	No	None	None	No	No
C6.17	Canonita	No	No	None	None	No	No
C6.18	CHIPMAN LINE EXTENSION	No	No	AG	None	No	No
C6.19	CITRUS DRIVE EXT.331	No	No	None	None	No	No
C6.20	DANIELS 8" WATER MAIN EXTENSION818	No	No	None	None	No	No
C6.21	EFC LINE329B	No	No	None	None	No	No
C6.22	ESTHERCITA WAY LINE215A	No	No	None	None	No	No
C6.23	ESTHERCITA WAY LINE215B	No	No	None	None	No	No
C6.24	FOXGLOVE LINE EXT.365	No	No	None	None	No	No
C6.25	FOXGLOVE LINE EXT.366	No	No	None	None	No	No
C6.26	FOXGLOVE LINE791A	No	No	None	None	No	No
C6.27	FOXGLOVE LINE791B	No	No	None	None	No	No
C6.28	FRETWELL LINE EXT283	No	No	None	None	No	No
C6.29	GRIMM LINE EXT.335	No	No	None	None	No	No
C6.30	HEWLETT PACKARD CAMPUS LINE332	No	No	None	None	No	No
C6.31	JOHNSTON LINE EXT.292	No	No	None	None	No	No
C6.32	1328	No	No	None	None	No	No
C6.33	JONES LINE EXTENSION277	No	No	None	None	No	No
C6.34	LAVENDAR REMP EXT.795	No	No	None	None	No	No
C6.35	LINE "N"299	No	No	None	None	No	No
C6.36	1329	No	No	None	None	No	No
C6.37	LINE N299D	No	No	AG	None	No	No
C6.38	LOS ALISOS NORTH242	No	No	None	None	No	No
C6.39	Mesa Grove927F	No	No	None	None	No	No
C6.40	Mesa Grove927G	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C6.41	Mesa Grove971F	No	No	None	None	No	No
C6.42	Northside Transmission Main194117	No	No	None	None	No	No
C6.43	Northside Transmission Main1941301	No	No	None	None	No	No
C6.44	Northside Transmission Main1941302	No	No	AG	None	No	No
C6.45	Northside Transmission Main1941435	No	No	None	None	No	No
C6.46	Northside Transmission Main1942593	No	No	AG	None	No	No
C6.47	Northside Transmission Main1942633	No	No	None	None	No	No
C6.48	Northside Transmission Main1942693	No	No	None	None	No	No
C6.49	Northside Transmission Main1942708	No	No	None	None	No	No
C6.50	Northside Transmission Main1942810	No	No	None	None	No	No
C6.51	Northside Transmission Main1942811	No	No	AG	None	No	No
C6.52	Northside Transmission Main1943109	No	No	AG	None	No	No
C6.53	Northside Transmission Main1943111	No	No	AG	None	No	No
C6.54	Northside Transmission Main1943114	No	No	None	None	No	No
C6.55	Northside Transmission Main194734	No	No	AG	None	No	No
C6.56	Pala Mesa C.C. Unit #2306A	No	No	None	None	No	No
C6.57	1426	No	No	None	None	No	No
C6.58	PALA MESA FAIRWAYS383D	No	No	None	None	No	No
C6.59	PALA MESA FAIRWAYS383E	No	No	None	None	No	No
C6.60	PALA MESA FAIRWAYS383F	No	No	None	None	No	No
C6.61	PALA MESA FAIRWAYS383H	No	No	None	None	No	No
C6.62	PALA MESA FAIRWAYS383I	No	No	None	None	No	No
C6.63	PALA MESA FAIRWAYS383K	No	No	None	None	No	No
C6.64	Pala Mesa Greens Line302A	No	No	None	None	No	No
C6.65	1439	No	No	None	None	No	No
C6.66	PALA MESA RESERVOIR PIPING339C	No	No	None	None	No	No
C6.67	PEONY DRIVE (SHINNER EXT.)287A	No	No	None	None	No	No
C6.68	RED MTN. RANCH LINE EXT.218	No	No	None	None	No	No
C6.69	ROBBINS WATERLINE EXTENSION911-B	No	No	None	None	No	No
C6.70	1529	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C6.71	ROSA LINE EXT. #1793	No	No	AG	None	No	No
C6.72	ROSA LINE EXT. #2801	No	No	None	None	No	No
C6.73	SCHULLER LINE EXTENSION246	No	No	None	None	No	No
C6.74	SHINNER EXT.287B	No	No	None	None	No	No
C6.75	SUNBERG LINE348	No	No	None	None	No	No
C6.76	TPM 20440G-917A	No	No	None	None	No	No
C6.77	1642	No	No	AG	None	No	No
C6.78	TUDOR LINE EXT.217	No	No	None	None	No	No
C6.79	WESTLAND LINE EXT. #2294	No	No	None	None	No	No
C6.80	1643	No	No	None	None	No	No
C6.81	WILT LINE347	No	No	None	None	No	No
C6.82	WILT ROAD IMPR.295B	No	No	None	None	No	No
C6.83	YUCCA PHASE 2 REPLACEMENT PROJECT82	No	No	AG	None	No	No
C6.84	1646	No	No	None	None	No	No
C6.85	1757	No	No	None	None	No	No
C6.86	1199	No	No	None	None	No	No
C6.87	1988	No	No	None	None	No	No
C6.88	2050	No	No	None	None	No	No
C6.89	2052	No	No	None	None	No	No
C6.90	1200	No	No	None	None	No	No
C6.91	2270	No	No	None	None	No	No
C6.92	2278	No	No	None	None	No	No
C6.93	2280	No	No	AG	None	No	No
C6.94	2282	No	No	None	None	No	No
C6.95	1217	No	No	None	None	No	No
C6.96	2290	No	No	AG	None	No	No
C6.97	2291	No	No	None	None	No	No
C6.98	2432	No	No	None	None	No	No
C6.99	2568	No	No	AG	None	No	No
C6.100	2643	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C6.101	3107	No	No	AG	None	No	No
C6.102	127	No	No	None	None	No	No
C6.103	3108	No	No	AG	None	No	No
C6.104	3110	No	No	None	None	No	No
C6.105	3112	No	No	None	None	No	No
C6.106	3113	No	No	AG	None	No	No
C6.107	3172	No	No	None	None	No	No
C6.108	320	No	No	AG	None	No	No
C6.109	328	No	No	None	None	No	No
C6.110	352	No	No	None	None	No	No
C6.111	1297	No	No	None	None	No	No
C6.112	371	No	No	AG	None	No	No
C6.113	654	No	No	AG	None	No	No
C6.114	851	No	No	AG	None	No	No
C7.1	ALEX RD	No	No	AG	None	No	No
C7.2	205	No	No	AG	None	No	No
C7.3	RAINBOW HEIGHTS LINE1822219	No	No	None	None	No	No
C7.4	WHIPPLE238	No	No	AG	None	No	No
C7.5	CANONITA LINE (Blueprint Only)CLBP	No	No	None	None	No	No
C7.6	CANONITA LINE (Blueprint Only)CLBP	No	No	None	None	No	No
C7.7	302	No	No	None	None	No	No
C7.8	3266	No	No	None	None	No	No
C7.9	#N/A-C	No	No	None	None	No	No
C7.10	3268	No	No	None	None	No	No
C7.11	9.44 OD	No	No	None	None	No	No
C7.12	BEARMAN LINE EXT.236	No	No	AG	None	No	No
C7.13	CANONITA PRESSURE STATIONCLPS	No	No	AG	None	No	No
C7.14	COLE LINE202	No	No	AG	None	No	No
C7.15	Construction Assumed	No	No	None	None	No	No
C7.16	Construction. Assumed	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C7.17	DRESSELHAUS AND SROUFE W/L EXT.353	No	No	AG	None	No	No
C7.18	GREEN LINE EXT.176	No	No	None	None	No	No
C7.19	HCR Unit 2	No	No	None	None	No	No
C7.20	HCR Unit 3	No	No	None	None	No	No
C7.21	HCR Unit 4	No	No	None	None	No	No
C7.22	Horse Ranch Creek RoadH-936H	No	No	None	None	No	No
C7.23	Huntley Road Pump Station273	No	No	AG	None	No	No
C7.24	I.D. #6 Phase III - 10'' Tie Line27	No	No	AG	None	No	No
C7.25	1998	No	No	None	None	No	No
C7.26	KELLY LINE EXT.226	No	No	None	None	No	No
C7.27	LINE "M1"198C	No	No	AG	None	No	No
C8.1	1446	No	No	None	None	No	No
C8.2	24" NORTHSIDE RESERVOIR LINE (I-15	No	No	None	None	No	No
C8.3	2709	No	No	AG	None	No	No
C8.4	LEON-BRENNICK-GHIKA LINE195D	No	No	AG	None	No	No
C8.5	WALTON-STERLING-GROVE MADDOCK LINE2	No	No	AG	None	No	No
C8.6	N OLD HIGHWAY 395	No	No	None	None	No	No
C8.7	JONES-DORN LINE EXT.203	No	No	None	None	No	No
C8.8	NORTHSIDE TRANSMISSION LINE RELOCAT	No	No	None	None	No	No
C8.9	Northside Transmission Main1942012	No	No	None	None	No	No
C8.10	Northside Transmission Main1942319	No	No	None	None	No	No
C8.11	1446	No	No	AG	None	No	No
C8.12	Northside Transmission Main1942324	No	No	None	None	No	No
C8.13	Northside Transmission Main1942380	No	No	None	None	No	No
C8.14	1447	No	No	None	None	No	No
C8.15	2011	No	No	None	None	No	No
C8.16	24" NORTHSIDE RESERVOIR LINE (I-15	No	No	None	None	No	No
C8.17	2709	No	No	None	None	No	No
C9.1	OFF RAINBOW VALLEY	No	No	None	None	No	No
C9.2	RESEVOIR BRANCH (TO U-1 TANKS)120M	No	No	AG	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C9.3	VARGAS LINE EXT. #2112	No	No	AG	None	No	No
C9.4	VARGAS LINE EXT. (#1)111	No	No	AG	None	No	No
C9.5	RAINBOW GLEN RD - c	No	No	None	None	No	No
C9.6	Northside Transmission Main1942760	No	No	None	None	No	No
C9.7	14" LINE "M" (I-15 RELOCATION)168B2	No	No	None	None	No	No
C9.8	Northside Transmission Main194323	No	No	None	None	No	No
C9.9	Pump No. 3137	No	No	None	None	No	No
C9.10	Pump Sta. No. 3 Expansion156	No	No	None	None	No	No
C9.11	20" NORTHSIDE TRANSMISSION LIN168A1	No	No	None	None	No	No
C9.12	SECTION 3 BRANCH UNIT "A" (ASP120OP	No	No	None	None	No	No
C9.13	SWITZER LINE EXT.163	No	No	None	None	No	No
C9.14	24" NORTHSIDE RESERVOIR LINE (I-15	No	No	None	None	No	No
C9.15	2537	No	No	None	None	No	No
C9.16	2714	No	No	None	None	No	No
C9.17	30" NORTH RESERVOIR FEEDER LINE (I-	No	No	AG	None	No	No
C9.18	448	No	No	None	None	No	No
C9.19	5TH ST. EAST (UNIT "A")132A	No	No	AG	None	No	No
C9.20	5TH ST. WEST (UNIT "A")132C	No	No	None	None	No	No
C9.21	6" MOORE LINE RELOCATION (I-15)168A	No	No	None	None	No	No
C9.22	8th Street Pumping Station182	No	No	None	None	No	No
C9.23	ANDERSON LINE EXT.114B	No	No	None	None	No	No
C9.24	Booster Station No. 4166	No	No	None	None	No	No
C9.25	CHICA ROAD UNIT "A"131	No	No	None	None	No	No
C9.26	General Plot Plan Booster Station #	No	No	None	None	No	No
C9.27	1192	No	No	None	None	No	No
C10.1	#N/A	No	No	AG	None	No	No
C10.2	Line N-N - Schedule 3642A1420	No	No	AG	None	No	No
C10.3	Line N-N - Schedule 3642A1421	No	No	AG	None	No	No
C10.4	Line N-N - Schedule 3642A2789	No	No	AG	None	No	No
C10.5	LOS BLANCOS LINE683	No	No	AG	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C10.6	MITCHELL-MACKAY LINE EXT670	No	No	AG	None	No	No
C10.7	Moosa Crest Extension #1651A	No	No	AG	None	No	No
C10.8	UNK-O	No	No	AG	None	No	No
C10.9	Guy C. Earl Extension646A	No	No	AG	None	No	No
C10.10	Guy C. Earl Extension646A	No	No	AG	None	No	No
C10.11	BIELAK LINE EXT648	No	No	None	None	No	No
C10.12	DISNEY LN	No	No	None	None	No	No
C10.13	VIA CUESTA ARRIBA	No	No	None	None	No	No
C10.14	VIA DE LA REINA	No	No	None	None	No	No
C10.15	PRIVATE RD - b	No	No	None	None	No	No
C10.16	SOUTH WIND LANE666	No	No	None	None	No	No
C10.17	TUPA-SEBEK LINE EXT645	No	No	None	None	No	No
C10.18	Baker Line ExtensionTPM 19707	No	No	None	None	No	No
C10.19	BECKER-GARLINGER EXTENSION665	No	No	None	None	No	No
C10.20	COURTNEY-SMITH EXTENSION674	No	No	None	None	No	No
C10.21	10" TIELINE B/W HAILEAH ESTATES & S	No	No	None	None	No	No
C10.22	DISNEY LINE EXTENSION817	No	No	None	None	No	No
C10.23	FELICIA WAY660C	No	No	None	None	No	No
C10.24	GEHRING LINE EXTENSION673	No	No	None	None	No	No
C10.25	GOEDIKE LLINE EXT. 2647	No	No	None	None	No	No
C10.26	Gopher Can Main Water Line858D	No	No	None	None	No	No
C10.27	Gopher Canyon Road Water Lane Main8	No	No	None	None	No	No
C10.28	Gopher Canyon Road Water Line Main8	No	No	None	None	No	No
C10.29	GRAHAM LINE EXT649	No	No	None	None	No	No
C10.30	GRAMMAR LINE EXT. #3679	No	No	None	None	No	No
C10.31	HIALEAH EXTENSION #2612A	No	No	None	None	No	No
C10.32	LAKE VISTA CIRCLE573B	No	No	None	None	No	No
C10.33	2003	No	No	None	None	No	No
C10.34	293	No	No	None	None	No	No
C10.35	Line N-N - Schedule 3642A1628	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C10.36	Line N-N - Schedule 3642A294	No	No	AG	None	No	No
C10.37	Line N-N - Schedule 3642A295	No	No	None	None	No	No
C10.38	LOS BANCOS 8" BRANCH LINE683B	No	No	AG	AG	No	No
C10.39	LOS BANCOS LINE683	No	No	AG	None	No	No
C10.40	LOWE-BECKETT LINE EXT644	No	No	None	None	No	No
C10.41	MITCHELL-MACKAY LINE EXT670	No	No	None	None	No	No
C10.42	Moosa Crest Extension #1651A	No	No	AG	None	No	No
C10.43	PHILLIPS LINE EXTENSION613	No	No	None	None	No	No
C10.44	ROBERT MILLER RELOCATION808	No	No	None	None	No	No
C11.1	MOOSA CANYON LINE583B531	No	No	None	None	No	No
C11.2	MOOSA CANYON LINE583B583	No	No	AG	None	No	No
C11.3	BONSALL MAIN LINE556E	No	No	AG	None	No	No
C11.4	RANCHO AMIGOS RD	No	No	AG	None	No	No
C11.5	ALLPORT LINE EXT.590	No	No	None	None	No	No
C11.6	MOOSA CANYON LINE583B363	No	No	None	None	No	No
C11.7	MOOSA CANYON LINE583B529	No	No	None	None	No	No
C11.8	CAMINO DEL REY	No	No	None	None	No	No
C11.9	SAN LUIS REY DOWNS UNIT 1 PRESSURE	No	No	AG	None	No	No
C11.10	San Luis Rey Downs Unit 1586	No	No	AG	None	No	No
C11.11	SAN LUIS REY DOWNS UNIT 1586B	No	No	None	None	No	No
C11.12	SAN LUIS REY DOWNS UNIT 1586D	No	No	None	None	No	No
C11.13	TRENDEL LINE621	No	No	None	None	No	No
C11.14	HuttonTurnerGopher	No	No	None	None	No	No
C11.15	505	No	No	None	None	No	No
C12.1	193	No	No	None	None	No	No
C12.2	VIA MONSERATE	No	No	None	None	No	No
C12.3	RAMONA DR	No	No	None	None	No	No
C12.4	1173	No	No	None	None	No	No
C12.5	DEL RIO ESTATES LINE EXT.503	No	No	None	None	No	No
C12.6	ID #7 IMPROVEMENT631A	No	No	None	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C12.7	ID #7 IMPROVEMENT631B	No	No	None	None	No	No
C12.8	1174	No	No	None	None	No	No
C12.9	LINE D NORTH630A	No	No	None	None	No	No
C12.10	LINE D SOUTH630B	No	No	None	None	No	No
C12.11	LINE D SOUTH630C	No	No	None	None	No	No
C12.12	MOOSA CANYON LINE583A277	No	No	None	None	No	No
C12.13	1332	No	No	None	None	No	No
C12.14	MOOSA CANYON LINE583B1281	No	No	None	None	No	No
C12.15	NORTH RIVER ROAD LINE A592	No	No	None	None	No	No
C12.16	NORTH RIVER ROAD LINE A593	No	No	None	None	No	No
C12.17	NORTH RIVER ROAD LINE A594	No	No	None	None	No	No
C12.18	NORTH RIVER ROAD LINE A595	No	No	None	None	No	No
C12.19	NORTH RIVER ROAD LINE A596	No	No	None	None	No	No
C12.20	NORTH RIVER ROAD LINE A597	No	No	None	None	No	No
C12.21	NORTH RIVER ROAD LINE A598	No	No	None	None	No	No
C12.22	NORTH RIVER ROAD LINE A599	No	No	None	None	No	No
C12.23	1368	No	No	None	None	No	No
C12.24	NORTH RIVER ROAD LINE A600	No	No	None	None	No	No
C12.25	NORTH RIVER ROAD LINE A601	No	No	None	None	No	No
C12.26	NORTH RIVER ROAD LINE A602	No	No	None	None	No	No
C12.27	NORTH RIVER ROAD LINE A603	No	No	None	None	No	No
C12.28	NORTH RIVER ROAD LINE A606	No	No	None	None	No	No
C12.29	NORTH RIVER ROAD LINE A607	No	No	None	None	No	No
C12.30	NORTH RIVER ROAD LINE A608	No	No	None	None	No	No
C12.31	NORTH RIVER ROAD LINE A613	No	No	None	None	No	No
C12.32	NORTH RIVER ROAD LINE A620	No	No	None	None	No	No
C12.33	NORTH RIVER ROAD LINE A621	No	No	None	None	No	No
C12.34	NORTH RIVER ROAD LINE A622	No	No	None	None	No	No
C12.35	NORTH RIVER ROAD LINE A623	No	No	None	None	No	No
C12.36	NORTH RIVER ROAD LINE A626	No	No	AG	None	No	No

Project No.	Project Name	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C12.37	RIO VALLE DR.530C	No	No	None	None	No	No
C12.38	SAN LUIS REY FAIRWAY ESTATES575	No	No	None	None	No	No
C12.39	SINGH LINE EXTENSION624	No	No	None	None	No	No
C12.40	#N/A	No	No	None	None	No	No

Appendix E-2

ODP Sewer Projects with no Potential to Result in Significant Direct or Indirect Impacts to Biological Resources

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C1.Camino Del Rey	1	No	No	None	None	No	No
C1.Circle View Dr	1	No	No	None	None	No	No
C1.Dulin Rd	1	No	No	None	None	No	No
C1.Golf Club Dr	1	No	No	None	None	No	No
C1.Lake Circle Dr	1	No	No	None	None	No	No
C1.Lake Circle Old Hwy 395	1	No	No	None	None	No	No
C1.Lake Circle St	1	No	No	None	None	No	No
C1.Lake Park Ln	1	No	No	None	None	No	No
C1.Lake Park St	1	No	No	None	None	No	No
C1.Lake Shore Ln	1	No	No	None	None	No	No
C1.Lake Shore St	1	No	No	None	None	No	No
C1.Las Casitas	1	No	No	None	None	No	No
C1.Pala Old Hwy 395	1	No	No	None	None	No	No
C1.Private Road 4	1	No	No	None	None	No	No
C1.Private Road 5	1	No	No	None	None	No	No
C1.Rancho Monserate	1	No	No	None	None	No	No
C1.Scolamieri Thoroughbreds	1	No	No	None	None	No	No
C1.Sullivan Middle School	1	No	No	None	None	No	No
C1.Tunrif Ct	1	No	No	None	None	No	No
C1.Via Alta Vista	1	No	No	None	None	No	No
C1.Via Larga Vista	1	No	No	None	None	No	No
C1.Via Largo Vista	1	No	No	None	None	No	No
C1.Villa Dr	1	No	No	None	None	No	No
C1.Vista Valley Dr	1	No	No	None	None	No	No
C1.Vista Valley Golf	1	No	No	None	None	No	No
C2.Brookhills Rd	2	No	No	None	None	No	No
C2.Jennifer Ct	2	No	No	None	None	No	No
C2.Keri Way	2	No	No	None	None	No	No
C2.Kristi Ct	2	No	No	None	None	No	No
C2.Kristi Ramona	2	No	No	None	None	No	No
C2.Lake Sycamore Sweetgrass	2	No	No	None	None	No	No

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C2.Olive Hill Rd	2	No	No	None	None	No	No
C2.Rio Valle Dr	2	No	No	None	None	No	No
C2.River Village	2	No	No	None	None	No	No
C2.Thoroughbred Ln	2	No	No	None	None	No	No
C2.Tracy Ct	2	No	No	None	None	No	No
C2.Triple Crown Dr	2	No	No	None	None	No	No
C2.Wendi Ct	2	No	No	None	None	No	No
C3.Brushwood Ln	3	No	No	None	None	No	No
C3.Caballo Ln	3	No	No	None	None	No	No
C3.Carlton Way	3	No	No	None	None	No	No
C3.Casablanca Way	3	No	No	None	None	No	No
C3.Cedar Vale Way	3	No	No	None	None	No	No
C3.Cherrybrook Ct	3	No	No	None	None	No	No
C3.Evergreen Ct	3	No	No	None	None	No	No
C3.Fox Bridge Ct	3	No	No	None	None	No	No
C3.Genista Pl	3	No	No	None	None	No	No
C3.Gi Gi Ct	3	No	No	None	None	No	No
C3.Gird Rd to Katie Lendre	3	No	No	None	None	No	No
C3.Golfview Dr	3	No	No	None	None	No	No
C3.Lake Garden Los Campos	3	No	No	None	None	No	No
C3.Lakemont Dr	3	No	No	None	None	No	No
C3.Lakemont Gird	3	No	No	None	None	No	No
C3.Laketree Dr	3	No	No	None	None	No	No
C3.Lancewood Way	3	No	No	None	None	No	No
C3.Larkwood Ct	3	No	No	None	None	No	No
C3.Larkwood Gird	3	No	No	None	None	No	No
C3.Limber Pine Pala	3	No	No	None	None	No	No
C3.Limber Pine Rd	3	No	No	None	None	No	No
C3.Logwood Pl	3	No	No	None	None	No	No
C3.Los Campos Dr	3	No	No	None	None	No	No
C3.Los Sicomoros Ln	3	No	No	None	None	No	No

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C3.Mendenaro Ct	3	No	No	None	None	No	No
C3.Nettle Pl	3	No	No	None	None	No	No
C3.Northcliff Dr	3	No	No	None	None	No	No
C3.Oak Cliff Dr	3	No	No	None	None	No	No
C3.Oaktree Way	3	No	No	None	None	No	No
C3.Oakview Ct	3	No	No	None	None	No	No
C3.Pala Lake Dr	3	No	No	None	None	No	No
C3.Pala Resort	3	No	No	None	None	No	No
C3.Private Road 1	3	No	No	None	None	No	No
C3.Private Road 2	3	No	No	None	None	No	No
C3.Rosewood Pl	3	No	No	None	None	No	No
C3.Sarah Ann Dr	3	No	No	None	None	No	No
C3.Staghorn Ct	3	No	No	None	None	No	No
C3.Westmont Dr	3	No	No	None	None	No	No
C4.Almendra Ct	4	No	No	None	None	No	No
C4.Arboles Ct	4	No	No	None	None	No	No
C4.Charlie	4	No	No	None	None	No	No
C4.Daisy Ln	4	No	No	None	None	No	No
C4.Diegos Ct	4	No	No	None	None	No	No
C4.Fairgreen Way	4	No	No	None	None	No	No
C4.Horse Creek Lift Station	4	No	No	None	None	No	No
C4.I-15 Old Hwy 395	4	No	No	None	None	No	No
C4.Las Casitas	4	No	No	None	None	No	No
C4.Los Padres Almendra	4	No	No	None	None	No	No
C4.Los Padres Arboles	4	No	No	None	None	No	No
C4.Los Padres Dr	4	No	No	None	None	No	No
C4.Los Padres Serranos	4	No	No	None	None	No	No
C4.Mesa Grove Pala Mesa 1	4	No	No	None	None	No	No
C4.Mesa Grove Pala Mesa 2	4	No	No	None	None	No	No
C4.Mesa Grove Rd	4	No	No	None	None	No	No
C4.Mesa Grove Road	4	No	No	None	None	No	No

Project Name	Division	Special Status Species		Riparian Habitat and Sensitive Vegetation Communities		Jurisdictional Wetlands and Waterways	
		Direct	Indirect	Direct	Indirect	Direct	Indirect
C4.Olivos Ct	4	No	No	None	None	No	No
C4.Pala Mesa Dr	4	No	No	None	None	No	No
C4.Pala Mesa Olivos	4	No	No	None	None	No	No
C4.Pala Rd	4	No	No	None	None	No	No
C4.Pankey Rd	4	No	No	None	None	No	No
C4.Private Road 3	4	No	No	None	None	No	No

PEIR Appendix D

Cultural Resources Technical Report

HELIX Environmental Planning

Rainbow Municipal Water District Water and Sewer Facilities Plan

Cultural Resources Technical Report

April 2022 | 01940.00002.001

Prepared for:

Rainbow Municipal Water District
3707 Old Highway 395
Fallbrook, CA 92075

Prepared by:

Stacie Wilson
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National Archaeological Database Information

Authors:	Stacie Wilson, Theodore G. Cooley, James Turner, and Trevor Gittelhough
Firm:	HELIX Environmental Planning, Inc.
Client/Project:	Rainbow Municipal Water District
Report Date:	April 2022
Report Title:	Cultural Resources Technical Report for the Rainbow Municipal Water District Water and Sewer Facilities Plan, San Diego County, California
Prepared For:	Rainbow Municipal Water District
Type of Study:	Cultural Resources Analysis in support of a Programmatic Environmental Impact Report
New Sites:	N/A
Updated Sites:	N/A
USGS 7.5' Quadrangles:	Bonsall, Morro Hill, Pala, Pechanga, San Marcos, and Temecula
Acreage:	82 square miles
Key Words:	San Diego County; Township 9, 10, and 11 South, Range 2, 3, and 4 West; Monserate Land Grant; Bonsall, Fallbrook, Oceanside, Rainbow, Vista; San Luis Rey Rover; cultural resources analysis; Programmatic Environmental Impact Report.

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
CIP	Capital Improvement Projects
CIPP	cured-in-place pipe
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
DIP	ductile iron pipe
District	Rainbow Municipal Water District
HELIX	HELIX Environmental Planning, Inc.
I	Interstate
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
Plan	Water and Sewer Facilities Plan
PEIR	Programmatic Environmental Impact Report
PRC	Public Resources Code
Project	Water and Sewer Facilities Plan
PS	pump station
PVC	polyvinyl chloride
RPA	Register of Professional Archaeologists
SCIC	South Coastal Information Center
SLRWTP	San Luis Rey Wastewater Treatment Plant
TCR	Tribal Cultural Resources
USGS	U.S. Geological Survey
VCP	vitrified clay pipe

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EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) was contracted by the Rainbow Municipal Water District (District) to conduct a cultural resources analysis for the proposed Water and Sewer Facilities Plan (Project) The location of the Project consists of the District's Service Area, which comprises a total of 82 square miles located in northwestern San Diego County and encompasses several unincorporated areas including the communities of Rainbow and Bonsall as well as portions of Pala and Fallbrook. The Project identifies improvements necessary for the District's water and sewer facilities to adapt to future conditions while providing reliable and economical service to the District's customers. The specific key objectives of the Project include implementing upgrades, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; addressing system deficiencies under current demand and flow conditions; and meeting future water demand and flow conditions. This cultural resources study, conducted in support of a Programmatic Environmental Impact Report (PEIR) for the Project, included a records search, Sacred Lands File search, Native American consultation, a cultural resource sensitivity analysis, a review of historic aerial photographs and maps, and a review of existing documentation. Due to the programmatic nature of the analysis in the environmental document, specific locations for individual improvements are generalized and may be refined in the future. Therefore, cultural resources fieldwork was not conducted as part of the PEIR.

The records search of the California Historical Resources Information System (CHRIS), on file at the South Coastal Information Center (SCIC), indicated that a total of 235 cultural resources have been previously recorded within the District's Service Area. These resources include 156 prehistoric resources, 75 historic-period resources, and four multicomponent sites containing both prehistoric and historic components.

The District contacted the Native American Heritage Commission (NAHC) to request a search of its Sacred Lands File, which was conducted on May 19, 2021 and returned with positive results for the Project area. Tribal consultation, in accordance with Assembly Bill (AB) 52, was initiated by the District with the Pala Band of Mission Indians, Rincon Band of Luiseño Indians, San Luis Rey Band of Mission Indians, and San Pasqual Band of Diegueno Mission Indians. This draft report, as well as confidential cultural resources data, will be provided to tribal representatives to assist with their review of the Project and to determine if the Project area contains any Tribal Cultural Resources, archaeological resources, or areas of tribal or cultural importance which would require further evaluation or special consideration during the environmental review process.

The proposed improvements would be implemented in two general phases: Near Term (through 2030) and Long Term (through 2050). The proposed improvements include increasing the capacity of existing deficient water mains and sewers, implementing fire flow improvements, installing new potable and sewer pipelines, constructing pump stations and storage tanks, and rehabilitating existing lift stations. The Project may potentially result in significant impacts to historical resources, archaeological resources, Tribal Cultural Resources (including archaeological sites, traditional gathering areas, or other areas of traditional use), or human remains. Ground-disturbing activities (such as grading, trenching, or vegetation removal requiring grubbing) have the potential to damage or destroy cultural resources, or unintentionally disturb human remains, that may be present on or below the ground surface. Mitigation measures have been recommended to guide the identification, evaluation, and mitigation of potential impacts to cultural resources for individual improvements related to the Proposed Project, as they are proposed and undertaken in areas of moderate or high cultural sensitivity. With these measures, the impacts to historical resources would be reduced to below a level of significance.

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1.0 INTRODUCTION

This report describes the results of a cultural resources analysis conducted by HELIX Environmental Planning, Inc. (HELIX) for the proposed Rainbow Municipal Water District (District) Water and Sewer Facilities Plan (Project). The Project provides a comprehensive review of the District's potable and wastewater systems and proposes a plan of capital improvements necessary for the systems to adapt to future conditions, including major planned land development projects, while providing reliable and economical service to the District's customers. This cultural resources study was conducted in support of a Programmatic Environmental Impact Report (PEIR) for the Project and included a records search, Sacred Lands File search, Native American consultation, a cultural resource sensitivity analysis, a review of historic aerial photographs and maps, and a review of existing documentation. The purpose of this report is to document the existing cultural resources within the District's Service Area, provide an analysis of potential impacts the Project may have on significant historical resources and Tribal Cultural Resources, and make programmatic recommendations for the identification, evaluation, and mitigation of potential impacts for individual improvements proposed in the Plan. This report provides the cultural resources technical documentation necessary for review under California Environmental Quality Act (CEQA) by the District.

1.1 PROJECT LOCATION

The proposed Project includes improvement locations within the District's Service Area located in the northwestern corner of San Diego County (Figure 1, *Regional Location*). The Project area includes portions of Townships 9, 10, and 11 South, Ranges 2, 3, and 4 West, and a portion of the unsectioned Monserate Land Grant, on the U.S. Geological Survey (USGS) 7.5' Bonsall, San Marcos, Morro Hill, Pala, Temecula, and Pechanga quadrangles (Figure 2, *USGS Topography*).

The District shares common boundaries with Riverside County, Camp Pendleton Marine Corps Base, the unincorporated community of Fallbrook and the city of Oceanside. The District's approximately 82-square mile Service Area encompasses several unincorporated areas including the communities of Rainbow and Bonsall as well as portions of Pala and Fallbrook (Figure 3, *Aerial Photograph*).

1.2 PROJECT DESCRIPTION

The Project identifies an implementation plan for improvements necessary for the systems to adapt to future water and wastewater supply and demand conditions, while providing reliable service to the District's customers. Activities would implement improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; address system deficiencies under current demand and flow conditions; and meet future water demand and flow conditions in the short term (2030) and long term (2050).

1.2.1 Existing District Facilities

1.2.1.1 Existing Potable Water System

There are twelve major pressure zones within the District's Service Area, with each zone having at least one water storage reservoir or tank to regulate pressures and provide operational emergency and fire flow storage (Figure 4, *Existing Distribution System*). In addition, there are seven booster pump stations

(PS) in the District's distribution system that pump water up to higher zones with storage facilities and the District currently operates over 62 pressure regulating stations to supply water to lower pressure zones from higher zones. The existing distribution system includes over 336 miles of pipes of varying sides, between 4-inches to 42-inches, and are made of asbestos cement pipe, steel, ductile iron pipe (DIP) and polyvinyl chloride (PVC).

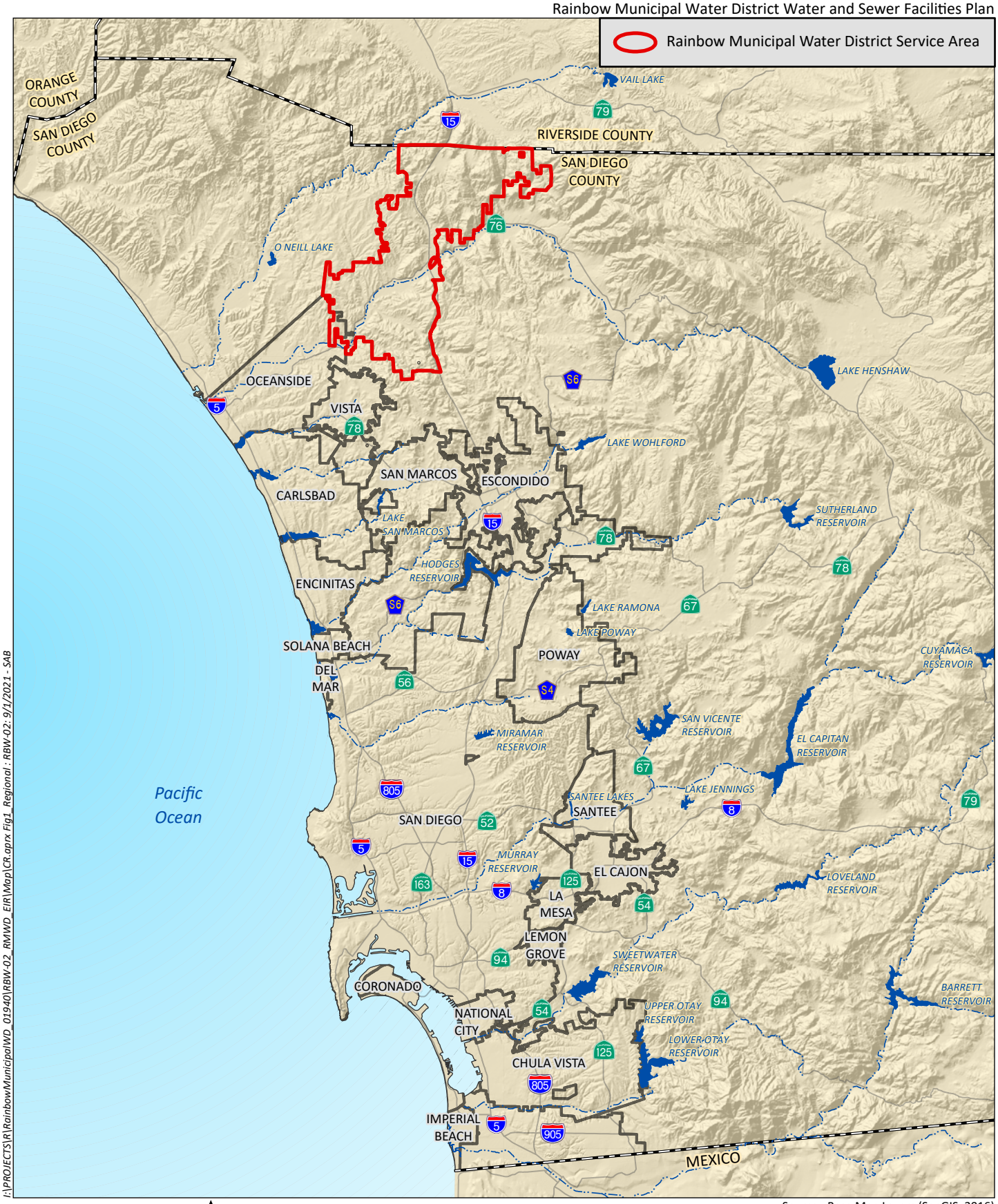
1.2.1.2 Existing Wastewater System

Approximately 27 percent of the District's water customers are connected to a sewer system (Figure 5, *Existing Sewer System*). Sewer facilities include the gravity lines, utility access holes, lift stations, force mains, and a flow meter. The District maintains approximately 76 miles of sewer conveyance and associated facilities, with pipes ranging in size from 6-inches to 24-inches, and constructed of PVC, DIP, and vitrified clay pipe (VCP). There are six wastewater lift stations and connected force mains of varying types and sizes. As the District does not have a treatment facility, all waste is transported to the San Luis Rey Wastewater Treatment Plant (SLRWTP) in Oceanside for treatment.

1.2.2 Proposed Capital Improvement Program Projects

The categories of improvements considered in the overall Project include capital improvement program (CIP) projects, maintenance projects, and other District pipeline projects, as described below. The proposed CIP includes projects that are recommended to address existing and forecasted capacity deficiencies, improve system reliability, redundancy and operating efficiencies, and conduct strategic system maintenance and replacement programs. Proposed new developments to be served by the District would be required to construct their own onsite sewer system and connection to the District's existing system. These facilities required for specific planned developments are not included, as these are assumed to be developer-funded.

Water system CIP projects are proposed within various improvement categories such as hydraulic capacity; pressure regulation; fire flows; and operations, redundancy and reliability. In addition, several sewer system projects are proposed, including replacements, rehabilitations, and other improvements. The CIP projects included in the Project are listed in Table 1, *Proposed CIP Projects*, and illustrated on Figure 6, *Proposed Capital Improvement Projects*. Specific construction schedules are not available for the individual improvements at the program level. Phasing for individual improvements could be accelerated or deferred as required to account for changes in development schedules, availability of land or rights-of-way for construction, funding limitations, and other considerations that cannot be predicted at this time. Likewise, specific staging areas have not yet been identified but would be located within developed or disturbed locations or within a parcel that is owned by the District on a case-by-case basis for the individual improvements.



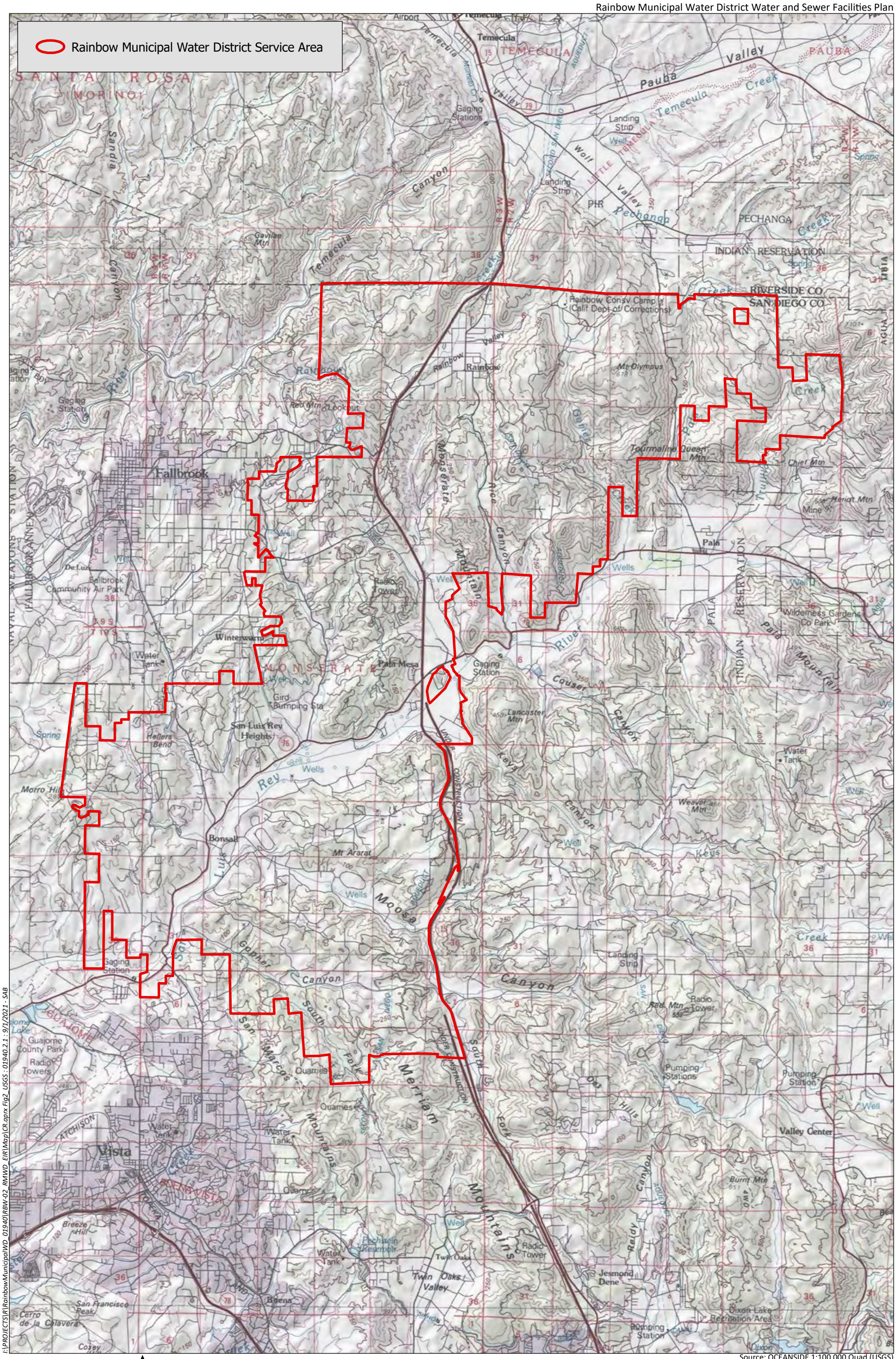
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Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



0 1.5 Miles

Source: OCEANSIDE 1:100,000 Quad (USGS)

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HELIX Environmental Planning

USGS Topography

Figure 2



0 1.5 Miles

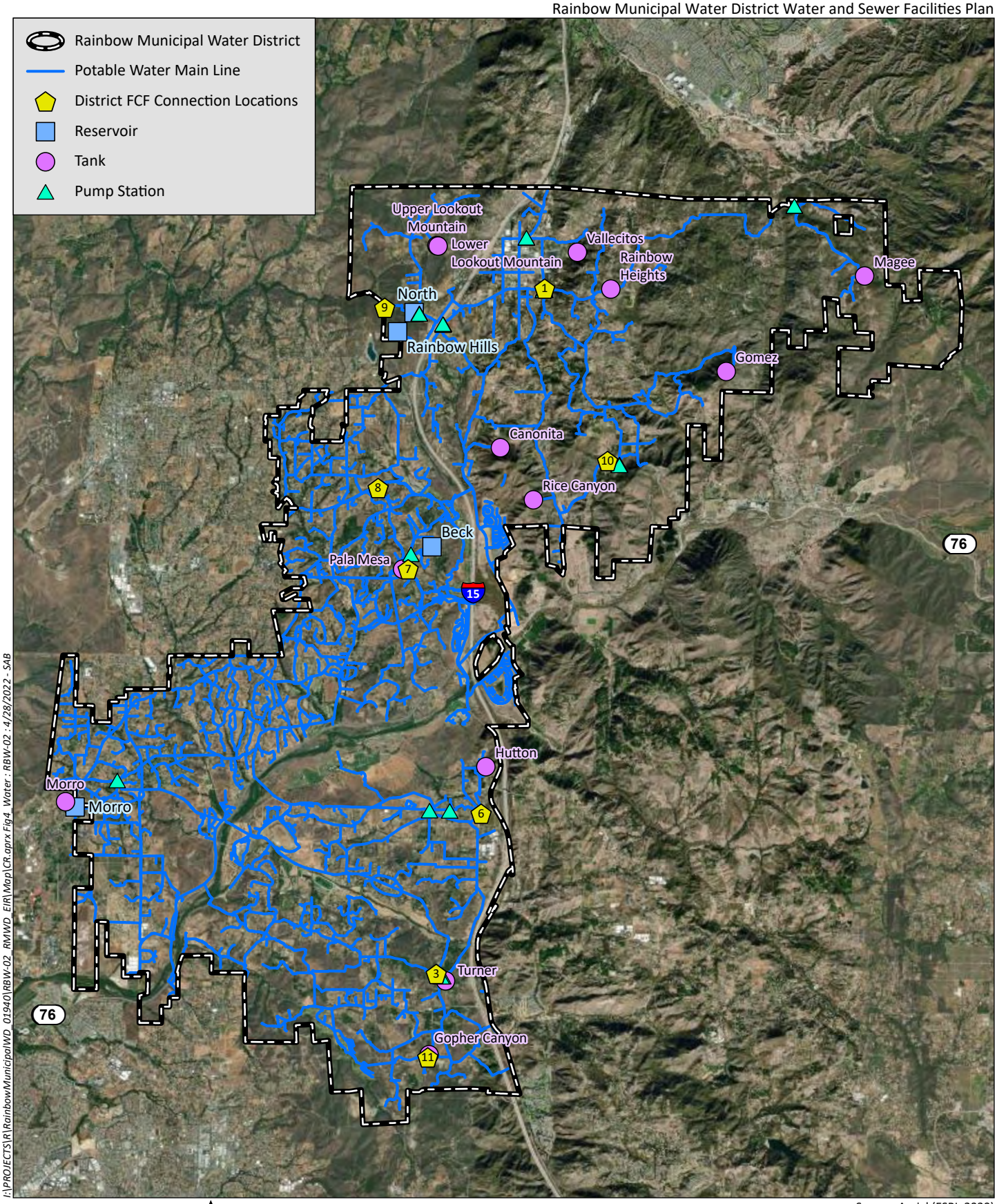
Source: OCEANSIDE 1:100,000 Quad (USGS)

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HELIX Environmental Planning

Aerial Photograph

Figure 3

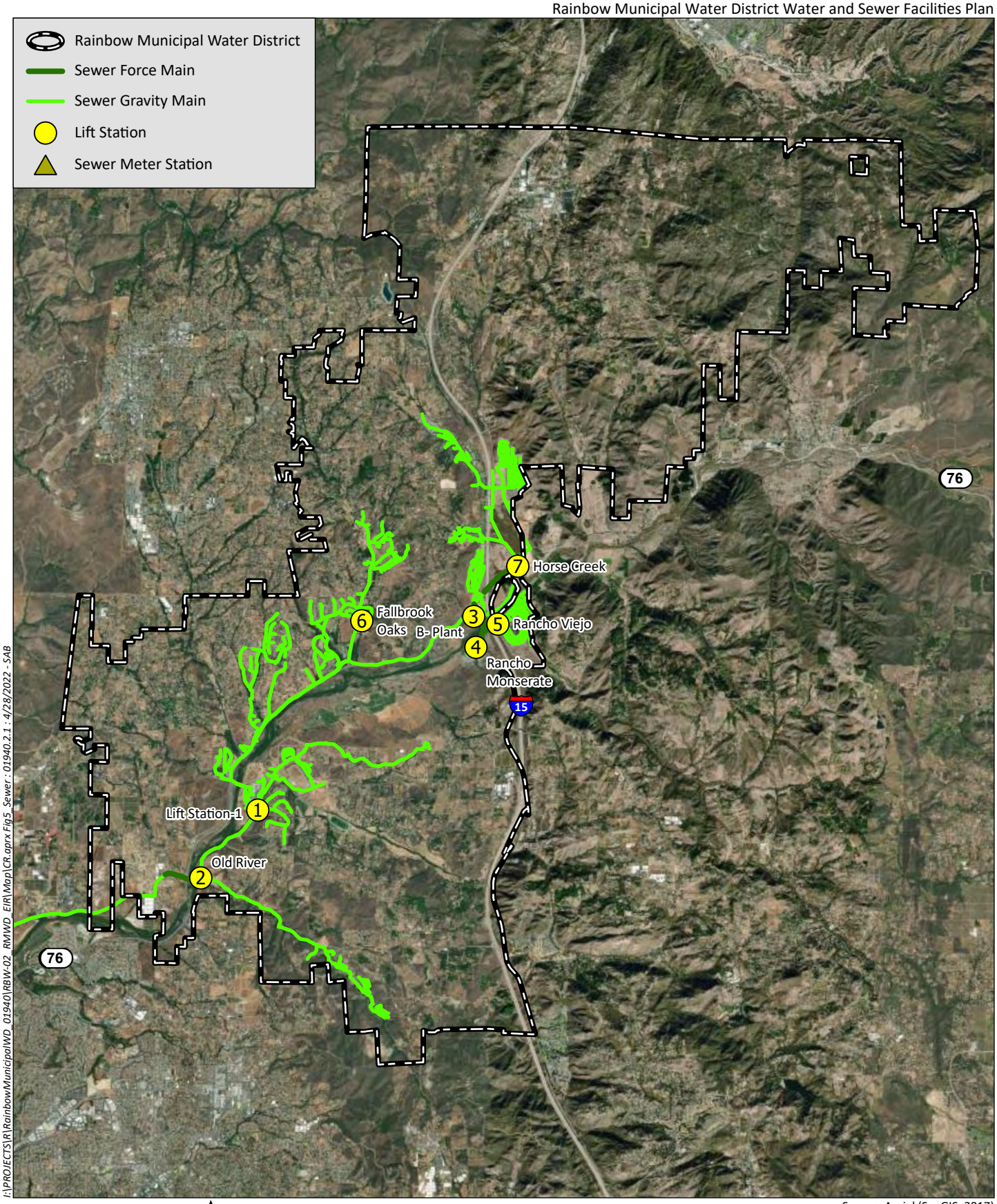


Source: Aerial (ESRI, 2020)

HELIX Environmental Planning

Existing Distribution System

Figure 4

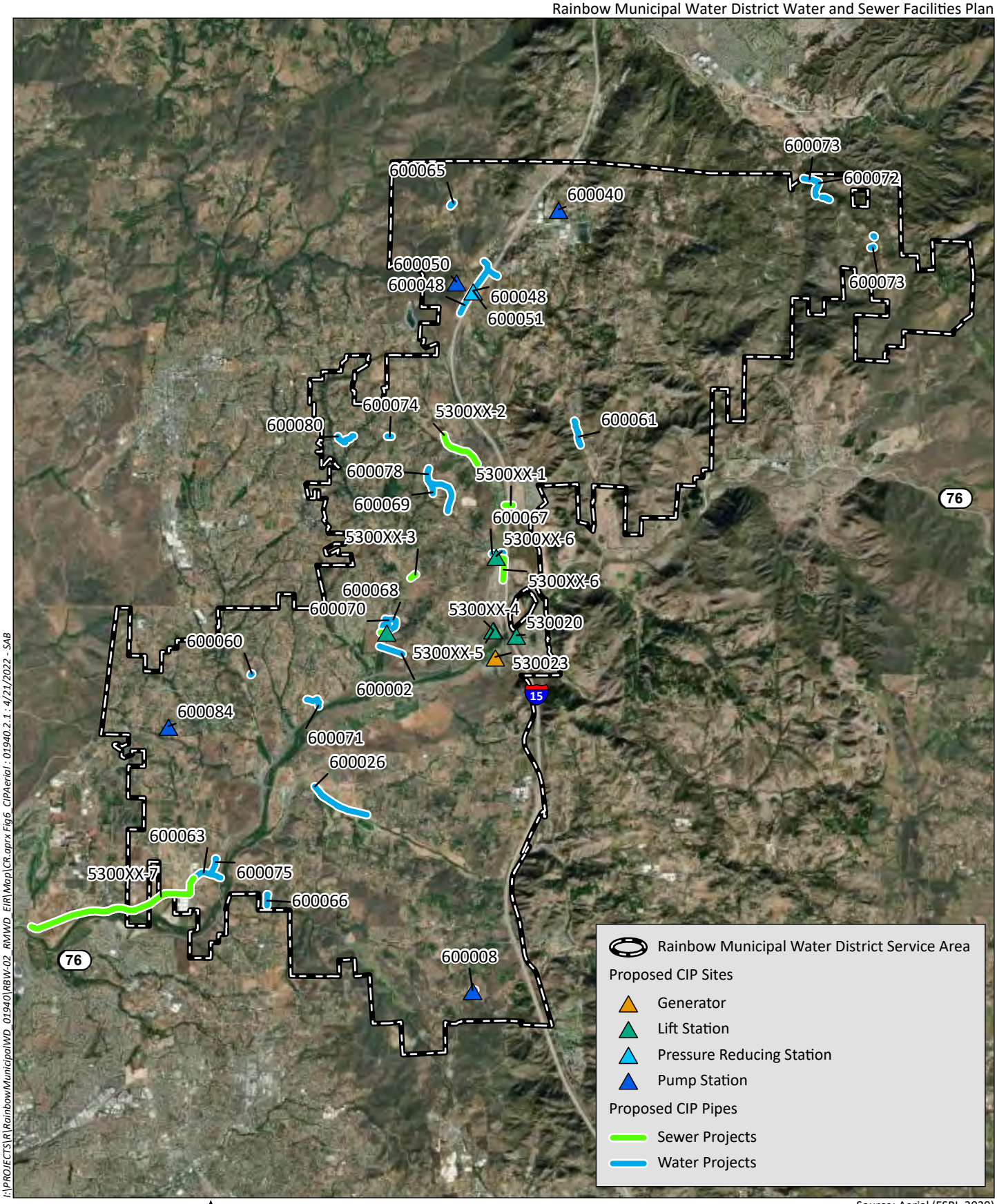


Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Existing Sewer System

Figure 5



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0 2.1 Miles

Source: Aerial (ESRI, 2020)

HELIX Environmental Planning

Proposed Capital Improvement Projects

Figure 6

Table 1
PROPOSED CIP PROJECTS

Project #	Title	Description	Estimated Construction
Water Projects			
600007	Pressure Reducing Station Replacement Program	District-wide installation of pressure-reducing stations to control high pressure and extend pipe life.	ongoing
600009	Isolation Valve Installation Program	Replacement of isolation valves throughout the District which are currently inoperable.	2022
600040	Vallecitos Pump Station (PS) Replacement	Replacement of the existing Vallecitos PS on Rainbow Valley Boulevard and removal of inoperable equipment.	2022
600048	Northside Zone Supply Redundancy	Upsize Rainbow Hills Road pipeline to 12-inch pipeline and install new Pressure Reducing Station (PRS). This would replace 2,200 feet of a 6-inch pipeline on Rainbow Hills Road with a 12-inch pipeline. The project would provide an emergency supply connection to service a large critical zone and provide emergency service during a pump station outage.	2024
60008	Weese WTP Permanent Emergency Interconnect and Pump Station	Construct a pump station along Silverleaf Lane to pull water from Oceanside's Robert A. Weese Water Treatment Plant (WTP) into RMWD's South Zone. Project also includes approximately 124 feet of pipeline to connect to the existing water line.	2022
600051	North Feeder and Rainbow Hills Water Line Replacements	Replace 3,788 feet of 30-inch and 27-inch pipelines. The existing pipelines are corroded and have suffered several breaks and the goal is fewer service outages and repairs.	2024
600060	Via Monserate Water Main Replacement	Replace 138 feet of 8-inch diameter PVC waterline.	2028
600061	Rice Canyon Road Water Main Replacement	Replacement of 2,160 feet of 8-inch diameter steel waterline.	2028
600063	North River Road Water Main Replacement	Replacement of 2,600 feet of 10-inch diameter steel waterline.	2028
600065	Rainbow Glen Water Main Replacement	Replacement of 379 feet of 12-inch diameter PVC waterline.	2028
600069	Wilt Road (1331)	Upsize of 2,200 feet of existing 6-inch water main to 10-inch along Wilt Road. Project is intended to increase pressures and improve functionality of the PRS into Pala Mesa Tank.	2027
600078	Upsize 6-inch to 10-inch water pipeline along Wilt Road	Replacement of 5,200 feet of 6-inch line to 10-inch line. The goal is to increase system pressures and improve function on Wilt Road and Citrus pressure reducing valve (PRV) into Pala Mesa Tank.	2026
600071	Del Rio Estates Line Extension 503	Replacement or rehabilitation of 1,056 feet of 6 inch pipe on Calle Del Vuelta.	2024

Project #	Title	Description	Estimated Construction
600072	East Heights Line 147L	Replacement or rehabilitation of 1,056 feet of 14 inch pipe on Rancho Heights Road.	2024
600080	Los Alisos South 243L	Replacement or rehabilitation of 2,112 feet of 8 inch pipe on Los Alisos South.	2024
600073	East Heights Line 147A	Repair several small portions of 14 inch cement mortar lined and coated steel pipe (CMLC) pipe with high break history on Rancho Heights Road.	2025
600074	Via Zara 320	Replacement or rehabilitation of 528 feet of 6-inch pipe on Via Zara.	2024
600075	Roy Line Extension	Replacement or rehabilitation of 1,056 feet of 6-inch pipeline on Emerald Hill Road near North River Road.	2025
600002	Gird to Monserate Hill Water Line	Replace and upsize a waterline which is currently out of service to increase fire flow to Monserate Hill.	2024
600026	Camino Del Rey Waterline Relocation	County of San Diego is relocating Camino Del Rey out of a flood zone. This project will relocate District's waterline into the new roadway alignment.	2022
600030	Corrosion Prevention Program Development & Implementation	District Wide - No Map.	Annual
600050	Lookout Mountain PS Upgrades	Upgrades to all electrical and pumps at the Lookout Mountain Pump Station.	2024
600055	Pipe Lining Pilot Project	Demo and Training on new technologies - No Map	2022
600066	Thibido Water Main Replacement (PUP2)	Replace a waterline identified by the Condition Assessment as High Risk.	2026
600067	Pala Mesa Fairways 383 A and C (PUP3)	Replace a waterline identified by the Condition Assessment as High Risk.	2024
600068	Sarah Ann Dr. Line 400A (PUP3)	Replace a waterline identified by the Condition Assessment as High Risk.	2022
600070	Katie Lendre Drive Line (PUP3)	Replace a waterline identified by the Condition Assessment as High Risk.	2022
600084	Morro Pump Station Upgrades	Replacement of existing pump station. New pump station to include two VFD pumps, one as primary, one as redundant, each with 2,250 GPM pumping capacity. Pump Station to include on site generator and building, approximately 500 square feet. Current Pump Station is in disrepair and oversized for existing pumping conditions.	2023
Sewer Projects			
530020	Rancho Viejo Lift Station Wet Well Expansion	Installation of improvements to the wet wells at Rancho Viejo Lift Station on Lake Circle Drive.	2022
530018	Fallbrook Oaks Lift Station Rehabilitation and Force Main Replacement	Rehabilitation of the Fallbrook Oaks Lift Station and replacement of the 800 feet of 6-inch diameter force main line.	2023

Project #	Title	Description	Estimated Construction
530023	Replace Rancho Monserate LS Emergency Generator	Replace the Emergency Generator at the Rancho Monserate Lift Station.	2023
5300XX-1	Pala Mesa/Palomar CIPP Lining	Cured-in-place pipe (CIPP) lining 660 feet of an existing 10-inch vitrified clay pipe (VCP) gravity sewer line which crosses under Interstate 15 near Pala Mesa/Palomar. The lining will both extend the useful life of the gravity main and decrease the required ongoing maintenance costs.	2024
5300XX-2	Pala Mesa Sewer CIPP Lining	CIPP lining 4,000 feet of an existing 10-inch VCP gravity sewer line located in a creek. The lining will both extend the useful life of the gravity main and decrease the required ongoing maintenance costs. The lining will also reduce inflow and infiltration which is prevalent on this stretch of pipe due to the location in a waterway.	2024
5300XX-3	Oakcliff Sewer CIPP Lining	CIPP lining 530 feet of an existing 8-inch VCP gravity sewer line located in Oakcliff Drive. The lining will both extend the useful life of the gravity main and decrease the required ongoing maintenance costs. The lining will also reduce inflow and infiltration which is prevalent on this stretch of pipe due to the proliferation of tree roots on Oakcliff Drive.	2024
5300XX-4	HQ-B Plant Dry Well	Rehabilitation existing drywell and reorganization of pipes within the Drywell at the B-Plant Lift Station.	2025
5300XX-5	HQ-B Plant Generator Replacement	The existing Generator is outdated and maintenance has become difficult due to the availability of replacement parts. Replacement of existing generator with new generator of the same size and power.	2025
5300XX-6	Campus Park West Bypass Lift Station	Construction of a new Sewer Lift Station with including two pumps with approximately 350 GPM pumping capacity each, one primary and one redundant. Lift Station to include onsite generator and building for electrical components, approximately 500 square feet. Project will also include 2,200 ft of sewer force main constructed in Old Highway 395. Lift Station just north of the intersection of Pala Mesa Road and Old Highway 395 near the end of Almendra Court Force Main to extend from Lift Station to the intersection of Old Highway 395 and Mohegan Lane.	TBD

Project #	Title	Description	Estimated Construction
5300XX-7	North River Road Sewer Outfall Expansion	Conversion of 16,000 feet of 16-inch gravity main to force main in North River Road between Old River Lift Station and Stallion Drive. The project will increase the capacity of the sewer collection system and extend the useful life of the facility.	

1.2.3 Other District Water and Sewer Pipelines

In 2018, a condition assessment was conducted to review the District's water main infrastructure. Based on the risk parameters used in the condition assessment, the water CIP projects listed in Table 3-1 were chosen as the facilities determined to be the highest priority for replacement or rehabilitation. However, as all of the District's pipeline infrastructure continues to age and deteriorate (particularly for facilities that are 50 or more years old), failures or breakages could occur anywhere in the system. Therefore, the Project addresses on a broad level the totality of the District's water and sewer pipelines, including 336 miles of water pipelines and 76 miles of sewer pipelines. Specific locations, details, and timing of replacements or improvements along the other District pipelines are unknown.

1.2.4 Maintenance Projects

Maintenance projects are minor activities that the District may undertake as part of general operations. Maintenance projects would include replacement or reconstruction of existing structures and facilities where the new structure would be located on the same site as the replaced structure and would have substantially the same purpose and capacity as the replaced structure, including existing utility facilities involving negligible or no expansion of capacity.

Other maintenance projects may include the installation of new equipment and facilities in small structures or the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. Examples may also include activities such as utility access hole replacements or rehabilitation; installation of valves, fire hydrants, air/vacuum relief assemblies, and blow off assemblies; relocation of water meters; asphalt pavement replacement; pipeline abandonment; street improvements such as landscaping; or vegetation trimming and brush management within a District easement.

1.3 PROJECT PERSONNEL

Stacie Wilson, M.S. served as principal investigator and is a co-author of this technical report. Theodore Cooley, M.A., Trevor Gittelhough, M.A., and James Turner, M.A. also served as report co-authors. Ms. Wilson, Mr. Cooley, Mr. Gittelhough, and Mr. Turner are listed in the Register of Professional Archaeologists (RPA). Mary Robbins-Wade, M.A., RPA, provided senior technical review. Resumes for key project personnel are presented in Appendix A.

2.0 REGULATORY FRAMEWORK

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, traditional, religious, and/or scientific importance. Resource

importance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of the region in history, architecture, archaeology, engineering, and culture. Significant cultural resources are those resources which have been found eligible to the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP), as applicable.

2.1 FEDERAL REGULATIONS

2.1.1 National Historic Preservation Act

Federal regulations that would be applicable to the Project if there is a federal nexus for a CIP project (e.g., permitting or funding from a federal agency) consist of the National Historic Preservation Act (NHPA) and its implementing regulations (16 United States Code 470 et seq., 36 Code of Federal Regulations [CFR] Part 800). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on "historic properties"; that is, properties (either historic or archaeological) that are eligible for the NRHP. To be eligible for the NRHP, a historic property must be significant at the local, state, or national level under one or more of the following four criteria:

A. associated with events that have made a significant contribution to the broad patterns of our history;

B. associated with the lives of persons significant in our past;

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

D. has yielded or may be likely to yield, information important in prehistory or history.

The federal lead agency uses the definition of adverse effect in the regulations implementing Section 106, found at 36 CFR 800, to assess impacts of the undertaking on cultural resources that have been identified as historic properties. An adverse effect is an effect that may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR 800.5(a)(1)). Adverse effects include, but are not limited to:

- Physical destruction, damage, or alteration of all or part of a property;

- Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the NRHP; and

- Introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting.

2.2 STATE GUIDELINES AND REGULATIONS

2.2.1 California Environmental Quality Act

CEQA Public Resources Code (PRC) 21084.1, and California Code of Regulations (CCR) Title 14 Section 15064 discuss significant cultural resources as "historical resources," which are defined as:

- Resource(s) listed or determined eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources (CRHR) (14 CCR Section 15064.5[a][1]);

- Resource(s) either listed in the National Register of Historic Places (NRHP) or in a "local register of historical resources" or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (14 CCR Section 15064.5[a][2]); or

- Resource(s) determined by the Lead Agency to meet the criteria for listing on the CRHR (14 CCR Section 15064.5[a][3]).

For listing in the CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

(1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

(2) It is associated with the lives of persons important to local, California, or national history;

(3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values;

(4) It has yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

Under 14 CCR Section 15064.5(a)(4), a resource may also be considered a "historical resource" for the purposes of CEQA at the discretion of the lead agency.

All resources that are eligible for listing in the CRHR must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination.

According to CEQA (§15064.5b), a project with an effect 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. CEQA defines a substantial adverse change as:

(1) Substantial adverse change in the significance of a historical resource means 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.

(2) The significance of a historical resource is materially impaired when a project:

(a) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(b) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, 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) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Section 15064.5 of CEQA applies to effects on archaeological sites and contains additional provisions regarding archaeological sites. If an archaeological site does not meet the criteria defined in subsection (a) as a historical resource, but does meet the definition of a unique archaeological resource in Section 21083.2 of the PRC, the site shall be treated in accordance with the provisions of section 21083.2. 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. It shall be sufficient that both the resource and the effect on it are noted in the environmental document, but they need not be considered further in the CEQA process.

2.2.2 California Assembly Bill 52

California Assembly Bill (AB) 52 revised PRC Section 21074 to include Tribal Cultural Resources (TCRs) as an area of CEQA environmental impact analysis. Further, per new PRC Section 21080.3, a CEQA lead agency must consult with any California Native American tribe that requests consultation, and that is traditionally and culturally affiliated with the geographic area of a proposed project, to identify resources of cultural or spiritual value to the tribe, even if such resources are already eligible as historical resources as a result of cultural resources studies. A TCR may be considered significant if it is (i) included in a local or state register of historical resources; (ii) determined by the lead agency to be significant pursuant to criteria set forth in PRC Section 5024.1; (iii) a geographically defined cultural landscape that meets one or more of these criteria; (iv) a historical resource described in PRC Section 21084.1 or a unique archaeological resource described in PRC Section 21083.2; or (v) a non-unique archaeological resource if it conforms with the above criteria.

2.3 LOCAL GUIDELINES AND REGULATIONS

2.3.1 San Diego County Local Register of Historical Resources

San Diego County requires that resource importance be assessed not only at the state level as required by CEQA, but at the local level as well. If a resource meets any one of the following criteria, as outlined in the Local Register, it will be considered an important resource.

(1) Resource(s) associated with events that have made a significant contribution to the broad patterns of California or San Diego County's history and cultural heritage;

(2) Resource(s) associated with the lives of persons important to the history of San Diego County or its communities;

(3) Resource(s) that embody the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(4) Resource(s) that have yielded, or may be likely to yield, information important in prehistory or history.

The purpose of the San Diego County Local Register of Historical Places is to develop and maintain "an authoritative guide to be used by State agencies, private groups, and citizens to identify the County's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Sites, places, or objects that are eligible to the NRHP or the CRHR are automatically included in the San Diego County Local Register of Historical Places.

2.3.2 City of Oceanside Regulations

The City of Oceanside's General Plan is currently undergoing an update; the existing General Plan has as one of its stated goals, "Encourage the conservation and protection of significant cultural resources for future scientific, historic, and educational purposes."

Chapter 14A of the City's Municipal Code addresses historic preservation. Sec. 14A.2 – Policy and purpose states:

> It is hereby declared as a matter of public policy that the recognition, preservation, enhancement, perpetuation and use of structures, landscape features, sites and areas within the City of Oceanside having historical, architectural, archeological, cultural or aesthetic significance is required in the interest of the economic prosperity, cultural enrichment and general welfare of the people [City of Oceanside Code of Ordinances, Sec. 14A.2].

2.4 NATIVE AMERICAN HERITAGE VALUES

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the cultural sensitivity of the

project area has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the Project.

Potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties (TCPs) in discussions of cultural resource management performed under federal auspices or TCRs under CEQA. "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices (Parker and King 1998).

Cultural resources can include TCRs, such as gathering areas, landmarks, and ethnographic locations, in addition to archaeological districts. Generally, a TCR may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance.

3.0 PROJECT SETTING

3.1 NATURAL ENVIRONMENTAL SETTING

The Project area is situated within the coastal plain and the western foothills of the Peninsular Ranges mountains of western San Diego County, where the climate is characterized as semi-arid steppe, with warm, dry summers and cool, moist winters (Hall 2007; Pryde 2004). Through millennia, this western side of the Peninsular Ranges has received the most rainfall with the eastern side receiving significantly less, resulting in desert conditions in the eastern area of the county. Consequently, the major drainages in the Project area and vicinity that originate in the upper mountain elevations, and flow west, to the Pacific Ocean, have, relative to those in the east county, contained a consistent content of water. Major drainages flowing west in the Project area or vicinity include the San Luis Rey and Santa Margarita rivers, and Loma Alta, Buena Vista, and Agua Hedionda creeks. Prehistorically, these drainages, as well as springs, and the adjacent coastline, were the principal locations for prehistoric habitation, as well as for food resource procurement and processing activities (True 1990).

Several mountains occur within the Project Area, including Red Mountain, Mount Olympus, Monserate Mountain, and Tourmaline Queen Mountain. Tourmaline Queen Mountain is the tallest, with peaks reaching over 1,925 feet above mean sea level. Valleys and canyons are interspersed between mountains within the Project Area: Rainbow Valley, Gopher Canyon, Moosa Canyon, and the San Luis Rey River corridor. The lowest point within the Project Area is approximately 120 feet above mean sea level and occurs within the southwest end of the San Luis Rey River corridor.

In the Project area and vicinity, granitic rocks of Cretaceous age are the predominantly occurring bedrock of the Peninsular Ranges, with older metamorphic rocks of Jurassic age also present (Rogers 1965; Weber 1963). The San Luis Rey River watershed in the Project area also contains substantial quantities of Cenozoic, mostly Quaternary-age alluvial deposits. It is well documented that the abundant granitic bedrock in San Diego County was well suited and frequently utilized, prehistorically, for the creation of bedrock milling stations containing elements such as mortars, basins, and slicks for the processing of vegetal foodstuffs such as seeds and acorns. This utility is evidenced by the recorded presence of several thousand such features in the County, including many within the Project area. Also, while only minimally outcropping in the Project area, the relative abundance of Jurassic and/or Triassic

age metavolcanic stone in immediately adjacent areas, provided lithic material well-suited, and frequently used prehistorically, for the manufacture of flaked stone tools.

Prehistorically, the natural vegetation communities in the Project area and general vicinity varied, principally by elevation and distance from the coast, as well as by association with different types of hydrological features. In the upper elevations of the foothills, the natural vegetation consists mostly of plants of the chaparral and/or coastal sage scrub communities. In the lower elevation foothills and near coastal areas, plants of the coastal sage scrub community, interspersed with areas of native plants of the grassland community predominate. Along the coast and in coastal lagoon and slough areas, freshwater and saltwater marsh vegetation are present (Beauchamp 1986; Munz 1974). Plants of the chaparral community include laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), sugarbush (*Rhus ovata*), California lilac *(Ceanothus* spp.), toyon (*Heteromeles arbutifolia*), chamise (*Adenostoma fasiculatum*), manzanita (*Arctostaphylos glauca*), coast live oak (*Quercus agrifolia*), yucca (*Yucca schidigera*), scrub oak (*Quercus dumosa*), and bush poppy (*Paeonia brownie*). Plants of the coastal sage scrub community include California sagebrush (*Artemisia californica*), white sage (*Salvia apiana*), flat-top buckwheat (*Eriogonum fasciculatum*), broom baccharis (*Baccharis sarothroides*), wild onion (*Allium haematochiton*), laurel sumac (*Malosma laurina*), San Diego sunflower *(Bahiopsis laciniata*), golden-yarrow (*Eriophyllum confertiflorum*), sawtooth goldenbush (*Hazardia squarrosa*), yucca (*Yucca schidigera*, *Hesperoyucca whipplei*), prickly pear cactus (*Opuntia* sp.), and scrub oak (*Quercus dumosa*). Native grassland plants include *Stipa*, *Elymus*, *Poa*, and *Muhlenbergia* species. Plants of the riparian and riparian woodland communities include western sycamore (*Platanus racemosa*), willow (*Salix* sp.), Fremont cottonwood (*Populus fremontii*), coast live oak (*Quercus agrifolia*), cattail (*Typha latifolia*), bulrush (*Scirpus* spp.), mule fat (*Baccharis* spp.), and poison oak (*Toxicodendron diversiloba*) (Beauchamp 1986; Head 1972; Munz 1974).

Major wildlife species found in these environments prehistorically include mammals such as coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), grizzly bear (*Ursus arctos*), mountain lion (*Puma concolor*), desert cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), jackrabbit (*Lepus californicus*); reptiles such as western pond turtle (*Actinemys marmorata*), southern pacific diamondback rattlesnake (*Crotalus oreganus helleri*), gopher snake (*Pituophis melanoleucus catenifer*), and several lizard species; and various rodents, the most notable of which are the valley pocket gopher (*Thomomys bottae*), California ground squirrel (*Otospermophilus beecheyi),* and dusky footed woodrat (*Neotoma fuscipes*) (Burt and Grossenheider 1976; Head 1972; Stebbins 1966).

These plant communities, as well as the native plant resources supported by these habitats, would have been used by Native American populations for clothing, food, tools, decorative, and ceremonial purposes (Bean and Shipek 1978; Cuero 1970; Hedges and Beresford 1986; Luomala 1978; Sparkman 1908). Many of the animal species living within these vegetation communities (such as rabbits, deer, small mammals, and pond turtles, as well as birds and fish) would have been utilized by native inhabitants as well. Desert cottontails, jackrabbits, and rodents were very important to the prehistoric diet; deer were somewhat less significant for food, but were an important source of leather, bone, and antler (Bean and Shipek 1978; Christenson 1990; Luomala 1978; Sparkman 1908).

3.2 CULTURAL SETTING

3.2.1 Ethnohistory

By the time Spanish colonists began to settle California in the eighteenth century, the Project area was within the traditional territorial boundary of the cultural group historically known as the Luiseño, the name deriving from their historic affiliation with Mission San Luis Rey. The Luiseño spoke a Takic language, differentiating them from their nearby neighbors to the south, the Yuman-speaking Kumeyaay (Tipai-Ipai) or Northern Diegueño (Bean and Shipek 1978; Luomala 1978). The Luiseño followed a seasonal gathering cycle, with bands occupying a series of campsites within their territory (Bean and Shipek 1978; White 1963). This territory was subdivided and occupied by different families or bands with family groups known as *tunglam* (White 1963). Chiefs acted as religious leaders of clans and directed religious ceremonies. This position was hereditary (Sparkman 1908). Kroeber estimates that the Luiseño population was approximately 3,000 to 4,000 (Kroeber 1925) during the Mission era. More than 80 family groups were known in the early twentieth century (Kroeber 1925). A predominant determining factor for the placement of villages and campsites was where water was readily available, preferably on a year-round basis (True 1990), and the Luiseño lived in semi-sedentary villages usually located along major drainages, in valley bottoms, at springs, and also on the coastal strand, with each family controlling gathering areas (Sparkman 1908; White 1963; Bean and Shipek 1978). As such, many of the major known Luiseño settlements in the San Diego County area are located along the Santa Margarita River Valley and the San Luis Rey River Valley (Bean and Shipek 1978; Kroeber 1925; White 1963). In the Project area, the San Luis Rey River Valley, which extends northeast-southwest across the south-central Project area, in addition to being a prime location for settlement, was also an important resource area for the Luiseño (Sparkman 1908:190).

Ethnographers and ethnohistorians have noted several Luiseño villages within, or in proximity to, the Project area. Kroeber (1925:648, Plate 57) somewhat vaguely, indicated a place name, *Kwalam* (or Opila), for a Luiseño settlement located along the San Luis Rey River in the vicinity of the southwestern part of the Project area. Oxendine (1983), however, subsequently indicated the location of *Kwalam* to be associated with archaeological site CA-SDI-674 (later combined with CA-SDI-8663), within the Project area, in the vicinity of the community of Bonsall. Several sources indicate that another ethnohistoric village or Rancheria, *Tom-kav*, was present in the San Luis Rey River valley, and associated with archaeological site CA-SDI-682, immediately adjacent to the southern edge of the Project area (Oxendine 1983; Sparkman 1908:191; True et al. 1991; White 1963:90, Figure 1, 123). Other ethnohistoric Luiseño villages in areas adjacent to the Project area were the village of *Pala,* located along the San Luis Rey River, approximately a mile to the southeast of the Project area (Kroeber 1925:648, Plate 57); and the village of *Wagaumaj,* located along the San Luis Rey River, approximately a mile and a half to the southwest of the Project area (Oxendine 1983).

3.2.2 Archaeological Record

3.2.2.1 Early Prehistoric Period

The Early Prehistoric Period represents the time period of the first known inhabitants in California. In some areas of California, it is referred to as the Paleo-Indian period and is associated with the Big-Game-Hunting activities of the peoples of the last Ice Age, occurring during the Terminal Pleistocene (pre-10,000 years ago) and the Early Holocene, beginning circa 10,000 years ago (Erlandson 1994, 1997; Erlandson et al. 2007). In the western United States, most evidence for the Paleo-Indian or Big-Game-

Hunting peoples during this time period derives from finds of large, fluted spear and projectile points (Fluted-Point Tradition) in places such as Clovis and Folsom in the Great Basin and the Desert Southwest (Moratto 1984:79–88). In California, most evidence for the Fluted-Point Tradition derives principally from areas along the margins of the Great Basin and the Desert Southwest such as the Sierras, the southern Central Valley, and the deserts of southeastern California (Moratto 1984:79–88) with mostly only isolated occurrences of fluted spear points encountered on or near the coast of California (Dillon 2002; Rondeau et al. 2007). Three of these isolated fluted points or point fragments, however, have occurred in San Diego County, all in the mountainous or eastern areas of the county, with one occurring approximately 28 miles to the east of the Project area in the north county mountains near Warner Springs (Kline and Kline 2007); one to the south in Cuyamaca Pass (Dillon 2002; Rondeau et al. 2007); and one near Ocotillo Wells (Rondeau et al. 2007). Several others have occurred in relative proximity to the Project area, including one along the coast in adjacent Orange County to the northwest (Fitzgerald and Rondeau 2012), and two in Baja California to the south (Des Lauriers 2008; Hyland and Gutierrez 1995).

While a few isolated fluted points or point fragments have been found in San Diego County, the earliest well-documented sites in the San Diego area belong to the San Dieguito Tradition, now documented to be close to 10,000 years old (Warren and Ore 2011; Warren et al. 1998). The San Dieguito Tradition, with an artifact assemblage distinct from that of the Fluted Point Tradition, has been documented mostly in the coastal and near coastal areas in San Diego County (Carrico et al. 1993; Rogers 1966; True and Bouey 1990; Warren 1966; Warren and True 1961), as well as in the southeastern California deserts (Rogers 1939, 1966; Warren 1967). Some evidence for it, however, has been recently proposed in the eastern Mountains of San Diego County (Pigniolo 2005) and in the coastal area north of San Diego County (Sutton and Grenda 2012). The content of the earliest component of the C.W. Harris Site (CA-SDI-149), located along the San Dieguito River, approximately 14 miles to the south of the Project area, formed the basis upon which Warren and others (Rogers 1966; Warren 1966, 1967; Warren and True 1961) identified the “San Dieguito complex,” and Warren later defined as the San Dieguito Tradition (1968). Diagnostic artifact types and categories recovered from the deepest stratum at the Harris Site as well as in the lowest strata at two nearby stratigraphically-associated sites CA-SDI-316 and CA-SDI-4935B (Carrico et al. 1993; Cooley 2013), include elongated bifacial knives; leaf-shaped projectile points, scraping tools and crescentics (Carrico et al. 1993; Knell and Becker 2017; Rogers 1966, Vaughan 1982; Warren 1966, 1967; Warren and True 1961). The Harris Site is also the source for the oldest calibrated radiocarbon date of 9,968 years before the present (B.P.), found in association with a deeply buried subsurface San Dieguito artifact assemblage (Warren and Ore 2011; Warren et al. 2008). Another calibrated radiocarbon date of 9,130 B.P. has also recently been acquired from a San Dieguito-associated deep subsurface stratum at site CA-SDI-316, located immediately adjacent to, and associated stratigraphically with, the Harris Site (Cooley 2013). This latter date further documents the presence and antiquity of the buried San Dieguito stratum at the Harris Site.

While the San Dieguito Tradition shares a similarity to the Fluted Point Tradition, in that it is characterized by an artifact inventory consisting primarily of hunting-associated tools, it lacks the distinctive fluted points associated with the Fluted Point Tradition. Based on this artifact inventory, Warren initially suggested that the subsistence system or principal emphasis of the San Dieguito Tradition was toward a hunting, rather than a gathering, economy in contrast to the more gathering-oriented complexes that were to follow in the Archaic Period (Warren 1967, 1968, 1987; Warren et al. 2008). Other researchers, however, have interpreted the San Dieguito subsistence system to be possibly ancestral to, and, therefore, to represent a developmental stage for, the predominantly gathering-

oriented "La Jolla/Pauma complex" of the subsequent Archaic Period (e.g., Bull 1983; Ezell 1987; Gallegos 1985, 1987, 1991; Koerper et al. 1991).

3.2.2.2 Archaic Period

The Archaic Period, in the southern California coastal region, dates from circa 8,600 years B.P. to circa 1,500 years ago (Warren et al. 2008). A large number of archaeological site assemblages dating to this period have been identified at a range of coastal and inland sites (Masters and Gallegos 1997; True and Beemer 1982; Warren et al. 1961). This appears to indicate that relatively stable, sedentary complexes, apparently focused during the early half of the period, more on gathering than hunting. These complexes, possibly associated with one people, were present in the coastal and immediately inland areas of what is now San Diego County for more than 7,000 years (Warren 1968). The focus on gathering is suggested by the prominence of vegetal grinding tools relative to tools associated with hunting in the archaeological assemblages of these sites. These assemblages, designated as the La Jolla/Pauma complexes, are considered part of Warren's (1968) "Encinitas tradition" and Wallace's (1955) "Milling Stone Horizon." In general, the content of these site assemblages includes manos and metates; shell middens; terrestrial and marine mammal remains; burials; rock features; bone tools; doughnut stones; discoidals; stone balls; plummets; biface points/knives; beads made of stone, bone, or shell; and cobble-based tools at coastal sites and increased hunting equipment and quarry-based tools at inland sites. As defined by True (1958), the "Pauma complex" aspect of this culture is associated with sites located in inland areas that lack shellfish remains but are otherwise similar in content to the La Jolla complex. The Pauma complex may, therefore, simply represent a non-coastal expression of the La Jolla complex (True 1980; True and Beemer 1982).

During the latter half of the Archaic Period, beginning approximately 5,500 B.P., a major shift in the subsistence system of prehistoric populations in the southern coastal region appears to have occurred (Warren et al. 2008). Artifacts such as dart points and mortars and pestles, which are essentially absent during the Early Archaic Period, become increasingly present in site assemblages dating after circa 5,500 B.P. This evidence in the archaeological record is indicative of an increase in hunting activity and the gathering and processing of acorns for subsistence. The new, and subsequently increasing, use of these resources represents a major shift in the Encinitas/La Jolla/Pauma complex subsistence system in the southern coastal region (Warren 2012; Warren et al. 2008).

3.2.2.3 The Late Prehistoric Period

The Late Prehistoric Period (1,500 B.P. to 200 B.P.) is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period, with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive but effective technological innovations. The beginning of the Late Prehistoric Period, for example, is marked by evidence of a number of new tool technologies and subsistence shifts in the archaeological record. Compared to those shifts noted for the middle and late Archaic Period, the ones that occurred at the onset of the Late Prehistoric Period were rather abrupt changes. The magnitude of these changes and the short period of time within which they took place seem to indicate a significant alteration in subsistence practices in what is now San Diego County circa 1,500 to 1,300 B.P. The changes observed include a technological shift from the use of atlatl and dart to the bow and arrow; subsistence shifts that include a reduction in shellfish gathering in some areas (possibly due to silting of the coastal lagoons); and the storage of crops, such as acorns, by Yuman-

and Takic-speaking peoples. Other new traits, such as the production of pottery and cremation of the dead, were also introduced during the Late Prehistoric Period.

Early archeological research identified two distinct archaeological complexes for the Late Prehistoric Period in what is now San Diego County (Meighan 1954; True 1970). Analysis, by True (1970), of collections from archaeological excavations within Cuyamaca Rancho State Park and from the San Diego Museum of Man, resulted in the definition of a Late Prehistoric Period complex, the Cuyamaca complex, for southern San Diego County that was distinct from the San Luis Rey complex previously defined for the northern county area by Meighan (1954). The presence or absence, or differences in the relative occurrence of certain diagnostic artifacts in site assemblages provides the principal distinctions between these archaeological complexes. Cuyamaca complex sites, for example, generally contain both Cottonwood Triangular-style points and Desert Side-notched arrow points, while Desert Side-notched points are quite rare or absent in San Luis Rey complex sites (cf. Pigniolo 2004). Other examples include Obsidian Butte obsidian, which is far more common in Cuyamaca complex sites than in San Luis Rey complex sites, and ceramics that, while present during the Late Prehistoric Period throughout what is now San Diego County, are more common in the southern or Cuyamaca complex portions of San Diego County where they occur earlier in time and appear to be somewhat more specialized in form. Based on ethnographic data, including the areas defined for the Takic-speaking peoples (Luiseño) and the Hokan-based Yuman-speaking peoples (Diegueño/Kumeyaay) at the time of contact, it is now generally accepted that the San Luis Rey complex is associated with the Takic Luiseño/Juaneño, and the Cuyamaca complex with the Yuman Diegueño/Kumeyaay (Robbins-Wade 1986; True 1970; True and Waugh 1982). The northerly location of the Project area in the county means it is most likely to contain archaeological evidence of the San Luis Rey complex.

Similarly, by inference from ethnographic information, subsistence in the Late Prehistoric Period in the area of the San Luis Rey complex is thought to have focused on acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Fish and shellfish were also secondary resources except in areas immediately adjacent to the coast, where they assumed primary importance (Bean and Shipek 1978:552; Sparkman 1908:200). Based on archaeological evidence, a significant shift in the settlement system has also been hypothesized by True and Waugh (1982) to have occurred during the Late Prehistoric Period. They indicate that during early San Luis Rey complex times (San Luis Rey I), a more dispersed pattern of settlements associated with multiple drainages was evident, while in later times (San Luis Rey II), a more concentrated central-based subsistence strategy was utilized (True and Waugh 1982). They hypothesize that this shift may have been due to a change in the availability of water (True and Waugh 1982:52; True 1990).

San Luis Rey complex material culture is characterized by steatite arrow shaft straighteners, pendants, and comals (heating stones); ceramics including Tizon Brown Ware pottery, figurines reminiscent of Hohokam styles, straight tubular and “Yuman bow pipes”, rattles, and miniature pottery vessels; various cobble-based tools (e.g., scrapers, choppers, hammerstones); bone awls; and ground stone tools including manos and portable metates, pestles and portable mortars as well as bedrock milling stations containing metate surfaces and/or mortars (True et al. 1974; True 1993). The arrow-point assemblage is dominated by the Cottonwood series, but the Sonoran Serrated (Dos Cabezas) series, while rarer, also occurs (Koerper et al. 1996). The Desert Side-Notch series, as previously noted, while abundant in Cuyamaca complex site assemblages in central and southern San Diego County, is uncommon in San Luis Rey complex sites in northern San Diego County and Orange County (Pigniolo 2004). Interment of the dead at San Luis Rey complex sites is by both inhumation and cremation, while archaeological evidence

from Cuyamaca complex sites indicates almost exclusive use of cremation, often in special ceramic burial urns for interment.

It must be noted that interpretations by archaeologists and linguistic anthropologists may differ from the beliefs and traditional knowledge of the Luiseño people. The Luiseño creation story indicates that the Luiseño people have always been here, not migrating from elsewhere. The creation story of the Pechanga people tells that the world was created at Temecula. "The Káamalam [first people] moved to a place called Nachíivo Pomíisavo, but it was too small, so they moved to a place called 'exva Teméeku,' this place you know now as Temeku. Here they settled while everything was still in darkness (DuBois 1908)" (Masiel-Zamora 2013:2). A traditional Luiseño story tells of a great flood, and the people went to higher ground, where they were saved. The San Luis Rey Band say that this higher ground, where the people were saved, is Morro Hill. Some Luiseño informants indicated the place in this story is a hill just east of Highway 395 in the San Luis Rey River Valley (Cupples and Hedges 1977).

3.2.3 Historical Background

3.2.3.1 Spanish Period

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769. In the mid-eighteenth century, Spain had escalated its involvement in California from exploration to colonization (Weber 1992) and in that year, a Spanish expedition headed by Gaspar de Portolá and Junípero Serra established the Royal Presidio of San Diego. Portolá then traveled north from San Diego, seeking suitable locations to establish military presidios and religious missions in order to extend the Spanish Empire into Alta California.

Initially, both a mission and a military presidio were located on Presidio Hill overlooking the San Diego River. A small pueblo, now known as Old Town San Diego, developed below the presidio. The Mission San Diego de Alcalá was constructed in its current location five years later. In 1798, the Mission San Luis Rey De Francia was founded in northern San Diego County. Covering almost 950,400 acres, the Mission raised about 26,000 cattle, as well as other livestock (Young and Levick 1988).

The missions and presidios stood, literally and figuratively, as symbols of Spanish colonialism, importing new systems of labor, demographics, settlement, and economies to the area. Cattle ranching, animal husbandry, and agriculture were the main pursuits of the missions. In the years that followed, the population of the Luiseño people declined rapidly (Lightfoot 2004).

3.2.3.2 Mexican Period

Although Mexico gained its independence from Spain in 1821, Spanish patterns of culture and influence remained for a time. The missions continued to operate as they had in the past, and laws governing the distribution of land were also retained in the 1820s. Following the secularization of the missions in 1834, large ranchos were granted to prominent and well-connected individuals, ushering in the Rancho Era, with the society making a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With the numerous new ranchos in private hands, cattle ranching expanded and prevailed over agricultural activities.

In order to obtain a rancho, an applicant submitted a petition containing personal information and a land description and map (diseño). In 1846, Governor Pio Pico gave Rancho Monserate, located in the central area of the District's Service Area, to Ysidro María Alvarado. The 13,322-acre swath of land

stretched from south of the San Luis Rey River to modern-day Fallbrook, from Morro Hill in the west to Couser Canyon in the east (Rivers 1998).

3.2.3.3 American Period

American governance began in 1848, when Mexico signed the Treaty of Guadalupe Hidalgo, ceding California to the United States at the conclusion of the Mexican–American War. A great influx of settlers to California and the San Diego region occurred during the American Period, resulting from several factors, including the discovery of gold in the state in 1848, the end of the Civil War, the availability of free land through the passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. The increase in American and European populations quickly overwhelmed many of the Spanish and Mexican cultural traditions, and greatly increased the rate of population decline among Native American communities.

While the American system required that the newly acquired land be surveyed prior to settlement, the Treaty of Guadalupe Hidalgo bound the United States to honor the land claims of Mexican citizens who were granted ownership of ranchos by the Mexican government. The Land Act of 1851 established a board of commissioners to review land grant claims, and land patents for the land grants were issued throughout the following years). A claim for Rancho Monserate was filed with the Public Land Commission in 1853 and granted to Ysidro María Alvarado in 1872 (US District Court 1852; Willey 1886).

In 1862, a smallpox epidemic began in Mission San Juan Capistrano in 1862 and spread to San Diego in 1963 (San Diego History Center n.d.). The epidemic ravaged the rancho, killing Ysidro Alvarado and his wife, along with 21 others (Fallbrook.org 2008a). Before he died, Alvarado made it known that he wished to be buried at the San Luis Rey Mission, located in Rancho Guajome to the south. This was not meant to be; however, as Cave J. Couts, the owner of Rancho Guajome, made it clear that there were to be no victims of smallpox buried at the mission. A skirmish broke out when Couts happened upon the burial in progress, resulting in two wounded and the death of Leon Vasquez, a member of the burial party (Crawford 1992). Ultimately, charges against Couts were dropped because of paperwork technicalities (Crawford 1992; Fallbrook.org 2008).

After the death of Alvarado, because his children were too young to assume the responsibilities of operating the rancho and the U.S. Land Commission had yet to establish ownership of the Rancho, Simon Goldbaum rented the Alvarado home and used it as a general store (Fallbrook 2008, Rivers 1998). Over the following decades, a number of settlers moved into the eastern portion of the rancho; by the early 1870s, a school and post office had been built (Fallbrook.org 2008a). Southern California and north San Diego County was further developed by Americans and other immigrants who migrated to the western frontier in pursuit of gold and other mining, agriculture, trade, and land speculation (Lech 2004). The District's Service Area includes the communities of Rainbow and Bonsall, as well as portions of Fallbrook, Vista, and Oceanside, all of which developed between the 1870s and 1880s.

Rainbow

The first permanent European settlement in the Rainbow Valley occurred in 1869, when Peter Larsen filed the first homestead (County of San Diego 2011a). Other settlers soon followed, and in 1885 the Vallecitos Adobe School was built. James Rainbow, the namesake of the valley, and W. F. Gold purchased the Larsen homestead and plotted the area's first subdivision shortly thereafter (Fetzer 2005;

County of San Diego 2011a). The first store and post office opened in the area in 1888; the latter would close by 1914 (County of San Diego 2011a; Rossi 2016).

Bonsall

The area of Bonsall went through several names since the community was established in the latter half of the 1800s. Originally known as Mount Fairview, the town changed its name in the 1880s to Osgood, in an attempt to win over the chief engineer who was in charge of the Southern California Railroad Survey Crew (Bonsall Chamber of Commerce 2016; Fleming 2007). The chief engineer oversaw the land survey for a prospective railroad that would have run from National City in San Diego County to Colton in Riverside County – if selected, the route would have run through the town, bringing much-needed revenue (Fleming 2007). This name was short-lived, however, as another route was ultimately selected for the railroad. In 1885, the town's post office closed due to lack of a postmaster; the town later requested that the Federal government reopen the post office, only to find the name "Mount Fairview" had been given to another community. A petition in 1889 included three names for the post office: "Reed," "Favorite," or "Bonsall"; each of the names came from landowners in the area (Bonsall Chamber of Commerce 2016; Fleming 2007). Ultimately, the post office headquarters in Washington DC selected Bonsall, and the post office opened for business in 1890 (Fleming 2007).

Fallbrook

In the early 1870s, Vital and Amelia Magee Reche homesteaded roughly 160 acres adjacent to the northern boundary of Rancho Monserate. The land was located near a creek, which Vital named Fall Brook Creek, after their homestead of Fall Brook in Pennsylvania (Fallbrook.org 2008a; Fallbrook Chamber of Commerce 2020). The Fall Brook School District was organized in 1876, and the Fall Brook Post Office was established near the Reche homestead in 1878. The railroad reached Fallbrook in 1882, and in 1885 land speculators William Scott and Francis Bartlett applied to the County of San Diego to create "West Fall Brook" under the State Townsite law (Fallbrook.org 2008b; Fallbrook Timeline). The West Fall Brook School District and Post Office were both granted the same year (Fallbrook.org 2008b). By 1888, the post office near the Reche homestead closed and moved to West Fall Brook; the spelling was changed to Fallbrook Post Office in 1950 (Fallbrook.org 2008b).

Oceanside

Oceanside grew out of several factors. In the early 1870s, a township known as San Luis Rey was established west of the Mission San Luis Rey. By 1884, the township had a post office, a hotel, stores, and a weekly paper. In 1883, the land surrounding modern-day Oceanside was granted to Andrew Jackson Meyers, a storekeeper who lived in the San Luis Rey township. J. Chauncey Hayes sold the town lots and would later petition for a post office for the town called "Oceanside" (City of Oceanside n.d.; Oceanside Chamber of Commerce 2020).

The city experienced a population boom due in part to the construction of the railroad linking Los Angeles to San Diego. This continued through the 1920s, when a highway was paved between San Diego and Los Angeles. While the city appeared to flourish during this time it was, as much of the Nation, suffering through the Great Depression (City of Oceanside n.d.). This suffering was short-lived, however, as World War II and the construction of Marine Corps Base Camp Pendleton on the northern edge of the City caused the demand for houses and municipal services to exceed supply. The population of Oceanside grew rapidly over the course of the following decades (City of Oceanside n.d.).

4.0 ARCHIVAL RESEARCH

4.1 RECORDS SEARCH

HELIX requested a record search of the California Historical Resources Information System (CHRIS) by the South Coastal Information Center (SCIC), and the results were received on June 30, 2020. The records search identified all of the cultural resources previously recorded within the District's Service Area. A review of the California Historical Resources and National Register of Historic Places was also conducted. The records search summary and map are included as Appendix B (Confidential Appendices, bound separately).

4.1.1 Previously Recorded Resources

The SCIC has a record of 235 previously recorded cultural resources within the District's Service Area (Table 2, *Previously Recorded Resources within the District's Service* Area). These resources include 156 prehistoric resources (123 prehistoric sites and 33 prehistoric isolates), 75 historic-period resources (31 buildings or structures, two district, four transportation routes, 27 archaeological sites, and 11 features or isolates), and four multicomponent sites with both prehistoric and historic components (Figures 7 and 8, *Prehistoric Resources within the District's Service Area* and *Historic Resources within the District's Service Area*, respectively). Three of the resource numbers on file at the SCIC have been combined with other sites, and a fourth number has no descriptive information (site form) on file at the center. In general, a variety of types of prehistoric sites have been recorded within the Project area, including large habitation or village sites, small habitation or campsites, bedrock milling stations, artifact scatters, rock art sites, rock shelters, rock walls, and marine shell scatters. Of note for these prehistoric sites is the substantial presence of bedrock milling features among the sites, with 75 of the 121 sites containing one or more of these features. Also, of note is that a large majority of the prehistoric sites, and in particular the more substantial habitation sites, are located along the San Luis Rey River Valley and some of the river's more well-water tributaries, such as the Moosa Canyon and Gopher Canyon drainages. The four multi-component sites generally consist of scatters of both prehistoric artifacts and historic refuse materials. The 67 historic resources include ranch complexes, a public utility complex district, various individual buildings and structures, adobe structures, survey markers, refuse scatters, and historic roadways or routes. Isolates generally consist of one or two historic or prehistoric artifacts with no other associated materials or features observed at the location.

Table 2
PREVIOUSLY RECORDED RESOURCES WITHIN THE DISTRICT'S SERVICE AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
000673	673	Prehistoric Site	Small camp with light midden and bedrock mortars and slicks.	True, 1960; Moslak, 2003
000674	674	Prehistoric Site	Ethnohistoric site of *Kwalam*. Recorded resources include a midden deposit, several bedrock milling stations, and an artifact scatter. Excavations occurred within the site in 1983 – ceramic and lithic artifacts were recovered.	True, 1960; Molsak, Brodie, Savala, and Dalope, 2003; Piek, 2016

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
000675	675	Prehistoric Site	Prehistoric camp site with bedrock mortars and a midden. Artifacts included lithic and ceramics.	True, 1960; DeCosta, 1982; Tuthill, Shalom and Bowden-Renna, 2007; Tennyson, Tuthill, and Bowden-Renna, 2008; Davidson, 2015
000676	676	Prehistoric Site	Site was recorded as a small village or camping site with historic debris and bedrock milling stations.	True, 1960; McManus and Cirilo, 1979; Rosen, 1991; Moslak, Brodie, Savala, and Dalope, 2003; Dalope and Hector, 2008; Mojado, Crafts, and Tsunoda, 2011
000677	677	Prehistoric Site	Site was recorded as a camp site with chipping waste.	True, 1960
000678	678	Prehistoric Site	Site consists of bedrock slicks on an outcrop.	True, 1960; Hoover 2003
000679	679	Prehistoric Site	Site consists of an artifact scatter containing manos and hammerstones.	True, 1960
000680	680	Prehistoric Site	Site was recorded as a small camp and midden area.	True, 1960
000681	681	Prehistoric Site	Site consists of a camp area and a midden deposit. Site was initially recorded as both CA-SDI-681 and CA-SDI-5589 but were later merged.	True 1960; Walker, 1978; Tuthill and Bowden-Renna, 2008; Davidson, 2016
000684	684	Prehistoric Site	Site was recorded as a small camp and bedrock mortars.	True, 1960
000772	772	Prehistoric Site	Site consists of a “slight” midden, bedrock mortars, and an artifact scatter.	True, 1960; Gross, 1972; Tennyson and Bowden-Renna, 2008
000776	776	Prehistoric Site	Site was recorded as a village or semi-permanent camp area and consists of a milling station with associated artifacts.	True, 1960; Hatley, Ferguson, and Loomis, 1977; Hightower, Kardash, Lowis, and Nagle, 1977; Shalom and Bowden-Renna, 2007; Tennyson and Tuthill, 2008; Rosen, Crafts, and Tsunoda, 2009; Roy, 2016; Davidson, 2016
000782	782	Unknown	Site Record Missing at the SCIC (Assumed to be a prehistoric site)	Unknown
000783	783	Prehistoric Site	Site recorded as a small campsite with midden soil and scattered chipping waste.	True, 1960; Tennyson, 2008
000784	784	Prehistoric Site	Site recorded as small camp with midden soil.	True, 1960

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
000785	785	Prehistoric Site	Site recorded as a small campsite with bedrock mortars and associated artifacts.	True, 1960; Tennyson, 2008
000787	787	Prehistoric Site	Site recorded as a camping area with no midden.	True, 1960; Pigniolo, 1987
000792	792	Prehistoric Site	Site recorded as a temporary camp or seed grinding station.	True, 1960; Banks, 1985
001083	1083	Prehistoric Site	Site recorded as a village site with associated artifacts.	True 1960; Tennyson and Meiser 2008
001090	1090	Prehistoric Site	Site consists of bedrock mortars, lithic, pottery and bone artifacts.	Shepard 1965
001249	1249	Prehistoric Site	Site recorded as a Luiseño village site with lithic and pottery artifacts.	Kearns, 1971
001251	1251	Prehistoric Site	Site recorded as a camp with lithic artifacts.	Kearns, 1971; Ezell, 1973; Moslak, 2003
001252	1252	Prehistoric Site	Site recorded as a camp/village site and associated lithic artifacts.	Kearns, 1971; Sanka, n.d.; Tsunoda, 2009
001253	1253	Prehistoric Site	Site recorded as a camp/village with lithic artifacts.	Kearns, 1971
001281	1281	Prehistoric Site	Site recorded as an occupation site with associated lithic artifacts.	Kearns, 1971; Rosen 2006
001282	1282	Prehistoric Site	Site recorded as an occupation site with developed midden and associated artifacts.	Kearns, 1971
001284	1284	Prehistoric Site	Site recorded as a seasonal bedrock milling station with lithic artifacts.	Kearns, 1971
001285	1285	Prehistoric Site	Site recorded as a camp with a light artifact scatter and no midden.	Kearns, 1971
004543	4543	Prehistoric Site	Site consists of burned shell fragments.	Unknown, n.d.; Tennyson, Bowden-Renna, and Roy, 2008
004556	4556	Prehistoric Site	Site recorded as a prehistoric milling and occupation site with an artifact scatter and midden soils.	Warn, 1976; Cupples, 1976; Piek and Manchen, 2015
004560	4560	Prehistoric Site	Site recorded as a camp or bedrock milling station.	Kearns, 1971; Piek and Manchen, 2015
004806	4806	Prehistoric Site	Site recorded as a milling and occupation site with dark soil and associated artifacts.	Cupples, 1976; Piek and Manchen, 2015
004807	4807	Prehistoric Site	Site recorded as a midden site with mortars and slicks.	Cupples, 1976
004809	4809	Prehistoric Site	Site recorded as a milling station with a “few faint grinding slicks.”	Cupples, 1976
005072	5072	Prehistoric Site	Site recorded as a village site with bedrock milling and an artifact scatter.	Cupples, 1976; Eckhardt, 1977, White and Corum, 1980; Chace and Knutson, 1984; Ashkar and Hilton, 2000; Piek and Manchen, 2015

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
005091	5091	Prehistoric Site	Site consists of a bedrock outcrop.	Polan, May, and Berryman, n.d.; Thornbury, 2008
005211	5211	Prehistoric Site	Site documented as three bedrock milling features with associated artifacts. Site reported verbally in 1977 – has not been physically confirmed.	Cowper, 1977; Askhar, 2000; Calvani and Manchen, 2015
005423	5423	Prehistoric Site	Site consists of an artifact scatter containing lithic artifacts.	Flower, Ike, and Roth, 1978
005424	5424	Prehistoric Site	Site consists of an artifact scatter containing lithic artifacts.	Flower, Ike, and Roth, 1978
005425	5425	Prehistoric Site	Site recorded as a camp with milling stations. Also contains a lithic scatter.	Flower, Ike and Roth, 1978
005590	5590	Prehistoric Site	Site recorded as a single bedrock mortar. Later investigations recorded the site as a temporary camp site with milling features, lithics, and pottery.	Bull, 1978; Bowden-Renna and Roy, 2008; Davidson, 2016
005998	5998	Prehistoric Site	Site consists of a bedrock milling feature with two collared mortars and two slicks.	Westec, 1978
006001	6001	Prehistoric Site	Site consists of bedrock milling features.	Westec, 1978; Piek and DeCarlo, 2015
006002	6002	Prehistoric Site	Site consists of bedrock milling features.	Westec, 1978
006003	6003	Prehistoric Site	Site recorded as consisting of “one heavily patinated push-plane and 1 sidescraper.”	Eckhardt, n.d.; Laylander and Pallette, 2004
006722	6722	Prehistoric Site	Site consists of a single bedrock milling outcrop with a slick.	Franklin, 1978; Piek and DeCarlo, 2015
006956	6956	Prehistoric Site	Site consists of a single milling feature.	Van Horn, 1979
007310	7310/H	Multi-Component Site	Site was initially recorded as a proto-historic village site, later revisited and recorded as containing historic debris.	May, 1973; Corum and McManus, 1978; Piek and DeCarlo, 2015
007311	7311	Prehistoric Site	Site recorded as a milling station and campsite.	Corum and McManus, 1978
007312	7312H	Historic Site	Site recorded as a series of two long rock walls (one linear, the other v-shaped) and several short walls.	Smith and Moriarty, n.d.; Price and Corum, 1980
007313	7313	Prehistoric Site	Site recorded as a bedrock milling site with midden soils and associated lithic artifacts.	Corum and McManus, 1978; Piek and DeCarlo, 2015
007314	7314	Prehistoric Site	Site consists of several mortars in a bedrock outcropping.	Corum and McManus, 1978
007315	7315	Prehistoric Site	Site consists of a prehistoric lithic scatter.	Corum, McManus, and Blackburn, 1978; Piek and DeCarlo, 2015
007316	7316	Prehistoric Site	Site consists of a single milling feature on a bedrock outcrop.	Smith, 1979; Price and Corum, 1982

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
007457	7457	Prehistoric Site	Site consists of several milling features.	Graham, 1979
007836	7836	Prehistoric Site	The site was initially recorded as an artifact reburial site for artifacts from SDI-4556, -4807, -4808, and -4858. The 2007 update reported that the location contained reburials from SDI-4558, -4562, -4556, -4807, and -4808.	Axford, 1979; White, Corum and Crafts, 2007; Manchen, 2015
008200	8200	Prehistoric Site	Site was recorded as a possible camp with a concentration of lithic artifacts.	Flower, Ike, and Roth, 1980
008205	8205	Prehistoric Site	Site contains two small flakes.	Rhodes, 1980
008237	8237	Prehistoric Site	Site consists of rock art in an intermittent drainage.	Hedges, 1980
008327	8327	Prehistoric Site	Site consists of a moderate density lithic scatter.	Cardenas, 1980
008663	8663	Prehistoric Site	Site consists of a midden deposit and approximately 50 milling features.	Walker and Cheever, 1981; Walker, 1981
008664	8664	Prehistoric Site	Site consists of a bedrock milling site with no artifacts.	Walker, 1981; Hunt, 2004
009593	9593	Prehistoric Site	Site consists of a single bedrock milling feature.	Rosen, 1982; Moslak 2003
009854	9854	Prehistoric Site	Site consists of a large bedrock milling feature with a small amount of midden soils.	Cottrell, 1984
009855	9855	Prehistoric Site	Site consists of a single exfoliating slick.	Cottrell, 1984
010225	10225H	Historic Site	Site consists of a historic glass scatter.	Banks, 1985
010820	10820	Prehistoric Site	Site consists of a bedrock milling feature.	Pierson, 1987; Hoover, 2003
010821	10821	Prehistoric Site	Site consists of a semi-circular rock wall.	Pierson, 1987; Hoover, 2003
010879	10879	Prehistoric Site	Site consists of a sparse artifact scatter.	White, 1987; Moslak, 2003; Laylander, 2006
010880	10880	Prehistoric Site	Site consists of bedrock milling features. Shovel test pits recovered four pieces of burnt large mammal bone.	White, 1987; Molsak, 2003; Laylander, 2006
011002	11002	Prehistoric Site	Site consists of a surface lithic scatter with no subsurface component.	Kyle, 1988
011151	11151H	Historic Site	Site consists of a possible 19th Century ranch. Cleared fields, a small olive orchard, and associated rock piles and cans are present.	Shackley and Serr, 1989
011164	11164	Prehistoric Site	Site consists of a lightly worn slick on a bedrock boulder.	Cook, Shackley, and Serr, 1989

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
011289	11289	Prehistoric Site	Site consists of a lithic and ground stone scatter. Testing of the subsurface component of the site suggested that the site was a small habitation site with seasonal occupation.	Kyle, Briggs, and Eighmey, 1989; Clowery, Morgan, Tennesen, and Whitaker, 2011
011290	11290	Prehistoric Site	Site consists of a ring of loose cobbles and a lithic scatter.	Briggs, Eighmey, and Kyle, 1989; Clowery, Morgan, Tennesen, and Whitaker, 2011
011291	11291	Prehistoric Site	Site consists of a bedrock milling feature and associated lithic scatter.	Briggs, Eighmey, and Kyle, 1989
011292	11292	Prehistoric Site	Site consists of a bedrock milling site with two slicks, a flake, and a fragmented metate.	Briggs, Eighmey, and Kyle, 1989; Clowery, Morgan, Tennesen, and Whitaker, 2011
011293	11293	Prehistoric Site	Site consists of a sparse lithic scatter with two flakes and a bedrock milling feature.	Eighmey, Briggs, and Kyle, 1989; Clowery, Morgan, Tennesen, and Whitaker, 2011
011457	11457	Historic Structure	Site consists of two historic structures, a one-story square house and associated barn; demolished since original recording.	Philips, 1989; Clowery, Morgan, Tennesen, Whitaker, 2011
011463	11463	Prehistoric Site	Site was recorded as a grinding site with a small midden.	Fink, 1973
011464	11464	Prehistoric Site	Site consists of a small grinding station.	Fink, 1973; BFSA, 2006
011465	11465	Prehistoric Site	Site consists of a bedrock milling feature.	Serr, Shackley, 1989
011911	11911	Prehistoric Site	Site consists of a small, disturbed lithic scatter.	Smith, 1990
012155	12155	Prehistoric Site	Site consists of a lithic scatter.	Rosen, Dominici, and Crafts, 1991; Laylander, 2006
012207	12207H	Historic Site	Site consists of a historic scatter including construction material and two degrading portions of an adobe wall.	Wells and Snyder, 1991; Bowden-Renna and Dolan, 2006; Tennyson and Meiser, 2008.
012208	12208H	Historic Structure	Resource consists of a three-room cabin and associated features.	Farrell, 1991
012550	12550	Prehistoric Site	Site consists of a rock ring or hearth feature located near a bedrock outcrop.	Cerreto and Adamson, 1991
012552	12552	Prehistoric Site	Site consists of a bedrock milling feature and a mano fragment.	Strudwick, Linehan, and Sespe, 1991
012580	12580	Prehistoric Site	Site consists of a small artifact scatter containing a volcanic flake and four potsherds.	Briggs and Kyle, 1992
012948	12948	Prehistoric Site	Site consists of a light density shell scatter.	Saunders, 1992

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
013004	13004	Prehistoric Site	Site consists of a small bedrock milling station consisting of two milling features.	Collett, Pearl, Hyland, 1992; Pigniolo and Briggs, 1994
013005	13005	Prehistoric Site	Site consists of a series of bedrock milling stations.	Collett, Pearl, Hyland, 1992; Briggs and Pigniolo, 1994
013006	13006/H	Multi-Component Site	Site was initially recorded as a small prehistoric ceramic scatter, though upon further significance testing, the site was found to contain historic ceramics and glass. Due to proximity, CA-SDI-13007 and CA-SDI-13766 were merged under CA-SDI-13006.	Collett, Pear, and Hyland, 1992; Briggs and Pigniolo, 1994; Pallette, 2004; Tennesen, 2013; Giletti, Taylor, and Robbins-Wade, Davidson, and Nelson, 2014
013162	13162	Prehistoric Site	Site consists of an isolated bedrock milling slick in a group of granitic boulders. One of the boulders has bulldozer scars.	Strudwick and Tift, 1993
013762	13767	Historic Site	Site consists of a historic refuse scatter consisting of glass, ceramics, shell and bone.	Briggs and Pigniolo, 1994; Pallette, 2004; Cox and Cordova, 2016
013763	13768	Prehistoric Site	Site consists of a single bedrock milling feature with one slick.	Briggs and Pigniolo, 1994
013764	13769	Prehistoric Site	Site consists of a small bedrock milling station with a single slick.	Pigniolo and Briggs, 1994
013851	13851	Prehistoric Site	Site consists of a single granitic bedrock milling feature.	Pigniolo and James, 1994
014082		Historic Structure	Structure consists of a 2,400 square foot metal Quonset hut erected in 1946.	Thornton, 1994; Foglia and Cox, 2016
016051		Historic Structure	Stone retaining wall remains dating to <1940s, part of the Pala Fruit Ranch.	Van Wormer, 1997
017128	15125	Prehistoric Site	Site consists of a light refuse surface scatter with two concentrations containing glass and metal artifacts.	Briggs and James, 1999
017129		Prehistoric Isolate	Isolate consists of two fine-grained meta-volcanic flakes.	Briggs, James, and Kyle, 1999
018428		Prehistoric Isolate	Isolate consists of a single mano.	Wade, 2000
019184		Prehistoric Isolate	Isolate consists of a single piece of metavolcanic debitage.	Harris, 2000
023794		Prehistoric Isolate	Isolate consists of a single cobble-based slab metate.	Briggs and James, 2001
024923	16497	Prehistoric Site	Site consists of several bedrock milling features. Testing recovered a shell bead, a large number of lithic debitage, pottery, shell and animal bone.	Moslak, Bordie, Savala, and Dalope, 2003; Laylander ,2004
024924	16498	Prehistoric Site	Site consists of two milling slicks on a granite bedrock exposure.	Moslak, Bordie, Savala, and Dalope, 2003; Laylander, 2007

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
024933	16504	Historic Site	Site consists of a trash scatter and a standing metal gate. The trash scatter consisted of a metal icebox, lumber, cans, glass, and metal artifacts.	Bowden-Renna, Schwenberg, Brogan, and Brogan, 2000
024936		Historic Building	Site consists of four historic buildings built in the 1950s. All four are in poor condition.	Donnelly, 2003
025437	16884	Multi-Component Site	Site consists of an artifact scatter consisting of lithics and historic trash.	Guerrero and Tift, 2003
025960	17260	Prehistoric Site	Site consists of a bedrock milling site with four features.	Brian F. Smith & Associates, 2004
025961	17261	Prehistoric Site	Site consists of a bedrock milling site with three features.	Brian F. Smith & Associates, 2004
025962	17262	Prehistoric Site	Site consists of a bedrock milling site with single milling feature.	Brian F. Smith & Associates, 2004
025963	17263	Prehistoric Site	Site recorded as a temporary camp with bedrock milling and a lithic scatter. Testing of the site resulted in a single flake and one mano.	Brian F. Smith & Associates, 2004
025968		Prehistoric Isolate	Isolate consists of a single piece of metavolcanic debitage.	Guerrero and Tift, 2004
027117	17736	Prehistoric Site	Site consists of an upright granite bedrock outcrop covered with red pictographs.	Hector, 2005
027196	17787	Prehistoric Site	Site consists of a bedrock milling station with three features and a small amount of lithic artifacts. Testing resulted in no cultural material.	Aguilar, 2006
027197	17788	Prehistoric Site	Site consists of a single bedrock milling feature. Further testing identified a single flake from the 0-10 cm level.	Aguilar, 2006
027206	17795	Prehistoric Site	Site consists of a single bedrock milling feature with two milling slicks. Site was tested and no subsurface deposits or artifacts were identified.	Miller, Clifford, Wesson, Hunt, and Hares, 2006
027484		Historic Building	The Lamb House is a small, one-story Victorian residence built in 1887.	Carrico and Flanigan, 1991; Unknown, N.D.
027724		Historic Building	A single-family Craftsman-style residence built between 1920-1950.	McGinnis, 2006
027725		Historic Building	Historic barn built between 1920-1950.	McGinnis, 2006
027845	18105	Prehistoric Site	Site consists of a bedrock milling feature.	Rosenberg, 2006
028133		Historic Structure	Structure consists of a concrete block reservoir topped by wooden beams and wire mesh.	Dolan, 2006
028134		Historic Route	Resource consists of a 3.5-mile segment of the historic travel route from the San Luis Rey Mission to the Pala Asistencia.	Gregory, 2006

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
028135		Historic Route	Resource consists of a 0.4-mile segment of Murphy Canyon Road, part of the historic U.S. Highway 395 route.	Gregory and Bowden-Renna, 2006; Wilson, 2016
028136		Historic Route	Resource consists of a 0.1-mile segment of Grid Road dating to pre-1901.	Gregory and Bowden-Renna, 2006
028137		Prehistoric Isolate	Isolate consists of two metavolcanic flakes.	Shalom, Bowden-Renna, and Hughes, 2006
028138		Prehistoric Isolate	Isolate consists of a granitic mano fragment.	Bowden-Renna and Philburn, 2006
028139		Historic Isolate	Isolate consists of a single can with a church key opening.	Shalom, 2006
028616		Prehistoric Isolate	Isolate consists of a small volcanic cobble with four flakes removed.	Pigniolo, 2007
028785	18501	Historic Structures	Site consists of 16 structures: nine circular cement picnic tables with four benches each, three rectangular tables, a cruciform-shaped barbeque, a monument with the register built in 1921, and two obelisks.	Ray, Christenson, and Larberg, 2007; Hoffman, 2012
030070	19167	Prehistoric Site	Site consists of a bedrock milling site. It was determined that the boulders were imported from a different location by the land-owner, and that none of them are original to the location.	Bowden-Renna and Roy, 2008; Tsunoda, 2013
030071		Prehistoric Isolate	Isolate consists of a unifacial mano exhibiting evidence of battering and shaping.	Bowden-Renna, 2008
030072		Prehistoric Isolate	Isolate consists of a fire-affected metate fragment.	Tennyson, Tuthill, and Bowden-Renna, 2008
030439	19341	Prehistoric Site	Site consists of two bedrock milling features and a mano fragment.	Crafts and Tsunoda, 2009
030592	19442	Prehistoric Site	Site consists of a single boulder with a milling feature.	Norwood and Harvey, 2008
030626	19454/H	Multi-Component Site	Site consists of a historic trash scatter consisting of glass, nails, ceramics, and animal bones. Three tertiary flakes were also recovered.	Smith, 2009
030647		Historic Site	Site consists of numerous wood-framed structures constructed between 1938-1940 and 1970. Structures were likely used for residences and as a vacation/resort complex.	Said-Abdelwaid and Dice, 2009
030648		Historic Site	Site consists of the foundation of a small structure with wooden flooring, collapsed walls, and two bed frames.	Dice, 2009
030649		Historic Isolate	Isolate consists of two brass markers placed on the bedrock bounders that form the peak of Mt. Olympus.	Dice, 2009

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
030652	19471	Prehistoric Site	Site consists of a large pictograph panel located inside a concave base of a boulder.	Dice and Lord, 2009
031754	20171H	Historic Site	Site consists of two small rectangular concrete foundations, a square well feature and a small wooden shed/barn.	Clowery, Morgan, Whitaker, and Stadille, 2011
031755		Historic Isolate	Isolate consists of a historic induction motor dating to 1889-1945.	Morgan and Stadille, 2011
031756	20172H	Historic Site	Site consists of a set of double concrete standpipes with a concrete base, a rectangular cement pad, and a retaining wall along the bank of the San Luis Rey River. Two marine shells were also recorded.	Gunderman, Pham, Muirhead, and Mojado, 2011; Cooley, 2018
031757		Historic Structure	Structure consists of an earthen dam/irrigation feature running perpendicular to the San Luis Rey River.	Gunderman, Pham, Muirhead, and Mojado, 2011
031758		Historic Structure	Structure consists of a concrete standpipe.	Gunderman, Pham, Muirhead, and Mojado, 2011
031759		Historic Isolate	Isolate consists of two metal car door handles.	Gunderman, Pham, Muirhead, and Mojado, 2011
031760	20173	Historic Site	Site consists of two sets of double concrete standpipes, a barbed wire fence, and a metal and concrete capped well.	Gunderman, Pham, Muirhead, and Mojado, 2011
031761	20174	Historic Site	Site consists of a rectangular cistern, a concrete pipe fence post, broken concrete water pipe fragments, two linear ditches, a concrete standpipe, the base of the standpipe, and an oval watering hole.	Gunderman, Pham, Muirhead, and Mojado, 2011
031762		Historic Structure	Structure consists of two circular cisterns.	Gunderman, Pham, Muirhead, and Mojado, 2011
031763		Historic Isolate	Isolate consists of a fragment of a motorcycle exhaust pipe.	Gunderman, Pham, Muirhead, and Mojado, 2011
031771		Historic Feature	Feature consists of a rectangular concrete basin measuring approximately 26 x 20 m (85 x 65 ft) with a depth of approximately 2.5 m (8 ft).	Clowery, Morgan, Whitaker, Stadille, 2011
031772		Historic Feature	Feature consists of a narrow concrete brow ditch with an associated pump-house and water pump.	Clowery, Morgan, Whitaker, and Stadille, 2011
031860		Prehistoric Isolate	Isolate consists of a Tizon Brownware body sherd.	Bowden-Renna, 2011

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
031963	20234	Historic Site	Site consists of a 25-foot standpipe, an electrical pole with a motor-starter unit, and an uncapped wellhead with three auxiliary pipe outlets.	De Barros, 2011
032881		Prehistoric Isolate	Isolate consists of a flaked stone core made from crystal quartz.	Hoffman, 2012
032882	20781	Prehistoric Site	Site consists of an extensive bedrock milling station with an associated lithic scatter.	Hoffman, 2012
032883		Prehistoric Isolate	Isolate consists of two quartz flaked stone angular shatter.	Hoffman, 2012
032884		Prehistoric Isolate	Isolate consists of a metavolcanic mano fragment and a piece of quartz flaked angular shatter.	Hoffman, 2012
032885		Historic Structure	Structure consists of a straight-run mortared-stone staircase.	Hoffman, 2012
032886		Historic Structure	Structure consists of the eastern Live Oak Park drainage system. This includes the main channel, the culvert, the mortared-stone feeder drainage, two terracing retaining walls, a smaller mortared-stone drainage, and the concrete box culvert and flanking mortared-stone drainages below Reche Road.	Hoffman, 2012
032888		Historic Structure	Structure consists of the western Live Oak Park drainage system. Features include the western drainage's main channel and three mortared-stone drainages.	Hoffman, 2012
032892		Historic Structures	Structures include 11 of Live Oak Park's picnic tables, dating to the early 1920s.	Hoffman, 2012
032893		Historic Structure	Structure is a concrete ram with mortared stone walls located on the west side of the Live Oak Park parking lot.	Hoffman, 2012
032894		Historic Structures	Structures include 11 circular mortared-stone planters distributed across Live Oak Park constructed in the 1930s.	Hoffman, 2012
032896		Historic Structure	Structure consists of a mortared stone boundary wall adjacent to the drainage ditch culvert under Reche Road in the southwest corner of Live Oak Park.	Hoffman, 2012
033471		Prehistoric Isolate	Isolate consists of a metavolcanic cobble/probable core.	Wade, Taylor, Taylor, and Thompson, 2013
033472	21050	Historic Site	Site consists of the remains of a concrete reservoir, a concrete perimeter foundation, and building debris. During construction monitoring activities, the remains of a water tank, a power pole with aqua-glass insulators, and various other historic artifacts were recovered.	Wade and Van Wormer, 2013; Wade and James, 2018.

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
033473	21051	Historic Site	Site consists of a trash deposit.	Wade and Van Wormer, 2013
033474		Historic Feature	Feature consists of a 10-inch diameter pipe.	Wade and Van Wormer, 2013
033475	21052	Historic Site	Site consists of a trash deposit containing car parts, milk bottles, cans, and ceramics.	Wade and Van Wormer, 2013
033477	21053	Historic Site	Site consists of a trash deposit containing bottles, cans, other consumer containers, building debris, mechanical waste, and other trash.	Wade and Van Wormer, 2013
033478	21054	Historic Site	Site consists of a sparse historic scatter containing household artifacts and building debris. Artifacts include ceramics, glass, and brick artifacts. During monitoring activities, an olive bottle and a white earthenware plate fragment were also found.	Wade and Van Wormer, 2013; James, 2016
033493	21066	Prehistoric Site	Site consists of a potential shallow basin or slick milling element on a granitic boulder.	Roy, 2013
033511	21069	Prehistoric Site	Site consists of 20 bedrock milling features with only two shallow mortars/round basins grouped in three Loci: A, B, and C. Lithic artifacts were identified near Locus C during testing.	Wade, Thomson, Stoneburner, and Taylor, 2013; James, Bruce, Wade, Molina, 2017; James and Wade, 2018
033536		Historic Site	The Pete Verboom Dairy, built in 1966, consists of corrals, hay barns, workers residences, a milking barn, and other buildings. The dairy is recommended eligible as a district under Criterions A and C.	McGinnis, 2013; Krintz, 2011
033557		Historic Route	Resource consists of the historic Highway 395. It is recommended as eligible for the NRHP under Criterion A and CRHR under Criterion 1.	Tift, 2013; Manchen and DeCarlo, 2015; Chasteene, 2017; Foglia, Keckeisen, 2017; Stringer-Bowsher, 2018
033870		Prehistoric Site	Site consists of a single milling slick.	Giletti, Davidson, and Castañeda, 2014
033871		Prehistoric Site	Site consists of a single milling slick.	Giletti, Davidson, and Castañeda, 2014
033872		Prehistoric Site	Site consists of a single milling slick.	Giletti, Davidson, and Castañeda, 2014
034895	21709	Prehistoric Site	Site consists of three bedrock milling features with a single slick each and an associated artifact scatter consisting of lithic artifacts.	James and Briggs Archaeological Services, 2004; Price, 2014

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
034896	21710	Historic Site	Site consists of a trash scatter containing consumer goods such as glass bottles, tableware, and metal artifacts.	Bruce and Shultz, 2015
035187		Prehistoric Isolate	Isolate consists of a fragment of debitage.	Wade and McPherson, 2015
035256		Prehistoric Isolate	Isolate consists of a granitic mano fragment and a quartz assayed cobble.	Shultz, Yerka, Price, and Zepeda-Herman, 2015
035621	21806	Prehistoric Site	Site consists of a milling slick and a small shell scatter.	Foglia, 2015
035849		Historic Building	Building is a two-story rectangular house built in the Modern/Contemporary style. House was built in the 1950s.	Meiser, 2008
035850		Historic Building	Building is a two-story building built in 1914.	Meiser, 2008
035851		Historic Building	Building is a one-story house built in 1957.	Meiser, 2008
035852		Historic Building	Building is a one-story house built in the 1950s.	Meiser, 2008
035853		Historic Building	Building is a one-story barn built in 1915.	May, 2005; Meiser, 2008
035870	21874	Prehistoric Site	Site consists of a bedrock milling feature with three milling slicks.	Hahnlen, 2016
035871	21875	Prehistoric Site	Site consists of a rock shelter with no surface artifacts.	Hahnlen, 2016
035872	21876	Historic site	Site consists of a small rock and mortar dam with an etching that read “ACL 1928”.	Hahnlen, 2016
035886	21881	Prehistoric Site	Site consists of two bedrock milling features with three elements and a projectile point.	Foglia and Cox, 2016
035887	21882	Prehistoric Site	Site consists of a bedrock milling feature with two milling slicks.	Foglia and Cox, 2016
035888	21883	Historic Site	Site consists of a trash scatter consisting of glass fragments, adobe brig fragments, and metal artifacts.	Foglia and Cox, 2016
035926		Prehistoric Site	Site consists of a lithic tool scatter consisting of a metate fragment, a flake tool, a hammerstone, and a broken quartz tool.	Roy, 2016
035966		Prehistoric Site	Site consists of a bedrock milling feature with one deteriorated sick.	Blake and Tsunoda, 2015
036296		Prehistoric Isolate	Isolate consists of a cobble mano with three flat surfaces with traces of use.	Wade, James, Briggs, and Nelson, 2016
036297		Historic Site	Site consists of a trash scatter consisting of cans, jars, lumber, and ceramics.	Wade, 2016
036389		Historic Isolate	Isolate consists of a piece of pottery broken into several fragments.	Briggs and Wade, 2017
036407		Prehistoric Isolate	Isolate consists of a quartz biface fragment.	Wade, James, and Molina, 2017

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
036408		Prehistoric Isolate	Isolate consists of a schist bifacial metate fragment.	Briggs, James, Wade, and Molina, 2017
036409		Prehistoric Isolate	Isolate consists of a mano and a flake.	James, Bruce, Wade, and Molina, 2017
036410		Prehistoric Site	Site was initially recorded as a milling element, but further monitoring of ground disturbance activities identified a cooking platform and two lithic artifacts.	James, Bruce, Wade and Molina, 2017; James, Wade, and Colocho, 2017
036431		Prehistoric Isolate	Isolate consists of a basin metate fragment.	James and Wade, 2017
036438		Prehistoric Isolate	Isolate consists of a metate fragment.	James and Wade, 2017
036439		Prehistoric Isolate	Isolate consists of a cobble mano.	James and Wade, 2017
036440		Prehistoric Isolate	Isolate consists of a milling boulder.	James and Wade, 2017
036477		Prehistoric Isolate	Isolate consists of a whole mano.	James and Wade, 2017
036478		Prehistoric Isolate	Isolate consists of a deep basin metate.	James and Wade, 2017
036479		Prehistoric Isolate	Isolate consists of a bifacial mano fragment.	Villalobos and Wade, 2017
036480		Prehistoric Isolate	Isolate consists of a unifacial slab metate.	Villalobos and Wade, 2017
036481		Prehistoric Site	Site consists of a bedrock milling slick.	James and Wade, 2017
036580		Prehistoric Site	Site consists of subsurface artifacts observed during monitoring for the installation of a fence line. Artifacts include fire affected rock, animal bone, lithic fragments, and shell fragments.	AECOM, 2015
036582		Prehistoric Isolate	Isolate consists of a unifacial mano, two bifacial manos, a retouched flake and a piece of shatter.	James and Wade, 2017
036604	22116	Historic Structure	Structure is a cistern dating to the 1930s-1940s and made of adobe and local rocks that were wrapped with steel mesh and parged with cement.	HDR EOC, 2017
036753		Prehistoric Isolate	Isolate consists of a large projectile point.	Bosque, 2017
036844		Prehistoric Site	Site consists of an artifact scatter of flaked and ground stone artifacts, pottery, faunal bone, and shell fragments.	Wade, James, Colocho, and Viveros, 2017
037047	22269	Historic Site	Site consists of a concrete pad constructed in the 1950s. A few pieces of modern ceramic ware were found scattered throughout the site.	Ramos-Ponciano and Cooley, 2018

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
037048	22270	Historic Site	Site consists of an approximately 2,000-foot long north-northwest/south-southeast segment of the Second San Diego Aqueduct.	Cooley and Ramos-Ponciano, 2018
037603		Historic Isolate	Resource consists of a land survey marker dated 1953 constructed of a ferrous metal pipe inserted into the ground. The pipe is filled with wood and a small copper washer inscribed with "L.S. // 1953" is fastened to the wood with a small nail.	Cox and Shelmire, 2016
037604		Historic Isolate	Resource consists of a U.S. Coast and Geodetic Survey datum dating to 1955.	Menvielle and Shelmire, 2016
037730		Prehistoric Isolate	Isolate consists of a mano fragment.	Piek and DeCarlo, 2015
037733	22476	Historic Site	Site consists of a U-shaped rock wall.	Piek and DeCarlo, 2015
037788		Historic Building	Building is a single-family residence constructed in 1958.	Kung, 2017
038396		Prehistoric Isolate	Isolate consists of a cobble flake with two flake scars and a complete platform.	Davidson, 2013
038397		Historic Site	Site consists of a historic refuse lens observed during trenching. Artifacts consist of ceramics, bone fragments, charcoal, and fragmented terracotta bricks.	Davidson and Sandoval, 2016
038398		Historic Site	Site consists of a deposit of historic bottles dating to between 1940-1960.	Davidson, 2015
038846		Historic District	The Rainbow Compressor Station is a public utility complex owned by SDG&E and is comprised of four contributing elements: Compressor Building 1, Compressor Building 2, the Induced Draft Cooler, and a Storage Building/Well. The structures were constructed between 1952 and 1963. The district is recommended eligible under CRHR Criterion 1 for the theme/area of significance of Community Planning & Development	Davis, 2017
038847		Historic Building	Compressor Building 1 was constructed in 1952 as a public utility building at the Rainbow Compressor Station.	Davis, 2016
038848		Historic Building	Compressor Building 2 was constructed in 1963 as a public utility building at the Rainbow Compressor Station.	Davis, 2016
038849		Historic Structure	The Induced Draft Cooler was constructed in 1954 as a public utility structure at the Rainbow Compressor Station.	Davis, 2016

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
038850		Historic Building	The Storage Building and Water Well were constructed around 1970 as public utility structures at the Rainbow Compressor Station.	Davis, 2016

4.1.2 Historic Addresses

Twenty-two historic addresses are on file at the SCIC within the District's Service Area. Of these, four have Primary numbers assigned and are included in Table 1. The remaining address points are primarily clustered near the communities of Fallbrook, Bonsall, and Rainbow.

4.1.3 Known Significant Resources

No unrestricted historic properties listed in the NRHP are within the District's Service Area. Likewise, a review of California Historical Resources (http://ohp.parks.ca.gov/) does not indicate that any resources within the District's Service area are State Landmarks, listed in the California Register, or are a dedicated Point of Interest.

As described in the San Diego County General Plan Update EIR, Highway 395 (P-37-033557) is an important roadway; the highway travels north-south through the District's Service Area:

> U.S. Highway 395, also known as the "Three Flags Highway," is a 1,305-mile road running through some of the most scenic areas in the western U.S. At one time it stretched 1,490 miles in length, all the way from San Diego Bay near the U.S./Mexico international border to the Canadian border in Washington State. U.S. Highway 395 earned its name as the "Three Flags Highway" because it (almost) touched all three nations. Despite being reduced in 1969 for the improved 1-15, it still maintains its importance as a major north-south route along the eastern Sierra Nevada Mountains (County of San Diego 2011b).

The CRHR-eligible Rainbow Compressor Station Historic District (P-37-038846), which is a public utility complex owned by San Diego Gas & Electric, is situated within the very northern portion of the District's Service Area. The district is comprised of four contributing elements constructed between 1952 and 1963: Compressor Building 1, Compressor Building 2, the Induced Draft Cooler, and a Storage Building/Well.

In addition to these two specific historic-period resources, it must be noted that the San Luis Rey and Santa Margarita watersheds are important to the Luiseño people, with many of the major known Luiseño settlements in the San Diego County area being located along the Santa Margarita River Valley and the San Luis Rey River Valley (Bean and Shipek 1978; Kroeber 1925; White 1963). As illustrated in Table 2, many significant or potentially prehistoric cultural resources are located within the District's Service Area.

4.2 OTHER ARCHIVAL RESEARCH

Various archival sources were also consulted, including historic topographic maps, aerial imagery (Santa Barbara Digital Library and NETR Online 2020), and the Bureau of Land Management General Land

Office Records. Historic aerials from between 1938 and 1971 and several historic USGS topographic maps, including the 1901 San Luis Rey (1:125,000), the 1948 Temecula and Bonsall (1:24,000), and the 1949 Pala and Pechanga (1:24,000) topographic maps were reviewed. The purpose of this research was to identify historic structures and land use in the area.

Early plat maps from 1870 to 1915, show the Project area as having numerous roads and trails throughout the area, connecting small ranches and homesteads to small towns, as well as more established and larger towns outside of the Project area. There are also several areas marked "Indian Rancheria" or "Indian huts" closer to the San Luis Rey River. Several structures and roads are visible on the 1901 San Luis Rey quadrangle, as is the Pala Indian Reservation. The 1948 quadrangles for Bonsall and Temecula, and the 1949 quadrangles for Pala and Pechanga, show some roads and mines, but the only structures present on these maps, outside of towns like Pala and Rainbow Valley, are scattered—which is indicative of the rural nature of the area. The historic aerials also reflect the slow, rural development of the Project area.

Highway 395 was recorded on the 1947 Santa Ana (1:250000) topographic map as traversing the Project area in a northeast-southwest direction. Initially constructed prior to 1910, this highway was the primary inland transportation route that connected downtown San Diego with much of the northern county, as well as Temecula and Riverside County. The original alignment of the highway is visible on the 1938 aerial photograph. Between 1946 and 1950, the highway was realigned to follow the current Interstate (I)-15 route between Miramar and Rainbow. The segments of the realignment within the Project area are visible on the 1946 aerial photograph and are first recorded on the 1948 Bonsall and Temecula (1:24,000) topographic maps. Some original segments of Highway 395 that were left in place were later repurposed; for example, East Mission Road and South Mission Road were portions of the original alignment of the highway in the western portion of the Project area. The construction of I-15 between the 1960s and 1980s consumed large portions of the alignment of Highway 395—this construction is apparent on the 1978 and 1980 aerial photographs of the region. While the 1982 Oceanside (1:10000) topographic map records I-15 in its modern alignment, segments of I-15 south of the San Luis Rey River and south of Gopher Canyon are recorded as being under construction. Aerial photographs from 1982 depict this construction; by the time the 1984 aerial was taken, construction on this segment of I-15 had been completed.

These aerial photographs also depict the development of the area; following the realignment of Highway 395 and the construction of I-15, small clusters of houses are seen in the communities of Fallbrook and Bonsall. In the following aerial photographs from the 1980s, 1990s, and 2000s, these clusters are seen expanding away from the Interstate.

4.3 NATIVE AMERICAN CONSULTATION

The District contacted the Native American Heritage Commission (NAHC) on March 25, 2021, for a Sacred Lands File search and list of Native American consultation contacts for the Project area. The NAHC indicated in a response dated May 19, 2021, that the result of the Sacred Lands File check was positive for the Project area. The NAHC further indicated that the positive results were obtained from the Kwaaymii Laguna Band of Mission Indians, the Pala Band of Mission Indians, the Rincon Band of Luiseño Indians, and the San Luis Rey Band of Mission Indians.

Project notification letters were sent by the District on May 27, 2021 to the NAHC-identified representatives within culturally-affiliated Tribal governments who have been designated to initiate and

conduct formal government-to-government consultation; follow-up emails were sent by the District on August 29, 2021. Native American correspondence is included as Appendix C (Confidential Appendices, bound separately).

Tribal consultation under AB 52 was initiated by District staff in September 2021 with the following tribes: Pala Band of Mission Indians (Pala), Rincon Band of Luiseño Indians (Rincon), San Luis Rey Band of Mission Indians (San Luis Rey), and San Pasqual Band of Diegueno Mission Indians (San Pasqual). This draft report, as well as confidential cultural resources data, will be provided to tribal representatives to assist with their review determine if the Project area contains any Tribal Cultural Resources, archaeological resources, or areas of tribal or cultural importance that would require further evaluation or special consideration during the environmental review process.

5.0 CULTURAL SENSITIVITY ANALYSIS

The District's Service Area has been categorized into three cultural resource sensitivity levels rated low, moderate, or high based on the results of the records search, archival research, the NAHC Sacred Lands File check, regional environmental factors (e.g., slope, geology, proximity to rivers and creeks), and the amount of modern development that has occurred. Figure 9, *Cultural Sensitivity Areas,* illustrates the cultural sensitivity of the District's Service Area.

The majority of the District's Service Area is primarily comprised of valleys, canyons, and low mountains, with rural development characterized by agriculture and single-family residential development. Smaller portions of the District's Service Area include commercial development, parks, schools, transportation infrastructure, water conveyance infrastructure, and golf courses.

Areas identified as high sensitivity indicate areas where cultural resources have been documented or would have the high potential to be identified, such as areas underlain by young alluvium deposits and within canyon areas along rivers and creeks. A moderate sensitivity indicates areas of lower slopes (less than 10 percent) or within the Bonsall, Fallbrook, or Rainbow community areas. In these areas, the potential for cultural resources to be present would be moderate. A low cultural resources sensitivity rating indicates areas where there is a high slope, and no previously recorded resources have been documented. Within these areas, the potential for additional resources to be identified is low.

6.0 IMPACT ANALYSIS

As noted in the Project Description, the Project identifies an implementation plan for improvements necessary for the systems to adapt to future water and wastewater supply and demand conditions and includes CIP projects, maintenance projects, and other District pipeline projects. As part of the impact analysis for cultural resources, the CIP projects included in the Project were evaluated to identify proximity of known cultural resources, cultural sensitivity, and the potential to impact subsurface cultural resources (i.e., if a CIP project would involve ground-disturbing activities). This analysis and the potential impacts to cultural resources for project-specific cultural resources analysis are presented in Table 3, *Summary of CIP Projects and Potential to Result in Significant Impacts to Cultural Resources*. As the specific locations, and details for the future replacements or improvements along the other District pipelines and other maintenance projects are unknown at this time, specific cultural resources evaluations are not provided for those components of the Project.

Table 3
SUMMARY OF CIP PROJECTS AND POTENTIAL TO RESULT IN SIGNIFICANT IMPACTS TO CULTURAL RESOURCES

Project #	Title	Known Cultural Resource Sites within Project Site	Cultural Sensitivity	Potential Impacts
Water Projects				
600007	Pressure Reducing Station Replacement Program	N/A	N/A	Project is District-wide and ongoing. No impacts to cultural resources anticipated.
600009	Isolation Valve Installation Program	N/A	N/A	Project is District-wide and proposes replacement of existing, inoperable isolation valves. No impacts to cultural resources anticipated.
600040	Vallecitos PS Replacement	Located along U.S. Highway 395 (P-37-033557)	High	Previously graded project site for construction of existing PS (constructed circa mid-1990s). No adverse impacts to cultural resources anticipated.
600048	Northside Zone Supply Redundancy	None	Moderate	Project route previously graded in 1980s for construction of I-15 and Rainbow Hills Road. Project pipeline is existing. No impacts to cultural resources anticipated.
60008	Weese WTP Permanent Emergency Interconnect and Pump Station	None	Moderate	New ground disturbance – potential to impact cultural resources. However, project site graded for construction of WTP in circa early 1980s.
600051	North Feeder and Rainbow Hills Water Line Replacements	Prehistoric lithic scatter (P-37-007315); destroyed but construction of I-15	High	Project route previously graded in 1980s for construction of I-15 and Rainbow Hills Road. Project pipeline is existing. No impacts to cultural resources anticipated.
600060	Via Monserate Water Main Replacement	None	Moderate	Project pipeline to be replaced is existing within roadway present in current alignment since at least 1938. No impacts to cultural resources anticipated.
600061	Rice Canyon Road Water Main Replacement	None	High	Project pipeline to be replaced is existing within roadway present in current alignment since at least 1938. No impacts to cultural resources anticipated.

Project #	Title	Known Cultural Resource Sites within Project Site	Cultural Sensitivity	Potential Impacts
600063	North River Road Water Main Replacement	Prehistoric lithic scatter (P-37-012155) recorded adjacent to pipeline.	Moderate/ High	Project pipeline to be replaced is existing within roadway present in current alignment since at least 1938. Impacts to P-37-012155 possible if resource extends subsurface into project alignment.
600065	Rainbow Glen Water Main Replacement	None	Moderate	Project pipeline to be replaced is existing within roadway present in current alignment since at least 1938. No impacts to cultural resources anticipated.
600069	Wilt Road (1331)	None	Low/ Moderate	No impacts to cultural resources anticipated. Project pipeline is existing but to be upsized.
600078	Upsize 6-inch to 10-inch water pipeline along Wilt Road	None	Low/ Moderate	No impacts to cultural resources anticipated. Project pipeline is existing but to be upsized.
600071	Del Rio Estates Line Extension 503	None	High/ Moderate	Project pipeline is existing. No impacts to cultural resources anticipated.
600072	East Heights Line 147L	None	Moderate	No impacts to cultural resources anticipated.
600080	Los Alisos South 243L	None	Moderate/ High	Project pipeline is existing. No impacts to cultural resources anticipated.
600073	East Heights Line 147A	None	Moderate	Project pipeline is existing. No impacts to cultural resources anticipated.
600074	Via Zara 320	None	Moderate	Project pipeline is existing. No impacts to cultural resources anticipated.
600075	Roy Line Extension	None	Moderate/ High	Project pipeline is existing. No impacts to cultural resources anticipated.
600002	Gird to Monserate Hill Water Line	None	High/Low (portion in creek valley but then heads up steep hillside)	No impacts to cultural resources anticipated. Project pipeline is existing, but to be upsized.
600026	Camino Del Rey Waterline Relocation	None	High	Relocation of pipeline – potential to impact cultural resources.

Project #	Title	Known Cultural Resource Sites within Project Site	Cultural Sensitivity	Potential Impacts
600030	Corrosion Prevention Program Development & Implementation	N/A	N/A	Project is District-wide. No impacts to cultural resources anticipated.
600050	Lookout Mountain PS Upgrades	None	Moderate	No impacts to cultural resources anticipated.
600055	Pipe Lining Pilot Project	Unknown	Unknown	No map (demo and training on new technologies). No impacts to cultural resources anticipated.
600066	Thibido Water Main Replacement (PUP2)	None	High/Low/ Moderate	Project pipeline is existing. No impacts to cultural resources anticipated.
600067	Pala Mesa Fairways 383 A and C (PUP3)	None	Moderate/ High	No impacts to cultural resources anticipated. Project pipeline is existing, and pipeline route rough graded in circa 1980 for residential development.
600068	Sarah Ann Dr. Line 400A (PUP3)	None	High	No impacts to cultural resources anticipated. Project pipeline is existing, and roadways graded in 1989 for residential development.
600070	Katie Lendre Drive Line (PUP3)	None	High	No impacts to cultural resources anticipated. Project pipeline is existing, and roadways graded in 1989 for residential development.
600084	Morro Pump Station Upgrades	None	Moderate	Pump station may be 45 years in age. Potential adverse impact.
Sewer Projects				
530020	Rancho Viejo Lift Station Wet Well Expansion (sewer project)	None	High	LS & Wet Well constructed in circa late 1980s (?). No impacts to cultural resources anticipated – rough grading occurred in 1989 and no ground disturbance proposed (?).
530018	Fallbrook Oaks Lift Station Rehabilitation and Force Main Replacement		High	LS constructed in in circa late 1980s (?). Project pipeline is existing. No impacts to cultural resources anticipated.
530023	Replace Rancho Monserate LS Emergency Generator	None	High	LS constructed in 1980s (?). No impacts to cultural resources anticipated.
5300XX-1	Pala Mesa/ Palomar CIPP Lining	Crosses under U.S. Highway 395 (P-37-033557)	High	No impact to cultural resources – CIPP lining of existing pipe.

Project #	Title	Known Cultural Resource Sites within Project Site	Cultural Sensitivity	Potential Impacts
5300XX-2	Pala Mesa Sewer CIPP Lining	None	High	No impact to cultural resources – CIPP lining of existing pipe.
5300XX-3	Oakcliff Sewer CIPP Lining	None	Moderate/ High	No impact to cultural resources – CIPP lining of existing pipe.
5300XX-4	HQ-B Plant Dry Well	None	High	No impacts to cultural resources anticipated.
5300XX-5	HQ-B Plant Generator Replacement	None	High	No impacts to cultural resources anticipated.
5300XX-6	Campus Park West Bypass Lift Station	Located along U.S. Highway 395 (P-37-033557)	High	No adverse impacts to cultural resources anticipated.
5300XX-7	North River Road Sewer Outfall Expansion	Crosses under U.S. Highway 395 (P-37-033557) and located Prehistoric lithic scatter (P-37-012155) recorded nearby.	High/ Moderate	Project pipeline to be replaced is converted within existing roadways. Impacts to P-37-012155 possible if resource extends subsurface into project alignment. Project extends outside of District's Service Area and current records search area – other resources may be present.

6.1 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

State CEQA Guidelines Section 15064.5(b)(1) defines a substantial adverse change as one that would materially impair the significance of a historical resource. According to Section 15064.5(2)(C), "the significance of a historic resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA." Historical resources include both archaeological sites and built environment resources determined significant under CEQA.

Proposed CIP projects and other Project improvements at structures such as pump stations generally involve installation or replacement of emergency generators, solar panels, and battery backup, or upgrades to electrical or pumping equipment. Two pump stations, Vallecitos PS (project # 600040) and Morro PS (project # 600084), are proposed for replacement. Based on a review of aerial photographs, the existing Vallecitos PS structure was constructed in the 1990s and the Morro PS in the 1970s. As such, the Morro PS has met the 45-year-old threshold that requires evaluation pursuant to the CEQA process. If the Morro PS is evaluated and found to be a significant historical resource, the Project may constitute an adverse impact.

As described in Section 4.1.1, over 200 known cultural resources exist within the District's Service Area, most of them consisting of prehistoric and historic-period archaeological sites. However, based on the status of the known resources within the specific study areas of the CIP projects qualifying as significant historical resources, a site-specific project-level analysis would be required to fulfill subsequent CEQA requirements when individual projects are proposed. Unevaluated cultural resources may require research or testing programs to determine their eligibility for inclusion in registers of significant

resources. In addition to CIP projects that are in close proximity to known cultural resources, there is a potential for other Project improvements, including CIP projects, other District pipeline projects, and maintenance projects, to encounter unrecorded cultural resources due to the frequency of known and recorded archaeological sites throughout the District's Service Area. Lastly, ground-disturbing activities associated with CIP projects, other District pipeline projects, and maintenance projects, such as clearing, trenching, and grading, have the potential to damage or destroy archaeological resources that may be present on or below the ground surface. Adverse effects to known significant or unique archaeological resources may result in a loss of valuable information that could be gained from the resources or prevent potentially eligible sites from being listed on a register of cultural resources.

As such, the Project may potentially cause a substantial adverse change in the significance of a historical and/or archaeological resource pursuant to §15064.5 of the State CEQA Guidelines and result in a potentially significant impact.

6.2 HUMAN REMAINS

Pursuant to State CEQA Guidelines Section 15064.5, a project must be evaluated for its potential to disturb any human remains, including those interred outside of formal cemeteries. A project that would have an adverse impact (direct, indirect, or cumulative) on human remains as defined by this guideline would be considered a significant impact. Human burials have occurred outside of formal cemeteries within the District's Service Area, usually associated with archaeological resource sites and prehistoric people. As such, the potential exists for unknown burials to be present within Project improvement areas. Ground-disturbing activities associated with the implementation of the Project could have the potential to disturb human remains and result in a potentially significant impact.

6.3 TRIBAL CULTURAL RESOURCES

A project would have a potentially significant environmental impact (direct, indirect, or cumulative) if it would cause a substantial adverse change in the significance of a TCR, defined as 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 may be considered significant if it is (1) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources; or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1.

Ground-disturbing or other activities associated with Project improvements have the potential to affect TCRs, including archaeological sites, traditional gathering areas, or other areas of traditional use. The Sacred Land File search conducted by the NAHC was returned with positive results, indicating that sacred lands or Native American cultural resources may be present within the Project area. Per AB 52, the District initiated consultation with California Native American tribes that are traditionally and culturally affiliated with the Project area to identify resources of cultural value to the tribe.

It is anticipated that ground-disturbing activities associated with the implementation of the CIP projects could have the potential to cause a substantial adverse change in the significance of a tribal cultural resource pursuant to §21074 of the State CEQA Guidelines, and result in a potentially significant impact. CIP projects involving excavation or ground disturbance in areas of moderate or high cultural sensitivity would be required to prepare a site-specific project-level analysis to fulfill CEQA requirements, which

may include additional consultation and/or outreach with the culturally-affiliated Native American tribes that could lead to the identification of TCRs.

7.0 MANAGEMENT CONSIDERATIONS

The following mitigation measures are recommended in order to reduce potential impacts to historical resources and tribal cultural resources to less than significant. These measures are intended to guide the identification, evaluation, and mitigation of potential impacts to significant cultural resources, if identified. Implementation of mitigation measures CUL-1 through CUL-4 would minimize impacts to cultural resources to less than significant.

7.1 MITIGATION FRAMEWORK

CUL-1 Project-specific Cultural Resource Procedures. Project-specific cultural resources analysis is required for Project improvements, including CIP projects, other District pipeline projects, and maintenance projects that involve a) demolition of an above-ground built environment resource that is more than 45 years in age or b) involve ground disturbance in areas of moderate or high cultural sensitivity, as depicted on Figure 9. This requirement does not apply to improvements that involve the ongoing operation, repair, and/or maintenance of existing aboveground District facilities and/or equipment, or those that are necessary to remedy an emergency condition that poses an imminent threat to health and safety, or property.

The following framework is provided to guide the identification, evaluation, and mitigation of potential impacts to cultural resources. Each of the following sections serves as a necessary step to the next section and is dependent upon meeting the criteria of each previous section. The District shall retain a qualified Project cultural resources management professional (Principal Investigator) to carry out the following procedures:

1. The Principal Investigator shall conduct a Project-specific cultural resources analysis to determine if significant cultural resources are within, or likely to be within, the Project improvement area. The analysis shall include conducting background research, including a focused CHRIS record search update at the SCIC, a review of site photographs and existing historic information, and a field survey including a Native American monitor. Prior to field reconnaissance, a review of the Sacred Lands File maintained by the NAHC shall also be conducted. If no known or potentially significant cultural resources are identified within the Project improvement area, and site conditions are determined to be such that there is low potential for subsurface cultural resources to be present within the Project improvement area, then no further action is required beyond (1) the preparation of a Cultural Resources Technical Report documenting the methods and results of the Project-specific cultural resources analysis, and (2) the implementation of mitigation measure CUL-4, presented herein.

2. If avoidance is not possible, cultural resource significance evaluations shall be required when new resources are identified as a result of a survey, or when previously recorded resources that have not been previously evaluated are reidentified during a survey. Significance evaluations shall not be required if the resource has been evaluated for CEQA significance or for NRHP eligibility previously and if there has been no change in the conditions that contributed to the determination of significance or eligibility. A resource shall be reevaluated if its condition or

setting has either improved or deteriorated, if new information is available, or if the resource is becoming increasingly rare due to the loss of other similar resources.

a. An archaeological testing program shall be required for potentially significant archaeological sites in need of cultural resource significance evaluation. Archaeological testing programs include evaluating the horizontal and vertical dimensions of a site, the chronological placement, site function, artifact/ecofact density and variability, presence/absence of subsurface features, and research potential. Tribal representatives and/or Native American monitors shall be involved in making recommendations regarding the significance of prehistoric archaeological sites during this phase of the process. The testing program may require reevaluation of the proposed Project improvement, which could result in a combination of project redesign to preserve significant resources, as well as mitigation in the form of data recovery and monitoring (as recommended by the qualified Project archaeologist and Native American representative).

b. For above-ground historic period structures, buildings, or objects, the evaluation program shall include the development of an appropriate research design and methodological approach to the resource. Evaluation methods shall include literature review and research, the development of a historic context, documentation and photography of existing conditions and alterations over time, and historical significance evaluation under the NRHP and CRHR criteria.

3. Resources found to be non-significant as a result of a survey and/or evaluation efforts will require no further work beyond documentation of the resources on the appropriate California Department of Parks and Recreation site forms and inclusion of results in the survey and/or assessment report. If no significant resources are identified within the Project improvement area but results of the initial survey or and testing/evaluation phase indicate there is a potential for unknown subsurface cultural resources to be present in the Project improvement area, then the implementation of mitigation measure CUL-2, presented herein, is required.

4. Preferred treatment for significant cultural resources is preservation. Pursuant to California Public Resources Code Section 21083.2(b), avoidance through project redesign is the preferred method of preservation. If a significant resource cannot be entirely avoided, all prudent and feasible measures to minimize adverse impacts shall be taken.

    a. For archaeological resources for which preservation is not an option, a research design for a data recovery program shall be prepared. The data recovery program shall be based on a written research design and is subject to the provisions as outlined in CEQA Section 21083.2. Materials collected during the Data Recovery Program shall be processed and curated at a San Diego County facility that meets federal standards per 36 Code of Federal Regulations Part 79 unless, in the case of prehistoric or tribal cultural resources, other appropriate treatment measures such as the reburial of recovered cultural material are agreed upon by the District and tribal representative(s). Upon completion of the data recovery program, implementation of mitigation measure CUL-2 will be required. Such measures may also be required during building demolition and/or construction grading when significant cultural resources are known or suspected to be

present on a site but cannot be recovered prior to grading due to obstructions such as existing development or dense vegetation.

b. For non-archaeological significant resources, the development and implementation of a Historical Resources Treatment Plan shall be prepared to provide for appropriate treatments measures to mitigate adverse impacts. The Historical Resources Treatment Plan shall be approved by the District prior to the implementation of any treatment measures.

CUL-2 Cultural Resources Monitoring Program. If significant cultural resources have been identified within the proposed Project improvement area where ground disturbance is proposed, or the Project archaeologist has determined that there is the potential for subsurface cultural resources to occur within a proposed Project improvement area, as identified during the implementation of mitigation measure CUL-1, a cultural resources monitoring program shall be implemented.

1. The District shall retain a qualified Project archaeologist and Native American monitor(s) associated with a tribe that is traditionally and culturally affiliated (TCA) with the Project Location ("TCA Tribe") to implement the monitoring program.

2. The District shall enter into a Tribal Cultural Resource Treatment and Monitoring Agreement (also known as a pre-excavation agreement) with the TCA Tribe, if requested by the TCA Tribe. The purposes of the agreement are (1) to provide the District with clear expectations regarding tribal cultural resources; and (2) to formalize protocols and procedures between the District and the TCA Tribe for the protection and treatment of, including but not limited to, Native American human remains; funerary objects; cultural and religious landscapes; ceremonial items; traditional gathering areas; and cultural items located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, and all other ground-disturbing activities.

3. The qualified Project archaeologist and a Native American monitor shall attend the pre-grading meeting with the grading contractors to explain and coordinate the requirements of the monitoring program.

4. During the initial grubbing, site grading, excavation, trenching, or disturbance of the ground surface, an archaeological monitor and a Native American monitor shall be on-site full-time. The frequency of inspections shall depend on the rate of excavation, the materials excavated, and any discoveries of tribal cultural resources as defined in California Public Resources Code Section 21074. Archaeological and Native American monitoring will be discontinued when the depth of grading and soil conditions no longer retain the potential to contain cultural deposits. The qualified Project archaeologist, in consultation with the Native American monitor, shall be responsible for determining the duration and frequency of monitoring.

5. If unevaluated potentially significant cultural resources are discovered, construction activities shall be diverted away from the discovery until significance evaluation can be conducted, as described in mitigation measure CUL-1, and the appropriate preservation or treatment actions can be taken. Construction activities would be allowed to resume after the completion of mitigation measure CUL-1, along with the continuation of monitoring. All cultural material collected during monitoring would be processed and curated at a San Diego County facility that

meets federal standards per 36 Code of Federal Regulations Part 79 unless, in the case of Native American cultural material, other appropriate treatment measures such as the reburial of recovered cultural material are agreed upon by the District and the TCA Tribe.

6. After the completion of monitoring, an appropriate report shall be prepared. If no significant cultural resources are discovered, a brief letter shall be prepared and submitted to the District and SCIC. If significant cultural resources are discovered, a technical report with the results of the monitoring and any data recovery or treatment (including the interpretation of the data within the research context) shall be prepared and submitted to the District and SCIC.

CUL-3 Identification of Human Remains. As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Coroner's office. Determination of whether the remains are human shall be conducted on-site and in situ where they were discovered by a forensic anthropologist, unless the forensic anthropologist and the Native American monitor agree to remove the remains to an off-site location for examination. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition. A temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains in accordance with California Public Resources Code section 5097.98. The Native American remains shall be kept in situ, or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of a Native American monitor.

CUL-4 Procedure for Project Improvements with no Archaeological Monitoring Program. In cases where proposed ground-disturbing Project improvements are located within moderate or high cultural sensitivity areas, and the implementation of mitigation measure MM CUL-2 is not required, as specified in mitigation measure MM CUL-1, the District shall retain a qualified Project archaeologist, defined as meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior 2008) to ensure no inadvertent impacts occur to significant cultural resources occur during the implementation of an individual Project improvement.

1. Prior to construction activities, the selected Project archaeologist or their designee will provide a Worker Environmental Awareness Program (WEAP) training to construction crews that provides information on regulatory requirements for the protection of cultural resources. As part of the WEAP training, construction crews shall be briefed on proper procedures to follow should unanticipated cultural resources discoveries be made during construction. In addition, workers will be shown examples of the types of resources that would require the notification of the Project archaeologist.

2. In the event that cultural resource(s) are inadvertently unearthed during ground-disturbing activities, construction activities shall be diverted away from the discovery until the Project archaeologist is contacted, a significance evaluation can be conducted, and the appropriate actions can be taken as described in mitigation measure CUL-1. Construction activities would be

allowed to resume in the area of the discovery only after the completion of the significance evaluation and treatment measures defined in mitigation measure CUL-1.

8.0 CONCLUSION

This cultural resources study was conducted in support of a PEIR for the Water and Sewer Facilities Plan. The study included a records search, Sacred Lands File search, Native American consultation, a cultural resource sensitivity analysis, a review of historic aerial photographs and maps, and a review of existing documentation. Due to the programmatic nature of the analysis in the environmental document, cultural resources fieldwork was not conducted as part of the PEIR.

State CEQA Guidelines Section 15064.5(b)(1) defines a substantial adverse change as one that would materially impair the significance of a historical resource. According to Section 15064.5(2)(C), "the significance of a historic resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA." Historical resources include both archaeological sites and built environment resources determined significant under CEQA.

The Proposed Project has the potential to cause a substantial adverse change in the significance of a historical and/or archaeological resource pursuant to §15064.5 of the State CEQA Guidelines and result in a potentially significant impact impacts to unknown archaeological resources, human remains, and TCRs during ground-disturbing activities. With the implementation of the mitigation framework presented in Section 7.1, the identified potentially significant impacts to archaeological resources, human remains, and TCRs can be mitigated to a less than significant level.

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Appendix A

Resumes

Stacie Wilson,RPA

Senior Archaeologist

HELIX Environmental Planning

Summary of Qualifications

Ms. Wilson has been professionally involved in cultural resources management for 18 years and has extensive experience in both archaeology and Geographic Information Systems (GIS). She has served as principal investigator on numerous cultural resources management projects, and regularly coordinates with local, state, and federal agencies and Native American tribal representatives. She is skilled in project management, archaeological inventories and excavation, and report documentation and has broad experience on private, municipal, federal, utility, and renewable energy projects. Her years of experience also encompass an understanding of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) compliance regulations. She is proficient at creating, organizing, and analyzing GIS data, and serving as a spatial and geostatistical analyst. Ms. Wilson is a Registered Professional Archaeologist (RPA) and meets the U.S. Secretary of the Interior's Professional Qualifications for prehistoric and historic archaeology.

Selected Project Experience

Borba 1 Industrial Project NEPA Support (2017 - 2018). Principal Investigator for a cultural resources study to support the development of an industrial property in San Bernardino County that included federal permitting. Oversaw preparation of a records search, archival research, preparation of historic context data, consultation with the Native American Heritage Commission (NAHC), and an archaeological survey of the property. Coordinated with the Gabrieleno Band of Mission Indians – Kizh Nation to provide a Native American monitor during survey. A marine shell scatter and two historic built environment resources, a historic residence and the historic Tedama Cattle Farm, were identified during the study. The Cucamonga Creek Channel, a U.S. Army Corps of Engineers (USACE) public works facility, and the Merrill Avenue Bridge, were also identified within the project site; research was performed to determine the age of channelization. Prepared a technical report to comply with Section 106 of the National Historic Preservation Act (NHPA), as amended, in support of Section 404 Nationwide Permit and Section 408 permission. Work performed for WestLAND Group, Inc., with USACE as the lead agency.

Moulton Niguel Water District Pipeline Alignment at I-5 and Oso Creek (2017 - 2018). Principal Investigator for the replacement of existing potable water (PW) and recycled water (RW) pipelines by Moulton Niguel Water District (MNWD). Supervised the completion of background research and constraints analysis, Native American coordination, cultural resources survey, coordination with MNWD, and report preparation. Work performed as a subconsultant to GHD, with MNWD as the lead agency.

Education

Master of Science, Applied Geographical Information Science, Northern Arizona University, 2008

Bachelor of Arts, Anthropology, University of California, San Diego, 2001

Bachelor of Science, Biological Psychology, University of California, San Diego, 2001

Registrations/ Certifications

Register of Professional Archaeologists, The Register of Professional Archaeologists #16436, 2008

County of Riverside, Approved Cultural Resources Consultant, 2017

County of San Diego, Approved CEQA Consultant for Archaeological Resources, 2019

Padre Dam Municipal Water District East County Advanced Water Purification Program (2018 - 2020). Senior Archaeologist for cultural resources inventory and assessment of approximately 10 miles of pipeline. The East County Advanced Water Purification project proposes to increase the region's supply of potable water. Duties included preparation of a cultural resources study, assisting with community outreach with regard to the historic resources, and working with the agencies and interested parties to develop appropriate measures to avoid or minimize impacts. Work performed for Kennedy/Jenks Consultants, Inc., with Padre Dam Municipal Water District as the lead agency and Helix Water District, the County of San Diego, and the City of El Cajon as participating agencies.

La Salina Sewer Lift Station Design and Wastewater Treatment Plant Decommissioning (2018 - 2019). Principal Investigator for constructing new (and upgraded) wastewater conveyance facilities (including the Buccaneer Lift Station and Force Main), upgrading existing stormwater treatment facilities, and demolition and decommissioning the existing La Salina WWTP in the City of Oceanside in northern San Diego County. The project also includes constructing an approximately three-mile Buccaneer Force Main along Oceanside Boulevard. Responsibilities included the coordination and oversight of the cultural resources study, which included a records search, Sacred Lands File search, a review of historic aerial photographs and maps, and a field survey for both archaeological and built environment resources. Work performed for the City of Oceanside.

CEQA/NEPA Support for Ontario International Airport (2018 - 2019). Cultural Resources Specialist for CEQA compliance for the construction and operation of an air cargo facility in the northwest quadrant of Ontario International Airport. Responsible for coordination of a records search and Sacred Land File search from the Native American Heritage Commission and providing a cultural analysis on proposed project. Work performed for Ontario International Airport Authority.

San Elijo Joint Powers Authority Roadway and Trail Addendum and Permitting (2018 - 2019). Principal Investigator for a cultural resources study for the San Elijo Water Reclamation Facility Upgrades Project, located adjacent to San Elijo lagoon in western San Diego County. The study was conducted in support of the development of a lighted shared-use trail within the San Elijo Water Reclamation Facility (SEWRF) property and entrance improvements along the SEWRF frontage. Responsibilities included the coordination and oversight of a records search, Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, a pedestrian survey, archaeological testing, and technical reports. The study was conducted for compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA) in support of a Nationwide Permit authorization from the U.S. Army Corps of Engineers (USACE). Work performed as a subconsultant to Kimley-Horn & Associates, with the San Elijo Joint Powers Authority as CEQA lead agency.

Theodore G. Cooley, RPA

Senior Archaeologist

HELIX Environmental Planning

Summary of Qualifications

Mr. Cooley has over 45 years of experience in archaeological resource management. He has directed test and data recovery investigations, monitoring programs, and archaeological site surveys of large and small tracts, and has prepared reports for various cultural resource management projects. He is well-versed in National Historic Preservation Act, National Environmental Policy Act (NEPA), and California Environmental Quality Act (CEQA) regulations and processes. Mr. Cooley's experience also includes Native American consultation for monitoring of archaeological field projects, including some with human remains and reburial-related compliance issues.

Selected Project Experience

8016 Broadway Self Storage Project (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory program of the Lemon Grove Self-Storage project located in the City of Lemon Grove, San Diego County. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for the Summit Environmental Group, Inc.

Briggs Road Walton Development Project (Assessor's Parcel Number 461-170-001) (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory program of the Briggs Road Residential project located in Riverside County. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for the Walton International Group, LLC.

Brown Field and Montgomery Field Airport Master Plans (2019 - Present). Senior Archaeologist for Phase I cultural resource inventory and pedestrian survey programs at the Brown Field Municipal Airport and the Montgomery-Gibbs Executive Airport, in the City of San Diego, in support of updating of the Airport Master Plan and its Programmatic Environmental Impact Report. Involvement included participation in the analysis of the results from the survey programs and co-authorship of the technical reports. Work performed as a subconsultant to C&S Companies, with the City of San Diego as the lead agency.

Cubic Redevelopment Environmental Consulting (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory and assessment program in support of a 20-acre redevelopment project, located in the community of Kearny Mesa, City of San Diego. Involvement included participation in the analysis of the results from the survey program and preparation of the technical report. Work performed for Cubic Redevelopment Environmental Consulting, with the City of San Diego as lead agency.

Education

Master of Arts, Anthropology, California State University, Los Angeles, 1982

Bachelor of Arts, Anthropology, California State College, Long Beach, 1970

Registrations/ Certifications

Register of Professional Archaeologists #10621, 2019

City of San Diego, Certified Principal Investigator for Monitoring Projects

County or Riverside, Certified Cultural Resources Consultant Principal Investigator

County of Orange, Certified Cultural Resources Consultant Principal Investigator

County of San Diego, Approved Consultant for Archaeological Resources

Los Angeles, Ventura, San Luis Obispo, and Santa Barbara Approved Consultant

Theodore G. Cooley, RPA

Senior Archaeologist

French Valley 303 Project (2019 - Present). Senior Archaeologist for an archaeological construction monitoring program for the French Valley 303 Site residential development project, located in the French Valley area of unincorporated Riverside County. Involvement included participation in the analysis of the results from the monitoring program and co-authorship of the technical report. Work performed for Pulte Home Co., LLC.

Hiser Property Project (2019 - Present). Senior Archaeologist for a due diligence study prepared to summarize potential cultural resources constraints to the 9.2-acre Hiser Property development project, located in the Mission Gorge area of the City of Santee, San Diego County. The study consisted of background research including a record search and limited archival study, a field survey, and a review of the Sacred Lands File from the Native American Heritage Commission (NAHC). Involvement included participation in the analysis of the results and preparation of a summary letter report of the potential cultural resources-related constraints to the planned development. Work performed for KB Home.

Ponto Hotel Technical Studies (2019 - Present). Senior Archaeologist for a cultural resources assessment study for the Ponto Hotel development project in the City of Carlsbad, San Diego County, California. Involvement included participation in the analysis of the results from the assessment program and preparation of the technical report. Work performed for Kam Sang Company, with the City of Carlsbad as the lead agency.

R.M. Levy Water Treatment Plant Sewer Replacement (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory and assessment program in support of a water treatment plant, sewer pipeline, replacement project, located in the community of Lakeside, San Diego County. Involvement included participation in the analysis of the results from the survey program and preparation of the technical report. Work performed for HELIX Water District.

Salt Bay District Specific Plan EIR (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory program in support of the 46.6-acre Salt Bay Design District Specific Plan mixed-use wholesale/retail shopping and light industrial development project, in the cities of San Diego and Chula Vista. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for M. & A. Gabaee, with the City of San Diego as lead agency.

San Jacinto Property Project (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory program of the 214 residential project located in Riverside County. Involvement included participation in the analysis

of the results from the survey program and co-authorship of the technical report. Work performed for the Walton International Group, LLC.

San Elijo Joint Powers Authority Roadway and Trail Addendum and Permitting (2019 - Present). Senior Archaeologist for Phase I cultural resource inventory, pedestrian survey, and resource testing at the San Elijo Water Reclamation Facility adjacent to San Elijo lagoon, in San Diego County, in support of the preparation by the San Elijo Joint Powers Authority of a Roadway and Trail Addendum for upgrades to the facility requiring verification of Nationwide Permit authorization from the U.S. Army Corps of Engineers (USACE). Involvement included participation in the analysis of the results from the survey and testing program and co-authorship of the technical report. Work performed as a subconsultant to Kimley-Horn & Associates, with the San Elijo Joint Powers Authority as lead agency.

Sycamore & Watson Project (2019 - Present). Senior Archaeologist for an archaeological construction monitoring program for the Sycamore & Watson residential development project, located in City of Vista, San Diego County. Involvement included participation in the analysis of the results from the monitoring program and preparation of the technical report. Work performed for Meritage Homes.

Sycamore Canyon/Goodan Ranch Public Access Plan IS/MND (2019 - 2019). Senior Archaeologist for Phase I pedestrian survey and cultural resource inventory in support of the preparation by the County of San Diego County Parks Department of a Public Access Plan for the Sycamore Canyon/Goodan Ranch Preserve located in coastal foothills of unincorporated west-central San Diego County. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for the County of San Diego.

Sycuan/Sloane Canyon Trail IS/MND (2019). Senior Archaeologist for Phase I pedestrian survey and cultural resource inventory in support of the preparation by the County of San Diego County Department of a Parks and Recreation for the Sycuan/Sloane Canyon Trail project located in the coastal foothills of unincorporated southwestern San Diego County. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for the County of San Diego.

The Enclave at Delpy's Corner Project (2019 - Present). Senior Archaeologist for a cultural resources monitoring and data recovery program in support of a proposed 124-unit townhome development project, in the City of Vista, San Diego County. Involvement included participation in the analysis of the prehistoric lithic artifacts and preparation of technical report sections containing the results of these analyses. Work performed for CalAtlantic Homes.

James Turner, RPA

Staff Archaeologist

Summary of Qualifications

Mr. Turner is a Registered Professional Archaeologist (RPA) with a Master's degree in Anthropology and field and college-level teaching experience in archaeology. He is experienced in Section 106, the Native American Graves Protection and Repatriation Act (NAGPRA), and writing detailed reports. Mr. Turner has archaeological research and fieldwork expertise throughout southern California. He has also received training in identifying and analyzing animal remains in archaeological contexts, historic artifact identification, and technical writing. Mr. Turner's experience meets the Secretary of the Interior's Professional Qualification Standards for archaeology.

Selected Project Experience

eTS 43472 "Gold Mine" Monitoring (2020). Archaeologist for an erosion control and repair project in the community of Julian. Conducted cultural resource monitoring and report preparation. Work performed for San Diego Gas & Electric.

Aliso Creek Canyon Restoration Project (2020). Archaeologist for an erosion repair project in Lake Forest. Conducted a field survey of the project area, performed background research, and produced a cultural resources report. Work performed for the Orange County Department of Public Works.

Broadway Channel Improvements - Phase A (2020 -). Archaeologist for an earthen channel improvement project in the city of El Cajon. Performed background research and prepared cultural resource survey report. Work performed for City of El Cajon.

Clairemont Community Plan Update EIR Ph1 (2020). Archaeologist for the Clairemont Community Plan Update. Performed background research and assisted with preparing the Community Plan Update cultural resources section. Work performed for the City of San Diego.

Cordial Road Pipeline (2020). Archaeologist for a pipeline replacement project in the unincorporated portion of the City of El Cajon. Performed background research and field survey. Other responsibilities included the production of a letter report detailing the methods and results of the survey, as well as the completion of a site record update to submit to the South Coastal Information Center. Work performed for the Padre Dam Municipal Water District.

Carmel Mountain Road Life Sciences Project (2020). Archaeologist for a proposed commercial development project in the Torrey Hills Community Plan area.

Education

Master of Arts, Anthropology, San Diego State University, 2018

Bachelor of Arts, Biology and Anthropology, San Diego State University, 2015

Registrations/ Certifications

Registered Professional Archaeologist #17338

Professional Affiliations

Society for Historical Archaeology

Society for California Archaeology

Responsibilities included performing background and archival research and producing an archaeological resources report. Work performed for Allen Matkins Leck Gabme Mallory & Natsis, LLP.

Draft EIS/Overseas EIS - Disposal of Decommissioned, Defueled Ex-Enterprise (CVN 65) & Associated Naval Reactor Plants (2020 -). Archaeologist for the Draft EIS for the disposal of the Navy ex-Enterprise. Responsible for background research and citation management and assisted with document preparation. Work performed for the United States Navy as a subconsultant to ManTech.

Eastlake Village Park (2020). Archaeologist for a telecommunication project in the community of Eastlake in the City of Chula Vista. Conducted cultural resource monitoring for the drilling of a cassion hole. Work performed for Terracon.

General Coatings (2020). Archaeologist for a due diligence project for the possible future expansion of the General Coatings property. Conducted background research, which included analyzing a records search and viewing historic maps and aerial photographs of the project area. Additional responsibilities included performing a field survey of the project area and producing a cultural resources due diligence report. Work performed for General Coatings.

Lake Rancho Viejo Environmental Consulting (2020). Archaeologist for a cultural resources survey for a proposed housing development in the community of Fallbrook in northern San Diego County. Conducted background research and report preparation. Work performed for Q Technology Direct LLC with County of San Diego as the lead agency.

Mtn View Connector Pipeline - Cultural (2020). Archaeologist for a waterline replacement project in the community of Alpine. Conducted cultural resource monitoring and prepared the final monitoring report. Work performed for Padre Dam Municipal Water District.

Salt Bay Design District Specific Plan EIR (2020). Archaeologist for a mixed-use development project, which proposes to include wholesale/retail shopping and light industrial uses. Participated in an archaeological testing program and produced artifact tables for report. Work performed for M & A Gabaee.

Santa Ysabel Trail (2020 -). Staff Archaeologist for a proposed 3 mile hiking trail in the unincorporated community of Julian. Performed background research, participated in the cultural resource survey, and contributed to the cultural resources survey report. Work performed for the County of San Diego Parks and Recreation Department.

Trevor Gittelhough, RPA

Cultural Resources Assistant Project Manager

HELIX Environmental Planning

Summary of Qualifications

Trevor H. Gittelhough is an archaeological assistant project manager, specializing in underwater cultural resources, with over a decade of experience in archaeology, including both cultural resources management and academic projects. This experience includes site monitoring; surveys and excavations; laboratory sorting, cataloging, and analysis; and conservation. He has conducted environmental, paleontological, and cultural resources work throughout California, Nevada, Oregon, and Florida in support of compliance with California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA) and Sections 106 and 110 of the National Historic Preservation Act (NHPA) for public and private sector clients including a range of local, state, and federal agencies such as Southern California Edison, the United States Navy and Air Force, Caltrans, and FEMA.

He has experience in team management in the terrestrial and underwater archaeological management sectors, with expertise in implementation of mitigation and monitoring projects, report production, and coordination with Indigenous groups. Underwater and Indigenous archaeology are Mr. Gittelhough's specialties, which are enhanced by his skill and experience in sailing, diving, and prehistoric technology construction. His research interests include maritime technologies and practices, settlement patterns, trade and exchange, colonial interactions, prehistoric technologies, and anthropological/ archaeological theory. In addition, he has expertise in illustration of artifacts, stratigraphic and excavation unit profiles, site maps, GIS, remote sensing, and underwater excavation and mapping techniques.

Mr. Gittelhough's technical skills include terrestrial and submerged archaeological survey, excavation, and site testing. He has authored numerous site records and technical reports detailing the results of cultural resources work, as well as academic articles. He has also had thorough training in artifact analysis and specializes in lithic analysis and maritime conservation. His academic background includes advanced training in conservation and underwater archaeology. He has extensive training at the graduate level and earned his M.A. from East Carolina University. Mr. Gittelhough is Registered Professional Archaeologist, a member of the Society for American Archaeology (SAA), a member of the Society for Historical Archaeology (SHA), and a member of the Society for California Archaeology (SCA).

Selected Project Experience

Bouquet Canyon Road Project, Los Angeles County, CA (2021). Cultural Resource Specialist serving as lead archaeological monitor and technical report writer for this project in the City of Santa Clarita. This work included monitoring all ground-disturbing

Education

Master of Arts, Maritime Studies, East Carolina University, 2019

Bachelor of Arts, Archaeology, University of California, Santa Barbara, 2011

Registrations/ Certifications

Register of Professional Archaeologists, 2018

HAZWOPER Certification; 2018 – 2021

ESRI GIS Certification
AAUS Scientific Diver
Red Cross First AID
Red Cross CPR DAN
Divers First Aid

Professional Affiliations

Society for American Archaeology
Society for Historical Archaeology
Society for California Archaeology

activities associated with geotechnical studies, such as drilling and trenching. Monitoring was also undertaken during ground penetrating radar studies of portions of the project area.

California Crossings, Attisha Trust Parcel, San Diego County, CA (2021). Cultural Resource Specialist for a cultural resources study in support of biological mitigation measures (burrowing owl habitat creation) for the proposed Project in the County of San Diego. Prepared an archaeological resources assessment in compliance with state and federal regulations. Scope included a cultural resources records search, review of historic maps and aerials, and preparation of a technical report.

Enchanted Hills Park Project, Perris, Riverside County, CA (2021). Cultural Resource Specialist for a monitoring program during initial sitework for this project in the City of Perris, in Riverside County. Prepared monitoring letter report.

Mission Basin Groundwater Purification Facility Well Expansion and Brine Minimization Project, Oceanside, San Diego County, CA (2021). Cultural Resource Specialist for a cultural resources study in support of the proposed Project in the City of Oceanside, in northern San Diego County. Prepared a monitoring results memo for monitoring of geotechnical investigations and assisted with preparation of the cultural resources technical report in compliance with state and federal regulations. Scope included a cultural resources records search, preparation of a letter report/memo, and assistance with the technical report.

Oak Shores/Lake Morena Views MWC Consolidation Project, San Diego County, CA (2021). Cultural Resource Specialist for a cultural resources study in support of the proposed Project in eastern San Diego County. Assisted with preparation of a cultural resources technical report in compliance with state and federal regulations, as well as State Water Resources Control Board. Scope included a cultural resources records search, review of historic maps and aerials, and assistance with preparation of a technical report.

Archaeological Monitoring for the P-586 Missile Assembly Building - San Nicolas Island, Ventura County, CA (2021). Cultural Resource Specialist serving as archaeological monitor and technical report writer. This work included monitoring all ground-disturbing activities, including grubbing, grading, and trenching. Monitoring included close involvement with United States Navy personal and Tribal Members and Observers.

Shady View Residential Project Environmental Impact Report, Chino Hills, San Bernardino County, CA (2021). Cultural Resource Specialist for a cultural resources study in support of the proposed Project in the City of Chino Hills in San Bernardino County. Assisted in the preparation of the technical report in compliance with state and federal regulations. Project scope included a cultural resources records search, review of historic maps and aerials, field survey, and preparation of a technical report.

Trevor Gittelhough, RPA

Cultural Resources Assistant Project Manager

Previous Project Experience

Los Angeles County Natural History Museum Center for History and Cultural Project, Los Angeles County, CA. Assistant Project Manager for a cultural resources study in support of the proposed Project in the downtown area of the City Los Angeles. Prepared an archaeological and tribal cultural resources assessment in compliance with CEQA, specifically Assembly Bill 52. Scope included a cultural resources records search, review of historic maps and aerials, and preparation of a technical study for submittal to the Department of City Planning.

Environmental Services Support for the Villages at The Alhambra Project, Los Angeles County, CA. Assistant Project Manager for a cultural resources study in support of the proposed Project in the downtown area of the City Los Angeles. Prepared an archaeological and tribal cultural resources assessment in compliance with CEQA, specifically Assembly Bill 52. Scope included a cultural resources records search, review of historic maps and aerials, and preparation of a technical study for submittal to the Department of City Planning.

Tierra Crossing Tribal Cultural Resource and Archaeological Assessment, Los Angeles, CA. Assistant Project Manager for a cultural resources study in support of the proposed Project in the downtown area of the City Los Angeles. Prepared an archaeological and tribal cultural resources assessment in compliance with CEQA, specifically Assembly Bill 52. Scope included a cultural resources records search, review of historic maps and aerials, and preparation of a technical study for submittal to the Department of City Planning.

Tribal Cultural Resources Assessment for the 17346 Sunset Project, Los Angeles, CA. Assistant Project Manager for a cultural resources study in support of the proposed Project in the downtown area of the City Los Angeles. Prepared a tribal cultural resources assessment in compliance with CEQA, specifically Assembly Bill 52. Scope included a cultural resources records search, review of historic maps and aerials, and preparation of a technical study for submittal to the Department of City Planning.

PEIR Appendix E

Paleontological Resources Technical Report

PEIR Appendix E

Paleontological Resources Technical Report

PALEOSERVICES
SAN DIEGO NATURAL HISTORY MUSEUM

Paleontological Resources Technical Report

Rainbow Municipal Water District
Water & Sewer Facilities Plan
San Diego County, California

July 21, 2021

Prepared for:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

Prepared by:

Department of PaleoServices
San Diego Natural History Museum
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Katie M. McComas, M.S., Paleontological Report Writer & GIS Specialist
Thomas A. Deméré, Ph.D., Principal Paleontologist

thenat | SAN DIEGO NATURAL HISTORY MUSEUM

Executive Summary

This technical report provides an assessment of paleontological resources for the proposed Water and Sewer Facilities Plan (Plan) within the Rainbow Municipal Water District (District), located in northwestern San Diego County, California. The purpose of this report is to identify and summarize paleontological resources that occur within the District, identify Plan elements (if any) that may negatively impact paleontological resources, and provide, if necessary, recommendations to reduce any potential negative impacts to less than significant levels. The report includes the results of an institutional records search conducted at the San Diego Natural History Museum (SDNHM) and a paleontological field survey conducted within the District.

The approximately 82-square-mile District encompasses the unincorporated communities of Rainbow and Bonsall, as well as portions of the unincorporated communities of Pala and Fallbrook and portions of the City of Vista. The District is generally located east of Marine Corps Base Camp Pendleton and the City of Oceanside, north of portions of the City of Vista, south of the Riverside County line, and along either side of Interstate (I-) 15.

The Plan area straddles the boundary between the coastal plain and mountain foothills within the Peninsular Ranges Geomorphic Province of California. This area is characterized by a fairly rugged topography of steep-sided hills and deep, narrow canyons that expose Jurassic and Cretaceous crystalline basement rocks including plutonic igneous rocks, metavolcanic rocks, and metasedimentary rocks. Limited exposures of Eocene non-marine sedimentary rocks (the Santiago Formation) also occur in the Plan area as erosional remnants preserved beneath more resistant Miocene volcanic rocks. In addition, Pliocene and early Pleistocene fluvial and alluvial fan geologic units (the Temecula Arkose and Dripping Springs Formation) extend from Pauba Valley into the extreme northeastern corner of the Plan area. Younger Pleistocene fluvial and alluvial sediments occur along the floor of the San Luis Rey River Valley and associated tributaries. These Pleistocene sediments have in turn been dissected by modern streams and backfilled with Holocene sediments.

The SDNHM has documented five fossil collection localities within the District, all from Pleistocene-age alluvial flood plain deposits located along the I-15 corridor between the I-15/SR-76 interchange and Stewart Canyon Drive in District Division 4. Three sites discovered during improvements to the I-15/SR-76 interchange produced fossils of late Pleistocene freshwater snails and ostracods, and terrestrial vertebrates including lizards, snakes, bats, rabbits, rodents, and giant bison. Two additional sites discovered during construction of residential and educational developments produced skeletal remains of horse and mastodon.

The paleontological field survey generally confirmed the geologic conditions summarized in the various published geologic maps that cover the Plan area, which indicate that that the majority of the Plan area is underlain by crystalline basement rocks of the Peninsular Ranges Batholith, with more limited exposures of older Mesozoic metavolcanic and metasedimentary rocks. Isolated patches of Cenozoic sedimentary and volcanic rocks are confined to the extreme western corner of the Plan area, while Pliocene and early Pleistocene sedimentary rocks only occur in the extreme northeastern corner of the Plan area. Quaternary alluvium and colluvium is generally confined to the San Luis Rey River Valley and its tributaries, as well as the upland valley floor of Rainbow Valley.

Based on the results of the paleontological literature review, records search, and field survey, the geologic units present within the District are assigned paleontological sensitivity ratings of zero (unmapped artificial fill, Miocene-age volcanic rocks, Cretaceous-age intrusive igneous rocks, and Mesozoic -age metavolcanic rocks), low (young wash and alluvial flood plain deposits and the Dripping Springs Formation), marginal (Mesozoic-age quartzite and related metasedimentary rocks), moderate (Pleistocene-age old and very old alluvial fan deposits), and high (Pleistocene-age old and very old alluvial flood plain and colluvial deposits, the Temecula Arkose, and the Santiago Formation).

Direct impacts to paleontological resources occur when earthwork activities cut into geologic units within which fossils are buried, and physically destroy the fossil remains. Thus, only earthwork activities that will disturb potentially fossil-bearing sedimentary deposits (i.e., those rated with a high or moderate paleontological sensitivity) have the potential to create significant impacts to paleontological resources. Therefore, only earthwork located in areas underlain by old and very old alluvial flood plain and colluvial deposits, the Temecula Arkose, and the Santiago Formation has the potential to result in significant impacts to sensitive paleontological resources. The marginal paleontological sensitivity rating assigned to Mesozoic quartzites and related metasedimentary rocks suggests the possibility that significant impacts may also occur to this geologic unit. All other geologic units

recognized within the Plan area are assigned zero or low paleontological sensitivity and will not be subject to significant paleontological impacts.

Working under the assumption that construction of the Short Term and Long Term phases of the Plan will require earthwork in areas underlain by high or moderate paleontological sensitivity geologic units, implementation of a paleontological mitigation program centered around paleontological monitoring is recommended, as outlined in the provided Mitigation Measures 1–8. Implementation of the paleontological mitigation program will reduce any Plan-related impacts to paleontological resources to a level that is less than significant.

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1.0 Introduction

1.1 Project Description

This technical report provides an assessment of paleontological resources for the proposed Rainbow Municipal Water District (District) Water and Sewer Facilities Plan (Plan), located in northwestern San Diego County, California (Figure 1). The approximately 82-square-mile District encompasses the unincorporated communities of Rainbow and Bonsall, as well as portions of the unincorporated communities of Pala and Fallbrook and portions of the City of Vista. The District is generally located east of Marine Corps Base Camp Pendleton and the City of Oceanside, north of portions of the City of Vista, south of the Riverside County line, and along either side of Interstate (I-) 15 (Figure 2).

The Plan identifies improvements necessary for the District's water and sewer facilities to adapt to future conditions while providing reliable and economical service to the District's customers. The specific key objectives of the Plan include implementing upgrades, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; addressing system deficiencies under current demand and flow conditions; and meeting future water demand and flow conditions.

Specific construction schedules are not available for proposed individual improvements at the program level. The proposed improvements would be implemented in two general phases: Near Term (through 2030) and Long Term (through 2040). Potential improvements may include some or all of the following: increasing the capacity of existing deficient water mains and sewers; implementing fire flow improvements; installing new potable water and sewer pipelines; constructing pump stations and storage tanks; and rehabilitating existing lift stations. Phasing for individual improvements could be accelerated or deferred as required to account for changes in development schedules, availability of land or rights-of-way for construction, funding limitations, and other considerations that cannot be predicted at this time.

1.2 Scope of Work

Because the Plan area occurs in a region partially underlain by native sedimentary deposits, a paleontological resource assessment was conducted in order to satisfy State of California CEQA requirements and to evaluate whether future District improvements have the potential to negatively impact paleontological resources. The assessment addresses potential impacts to paleontological resources that may occur during future water and sewer construction projects within the District by summarizing existing paleontological resource data for the District, evaluating the significance of these resources, examining potential Plan-related impacts to paleontological resources, and, if necessary, suggesting mitigation measures to reduce impacts to paleontological resources to less than significant levels. The report also includes the results of a literature review of relevant geological and paleontological reports, the results of an institutional records search of the paleontological collections at the San Diego Natural History Museum (SDNHM), and the results of a paleontological field survey. This technical report was prepared by Katie M. McComas and Thomas A. Deméré of the Department of PaleoServices, SDNHM.

1.3 Definition of Paleontological Resources

As defined here, paleontological resources (i.e., fossils) are the buried remains and/or traces of prehistoric organisms (i.e., animals, plants, and microbes). Body fossils such as bones, teeth, shells, leaves, and wood, as well as trace fossils such as tracks, trails, burrows, and footprints, are found in the

geologic units/formations within which they were originally buried. The primary factor determining whether an object is a fossil or not is not how the organic remain or trace is preserved (e.g., "petrified"), but rather the age of the organic remain or trace. Although typically it is assumed that fossils must be older than ~11,700 years (i.e., the generally accepted end of the last glacial period of the Pleistocene Epoch), organic remains older than recorded human history and/or older than middle Holocene (about 5,000 radiocarbon years) can also be considered to represent fossils (SVP, 2010).

Fossils are considered important scientific and educational resources because they serve as direct and indirect evidence of prehistoric life and are used to understand the history of life on Earth, the nature of past environments and climates, the membership and structure of ancient ecosystems, and the pattern and process of organic evolution and extinction. In addition, fossils are considered to be non-renewable resources because typically the organisms they represent no longer exist. Thus, once destroyed, a particular fossil can never be replaced.

Finally, paleontological resources can be thought of as including not only the actual fossil remains and traces, but also the fossil collection localities and the geologic units containing those localities. The locality includes both the geographic and stratigraphic context of fossils—the place on the earth and stratum (deposited during a particular time in earth's history) from which the fossils were collected. Localities themselves may persist for decades, in the case of a fossil-bearing outcrop that is protected from natural or human impacts, or may be temporarily exposed and ultimately destroyed, as is the case for fossil-bearing strata uncovered by erosion or construction. Localities are documented with a set of coordinates and a measured stratigraphic section tied to elevation detailing the lithology of the fossil-bearing stratum as well as that of overlying and underlying strata. This information provides essential context for any future scientific study and educational use of the recovered fossils.

1.3.1 Definition of significant paleontological resources

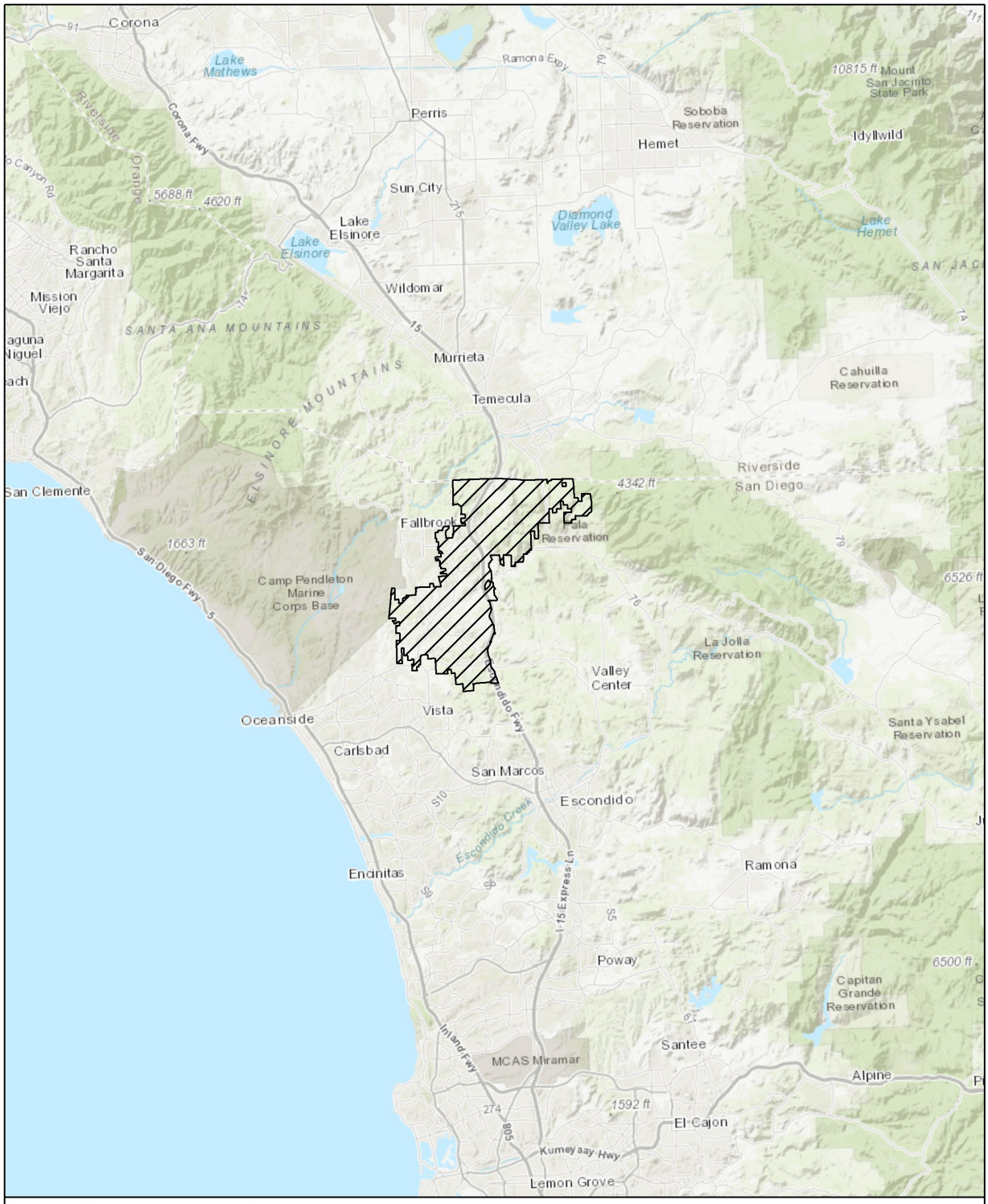
The California Environmental Quality Act (CEQA, Public Resources Code Section 21000 et seq.) dictates that a paleontological resource is considered significant if it "has yielded, or may be likely to yield, information important in prehistory or history" (Section 15064.5, [a][3][D]). The Society of Vertebrate Paleontology (SVP) has further defined significant paleontological resources as consisting of "fossils and fossiliferous deposits[…]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" (SVP, 2010).

1.4 Regulatory Framework

Paleontological resources are considered scientifically and educationally significant nonrenewable resources, and as such they are protected under a variety of federal (e.g., Antiquities Act of 1906; National Environmental Policy Act of 1969; Federal Land Policy Management Act of 1976; Paleontological Resources Preservation Act of 2009), state (e.g., California Environmental Quality Act [CEQA]; Public Resources Code), and local (County of San Diego) laws, regulations, and ordinances, outlined below.

1.4.1 Federal

The American Antiquities Act of 1906 (P.L. 59–209, 34 Stat. 225, 16 U.S.C. 431–433) establishes a penalty for disturbing or excavating any historic or prehistoric ruin or monument or object of antiquity on federal lands. The act also establishes a permit requirement for collection of antiquities on federal lands. Although not specifically addressing paleontological resources, the act is considered relevant to such resources by number of federal agencies that consider fossils to be objects of antiquity.



Sources: World Topographic Map, Esri et al., 2021

PaleoServices
San Diego Natural History Museum

Figure 1: Overview Map, Rainbow Municipal Water District
San Diego County, California

0 10
scale in miles

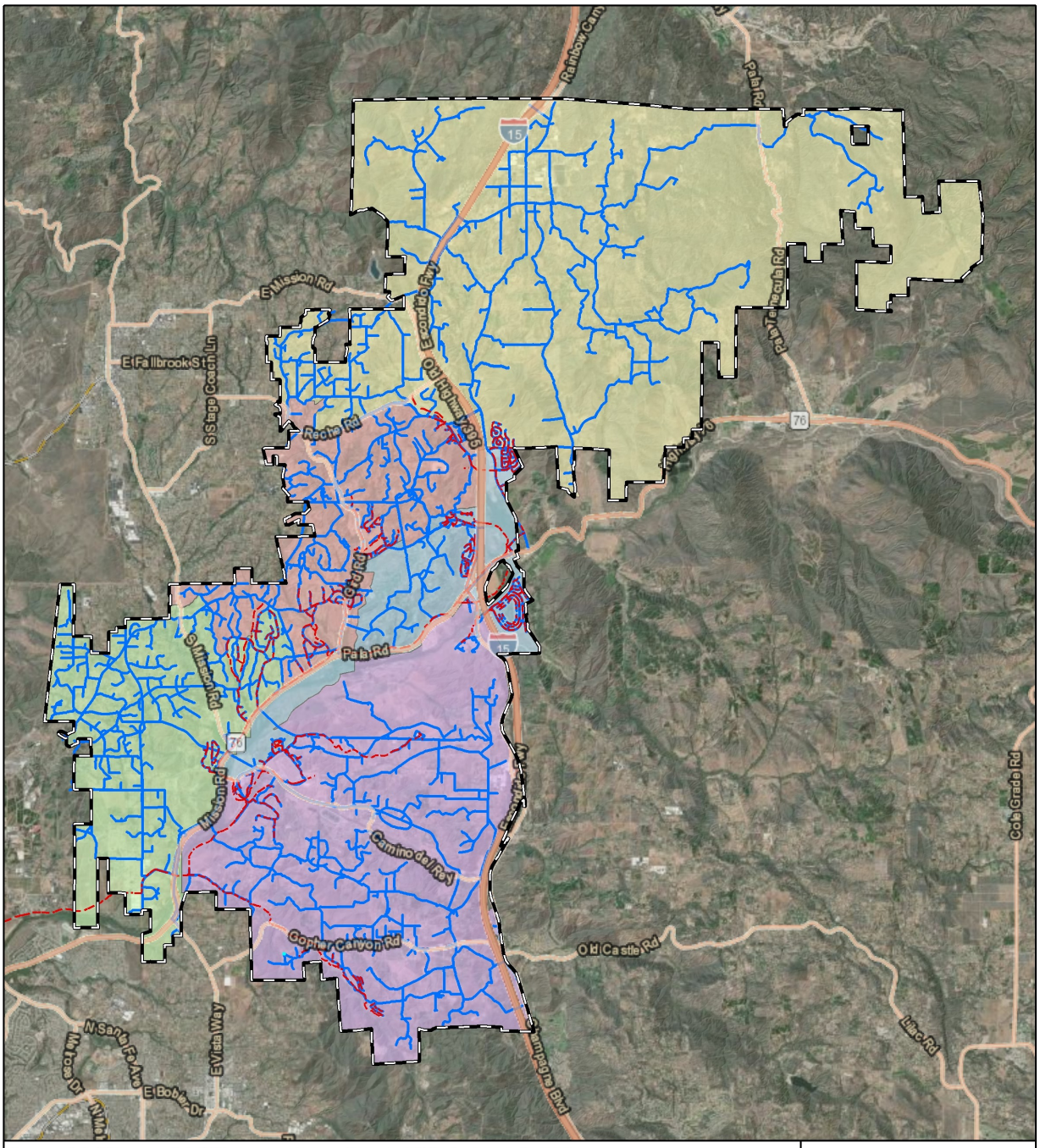


Figure 2: Project Overview, Rainbow Municipal Water District Water & Sewer Facilities Plan, San Diego County, California

The National Environmental Policy Act (NEPA) of 1969 (P.L. 91–190, 83 Stat. 852, 42 U.S.C. 4321–4347) recognizes the continuing responsibility of the Federal Government to "preserve important historic, cultural, and natural aspects of our national heritage..." (Sec. 101 [42 U.S.C. § 4321]) (#382). As with the American Antiquities Act, NEPA does not specifically address paleontological resources but is interpreted by many federal agencies to be applicable to such resources. For example, the Bureau of Land Management and the United States Forest Service both view NEPA as one of the major laws protecting paleontological resources on public lands.

The Federal Land Policy and Management Act (FLPMA) of 1976 (P.L. 94–579, 90 Stat. 2744, 43 U.S.C. 1701–1785) defines significant fossils as: unique, rare or particularly well-preserved; an unusual assemblage of common fossils; being of high scientific interest; or providing important new data concerning [1] evolutionary trends, [2] development of biological communities, [3] interaction between or among organisms, [4] unusual or spectacular circumstances in the history of life, [5] or anatomical structure.

The Paleontological Resources Preservation Act (PRPA) of 2009 (P.L. 111–11, 123 Stat. 991, H.R. 146) is the first statute to directly address the management and protection of paleontological resources on federal lands. This law essentially codifies collecting polices of federal land management agencies. It allows reasonable amounts of common invertebrate and plant fossils to be casually collected with negligible disturbance. In addition, it requires protection and preservation of uncommon invertebrate and plants and all vertebrate fossils, including imprints, molds, casts, etc. The PRPA further describes requirements for permitting collection on federal lands, stipulations regarding the use of paleontological resources in education, continued federal ownership of recovered paleontological resources, and standards for acceptable repositories of collected specimens and associated data. The PRPA also provides for criminal and civil penalties for unauthorized removal of paleontological resources from federal lands.

1.4.2 State

The California Environmental Quality Act (CEQA, Public Resources Code Section 21000 *et seq.*) protects paleontological resources on both state and private lands in California. This act requires the identification of environmental impacts of a proposed project, the determination of significance of the impacts, and the identification of alternative and/or mitigation measures to reduce adverse environmental impacts. The Guidelines for the Implementation of CEQA (Title 14, Chapter 3, California Code of Regulations: 15000 *et seq*.) outlines these necessary procedures for complying with CEQA. Paleontological resources are specifically included as a question in the CEQA Environmental Checklist (Section 15023, Appendix G): "Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature." Also applicable to paleontological resources is the checklist question: "Does the project have the potential to… eliminate important examples of major periods of California history or pre-history."

Other state requirements for paleontological resource management are included in the Public Resources Code (Chapter 1.7), Section 5097.5 and 30244. These statutes prohibit the removal of any paleontological site or feature on public lands without permission of the jurisdictional agency, defines the removal of paleontological sites or features as a misdemeanor, and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (state) lands.

1.4.3 Local

The County of San Diego primarily addresses management of paleontological resources through CEQA. In addition, Section 87.430 of the County's Grading Ordinance specifically establishes procedures for the mitigation of potential impacts to paleontological resources during earthwork operations. Detailed

guidelines for determining significance and mitigation procedures for paleontological resources are provided by the County's Department of Public Works (Stephenson et al., 2009).

2.0 Methods

2.1 Paleontological Records Search and Literature Review

A search of the paleontological collections records housed at the SDNHM was conducted in order to determine if any fossil collection localities are documented within the boundaries of the District. The records search involved examination of the Department of Paleontology's GIS database containing paleontological locality data, and the associated paleontological specimen records.

Additionally, a review was conducted of relevant published geologic maps (e.g., Kennedy, 2000a, 2000b; Kennedy and Tan, 2007; Tan, 2000, 2001; Tan and Kennedy, 2000), published geological and paleontological reports (e.g., Larsen, 1948; Mann, 1955; Weber, 1963; Kennedy, 1977), and other relevant literature (e.g., unpublished paleontological mitigation reports). This approach was followed in recognition of the direct relationship between paleontological resources and the geologic units within which they are entombed. Knowing the geologic history of a particular area and the fossil productivity of geologic units that occur in that area, makes it is possible to predict where fossils may, or may not, be encountered.

2.2 Paleontological Field Survey

A paleontological field survey of the Plan area was conducted over several days between April 7 and June 16, 2021 by Thomas A. Deméré of the Department of PaleoServices, SDNHM. The survey primarily focused on portions of the Plan area that are not covered by dense vegetation or extensive residential and commercial development.

The field survey included inspection of available natural and man-made geologic exposures within the District in order to confirm the interpretations of the published geologic mapping; to field check the results of the literature review and records search, to collect stratigraphic data (e.g., bedding type, thickness, geologic contacts) and lithologic descriptions of strata (e.g., color, sorting of grains, texture, sedimentary structures, and grain size of sedimentary rocks), to prospect for any fossil remains or traces present, and to determine the paleontological sensitivity of the geologic units present.

During the survey, the paleontologist was equipped with standard field equipment (e.g., rock hammer, camera, hand lens, tape measure) and an iPhone loaded with Esri's Collector app that was used to view relevant maps and collect field data. Collected field data included waypoints that were keyed to field notes and photographs.

2.3 Paleontological Resource Assessment Criteria

Impacts to paleontological resources are typically assigned a paleontological sensitivity rating based on the resource potential of an impacted geologic unit. The County of San Diego has developed specific guidelines for assigning paleontological sensitivity (Stephenson et al., 2009), which includes a five-tiered scale of High Sensitivity, Moderate Sensitivity, Low Sensitivity, Marginal Sensitivity, or Zero Sensitivity ratings. An expanded description of each paleontological sensitivity rating, as outlined by the County (Stephenson et al., 2009), is provided below.

2.3.1 High sensitivity

Geologic units with high sensitivity have produced, or are likely to produce, significant vertebrate, invertebrate, or paleobotanical remains. High sensitivity geologic units may contain fossil materials that are rare, well-preserved, critical for stratigraphic or paleoenvironmental interpretation, and/or provide important information about the paleobiology and evolutionary history (phylogeny) of animal and plant groups.

2.3.2 Moderate sensitivity

Moderate sensitivity is assigned to geologic units known to contain paleontological localities with fossil material that is poorly preserved, common elsewhere, or stratigraphically unimportant.

2.3.3 Low sensitivity

Low sensitivity is assigned to geologic units that, based on their relatively young age and/or high-energy depositional history, are judged unlikely to produce important fossil remains. Typically, low sensitivity units produce fossil remains in low abundance, or only produce common/widespread invertebrate fossils whose taphonomy, phylogeny, and ecology is already well understood.

2.3.4 Marginal sensitivity

Marginal sensitivity is assigned to geologic units that are composed either of volcaniclastic (derived from volcanic sources) or metasedimentary rocks, but that nevertheless have a limited probability for producing fossils from certain formations at localized outcrops.

2.3.5 Zero sensitivity

Geologic units with no sensitivity are either entirely igneous in origin and therefore do not contain fossil remains, or are moderately to highly metamorphosed and thus any contained fossil remains have been destroyed. Artificial fill materials also have no sensitivity, because critical stratigraphic and geologic context of any contained organic remains (i.e., fossils) has been lost.

2.4 Paleontological Impact Analysis

Direct impacts to paleontological resources occur when earthwork activities (e.g., utility trenching), cut into the geologic units within which fossils are buried, and physically destroy the fossil remains. As such, only earthwork activities that will disturb potentially fossil-bearing sedimentary deposits (i.e., those rated with a high or moderate paleontological sensitivity) have the potential to create significant impacts to paleontological resources. Paleontological mitigation typically is recommended to reduce any negative impacts to paleontological resources to less than significant levels.

Typically, the purpose of an impact analysis is to determine which (if any) proposed project-related earthwork activities may disturb potentially fossil-bearing geologic units within a given project area. However, because the current Plan lacks specific proposals for District improvements, the impact analysis for the Plan was conducted with general assumptions about the possible types of improvements and earthwork that may occur in the Short Term and Long Term timeframes of the Plan.

3.0 Results

3.1 Results of the Records Search and Literature Review

The Plan area straddles the boundary between the coastal plain and mountain foothills within the Peninsular Ranges Geomorphic Province of California (Figure 3). This area is characterized by a fairly rugged topography of steep-sided hills and deep, narrow canyons that expose Jurassic and Cretaceous crystalline basement rocks including plutonic igneous rocks, metavolcanic rocks, and metasedimentary rocks. Limited exposures of Eocene non-marine sedimentary rocks also occur in the Plan area as erosional remnants preserved beneath more resistant Miocene volcanic rocks. In addition, Pliocene and early Pleistocene fluvial and alluvial fan geologic units extend from Pauba Valley into the extreme northeastern corner of the Plan area. Younger Pleistocene fluvial and alluvial sediments occur along the floor of the San Luis Rey River Valley and associated tributaries. These Pleistocene sediments have in turn been dissected by modern streams and backfilled with Holocene sediments. Sedimentary rocks are more extensively exposed to the west of the Plan area, in the San Diego Coastal Plain, where they completely blanket the older underlying Mesozoic crystalline basement rocks. This coastal area is characterized by a stair-step series of elevated Quaternary marine and fluvial terraces that have been dissected by modern west-flowing streams and rivers.

The geologic history of the Peninsular Ranges Geomorphic Province is dominated by events associated with subduction of the Farallon Plate beneath the North American Plate beginning approximately 125 million years ago (Ma). As the leading edge of the descending plate reached critical depths below the Earth's surface, the rocks melted and began ascending up through the overlying, older pre-existing rocks as a series of magmatic masses called plutons. Over the next 35 million years, individual plutons continued to be generated, and coalesced and cooled as an Andean-style magmatic arc that eventually formed what geologists today call the Peninsular Ranges Batholith—a complex assortment of plutonic igneous rocks of varying composition (gabbro, granodiorite, tonalite, and monzogranite). During this extended subduction period, the older pre-existing rocks that were intruded by the plutons became metamorphosed and altered from limestones to marbles, from sandstones to quartzites, and from shales to schists. These protoliths, as they are called, originally formed as marine sediments between approximately 230 and 160 Ma on the ancient sea floor. Beginning about 80 Ma, uplift of the Peninsular Ranges Batholith resulted in the removal by erosion of a majority of the metamorphic rocks and the exposure of the batholithic rocks as a linear, back-arc mountain range. Subsequent erosion during the early Cenozoic reduced the elevation of the Cretaceous ancestral Peninsular Ranges, and produced a topographically complex coastline that, during the following Eocene Epoch, was inundated by warm tropical ocean waters that formed prominent headlands, broad lagoons, and shallow bays. Much later, as tectonic forces associated with subduction gave way to those associated with transform faulting, a series of regional depositional basins formed that received great volumes of land-derived sediments from adjacent local river systems. By Pliocene time, the transform faulting regime had evolved to one of transpressional tectonics as the San Andreas Fault Zone and related faults (e.g., the Elsinore Fault and San Jacinto Fault) were born and sliced up the province to create its characteristic landforms of high peaks and steep slopes (e.g., Palomar Mountain, Vulcan Mountain, Laguna Mountains, and Cuyamaca Mountains), upland valleys (e.g., Warner Valley), and desert peaks (e.g., Vallecito Mountains and Fish Creek Mountains).

Existing published geologic mapping (Kennedy and Tan, 2007) indicates that the District is underlain by a series of geologic units including, in order of increasing age: Holocene-age young wash and alluvial flood plain deposits, Pleistocene-age old and very old alluvial flood plain, alluvial fan, and colluvial deposits, the early Pleistocene-age Dripping Springs Formation, the late Pliocene- to early Pleistocene-age

Temecula Arkose, Miocene-age(?) volcanic rocks, the middle Eocene-age Santiago Formation, Cretaceous-age intrusive igneous rocks, and Mesozoic metasedimentary and metavolcanic rocks (Figure 3). In addition, artificial fill related to previous development within the District is likely ubiquitous, but is not mapped. The geologic units present within the District are discussed in more detail below.

3.1.1 Unmapped artificial fill

Description: Artificial fill typically consists of disturbed deposits associated with human activities and is often composed of sedimentary materials mined in close vicinity to a project site (e.g., adjacent hillslopes). However, artificial fill is also frequently imported to a project site and may be from a distant location. Artificial fill is typically placed in order to change the topography of a location, such as during the creation of level building pads for new housing developments or to construct level streets.

Paleontology: Because artificial fill has been previously disturbed and may have been imported to its current location, any fossils these deposits may contain have lost their original stratigraphic and geographic context, and are thus not considered to be scientifically significant.

Regional distribution: The volume of artificial fill in western San Diego County is undoubtedly great, given the extensive amount of urbanization and construction of supporting infrastructure that has gone on in the area over the last 150 years.

Distribution within the Plan area: At this time there is no available mapping or geotechnical data that summarizes the extent or location of artificial fill within the Plan area.

3.1.2 Young wash and alluvial flood plain deposits (Qw, Qa, Qya)

Description: Young Quaternary alluvium consists of poorly consolidated clays, silts, sands, and gravels that have been deposited by local creeks, streams, and rivers in their respective drainages. Alluvial sediments have been derived from bedrock sources that occur in the various watersheds that feed these drainages. Colluvial deposits derived by local slope wash processes typically interfinger with alluvial deposits along the lower slopes of drainages. As a result, alluvium and colluvium are often mapped together as a single geologic unit. When undissected by modern erosion, such deposits are typically considered to be Holocene in age (i.e., younger than approximately 11.7 thousand years [ka])

Paleontology: No fossils are currently known from young alluvial deposits in the vicinity of the Plan area. The lack of recorded fossil collection localities is primarily due to the relatively young geologic age of these deposits (less than about 11,700 years old).

Regional distribution: Deposits of Quaternary alluvium occur in all of the modern stream channels and valley floors of western San Diego County.

Distribution within the Plan area: Exposures of young Quaternary alluvium and wash deposits have been mapped in the Plan area along the axis of the San Luis Rey River Valley in District Divisions 1, 2 and 4, as well as along the axis of tributaries to the San Luis Rey River in all District Divisions (Kennedy and Tan, 2007).

3.1.3 Old and very old alluvial flood plain, alluvial fan, and colluvial deposits (Qoa, Qoc, Qof2, Qvoc, Qvof)

Description: Old and very old Quaternary alluvial floodplain, alluvial fan, and colluvial deposits as mapped by Kennedy and Tan (2007) generally consist of moderately to well-consolidated sediments that have been moderately to deeply dissected by modern stream channels. Typically the upper surfaces of landforms underlain by these deposits are capped by moderately- to well-developed pedogenic soils. Alluvial flood plain deposits generally consist of clays, silts, and fine-grained sands, while alluvial fan deposits more typically consist of coarse-grained and poorly sorted sands and conglomerates. These

older Quaternary deposits are considered to range from late to early Pleistocene in age (old = 11 to 500 ka, very old = 500 ka to 2.5 Ma).

Paleontology: Fossils of freshwater invertebrates and vertebrates, as well as fossils of terrestrial plants and land mammals have been recovered from sediments mapped as old and very old Quaternary alluvial floodplain deposits within the San Luis Rey River drainage. This includes five recorded fossil collection sites along the I-15 corridor between the I-15/SR-76 interchange and Stewart Canyon Drive in District Division 4. Three sites discovered during improvements to the interchange produced fossils of late Pleistocene freshwater snails and ostracods, and terrestrial vertebrates including lizards, snakes, bats, rabbits, rodents, and giant bison (Deméré et al., 2013). Two additional sites discovered during construction of residential and educational developments produced skeletal remains of horse and mastodon (SDNHM collection records).

Regional distribution: Deposits of old and very old Quaternary alluvium occur along the margins of all of the major river valleys of western San Diego County, including the valleys of the Santa Margarita River, San Luis Rey River, Buena Vista Creek, Aqua Hedionda Creek, San Marcos Creek, Escondido Creek, San Dieguito River, Penasquitos Creek, San Diego River, Sweetwater River, Otay River, and Tijuana River.

Distribution within the Plan area: Exposures of old and very old Quaternary alluvium and wash deposits have been mapped in the Plan area along the axis of the San Luis Rey River Valley in District Divisions 1, 2, and 4, as well as along the axis of tributaries to the San Luis Rey River in all District Divisions (Kennedy and Tan, 2007).

3.1.4 Dripping Springs Formation (Qd)

Description: The Dripping Springs Formation was named by Mann (1955) for surficial, coarse-grained fanglomerates exposed along SR-79 in the area around and south of Vail Lake. Mann (1955) suggested that the Dripping Springs Formation was deposited as a thin sequence of locally derived alluvial fan sediments in arroyos eroded into older fanglomerates of the Pauba Formation and coarse-grained sandstones of the Temecula Arkose. Kennedy (2000b) considered the Dripping Springs Formation to be early Pleistocene in age and described exposures of this geologic unit along the Elsinore Fault Zone as consisting of "pebble, cobble, and boulder fanglomerate in a reddish-brown, poorly consolidated, poorly sorted sandstone matrix."

Paleontology: No fossils are currently known from fanglomerates of the Dripping Springs Formation. The lack of recorded fossil collection localities is likely due to the coarse-grained nature of this geologic unit and the implied high energy depositional conditions of its formation.

Regional distribution: Deposits of the Dripping Springs Formation have a very limited distribution and are confined to areas generally south of Temecula Creek, northeast of the Elsinore Fault Zone, and west of Radec Valley.

Distribution within the Plan area: Exposures of the Dripping Springs Formation are confined to the extreme northeast corner of District Division 5. Heavy vegetation and steep topography in this area made it impossible to examine these deposits during the field survey.

3.1.5 Temecula Arkose (Tta)

Description: The Temecula Arkose was named by Mann (1955) for extensive deposits of arkosic sandstone that crop out southeast of Temecula, on the Pechanga Reservation in southern Riverside County. Typical exposures consist of buff-to-white, friable, medium- to coarse-grained sandstones and siltstones. Claystones, paleosols (ancient soils), tuffaceous sandstones, and pebble and cobble conglomerates also occur in this geologic unit. The Temecula Arkose ranges in thickness from over 1500 feet on the Pechanga Reservation to less than 300 feet near Radec, east of Vail Lake. Sediments of the

Temecula Arkose appear to have been deposited in a variety of depositional settings ranging from quiet lacustrine paleoenvironments near Radec and Vail Lake to high-energy fluvial or distal alluvial fan paleoenvironments near Pechanga (Kennedy, 1977). Mann (1955) noted that strata of this geologic unit have been deformed by faulting, and are unconformably overlain by flat-lying sediments of the Pauba Formation and Dripping Springs Formation. Kennedy (1977) assigned an age of Pliocene to early Pleistocene (~4.6 to 1.9 Ma) to the Temecula Arkose based on biochronological studies of fossil land mammals.

Paleontology: The Temecula Arkose has produced a fairly diverse assemblage vertebrate fossils consisting of some 27 different species (Golz et al., 1977). This assemblage includes rabbits, rodents, wolf, badger, bobcat, elephant, horse, camel, deer, and antelope. In addition, Mann (1955) reports the occurrence of freshwater diatoms and snails in the Temecula Arkose. The majority of these fossils have come from collecting sites on the Pechanga Reservation, from the area around Vail Lake north of SR-79, and from the Radec area (Golz et al., 1977). Scheliga (1963) also reported the presence of freshwater gastropods in association with volcanic ash beds in the Temecula Arkose. The records search found no recorded fossil collection sites in this geologic unit within the Plan area.

Regional distribution: Deposits of the Temecula Arkose occur throughout the Elsinore Fault Zone from Wildomar in the north to Temecula in the south and east along the SR-79 corridor at least to Aguanga.

Distribution within the Plan area: Exposures of the Temecula Arkose are confined to the extreme northeast corner of District Division 5. Heavy vegetation and steep topography in this area made it impossible to examine these deposits during the field survey.

3.1.6 Miocene volcanic rocks (Tv)

Description: Isolated occurrences of post-Eocene age volcanic rocks are mapped in the vicinity of Morro Hill in and north of the extreme northeastern corner of the City of Oceanside. Elliott (1985) referred to the fine-grained volcanic rocks at Morro Hill as the Morro Hill volcanic plug or neck and named associated dacitic flows and air fall tuff deposits the Indian Hill Volcanics. The flows, agglomerates, and tuffs occur on several low-lying hills to the east and south of Morro Hill and may represent lava and ejecta derived from the presumed volcanic vent represented by the Morro Hill plug. As noted by Tan (2001), Elliott (1985), and Waring and Waring (1917), these volcanic rocks intrude and/or overlie older Eocene sedimentary rocks mapped as the Santiago Formation. Although the precise age of the volcanic rocks in this area of northern San Diego County is unknown, most authors have suggested that they are Miocene in age, largely based on the reported occurrence of other isolated volcanic rocks in southern California that have been radiometrically dated as Miocene.

Paleontology: No fossils are known from the Miocene volcanic rocks in the Morro Hill portion of the Plan area, and the origination of these rocks directly from magma strongly suggests that none will ever be discovered.

Regional distribution: The Miocene volcanic rocks mapped by Kennedy and Tan (2007) are confined to the Morro Hill-Sleeping Indian Hill area that occurs at the boundary between the City of Oceanside, Marine Corps Base Camp Pendleton, and the Fallbrook Community Planning Area of the County of San Diego.

Distribution within the Plan area: Exposures of the Miocene volcanic rocks are confined to the extreme western border of District Division 2, and specifically to the Morro Hill-Sleeping Indian Hill area. Good exposures of volcanic vent rocks occur on the flanks of Morro Hill, while residential and agricultural development and landscaping has covered and obscured all or most of the former exposures of flow and pyroclastic rocks.

3.1.7 Santiago Formation (Tsa)

Description: The middle Eocene-age (approximately 49 to 40 million years old) Santiago Formation was named by Woodring and Popenoe (1945) for deposits exposed in the foothills of the Santa Ana Mountains in Orange County. These deposits generally consist of a basal conglomerate layer overlain by a gray to buff, micaceous, feldspathic sandstone with siltstone interbeds, and massive buff to yellow sandstone, and includes both marine and nonmarine strata. In addition, three informal members of the Santiago Formation have been recognized in the Encinitas-Carlsbad-Oceanside-Vista area of San Diego County (Wilson, 1972), and are referred to as members "A," "B," and "C." The lowest, member "A" of the Santiago Formation, is composed predominantly of green mudstone and sandy mudstone interbedded with blue, tuffaceous sandstone and lenticular, concretionary sandstone. The middle member "B" consists of continental, estuarine, and marine deposits composed of green and gray, very fine- to medium-grained, arkosic sandstone with calcitic concretions and interbeds of clayey sandstone and claystone (Wilson, 1972). The upper member "C" unconformably overlies member "B," and consists of continental and paralic deposits composed of white to gray-white, friable, cross-bedded, fine- to very coarse-grained, arkosic sandstone with green to green-brown siltstone, silty mudstone, and claystone interbeds (Wilson, 1972). The Santiago Formation is poorly exposed in the Plan area and consists of an interbedded sequence of well-indurated olive green claystones, tan to gray siltstones, and light gray to white sandstones (Elliott, 1985). Elliott (1985) assigned the Santiago Formation strata in the Morro Hill-Sleeping Indian Hill area of the Plan area to member “A.”

Paleontology: Both members "B" and "C" of the Santiago Formation have produced scientifically important marine and estuarine invertebrate fossil remains, as well as terrestrial vertebrate fossil remains (Deméré and Walsh, 1993). Several localities discovered from deposits of member "B" in Carlsbad and Oceanside, San Diego County, have produced well-preserved vertebrate fossils, including fossil reptiles (e.g., turtles, snakes, lizards, crocodiles), birds, and mammals (e.g., opossums, insectivores, primates, miacid carnivores, rodents, brontotheres, rhinoceros, uintathere, tapirs, protoreodonts, and other early artiodactyls) (Golz and Lillegraven, 1977; Theodor, 1999; Mihlbachler and Deméré, 2009; Tomiya, 2013; Walsh, 1996). Also known from the Santiago Formation are remains of estuarine invertebrates (Deméré and Boettcher, 1985; Givens and Kennedy, 1976; Wilson, 1972), and terrestrial land plants (Deméré and Walsh, 1993). No fossils have been reported to date from member “A” of the Santiago Formation. The records search found no recorded fossil collection sites in this geologic unit within the Plan area.

Regional distribution: Sedimentary rocks of the Santiago Formation crop out over a large area extending from the western foothills of the Santa Ana Mountains in Orange County, south through the western portion of Marine Corps Base Camp Pendleton to the narrowed coastal plain portion of the City of Encinitas (Kennedy and Tan, 2007).

Distribution within the Plan area: Outcrops of the Santiago Formation are confined to the extreme western border of District Division 2, and specifically to the Morro Hill-Sleeping Indian Hill area where sandstones of this geologic unit are preserved beneath resistant rocks of the Indian Hills Volcanics and nonconformably overlie crystalline basement rocks of the Bonsall tonalite (Elliott, 1985). Residential development and landscaping in this area has covered and obscured all or most of these exposures.

3.1.8 Cretaceous plutonic rocks of the Peninsular Ranges Batholith (Kcc, Kgb, Kgp, Ki, Kjd, Kmm, Kpa, Kr, Kt)

Description: The Peninsular Ranges Batholith is a composite batholith composed of several hundred or even several thousand individual plutons and extending from Riverside County, USA several hundred miles south into Baja California, Mexico. Batholithic rocks in San Diego County range in composition from granite to gabbro, and primarily formed during the Cretaceous starting around 125 Ma and

extending to about 86 Ma (Todd, 2004; Herzig and Kimbrough, 2014; Hildebrand and Whalen, 2014). These plutonic rocks formed during the development of a major subduction zone off the west coast of the North American continent during the Mesozoic. Oceanic crust was thrust below continental crust, and as the cold, water-saturated oceanic crust descended into the earth's mantle, it became superheated and melted into buoyant magma bodies called plutons, which then rose (intruded) through the overlying crust and slowly cooled several miles below the Earth's surface to form the plutonic rocks (granodiorite and gabbro) now exposed at the surface. Plutonic rocks exposed in the Plan area represent a range of compositions and include quartz-rich rocks (e.g., monzogranite, granodiorite, and tonalite) and quartz-poor rocks (e.g., gabbro). Pegmatite dike rocks in the Pala area represent a special type of gem-bearing plutonic rock.

Paleontology: Plutonic igneous rocks do not preserve fossils because they form and crystallize at extremely high temperatures and pressures several miles below the Earth's surface in conditions that do not support complex life.

Regional distribution: Rocks of the Peninsular Ranges Batholith crop out over a large linear area measuring up to approximately 60 miles wide and extending approximately 500 miles from Riverside County, USA south into Baja California, Mexico.

Distribution within the Plan area: Exposures of the Peninsular Ranges Batholith have been mapped extensively throughout the Plan area and represent the dominant geologic unit in all five District Divisions. Granodiorite and tonalite make up the majority of plutonic rocks in District Divisions 1, 2, 3, and 4, while granodiorite and gabbro are the dominant rock types in District Division 5.

3.1.9 Mesozoic metasedimentary and metavolcanic rocks (Mzu)

Description: Unnamed Mesozoic metamorphic rocks presumably represented by both metavolcanics and metasediments have been mapped as a composite geologic unit by Kennedy and Tan (2007) in northern San Diego County and southern Riverside County. These rocks are presumably late Jurassic to early Cretaceous in age and are considered to represent a wide variety of low- to high-grade metamorphic rocks. Metavolcanic rocks are the dominant rock type and primarily consist of volcaniclastic breccias and metaandesitic flows, tuffs and tuff-breccias, while metasedimentary rocks are poorly documented (Kennedy and Tan, 2007). Elsewhere in the western foothills of San Diego County, similar metavolcanic rocks have been assigned to the early Cretaceous Santiago Peak Volcanics (Herzig and Kimbrough, 2014).

Paleontology: No fossils have been reported from exposures of the unnamed Mesozoic metavolcanic and metasedimentary rocks in the Plan area. In addition, the only confirmed fossils known from the Santiago Peak Volcanics are permineralized wood fragments (Carrasco et al., 1993). The more extensive reports of Jurassic marine fossils from the Santiago Peak Volcanics in San Diego County are erroneous and based on the former inclusion in this geologic unit of older and deformed metasedimentary rocks now assigned to the Peñasquitos Formation (Kimbrough et al., 2014). The records search found no recorded fossil collection sites in Mesozoic metavolcanic and metasedimentary rocks within the Plan area.

Regional distribution: Mesozoic metavolcanic and metasedimentary rocks have a consistent but patchy distribution in the western foothills of the Peninsular Ranges from Riverside County south through San Diego County and into Baja California.

Distribution within the Plan area: Exposures of Mesozoic-age metavolcanic and metasedimentary rocks in the Plan area occur as isolated roof pendants along a roughly north-south linear band from just south

of Rainbow Valley in District Division 5 through Pala Mesa in District Division 3 to the hills around Gopher Canyon in District Division 1.

3.1.10 Mesozoic quartzite and quartz conglomerate (Mzq)

Description: Unnamed metasedimentary rocks near Pala have been mapped by Kennedy and Tan (2007) as a deformed sequence of banded quartzites, quartz conglomerates, and meta-arkoses. These rocks occur in close proximity to a linear zone of granodiorites and gabbros that have been intruded by gem-bearing pegmatite dikes. The quartzites and related metasedimentary rocks represent roof pendants of pre-existing sedimentary sandstones that were metamorphosed during emplacement of the plutons of the Peninsular Ranges Batholith. Kennedy and Tan (2007) consider these metasedimentary rocks to be late Jurassic and/or early Cretaceous in age, although they provide no evidence for this age assignment. It should be noted that quartzites associated with metasediments of Julian Schist that occur in the higher portions of the Peninsular ranges are generally considered to be late Triassic to mid Jurassic in age.

Paleontology: No fossils are currently known from the unnamed quartzites and related metasedimentary rocks of the Pala area. However, because these rocks originally formed as sediments that were likely deposited in a marine paleoenvironment, there is the possibility that they could contain fossils. Quartzites and related metasedimentary rocks in the Julian Schist are considered to have been deposited as turbidites in a submarine fan setting (Germinario, 1993) and have produced at least one fossil of an ammonite of presumed Triassic age (Todd, 2015). The discovery and recovery of fossils from the unnamed quartzites and related metasedimentary rocks of the Pala area would be significant, as it would provide evidence for understanding the age of the original sediments and the depositional setting under which they accumulated.

Regional distribution: Unnamed quartzites and related metasedimentary rocks have a very limited area of outcrop in the western foothills of the Peninsular Ranges. However, lithologically similar rocks associated with schists and marbles occur farther to east where they are typically mapped as the Julian Schist.

Distribution within the Plan area: Exposures of Mesozoic-age metasedimentary rocks have a very limited distribution within the Plan area, and are confined to the extreme southeastern corner of District Division 5.

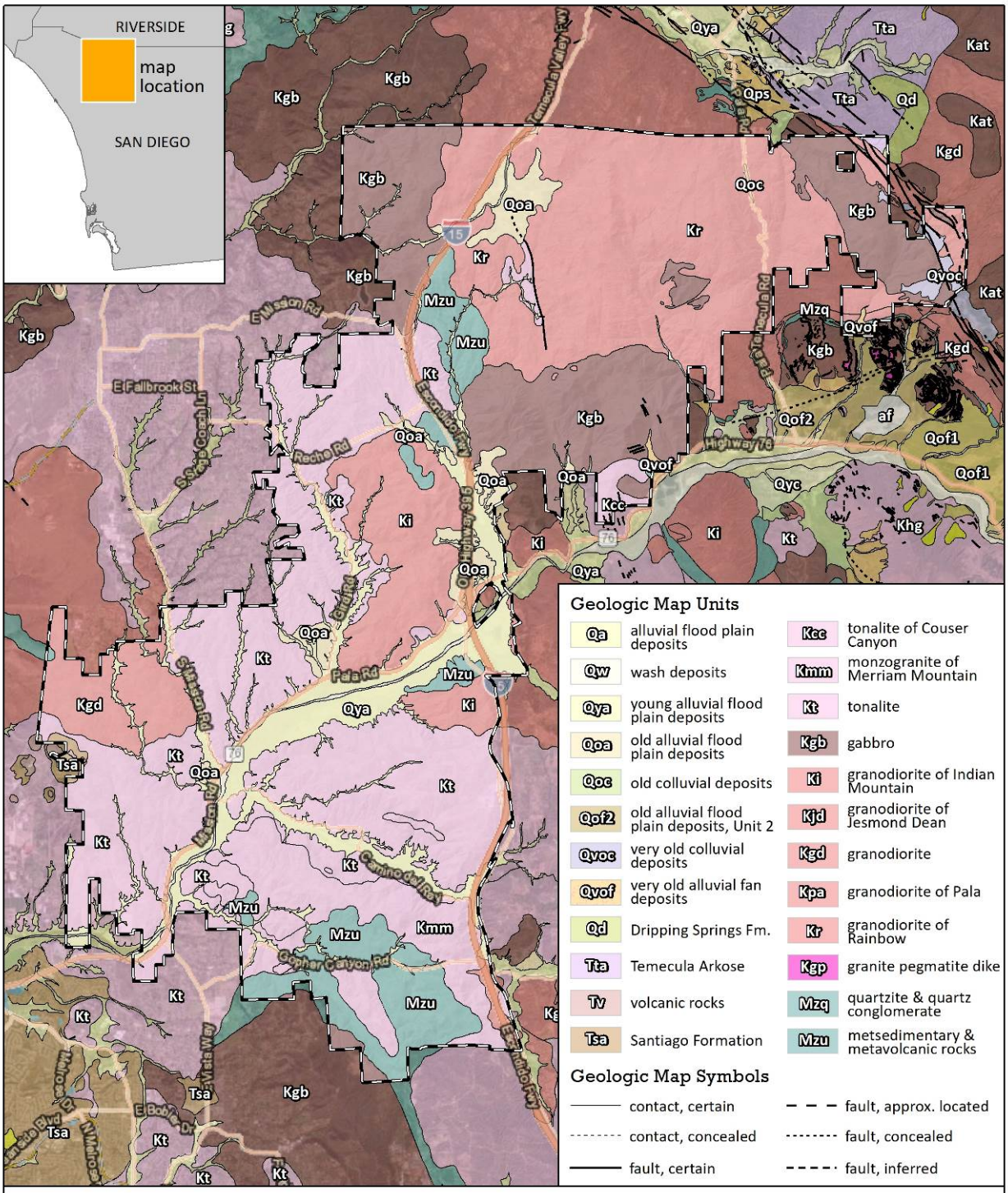


Figure 3: Geologic Map, Rainbow Municipal Water District Water & Sewer Facilities Plan, San Diego County, California

3.2 Results of the Paleontological Field Survey

Given the large size of the Plan area (~82 square miles), the field survey was conducted along existing roadways that provided good exposures of native geologic units, such as occur in road cuts and unvegetated or sparsely vegetated natural hillsides and slopes. The resulting windshield survey generally confirmed the geologic conditions summarized in the various published geologic maps that cover the Plan area (e.g., Kennedy, 2000a, 2000b; Kennedy and Tan, 2007; Tan, 2000, 2001; Tan and Kennedy, 2000). From this published work and the results of the survey it is clear that the majority of the Plan area is underlain by crystalline basement rocks of the Peninsular Ranges Batholith, with more limited exposures of older Mesozoic metavolcanic and metasedimentary rocks. Isolated patches of Eocene sedimentary and Miocene volcanic rocks are confined to the extreme western corner of the Plan area, while Pliocene and early Pleistocene sedimentary rocks only occur in the extreme northeastern corner of the Plan area. Quaternary alluvium and colluvium is generally confined to the San Luis Rey River Valley and its tributaries, as well as the upland valley floor of Rainbow Valley. The following section summarizes the appearance of these geologic units as noted in the field.

3.2.1 Unmapped artificial fill

Artificial fill is unmapped within the Plan area, but likely occurs in most previously developed areas. It was observed in areas along SR-76 where that roadway has been improved and widened during the last decade.

3.2.2 Young wash and alluvial flood plain deposits

Holocene alluvial deposits within the Plan area occur along the active channel of the San Luis Rey River and its tributaries and were observed in road cut exposures along Gopher Canyon Road in District Division 1 and along Gird Road in District Division 3. In these areas the young wash and alluvial flood plain deposits were observed to consist of light gray to reddish brown, massively bedded sands and silts.

3.2.3 Old and very old alluvial flood plain, alluvial fan, and colluvial deposits

Pleistocene sediments mapped as old and very old alluvial floodplain, alluvial fan, and colluvial deposits within the Plan area occur along the margins of the San Luis Rey River and its tributaries and were observed in road cut exposures along SR-76 in District Division 5 and near the mouth of Gird Valley in District Division 3. In these areas the sediments appear to be dominated by fine-grained alluvial floodplain and fluvial deposits that consisted reddish brown, massively bedded sandstones, siltstones, and paleosols (ancient soils).

3.2.4 Dripping Springs Formation

Sediments of the Dripping Springs Formation were not observed during the windshield survey because of their very limited distribution to the extreme northeast portion of District Division 5 and the heavy vegetation and steep topography in this area.

3.2.5 Temecula Arkose

Sediments of the Temecula Arkose were not observed during the windshield survey because of their very limited distribution to the extreme northeast portion of District Division 5 and the heavy vegetation and steep topography in this area.

3.2.6 Miocene volcanic rocks

Miocene volcanic rocks are confined to the extreme western boundary of the Plan area in District Division 2, and were observed to consist of dark gray to black volcanic vent rocks at Morro Hill and red to pink pyroclastic rocks in low road cuts along Indian Hill Way.

3.2.7 Santiago Formation

Although strata of the Santiago Formation are mapped as occurring beneath resistant Miocene volcanic rocks in the extreme western boundary of the Plan area in District Division 2, no exposures of these strata were observed during the windshield survey. This lack of exposure is likely due to residential development and landscaping in the area of San Jacinto Circle and adjacent private roadways.

3.2.8 Cretaceous intrusive igneous rocks

Plutonic igneous rocks of the Peninsular Ranges Batholith are well exposed in numerous road cuts and hillsides in the Plan area, especially in District Division 5 where gray to white resistant rocks of granodiorite composition occur surrounding Rainbow Valley. In portions of the Plan area underlain by darker rocks of gabbroic composition, the exposures are less prominent and obscured by regolith and modern soils.

3.2.9 Mesozoic metasedimentary and metavolcanic rocks

Weathered exposures of Mesozoic metavolcanic rocks were observed along Gopher Canyon Road in District Division 1 and along Old Highway 395 southeast of Rainbow Valley in District Division 5. Here this geologic unit appears to consist entirely of massive and jointed, fine-grained metavolcanic flow rocks, without any metasedimentary rocks.

3.2.10 Mesozoic quartzite and metasedimentary rocks

Mesozoic quartzite and related metasedimentary rocks are confined to the extreme southeastern corner of District Division 5 and were observed in a road cut along Magee Road just south of the Plan area. The exposure consisted of steeply dipping light gray banded quartzites.

3.3 Results of the Paleontological Resource Assessment

The paleontological resource sensitivity of each geologic unit present within the Plan area is assessed below, and is depicted in the paleontological sensitivity map (Figure 4) and summarized in Table 1.

3.3.1 Unmapped artificial fill

Artificial fill is assigned no paleontological sensitivity because of the disturbed nature of these materials and any fossils that may be contained in them.

3.3.2 Young wash and alluvial flood plain deposits

Holocene alluvial deposits within the Plan area are assigned a low paleontological sensitivity based on the relatively young geologic age of these strata (generally less than 11,700 years old) and lack of recorded paleontological collection sites.

3.3.3 Old and very old alluvial flood plain, alluvial fan, and colluvial deposits

Old and very old alluvial flood plain, fluvial, and colluvial deposits within the Plan area are assigned a high paleontological sensitivity based on the proven recovery of “Ice Age” fossils from these sediments. Old and very old alluvial fan, in contrast, are assigned a moderate paleontological sensitivity because of the higher-energy conditions under which they were deposited.

3.3.4 Dripping Springs Formation

The Dripping Springs Formation is assigned a low paleontological sensitivity based on the high-energy depositional history (i.e., proximal alluvial fan) of this geologic unit and lack of recorded paleontological collection sites.

3.3.5 Temecula Arkose

The Temecula Arkose is assigned a high paleontological sensitivity based on the numerous fossil localities documented from these deposits to the north of the Plan area.

3.3.6 Miocene volcanic rocks

Miocene volcanic rocks are assigned zero paleontological sensitivity based on their extrusive igneous origin and lack of recorded paleontological collection sites.

3.3.7 Santiago Formation

The Santiago Formation is assigned a high paleontological sensitivity based on the numerous fossil localities documented from these deposits in other areas of northern San Diego County.

3.3.8 Cretaceous intrusive igneous rocks

Cretaceous intrusive igneous rocks of the Peninsular Ranges Batholith are assigned zero paleontological sensitivity because of the high temperature and pressure conditions under which these crystalline rocks formed.

3.3.9 Mesozoic metasedimentary and metavolcanic rocks

Mesozoic metavolcanic rocks are assigned zero paleontological sensitivity based on their extrusive igneous origin and lack of recorded paleontological collection sites.

3.3.10 Mesozoic quartzite and metasedimentary rocks

Mesozoic quartzites and related metasedimentary rocks are assigned a marginal paleontological sensitivity based on their sedimentary origin and limited probability for producing fossils.

Table 1. Summary of geologic units exposed within the District and their paleontological sensitivity ratings.

Geologic Unit	Age	Paleontological Sensitivity
Unmapped artificial fill	Recent	Zero
Young wash and alluvial flood plain deposits	Holocene	Low
Old and very old alluvial fan deposits; Old and very old alluvial flood plain and colluvial deposits	Pleistocene	Moderate; High
Dripping Springs Formation	Early Pleistocene	Low
Temecula Arkose	Late Pliocene	High
Miocene volcanic rocks	Miocene	Zero
Santiago Formation	Eocene	High
Intrusive igneous rocks	Cretaceous	Zero
Metasedimentary and metavolcanic rocks	Mesozoic	Zero
Quartzite and related metasedimentary rocks	Mesozoic	Marginal

3.4 Results of the Paleontological Impact Analysis

As discussed in Section 2.4, direct impacts to paleontological resources only occur when earthwork activities cut into geologic units within which fossils are buried, and physically destroy the fossil remains. Thus, only earthwork activities that will disturb potentially fossil-bearing sedimentary deposits (i.e., those rated with a high or moderate paleontological sensitivity) have the potential to create significant impacts to paleontological resources. Given these limitations and the summary in Table 1 of the paleontological sensitivity of geologic units within the Plan area, it is here suggested that significant impacts to sensitive paleontological resources only have the potential to occur in sediments of old and very old alluvial flood plain and colluvial deposits and in strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation. The marginal paleontological sensitivity rating assigned to Mesozoic quartzites and related metasedimentary rocks suggests the possibility that significant impacts may also occur to this geologic unit. All other geologic units recognized within the Plan area are assigned zero or low paleontological sensitivity and will not be subject to significant paleontological impacts.

Although an impact analysis is generally conducted to determine which (if any) proposed project-related earthwork activities may disturb potentially fossil-bearing geologic units within a project area, in the case of the proposed Rainbow Municipal Water District Water and Sewer Facilities Plan there currently are no specific proposals for District improvements. Because of the lack of specific proposed improvements, this impact analysis has to rely on general assumptions about the possible types of improvements and earthwork that may occur in the Short Term and Long Term timeframes of the Plan. As summarized in Section 1.1, possible improvements may include increasing the capacity of existing deficient water mains and sewers; implementing fire flow improvements; installing new potable water and sewer pipelines; constructing pump stations and storage tanks; and rehabilitating existing lift stations. All of these possible improvement projects will require some degree of earthwork, which may include trenching for pipelines, excavation of entry and exit portals for jack-and-bore tunneling, excavation for pump station and lift station equipment and associated conveyance pipelines, and mass grading for storage tank building pads and access roadways. While specific locations of potential Plan improvements and the methods to be employed in constructing those improvements have not been defined, any proposed earthwork occurring in areas underlain by old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks have the potential to create significant impacts to sensitive paleontological resources. For the purposes of this report, it is assumed that such excavations will occur.

Table 2. Summary of potential District Plan improvements and activities that may occur within the Plan area, and notations concerning which activities will include earthwork that can potentially be mitigated for sensitive paleontological resources.

District Plan Improvements	Mitigable Impact?	Potentially Destructive Activities
Increasing capacity of existing water mains & sewers	Yes	Pipeline trenching, jack-and-bore tunneling
Fire flow improvements	Yes	Pipeline trenching
Installing new potable water & sewer pipelines	Yes	Pipeline trenching, jack-and-bore tunneling
Constructing new pump stations	Yes	Excavations for new equipment and associated pipelines and dry utilities
Construction of new water tanks	Yes	Mass grading for building pad and access roadways
Improvements to existing lift stations	Yes	Excavations for new equipment and pipelines

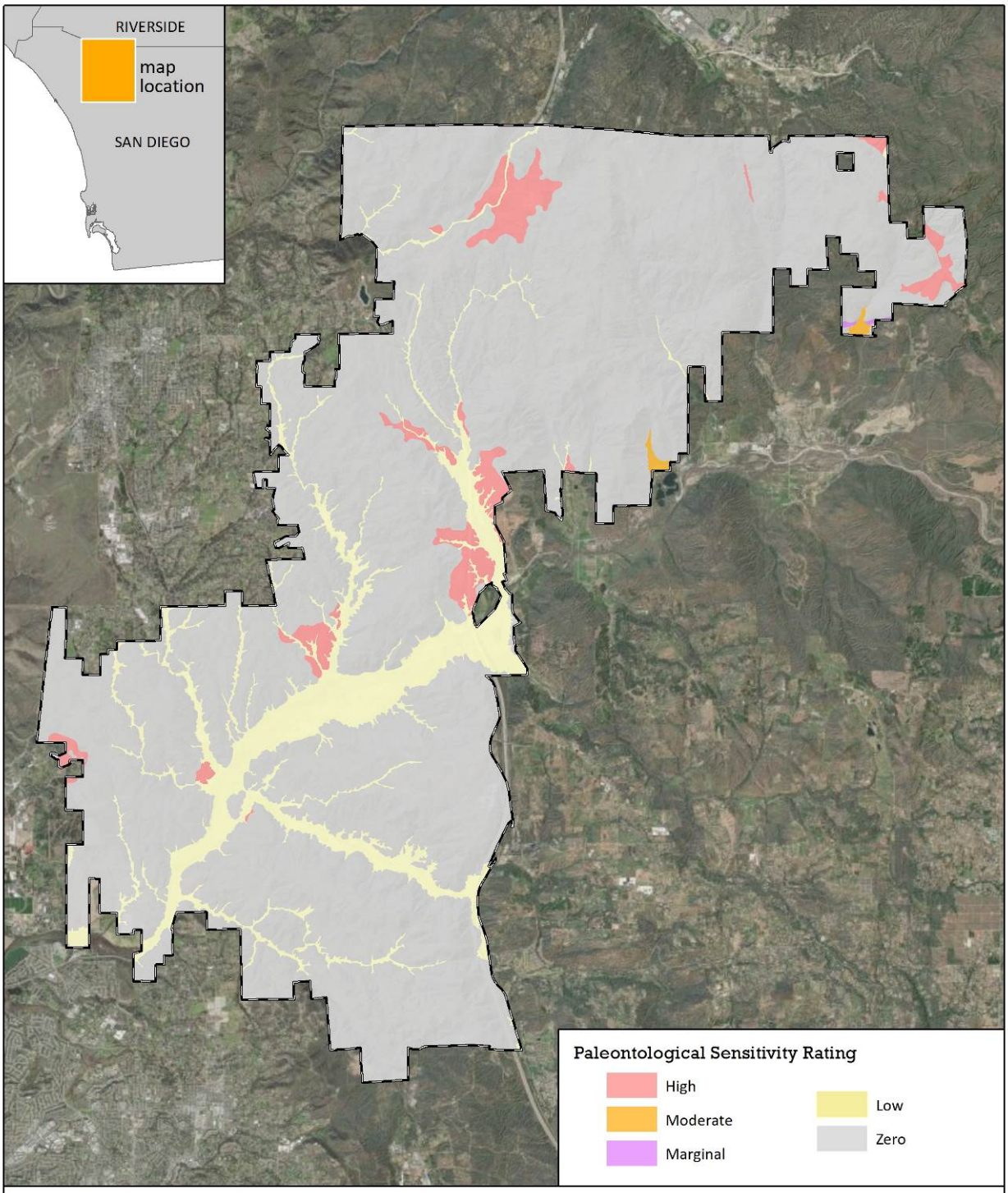


Figure 4: Paleontological Sensitivity Map, Rainbow Municipal Water District Water & Sewer Facilities Plan, San Diego County, CA

4.0 Recommendations & Conclusions

Implementation of a paleontological mitigation program, in the form of paleontological monitoring, is recommended for any proposed earthwork within the Plan area that will directly impact any areas underlain by Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks. Implementation of the following mitigation measures will reduce any Plan-related impacts to paleontological resources to a level that is less than significant. The mitigation measures are formulated in accordance with standards established by governmental agencies (e.g., Stephenson et al., 2009) and industry professionals (e.g., Murphey et al., 2019).

4.1 Mitigation Measures

1. **Pre-construction (personnel and repository):** Prior to the commencement of construction, a qualified Project Paleontologist shall be retained to oversee the mitigation program. The County of San Diego defines a Project Paleontologist as a person with a Ph.D. or Master's Degree in Paleontology or related field, and who has knowledge of San Diego County paleontology and documented experience in professional paleontological procedures and techniques. In addition, a regional fossil repository shall be designated to receive any discovered fossils. Because the Plan area is in San Diego County, the recommended repository is the San Diego Natural History Museum.
2. **Pre-construction (meeting):** The Project Paleontologist should attend the pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues.
3. **Pre-construction (training):** The Project Paleontologist shall conduct a paleontological resource contractor awareness training workshop to be attended by earthwork personnel.
4. **During construction (monitoring):** A paleontological monitor (working under the direction of the Principal Paleontologist) should be on-site on a full-time basis during all original cutting of previously undisturbed Pleistocene-age old and very old alluvial flood plain and colluvial deposits, previously undisturbed strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and previously undisturbed Mesozoic-age quartzites and related metasedimentary rocks to inspect fresh exposures for unearthed fossils. The County of San Diego defines a paleontological monitor as an individual with at least one year of experience in field identification and collection of fossil materials under the supervision of a Project Paleontologist.
5. **During construction (fossil recovery):** If fossils are discovered, the Principal Paleontologist (or paleontological monitor) should recover them. Bulk sedimentary matrix samples may also be collected from stratigraphic horizons that appear likely to contain microvertebrate fossils. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens (e.g., a bone bed or a complete large mammal skeleton) may require an extended salvage period. In these instances, the Principal Paleontologist (or paleontological monitor) has the authority to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner.

6. **Post-construction (treatment):** Fossil remains collected during monitoring and salvage should be prepared (including washing of bulk sediment matrix samples to recover microvertebrate fossils), repaired, sorted, and cataloged as part of the mitigation program.
7. **Post-construction (curation):** Prepared fossils, along with copies of all pertinent field notes, photos, and maps, should be deposited (as a donation) in the designated fossil repository. Donation of the fossils shall be accompanied by financial support for initial specimen storage.
8. **Post-construction (final report):** A final summary paleontological mitigation report should be completed that outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, inventory lists of catalogued fossils, and significance of recovered fossils.

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Appendix A (Confidential)

Records Search Results: San Diego Natural History Museum

PEIR Appendix F

Notice of Availability/Proof of Publication

RAINBOW
MUNICIPAL WATER DISTRICT
Committed to Excellence

May 24, 2022

To: **State Clearinghouse; Responsible and Trustee Agencies; and Other Interested Parties**

Subject: **Notice of Availability of an Environmental Impact Report – Rainbow Municipal Water District Water and Sewer Facilities Plan**

Rainbow Municipal Water District (District) has prepared a Draft Program Environmental Impact Report (PEIR), pursuant to the California Environmental Quality Act (CEQA), for the District's proposed Water and Sewer Facilities Plan (Project). The purpose of this Notice of Availability (NOA) is for the District, as the Lead Agency, to solicit comments from the public regarding the content of the Draft PEIR.

Location of the Proposed Project: The location of the Project consists of the District's service area, which comprises a total of 82 square miles located in northern San Diego County. The District shares common boundaries with Riverside County and Camp Pendleton Marine Corps Base. The District's service boundaries encompass several unincorporated areas including the communities of Rainbow and Bonsall and portions of Pala and Fallbrook, as well as a small portion within the City of Oceanside.

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3707 Old Highway 395 • Fallbrook, CA 92028
(760) 728-1178 • Fax (760) 728-2575 • www.rainbowmwd.com

Potential Environmental Effects of the Proposed Project: This Draft PEIR evaluates environmental impacts of the proposed Project and suggests mitigation measures where necessary to reduce impacts to a less than significant level. Significant impacts have been identified in the Draft PEIR associated with biological resources, cultural and tribal cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation, and wildfire. However, all impacts would be reduced to less than significant levels under CEQA through implementation of the mitigation measures identified in the Draft PEIR. Some components of the proposed Project have the potential be located on a site included on a list of hazardous materials sites compiled pursuant to Section 65962.5 of the Government Code; implementation of mitigation identified in the Draft PEIR would address potential associated impacts. No significant, unmitigable impacts associated with implementation of the Project have been identified.

Comments: The District is soliciting comments from all CEQA responsible and trustee agencies, all other public agencies with jurisdiction by law over resources potentially affected by the proposed Project, and the public regarding the content of the Draft PEIR. Pursuant to Section 15204 of the CEQA Guidelines, in reviewing Draft EIRs, persons and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. The District has established a 45-day review period for this Draft PEIR from Wednesday, May 25, 2022, to Friday, July 8, 2022, compliant with the requirement of Section 21091 of the Public Resources Code. All comments should indicate a contact person for each agency or organization, if applicable. Please submit email comments to mtamimi@rainbowmwd.com and written comments by mail to:

Rainbow Municipal Water District
Attn: Malik Tamimi
Engineering Department
3707 Old Highway 395
Fallbrook, CA 92028

Document Availability: The Draft PEIR is available electronically at: https://www.rainbowmwd.com/engineering-services. Paper copies of the Draft PEIR can be made available for review at the District's office lobby upon request.

SAN DIEGO COUNTY CLERK
CEQA FILING COVER SHEET

FILED

May 31, 2022 11:07 AM
Ernest J. Dronenburg, Jr.
SAN DIEGO COUNTY CLERK
File # 2022-000420

THIS SPACE FOR CLERK'S USE ONLY

Complete and attach this form to each CEQA Notice filed with the County Clerk

TYPE OR PRINT CLEARLY

Project Title

RAINBOW MUNICIPAL WATER DISTRICT WATER AND SEWER FACILITIES PLAN

Check Document being Filed:

- ○ Environmental Impact Report (EIR)
- ○ Mitigated Negative Declaration (MND) or Negative Declaration (ND)
- ○ Notice of Exemption (NOE)
- ◉ Other (Please fill in type): NOTICE OF AVAILABILITY OF AN ENVIRONMENTAL IMPACT REPORT

FILED IN THE OFFICE OF THE SAN DIEGO COUNTY CLERK ON May 31, 2022
Posted May 31, 2022 **Removed** JUN 30 2022
Returned to agency on JUL 06 2022
DEPUTY J. San Juan

Filing fees are due at the time a Notice of Determination/Exemption is filed with our office.For more information on filing fees and No Effect Determinations, please refer to California Code of Regulations, Title 14, section 753.5.

RAINBOW
MUNICIPAL WATER DISTRICT
Committed to Excellence

May 24, 2022

To: **State Clearinghouse; Responsible and Trustee Agencies; and Other Interested Parties**

Subject: **Notice of Availability of an Environmental Impact Report – Rainbow Municipal Water District Water and Sewer Facilities Plan**

Rainbow Municipal Water District (District) has prepared a Draft Program Environmental Impact Report (PEIR), pursuant to the California Environmental Quality Act (CEQA), for the District's proposed Water and Sewer Facilities Plan (Project). The purpose of this Notice of Availability (NOA) is for the District, as the Lead Agency, to solicit comments from the public regarding the content of the Draft PEIR.

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Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2021050602

Project Title: Rainbow Municipal Water District Water and Sewer Facilities Plan

Lead Agency: Rainbow Municipal Water District | Contact Person: Malik Tamimi

Mailing Address: 3707 Old Highway 395 | Phone: 760-728-1178

City: Fallbrook | Zip: 92028 | County: San Diego

Project Location: County: San Diego | City/Nearest Community: Rainbow, Bonsall, Pala, Fallbrook

Cross Streets: | Zip Code:

Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W Total Acres:

Assessor's Parcel No.: | Section: | Twp.: | Range: | Base:

Within 2 Miles: State Hwy #: SR 76 | Waterways: San Luis Rey River, Santa Margarita River

Airports: Fallbrook Airpark | Railways: none | Schools: Numerous

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other:

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other:

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other: Facilities Plan

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees____
☐ Commercial: Sq.ft. ____ Acres ____ Employees____
☐ Industrial: Sq.ft. ____ Acres ____ Employees____
☐ Educational:
☐ Recreational:
☒ Water Facilities: Type Water and sewer MGD
☐ Transportation: Type
☐ Mining: Mineral
☐ Power: Type MW
☐ Waste Treatment: Type MGD
☐ Hazardous Waste: Type
☐ Other:

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☒ Coastal Zone ☒ Drainage/Absorption ☐ Economic/Jobs
☐ Fiscal ☒ Flood Plain/Flooding ☒ Forest Land/Fire Hazard ☒ Geologic/Seismic ☒ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities
☒ Recreation/Parks ☒ Schools/Universities ☒ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation
☒ Vegetation ☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Growth Inducement ☒ Land Use ☒ Cumulative Effects ☒ Other: greenhouse gases

Present Land Use/Zoning/General Plan Designation:

Various

Project Description: *(please use a separate page if necessary)*

The Project identifies an implementation plan for improvements necessary for the systems to adapt to future water and wastewater supply and demand conditions, while providing reliable service to the District's customers. The specific key objectives of the Project include implementing improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; addressing system deficiencies under current demand and flow conditions; and meeting future water demand and flow conditions.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

____	Air Resources Board	____	Office of Historic Preservation
____	Boating & Waterways, Department of	____	Office of Public School Construction
____	California Emergency Management Agency	____	Parks & Recreation, Department of
____	California Highway Patrol	____	Pesticide Regulation, Department of
X	Caltrans District # 11	____	Public Utilities Commission
____	Caltrans Division of Aeronautics	X	Regional WQCB # 9
____	Caltrans Planning	____	Resources Agency
____	Central Valley Flood Protection Board	____	Resources Recycling and Recovery, Department of
____	Coachella Valley Mtns. Conservancy	____	S.F. Bay Conservation & Development Comm.
____	Coastal Commission	____	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
____	Colorado River Board	____	San Joaquin River Conservancy
____	Conservation, Department of	____	Santa Monica Mtns. Conservancy
____	Corrections, Department of	____	State Lands Commission
____	Delta Protection Commission	____	SWRCB: Clean Water Grants
____	Education, Department of	X	SWRCB: Water Quality
____	Energy Commission	____	SWRCB: Water Rights
X	Fish & Game Region # 5	____	Tahoe Regional Planning Agency
____	Food & Agriculture, Department of	X	Toxic Substances Control, Department of
____	Forestry and Fire Protection, Department of	X	Water Resources, Department of
____	General Services, Department of		
____	Health Services, Department of	____	Other:
____	Housing & Community Development	____	Other:
X	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date May 25, 2022 Ending Date July 8, 2022

Lead Agency (Complete if applicable):

Consulting Firm: HELIX Environmental Planning, Inc.
Address: 7578 El Cajon Boulevard
City/State/Zip: La Mesa, CA 91942
Contact: Joanne Dramko
Phone: 619-462-1515

Applicant:
Address:
City/State/Zip:
Phone:

Signature of Lead Agency Representative: Malik Tamimi **Date:** 5/25/2022

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

THE DAILY TRANSCRIPT

2652 4TH AVE 2ND FL, SAN DIEGO, CA 92103
Telephone (619) 232-3486 / Fax (619) 270-2503

This space for filing stamp only

DELIA A. RUBIO
RAINBOW MUNICIPAL WATER DISTRICT
3707 OLD HIGHWAY 395
FALLBROOK, CA - 92028

SD#: 3588878

PROOF OF PUBLICATION

(2015.5 C.C.P.)

State of California)
County of SAN DIEGO) ss

Notice Type: GPN - GOVT PUBLIC NOTICE

Ad Description:
Notice of Availability of EIR

I am a citizen of the United States and a resident of the State of California; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer and publisher of THE DAILY TRANSCRIPT, a newspaper published in the English language in the City of SAN DIEGO, County of SAN DIEGO and adjudged a newspaper of general circulation as defined by the laws of the State of California by the Superior Court of the County of SAN DIEGO, State of California, under date of 05/13/2003, Case No. GIC808715. That the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

05/25/2022

Executed on: 05/25/2022
At Los Angeles, California

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Signature

* A 0 0 0 0 0 0 6 0 2 8 8 1 5 *

Email

Notice of Availability of EIR
Rainbow Municipal Water District (District) has prepared a Draft Program Environmental Impact Report (PEIR), pursuant to the California Environmental Quality Act (CEQA), for the District's proposed Water and Sewer Facilities Plan (Project). The purpose of this Notice of Availability (NOA) is for the District, as the Lead Agency, to solicit comments from the public regarding the content of the Draft PEIR.
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Document Availability: The Draft PEIR is available electronically at: https://www.rainbowmwd.com/engineering-services. Paper copies of the Draft PEIR can be made available for review at the District's office lobby upon request.
5/25/22

SD-3588878#

Rainbow Municipal Water District Water and Sewer Facilities Plan

Summary

SCH Number	2021050602
Lead Agency	Rainbow Municipal Water District
Document Title	Rainbow Municipal Water District Water and Sewer Facilities Plan
Document Type	EIR - Draft EIR
Received	5/25/2022
Present Land Use	Various
Document Description	The Project identifies an implementation plan for improvements necessary for the systems to adapt to future water and wastewater supply and demand conditions, while providing reliable service to the District's customers. The specific key objectives of the Project include implementing improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; addressing system deficiencies under current demand and flow conditions; and meeting future water demand and flow conditions.

Contact Information

Name	Malik Tamimi
Agency Name	Rainbow Municipal Water District
Job Title	CIP Engineering Project Manager
Contact Types	Lead/Public Agency / Project Applicant
Address	3707 Old Highway 395 Fallbrook, , CA 92028
Phone	(760) 728-1178 ext. 173
Email	mtamimi@rainbowmwd.com

Location

Cities	Fallbrook, Rainbow, Bonsall, Pala
Counties	San Diego

Regions	Unincorporated
Total Acres	82 square miles
State Highways	I-15, SR 76
Railways	None
Airports	Fallbrook Airpark
Schools	Numerous
Waterways	San Luis Rey River, Santa Margarita River
Other Location Info	Communities of Rainbow, Bonsall, Pala, Fallbrook

Notice of Completion

State Review Period Start	5/25/2022
State Review Period End	7/8/2022
State Reviewing Agencies	California Air Resources Board (ARB), California Department of Forestry and Fire Protection (CAL FIRE), California Department of Parks and Recreation, California Department of Transportation, Division of Aeronautics (DOT), California Department of Transportation, Division of Transportation Planning (DOT), California Department of Water Resources (DWR), California Highway Patrol (CHP), California Native American Heritage Commission (NAHC), California Natural Resources Agency, California Regional Water Quality Control Board, San Diego Region 9 (RWQCB), California State Lands Commission (SLC), Department of Toxic Substances Control, Office of Historic Preservation, State Water Resources Control Board, Division of Drinking Water, State Water Resources Control Board, Division of Drinking Water, District 14, State Water Resources Control Board, Division of Water Quality, State Water Resources Control Board, Divison of Financial Assistance, California Department of Fish and Wildlife, South Coast Region 5 (CDFW), California Department of Transportation, District 11 (DOT)
State Reviewing Agency Comments	California Department of Fish and Wildlife, South Coast Region 5 (CDFW), California Department of Transportation, District 11 (DOT)
Development Types	Water Facilities (Water and Sewer)(Type Water and Sewer, MGD 0.000001)
Local Actions	Facilities Plan
Project Issues	Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Coastal Zone, Drainage/Absorption, Flood Plain/Flooding, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Schools/Universities, Septic System, Sewer Capacity, Solid Waste, Vegetation, Wetland/Riparian, Drainage/Absorption, Forest Land/Fire Hazard, Geologic/Seismic, Soil Erosion/Compaction/Grading, Toxic/Hazardous, Traffic Circulation, Water Quality, Water Supply/Groundwater, Growth Inducement, Land Use, Cumulative Effects, Greenhouse Gases
Local Review Period Start	5/25/2022
Local Review Period End	7/8/2022

Attachments

Draft Environmental Document [Draft IS, NOI_NOA_Public notices, OPR Summary Form, Appx,]	NOA PDF 153 K RMWD_Water&Sewer_ Draft PEIR-w-Appendices PDF 102038 K
Notice of Completion [NOC] Transmittal form	NOC_signed PDF 253 K
State Comment Letters [Comments from state reviewing agencies]	2021050602_CDFW Comment PDF 555 K 2021050602_DOT Comment PDF 596 K

Disclaimer: The Governor's Office of Planning and Research (OPR) accepts no responsibility for the content or accessibility of these documents. To obtain an attachment in a different format, please contact the lead agency at the contact information listed above. You may also contact the OPR via email at state.clearinghouse@opr.ca.gov or via phone at (916) 445-0613. For more information, please visit OPR's Accessibility Site.

PEIR Appendix G

Draft PEIR Public Comments and Responses

COMMENTS RECEIVED ON THE DRAFT PROGRAM EIR AND RESPONSES

The District received three comment letters on the Water and Sewer Facilities Plan Draft Program EIR (PEIR) during the 45-day public review period that began on May 25, 2022 and closed on July 8, 2022. One comment letter was submitted electronically after the close of public review; however, the District has chosen to accept it and provide a response. Each of the comment letters received has been alphabetically and numerically coded to facilitate identification and tracking (Table RTC-1).

The letters are divided into individual comments, with each comment containing a single theme, issue, or concern. Individual comments and the responses to them were assigned corresponding numbers. The comment number consists of two parts. The first part is the letter of the document and the second is the number of the comment. Thus, Comment A-1 is the first comment (comment #1) of comment letter A.

To aid readers, comments have been reproduced in this document together with corresponding responses on the same page. Where changes have been made to the Final PEIR because of public comment, such revision is noted in the response to the comment (using ~~strikeout~~/underline in the response to specify changed text).

TABLE RTC-1
Comment Letters Received During Public Review

Letter	Commenter	Date
A	David Mayer, Environmental Program Manager, South Coast Region, California Department of Fish and Wildlife	June 30, 2022
B	Maurice A. Eaton, Branch Chief, Local Development Review, Caltrans	July 7, 2022
B2	Kimberly Dodson, GISP, M. Eng., Associate Transportation Planner, Caltrans	July 11, 2022
C	Scott Christman, Group Program Manager, Long Range Planning, County of San Diego	July 8, 2022

DocuSign Envelope ID: D87338D5-27EB-46E4-A91A-46505B65FEFB

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

June 30, 2022

Governor's Office of Planning & Research

Jun 30 2022

STATE CLEARINGHOUSE

Mr. Malik Tamimi
CIP Engineering Project Manager
Rainbow Municipal Water District
3707 Old Highway 395
Fallbrook, CA 92028
MTamimi@rainbowmwd.com

Subject: Rainbow Municipal Water District Water and Sewer Facilities Plan, Draft Program Environmental Impact Report, SCH #2021050602, San Diego County

Dear Mr. Tamimi:

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Program Environmental Impact Report (PEIR) from the Rainbow Municipal Water District (District; Lead Agency) for the Water and Sewer Facilities Plan (Project). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code. CDFW previously provided a letter, dated June 25, 2021, commenting on the Notice of Preparation of the PEIR.

CDFW's Role

A-1

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & G. Code, §§ 711.7, subdivision (a) & 1802; Pub. Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect State fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Project Description and Summary: The PEIR was developed for implementation of the Project in compliance with CEQA and the State CEQA Guidelines. The Project proposes

A-1 This comment is introductory and provides information on CDFW's role as a Trustee Agency and Responsible Agency under CEQA and provides information on the Project that is consistent with the information provided in the Draft PEIR. No further response is necessary.

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A-1 cont.

improvements to accommodate future needs for potable water and wastewater systems District-wide. As required by CEQA, the PEIR: 1) assesses the potentially significant direct, indirect, and cumulative environmental effects of the Project; 2) identifies potential feasible means of avoiding or mitigating significant adverse impacts; 3) identifies significant and unavoidable adverse impacts that cannot be mitigated to below a less than significant level; and 4) evaluates a range of reasonable alternatives to the Project, including the required No Project Alternative.

The PEIR broadly addresses the District's water and sewer pipelines, including 336 miles of water pipelines and 76 miles of sewer pipelines. Specific locations, details, and timing of replacements or improvements along pipeline projects are unknown currently. The District will undertake the required CEQA review once adequate information is available regarding the specific replacement and improvement projects to support a Project-level environmental analysis and prior to approving any specific replacements or improvements. Subsequent environmental documents (if needed) for future individual activities would tier from this PEIR, and may include addenda, initial studies, negative declarations, mitigated negative declarations, and subsequent or supplemental EIRs. If a later activity would have effects that were not examined in the PEIR, a new initial study would need to be prepared to determine the appropriate level of CEQA analysis. The District will incorporate mitigation measures and alternatives developed in the PEIR into subsequent actions in the program.

Background: In 2016, the Water and Wastewater Master Plan Update provided a comprehensive review of the District's potable and wastewater systems and identified a plan of capital improvements necessary for the systems to adapt to future conditions, including major planned land development projects. Planning for the 2016 Master Plan was based on regional growth forecasts developed by the San Diego Association of Governments and was consistent with the adopted land use plans of jurisdictions within the District boundaries. In 2018, the District prepared a Water Pipeline Condition Assessment to analyze the current condition of the potable water system and to plan for future maintenance of the system. The District prepared an Urban Water Management Plan in 2020 that assessed demands and supplies over a 20-year planning horizon and addressed methods to ensure reliable and adequate water service to meet the needs of the various categories of customers during normal, dry, and multiple dry years. Based on these sources, the District developed a list of capital improvement projects to be implemented in the near-term and long-term future. Additionally, as many of the pipes in the District's service area have reached their useful life (over 50 years old), the Project would cover potential breakages or repairs over the entire District service area.

Objective: Specific key objectives of the Project are to: 1) implement improvements, repairs, and replacements needed to bring existing facilities up to current design, safety, and regulatory standards; 2) address system deficiencies under current demand and flow conditions; and 3) meet future water demand and flow conditions in the short term (2030) and long term (2050).

Location: The District is a publicly owned retail water and sewer agency serving 82 square miles in northern San Diego County. The District shares common boundaries with Riverside County and Camp Pendleton Marine Base. The District's service boundaries encompass several unincorporated areas including the communities of Rainbow and Bonsall, portions of Pala and Fallbrook, and a small portion within the City of Oceanside. The Fallbrook Public Utility District is located west of the District, and the Valley Center Municipal Water District lies to the east. The District comprises five District Divisions. The District provides water service to nearly all the area within its boundaries, encompassing approximately 8,771 metered accounts, including agricultural uses and approximately 5,300 residences. The District has a contractual

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A-1 cont.

right to treat 1.5 million gallons of sewage per day at the San Luis Rey Wastewater Treatment Plant in Oceanside. The District's sewer service area includes over 2,500 connections, mainly along the State Route 76 corridor.

Biological Setting

The potential for sensitive vegetation communities and special-status plant and animal species to occur within the District's service area and vicinity of projected future projects was determined primarily based on database review and habitat assessment surveys at select locations in the field. Protocol-level surveys for special-status species were not conducted because the exact timing of specific projects is not yet known and may occur over multiple years. As such, protocol-level surveys undertaken at this time would likely result in inaccurate estimates of Project impacts. The PEIR provides comprehensive assessment of the potential presence of special-status species within the District's service area, including prior known occurrences of special-status species within the Project disturbance area. Biological surveys of individual future project areas will be undertaken on a site-by-site basis.

The District's service area is primarily composed of valleys, canyons, and low mountains. The area is characterized by agriculture, single-family residential development, and undeveloped lands, with additional land uses within the service area including small areas of commercial development, parks, schools, transportation infrastructure, water conveyance infrastructure, and golf courses.

Vegetation communities present within the District's service area, as mapped on a regional scale, can be separated into three categories: wetlands and waters; sensitive uplands; and non-sensitive uplands. Sensitive vegetation communities found within the service area include chamise chaparral, coast live oak woodland, coastal scrub, Diegan coastal sage scrub, Engelmann oak woodland, freshwater marsh, maritime succulent scrub, mule fat scrub, native grassland, non-native grassland, non-native riparian, open water, scrub oak chaparral, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern maritime chaparral, southern mixed chaparral, southern riparian forest, southern riparian woodland, southern sycamore-alder riparian woodland, and southern willow scrub. Non-sensitive vegetation communities include disturbed habitat, developed, eucalyptus woodland, non-native vegetation, and agriculture/orchard. Potential jurisdictional features generally include wetland and riparian habitat types, as well as both vegetated and unvegetated drainages or streambeds.

Special-status wildlife species with the potential to occur near the Project include: State and federally endangered least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus;* flycatcher); the state and federally threatened Stephens' kangaroo rat (*Dipodomys stephensi*); federally protected and California Fully Protected golden eagle (*Aquila chrysaetos);* federally endangered and California Species of Special Concern (SSC) arroyo toad (*Anaxyrus californicus*); federally threatened and SSC coastal California gnatcatcher (*Polioptila californica californica*); federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus wootton*i), and Quino checkerspot butterfly (*Euphydryas editha quino*); SSC coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), SSC yellow-breasted chat (*Icteria virens*), International Union for the Conservation of Nature Watch List Cooper's hawk (*Accipiter cooperii),* SSC western spadefoot *(Spea hammondii*), SSC orange-throated whiptail (*Aspidoscelis hyperythra),* SSC coast horned lizard (*Phrynosoma blainvillii*), SSC California glossy snake (*Arizona elegans*

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A-1 cont.

occidentalis), SSC red-diamond rattlesnake (*Crotalus ruber*), SSC arroyo chub (*Gila orcuttii*), SSC Dulzura pocket mouse *(Chaetodipus californicus femoralis*), and hoary bat (*Lasiurus cinereus*).

Several wildlife movement corridors and linkages occur within the District's service area. These biological linkages provide north-to-south and east-to-west links between biological core areas. Maintenance projects would occur on, within, and/or immediately surrounding existing District facilities, pipelines, and components primarily located within disturbed habitat or developed lands; therefore, impacts to wildlife corridors and linkages are not expected.

Special-status plant species identified with the potential to occur include: federally and state endangered and California Native Plant Society (CNPS) Rare Plant Rank 1B.1 thread-leaved brodiaea (*Brodiaea filifolia*), San Diego button-celery (*Eryngium aristulatum var. parishii),* San Diego thornmint (*Acanthomintha ilicifolia*), and Nevin's barberry *(Berberis nevinii*); federally endangered, State threatened, and CNPS Rare Plant Rank 1B.1 Munz's onion (*Allium munzii)*; and federally endangered and CNPS Rare Plant Rank 1B.1 San Diego ambrosia (*Ambrosia pumila*) and spreading navarretia (*Navarretia fossalis).* Other sensitive plant species with the potential to occur near the Project include CNPS 1B.1 Rainbow manzanita (*Arctostaphylos rainbowensis*), CNPS 1B.1 smooth tarplant (*Centromadia pungens* ssp. *laevis*), CNPS 1B.1 Parry's tetracoccus (*Tetracoccus dioicus*), CNPS 1B.1 bottle liverwort (*Sphaerocarpos drewiae),* and CNPS 2B.2 wart-stemmed ceanothus (*Ceanothus verrucosus*).

Projected potential direct and indirect impacts of individual future Capital Improvement Projects (CIP) to specific sensitive species are presented in Table 4.2-2 of the PEIR. Other District Pipeline (ODP) projects with high to moderate potential to result in significant direct and indirect impacts to sensitive habitats are listed in tables in Biological Technical Report Appendices C-1, C-2, D-1, and D-2. Prior to construction of CIP and ODP projects that are included in these tables and will be sited within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District will retain a qualified biologist to perform a pre-construction survey to verify existing biological resources on and adjacent to the project activity areas, including protocol level surveys for Coastal California Gnatcatcher, Stephens' Kangaroo Rat, Least Bell's Vireo, and Southwestern Willow Flycatcher, where indicated.

With implementation of mitigation measures MM BIO-1 through MM-BIO-17, where appropriate, potential impacts to sensitive species are anticipated to be avoided or reduced to less than significant levels. The PEIR indicates that the District will coordinate with the Wildlife Agencies (jointly, CDFW and the U.S. Fish and Wildlife Service (USFWS)) regarding both avoidance and mitigation measures.

Timeline: Specific construction schedules are not available for the individual improvements at the program level. Proposed improvements for CIPs will be implemented in two general phases: Near Term (through 2030) and Long Term (through 2050). Phasing for individual improvements could be accelerated or deferred as required to account for changes in development schedules, availability of land or rights-of-way for construction, funding limitations, and other considerations that cannot be predicted at this time.

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COMMENTS AND RECOMMENDATIONS

A-2 CDFW offers the comments and recommendations below to assist the District in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources. Recommendations may also be included to improve the document.

Specific Comments

A-3 The PEIR provides a foundation for second tier CEQA documents for subsequent projects but does not analyze the project-specific impacts of individual projects. These analyses will be performed on individual project sites as construction of each project is needed. CDFW provides the following recommendations regarding mitigation requirements that fall under CDFW's jurisdiction as a Trustee Agency and a Responsible Agency.

A-4 1. Impacts to sensitive habitats or special-status species. CDFW recommends that the District engage in early consultation with the Wildlife Agencies when a Project will result in impacts to a sensitive habitat or species that will result in the need for off-site mitigation including, but not limited to, 1) purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and CDFW; 2) acquisition and preservation of off-site mitigation land containing occupied habitat; and/or 3) preparation and implementation of a rare plant salvage and relocation plan. Any of these measures would require approval by the Wildlife Agencies. All off-site mitigation areas should be agreed to by the Wildlife Agencies and the District before construction occurs. Evidence that on- and off-site mitigation has been purchased and/or placed within a biological open space easement should be provided to the Wildlife Agencies and District prior to impacts occurring on the Project site.

A-5 2. Impacts to CESA-listed species. If take or adverse impacts to CESA-listed species cannot be avoided during Project activities or over the life of the Project, the District must consult CDFW to determine if a CESA Incidental Take Permit (ITP) is required (pursuant to Fish & Game Code, § 2080 et seq.). To obtain appropriate take authorization under CESA, early consultation with CDFW is encouraged, as significant modification to a Project and mitigation measures may be required to obtain a CESA permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project's CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation, monitoring, and reporting program that will meet the requirements of an ITP. For these reasons, the take proposed to be authorized by CDFW's ITP, biological mitigation monitoring, and reporting proposals should be described in detail in the Project's CEQA document to satisfy the requirements for a CESA ITP. For projects with impacts to species that are both State and federally listed as endangered or threatened, the District should consult with the USFWS and obtain a CESA Section 2080.1 Consistency Determination from the CDFW, unless otherwise required by the CDFW.

A-6 3. Impacts to wetlands under CDFW jurisdiction. CDFW recommends that the District engage in early consultation regarding impacts to wetland resources under CDFW jurisdiction. CDFW's issuance of a Lake or Streambed Alteration Agreement (LSAA) for a Project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the Environmental Impact Report or other

A-2 The comment is an introductory comment. The District appreciates the CDFW's comments and recommendations. No further response is required.

A-3 The information presented in this comment is consistent with the intent and purpose of the PEIR.

A-4 For projects involving direct impacts to sensitive habitats and/or species, the District will engage in early consultation with the Wildlife Agencies, as appropriate, including CDFW, for approval of mitigation credit purchases, acquisition and preservation of mitigation land, and/or the preparation of a plant salvage and relocation plan. Consistent with the mitigation measures recommended in the PEIR, projects involving direct or indirect impacts to federally designated Critical Habitat, sensitive habitat occupied by FESA- and CESA-listed species, sensitive habitat occupied by a significant population of a non-listed sensitive species, and/or streambed and riparian habitat would require consultation with the Wildlife Agencies. For these projects, initiation of project construction or impacts to the affected resources would not occur until consultation with the Wildlife Agencies has occurred.

A-5 Project mitigation measures detailed in the PEIR have been proposed to follow the guidance provided by the commentor. The measures prescribe performance-based actions to ensure that the District implements the appropriate steps to protect CESA-listed species, as well as FESA-listed species, to avoid take and adverse impacts of these listed species. District projects will adhere to the PEIR mitigation measures and will adjust the design or timing of the project to avoid take and adverse impacts to listed species, including CESA-listed species, wherever feasible. In accordance with the mitigation measures in the PEIR, in the event that a project is determined through project-level biological studies to have the potential of take or adverse impacts to a CESA-listed species, the District will consult with CDFW to determine if a CESA Incidental Take Permit or a

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A-6 cont.

CEQA document of the local jurisdiction (District) for the Project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSAA.

Filing Fees

A-7

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the District and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

Conclusion

CDFW appreciates the opportunity to comment on the PEIR to assist the District in identifying and mitigating Project impacts on biological resources. Questions regarding this letter or further coordination should be directed to Meredith Osborne, Environmental Scientist, at Meredith.Osborne@wildlife.ca.gov.

Sincerely,

DocuSigned by:
David Mayer
D700B452037540B...

David Mayer
Environmental Program Manager
South Coast Region

ec: CDFW
David Mayer, San Diego – David.Mayer@wildlife.ca.gov
Jennifer Turner, San Diego – Jennifer.Turner@wildlife.ca.gov
Meredith Osborne, San Diego – Meredith.Osborne@wildlife.ca.gov
Cindy Hailey, San Diego – Cindy.Hailey@wildlife.ca.gov
State Clearinghouse, Office of Planning and Research – State.Clearinghouse@opr.ca.gov

A-5 (cont.) CESA Section 2080.1 Consistency Determination from CDFW is required.

A-6 In accordance with the mitigation measures in the PEIR and regulatory requirements, for projects requiring direct impacts to wetland resources, the District will engage in early consultation with the Water Resource Agencies, including CDFW, for issuance of jurisdictional permits, including a Lake or Streambed Alteration Agreement, as applicable. Application materials will include potential impacts to stream or riparian resources and provide adequate avoidance, mitigation, and reporting commitments. Projects requiring direct impacts to wetland resources will not initiate construction or impacts within wetland resources until issuance of approved permits from the applicable Water Resource Agencies.

A-7 The District will pay the appropriate filing fee upon filing the Notice of Determination.

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
(619) 709-5152 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

July 7, 2022

11-SD-15, 76
PM VAR
Water and Sewer Facilities Plan
DEIR/SCH#2021050602

Mr. Malik Tamimi
CIP Engineering Project Manager
Rainbow Municipal Water District
3707 Old Highway 395
Fallbrook, CA 92028

Dear Mr. Tamimi:

B-1 Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Notice of Preparation for the Water and Sewer Facilities Plan located near Interstate 15 (I-15) and State Route 76 (SR-76). The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

B-1 This comment is introductory and describes the mission and goals of Caltrans. No further response is required.

Caltrans has the following comments:

Traffic Impact Study

B-2
- All projects within Caltrans' Right-of Way (R/W) must follow Caltrans' requirements.

B-3
- All projects within Caltrans' R/W will need an encroachment permit.

B-4
- No open trenching will be allowed within highway right of way, per Encroachment Permit Manual Section 603.6. "Underground installations within highway right-of-way must be performed using a trenchless technology method (Bore & Jack, Horizontal Directional Drilling, Microtunneling, Pipe Bursting or Pipe Ramming), unless specified otherwise by permit. Open trenching is authorized only when the applicant demonstrates that all alternatives have been investigated and that installation by a trenchless technology is not feasible."

B-5
- All construction work and staging for this project shall not be done on Caltrans' R/W. All construction access shall be done through local streets and not through Caltrans' R/W or any of the freeway ramps.

Hydrology and Drainage Studies

B-6
- Please provide hydraulics studies, drainage and grading plans to Caltrans for review.
- Provide a pre and post-development hydraulics and hydrology study. Show drainage configurations and patterns.
- Provide drainage plans and details. Include detention basin details of inlets/outlet.
- Provide a contour grading plan with legible callouts and minimal building data. Show drainage patterns.
- On all plans, show Caltrans' Right-of-Way (R/W).
- Early coordination with Caltrans is recommended.
- Caltrans generally does not allow development projects to impact hydraulics within the State's R/W. Any modification to the existing Caltrans drainage and/or increase in runoff to State facilities will not be allowed.

Design

B-7
- Since a few of proposed construction projects cross and align with the State R/W at locations for I-15 and SR-76, final design documents for review should include but not limited to Traffic Control, Construction Staging, BMPs and State R/W.

B-8
- Please refer to Project Development Procedures Manual- Chapter 17 for approval of encroachments on Instate Facilities.

B-2 The District will comply with Caltrans requirements, as necessary, for projects within Caltrans' R/W.

B-3 The District will obtain an encroachment permit, as necessary, for projects within Caltrans' R/W.

B-4 The District will utilize trenchless construction methods within highway R/W, as feasible, and will otherwise obtain the appropriate permit from Caltrans if trenchless construction methods are infeasible.

B-5 Construction work, staging, and access will not be done on Caltrans' R/W, as feasible.

B-6 The comment is noted. During implementation of individual projects, the District will provide hydraulics studies and drainage and grading plans to Caltrans for review, as necessary. The studies and plans will incorporate the appropriate information, including Caltrans' R/W.

B-7 The comment is noted. During implementation of individual projects that cross and/or align with State R/W at locations for I-15 and SR-76, the District will provide the appropriate final design documents to Caltrans for review.

B-8 The comment is noted. The District will consult the Project Development Procedures Manual – Chapter 17 for approval of encroachments on Instate Facilities, as necessary.

B1-9
- Caltrans is developing a broadband project for installing fiber optic within State R/W limits of SR-76 from I-15 until SR-79. Estimated year of construction of the project will begin in 2024 and end in 2025.

Traffic Control Plan/Hauling

The California Department of Transportation (Caltrans) has discretionary authority with respect to highways under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway network. Additional information is provided online at:
B-10
http://www.dot.ca.gov/trafficops/permits/index.html

A Traffic Control Plan is to be submitted to Caltrans District 11, including the interchanges at I-15 and SR-76, at least 30 days prior to the start of any construction. Traffic shall not be unreasonably delayed. The plan shall also outline suggested detours to use during closures, including routes and signage.

Potential impacts to the highway facilities (I-15 and SR-76) and traveling public from the detour, demolition and other construction activities should be discussed and addressed before work begins.

Environmental

Caltrans welcomes the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA), as we have some discretionary authority of a portion of the project that is in Caltrans' R/W through the form of an encroachment permit process. We look forward to the coordination of our efforts to ensure that Caltrans can adopt the alternative and/or mitigation measure for our R/W. We would appreciate meeting with you to discuss the elements of the EIR that Caltrans will use for our subsequent environmental compliance.
B-11

An encroachment permit will be required for any work within the Caltrans' R/W prior to construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits. Specifically, CEQA determination or exemption. The supporting documents must address all environmental impacts within the Caltrans' R/W and address any impacts from avoidance and/or mitigation measures.
B-12

B-9 The District appreciates Caltrans providing this information. Comment noted.

B-10 The District will obtain appropriate permits, as necessary. In accordance with mitigation measure MM TRA-1 presented in the PEIR, the District Contractor will prepare a traffic control plan for project improvements within the R/W. Specific potential impacts to highway facilities (I-15 and SR-76) will be considered as part of the traffic control plan prepared for individual project improvements.

B-11 The District will coordinate with Caltrans, as necessary, for project improvements that may affect Caltrans' R/W.

B-12 The District will obtain an encroachment permit for work with Caltrans' R/W. As part of the encroachment permit process, the District will provide the necessary documents.

B-13 We recommend that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans' R/W that includes impacts to the natural environment, infrastructure including but not limited to highways, roadways, structures, intelligent transportation systems elements, on-ramps and off-ramps, and appurtenant features including but not limited to lighting, signage, drainage, guardrail, slopes, fences and landscaping. Caltrans is interested in any additional mitigation measures identified for the project's draft Environmental Document.

Right-of-Way

B-14 • Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.

B-15 • Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

B-16 • Since the proposed project crosses and aligns with the state R/W in multiple locations for I-15 and SR-76, coordination with Caltrans is recommended as soon as possible.

B-17 • An Encroachment Policy Exception and/or Design Standard Decision Document may be required pending the proposed project scope within the Caltrans' R/W.

B-18 • Any modifications to the access control will need both Caltrans and FHWA approval. This is an important standard to maintain on the Interstate System and it would need very strong justification if it were to be granted. This requires an Encroachment Policy Exception (EPE) to document the proposed crossing of the access control lines at the two ends (PDPM Chapter 17, Article 2, Section 3, Non-Motorized Paths).

B-19 Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158 or emailing D11.Permits@dot.ca.gov or by visiting the website at https://dot.ca.gov/programs/traffic-operations/ep. Early coordination with Caltrans is strongly advised for all encroachment permits.

B-20 Please see the following chapters in the Caltrans' manuals:

- Chapter 600 of the Encroachment Permits Manual for requirements regarding utilities and state R/W: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/chapter-6-ada-a11y.pdf

B-13 The PEIR provided a programmatic assessment of future improvements. Specific potential impacts to Caltrans' R/W from individual project improvements, including CIP Project 600051 crossing I-15, CIP Project 600063 crossing SR-76, and CIP Project 5300XX-1 crossing I-15, will be considered at the project level in a traffic control plan and/or additional environmental documentation.

B-14 If survey monuments are destroyed during construction, they would be perpetuated by a licensed land surveyor.

B-15 The District will obtain an encroachment permit from Caltrans' for work within Caltrans' R/W. The encroachment permit requirement is included in Table 1-2 of the PEIR.

B-16 The District will coordinate with Caltrans, as necessary, for work crossing and/or aligning with state R/W for CIP Project 600051 crossing I-15, CIP Project 600063 crossing SR-76, and CIP Project 5300XX-1 crossing I-15.

B-17 The District will obtain the appropriate permits and approvals from Caltrans for work within Caltrans' R/W.

B-18 If modifications to access control are required for the project, the District will seek approval from both Caltrans and FHWA.

B-19 The District will coordinate with Caltrans, as necessary, for encroachment permits.

B-20 The District will consult these chapters in the Caltrans' manuals, as necessary.

B-20 cont.

- Chapter 2-2.13 of the Plans Preparation Manual for requirements regarding utilities and state R/W: https://dot.ca.gov/-/media/dot-media/programs/design/documents/cadd/ppm-text-ch2-sect2-13-a11y.pdf
- Chapter 17 of the Project Development Procedures Manual https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapter17-a11y.pdf.

If you have any questions or concerns, please contact Kimberly Dodson, IGR Coordinator, at (619) 985-1587 or by e-mail sent to Kimberly.Dodson@dot.ca.gov.

Sincerely,

Maurice A. Eaton

MAURICE EATON
Branch Chief
Local Development and Intergovernmental Review

From: Dodson, Kimberly@DOT <kimberly.dodson@dot.ca.gov>
Sent: Monday, July 11, 2022 2:24 PM
To: Malik Tamimi <mtamimi@rainbowmwd.com>
Cc: Eaton, Maurice A@DOT <maurice.eaton@dot.ca.gov>
Subject: Rainbow Municipal Water District Water and Sewer Facilities Plan

Hi Malik,

The Caltrans' District 11 Design Liaison just emailed me some comments regarding the design process for the Rainbow Municipal Water District Water and Sewer Facilities plan. Since it is after the CEQA deadline these comments are more for the actual design phase of the project. Some of the comments were included at a higher level in the CEQA comment letter.

Below is some information that could be passed along to RMWD as tips that can be used when they begin the design phase of this project. The policies found in the PDPM (Project Development Procedures Manual https://dot.ca.gov/programs/design/manual-project-development-procedures-manual-pdpm) could affect the proposed footprint and alignments of the utility lines.

Consult the Project Development Procedures Manual Chapter 17 "Encroachments and Utilities" for information for what is allowed and what is required by the various encroachment and utility policies.

B2-1

- State Route 76 –
  - Utility clearances including, but not limited, to storm drains. If a feature does not comply with these policy points, then a Utility Policy Exception is needed.
  - Since this route is a conventional highway that is not listed on the California Freeway and Expressway system (within the areas of RMWD), it should follow the encroachment policies for Conventional Highways. Those policies that are not complied with will require an Encroachment Policy Exception.
- Interstate 15 – RMWD features that will be installed or upgraded within I-15 right of way need to follow:
  - Access-Controlled Highway encroachment policies. Non-compliance with any one of the policies will require an Encroachment Policy Exception request.
  - Utility clearances including, but not limited, to storm drains. If a feature does not comply with these policy points, then a Utility Policy Exception is needed.
- State Route 78 – In case RMWD lines cross through SR-78 right of way, access controlled encroachment policies must be applied, even if the segment operates as a conventional highway. The entirety of SR-78 is designated as part of the California Freeway and Expressway System, so it must follow access controlled policies.

Please let me know if you have any questions/comments and I can coordinate a virtual meeting with the Design Liaison to discuss further.

Regards,
Kim

Kimberly D. Dodson, GISP, M. Eng.
Associate Transportation Planner
Caltrans District 11 LDR Branch
4050 Taylor St., MS-240
San Diego, CA 92110
Kimberly.Dodson@dot.ca.gov
Telework phone: 619-985-1587

B2-1 The District appreciates the information provided by Caltrans that may affect Project design. The District will incorporate recommendations and comply with applicable requirements, as necessary, during project design and construction.

County of San Diego

PLANNING & DEVELOPMENT SERVICES
5510 OVERLAND AVENUE, SUITE 310, SAN DIEGO, CA 92123
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www.SDCPDS.org

DAHVIA LYNCH
DIRECTOR

July 8, 2022

Malik Tamimi
Engineering Department
Rainbow Municipal Water District
3707 Old Highway 395
Fallbrook, CA 92028

Sent via email to: mtamimi@rainbowmwd.com

REQUEST FOR COMMENTS ON THE NOTICE OF AVAILABILITY OF AN ENVIRONMENTAL IMPACT REPORT – WATER AND SEWER FACILITIES PLAN FOR THE RAINBOW MUNICIPAL WATER DISTRICT

Dear Mr. Tamimi,

The County of San Diego (County) reviewed the Rainbow Municipal Water District's (Water District's) Water and Sewer Facilities Plan (Project), dated May 24, 2022.

The County appreciates the opportunity to review the Project and offers the following comments for your consideration. Please note that none of these comments should be construed as County support for this Project.

GENERAL

C-1

1. The County's Land Use and Environment Group has developed Guidelines for Determining Significance that are used to determine the significance of environmental impacts and mitigation options for addressing potentially significant impacts in the unincorporated portions of the county. Project impacts that could have potentially significant adverse effects to the unincorporated county or County facilities should be evaluated using the County's Guidelines for Determining Significance. These guidelines are available online at: http://www.sandiegocounty.gov/pds/procguid.html.

C-1 This comment does not raise any environmental issues relating to the Project and no further response is required. However, per State CEQA Guidelines Section 15064.7(b), the District, in its role as lead agency for the Project, has discretion to formulate its own significance thresholds or choose which significance thresholds to use. For this Project, the District utilizes standards set forth in Appendix G of the State CEQA Guidelines as a basis for defining significance thresholds in the PEIR. The PEIR thoroughly assesses potential adverse effects to the unincorporated county and County facilities and considers applicable County standards and regulations.

BIOLOGY

C-2
1. The County's Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources (Biological Resource Guidelines) provides guidance for assessing impacts by proposed projects to sensitive species and habitats, as well as standard mitigation measures and project design considerations. For low-level sensitive species (Group II), mitigation is generally achieved concurrently with habitat-based mitigation. For high-level sensitive species (Group I), the mitigation requirement is ratio based. Project impacts that could have potentially significant adverse effects to the unincorporated county or County facilities should be evaluated using the County's Guidelines for Determining Significance. These guidelines are available online at: https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/Biological_Guidelines.pdf

C-3
2. The County's Resource Protection Ordinance (RPO) applies to projects that impact wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites to protect these sensitive lands and prevent their degradation or loss. The RPO regulates development of wetlands and sensitive habitat lands, including "land which supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the CEQA Guidelines (14 Cal. Admin. Code Section 15000 et seq.)." The RPO includes the provision that when "the extent of environmentally sensitive lands on a particular legal lot is such that no reasonable economic use of such lot would be permitted by these regulations, then an encroachment into such environmentally sensitive lands to the minimum extent necessary to provide for such reasonable use may be allowed." In all other instances where the RPO applies, activities damaging to sensitive lands are prohibited unless all feasible measures necessary to protect and preserve the sensitive lands are completed as a condition of Project approval, and mitigation provides an equal or greater benefit to the affected species. Project impacts that could have potentially significant adverse effects to sensitive lands within the unincorporated County or County facilities should be evaluated using the RPO. This ordinance is available online at: https://www.sandiegocounty.gov/content/dam/sdc/pds/docs/res_prot_ord.pdf

MULTIPLE SPECIES CONSERVATION PROGRAM

C-4
1. In addition to existing regulatory measures that benefit sensitive species and lands, the County is working in partnership with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) to prepare the North County Multiple Species Conservation Plan (North County Plan). The North County Plan is a joint federal Habitat Conservation Plan (HCP) and state Natural Communities Conservation Plan (NCCP) that will cover the northern part of the unincorporated county.

C-5
2. The Project is located within the draft North County Plan Area and portions may be located within the North County Plan Priority Conservation Area (PCA), the area within which the preserve will be assembled. Given the Project's location within and adjacent to PCA, environmental documentation for the Project should address potential impacts to the County's draft North County Plan. Additional information regarding the North County Plan is available at: https://www.sandiegocounty.gov/content/sdc/pds/mscp/nc.html.

C-2 The commenter is referred to response to comment C-1 above regarding the District's discretion to formulate its own significance thresholds and the District's use of the standards set forth in Appendix G of the State CEQA Guidelines. Nevertheless, as provided in the PEIR and the Biological Resources Technical Report in Appendix C of the PEIR, the analysis and mitigation measures incorporate regional standards that are consistent with the County's Biological Resource Guidelines. For example, biological resources mapping and vegetation community classification was completed in accordance with the County's Biological Resource Guidelines whereby a 100-foot survey area buffer is incorporated, and classifications follow the Holland and Oberbauer classification system. In addition, mitigation for sensitive species follows the County's Biological Resource Guidelines for avoidance and compensatory mitigation regarding significant populations of rare plants, habitat-based compensatory mitigation, and Wildlife Agency consultation. Further, mitigation for sensitive habitat follows the County's Biological Resource Guidelines Table 5 for mitigation ratios and the mitigation methods are consistent with those specified in the Guidelines. The PEIR incorporates the appropriate standards that are consistent with the Guidelines.

C-3 As discussed in the PEIR, the District's approval of the Water and Sewer Facilities Plan does not involve any approval of specific projects. Rather, the PEIR is a first-tier programmatic document that will be used in conjunction with project-level CEQA review. As also provided in the PEIR and Appendix C, the District is required, where applicable, to comply with local ordinances and strives to achieve voluntary compliance where local ordinances are not applicable. Nevertheless, the County's RPO is acknowledged in the PEIR and the analysis and mitigation incorporate the basic tenants of avoidance of RPO resources and sensitive lands. For example, the PEIR states repeatedly that Project design modifications and trenchless pipeline installation methods (e.g., jack and bore, horizontal directional drilling) during Project construction would be utilized to avoid sensitive resources, such as areas supporting resources that meet the RPO wetland definition (e.g., wetlands, riparian habitat, drainage features, etc.). Further, the Project is for the implementation

C-3 (cont.) of essential public facilities, which must be located in the particular locations to serve their purpose and for which no less environmentally damaging locations, alignments, or non-structural alternatives exist. It is noted that the RPO provides exemptions for such facilities in Article V, with the incorporation of avoidance and other provisions, which have been incorporated similarly into the Project design features, and avoidance, minimization, and mitigation measures of the PEIR.

C-4 This comment is for informational purposes on the County's efforts toward an approved and adopted North County Multiple Species Conservation Plan (North County Plan), which is currently in draft form. It is noted that the PEIR acknowledges the North County Plan and Figure 4.2-2, MSCP Boundary, in the PEIR depicts the District's service area in relation to North County Plan planning areas.

C-5 Please refer to response to comment C-4. An analysis of Project consistency with draft Habitat Conservation Plans is not required. However, the District responds as follows. The Project includes water and wastewater facility (e.g., pipelines, pump stations, storage, etc.) improvements, repairs, and replacements. Many of these facilities are belowground facilities with limited development footprint. The anticipated impact areas are confined and many of the facilities are located within existing disturbed and developed land that lack sensitive biological resources. As noted in response to comment C-4, the PEIR acknowledges the North County Plan and Figure 4.2-2, MSCP Boundary, in the PEIR depicts the various North County Plan planning areas. A comparison of Figure 4.2-2 with Figure 3-1, Proposed CIP Projects, in the PEIR demonstrates how the large majority of the Project components are specifically sited in developed lands outside of draft PAMA and existing Preserve, which are part of the draft Priority Conservation Area (PCA). The PEIR includes analysis on potential impacts on resources that could contribute to a reserve assembly and long-term viability of species, including those that occur within draft PCA.

C-6

3. Please coordinate with County staff, including the County of San Diego's Department of Parks and Recreation (DPR) and provide the County the biological analysis following biological resource surveys if there is potential for any direct and/or indirect impacts on MSCP land, in addition to any potential direct and/or indirect impacts to adjacent County properties (such as parks and preserves). If there could be potential direct and/or indirect impacts, please include analysis in the documents of the effects on the MSCP and/or County land and how potential impacts will be mitigated. Any effect, direct or indirect, should be evaluated in the documents following biological analysis and discussed with County staff, including County DPR.

TRANSPORTATION/TRAFFIC

C-7

1. The applicant/contractors shall obtain from the Department of Public Works (DPW) right-of-way permit(s) & Traffic Control Plan before any construction.

C-8

2. The applicant/contractors shall repair/replace the pavements (trenches/cuts on the pavements) to the satisfaction of the County Traffic Engineer.

C-9

3. The applicant/contractors shall get special permits for all night works (noise impacts at night).

C-10

4. The applicant shall obtain Cal-OSHA permits for all confined space works (i.e. trenches), and all other construction works that are regulated by Cal-OSHA.

C-11

5. The applicant shall obtain permit(s) for all work that are Privately-owned lands in the unincorporated areas of county, and/or County-owned lands/resources.

C-12

6. The applicant shall forward detailed information to DPW about which county roads would be impacted by future projects as further review is required.

FLOOD CONTROL

C-13

1. The Notice of Preparation states "*The District has determined that the proposed Project may have the potential to significantly impact agricultural and forestry resources….**hydrology** and water quality…*" The San Diego County Flood Control (FC) department is in general agreement with the significant impact assessment to hydrology and water quality resources. Based on Figure 2, Proposed Capital improvement Program (CIP) Water and Sewer Project, included in the Notice of Preparation, it appears that multiple water and sewer CIP projects throughout the entire District will directly impact FC facilities. For instance, the CIP Water Projects labeled as 82, 90, 97, 98, and 99 on Figure 2 appear to be located within the San Diego County Mapped Live Oak Creek Floodplain and Floodway. For any projects occurring within a Floodplain/Floodway, a Conditional Letter of Map Revision (CLOMR) and a Letter of Map Revision (LOMR) would have to be prepared and submitted and approved by both FC and the Federal Emergency Management Agency (FEMA) - the CLOMR application prior to the commencement of any grading activities, and the LOMR prior to the completion of the improvements (San Diego County Ordinance 811.503.b).

C-6 The District would coordinate with County staff and provide requested data if there is a potential for impacts on parks and preserves. As provided in response to comment C-5, the PEIR includes analysis on potential impacts on resources that could contribute to a reserve assembly and long-term viability of species, including those that occur within draft PCA. The incorporation of modified project designs and alignments, Project design features, and mitigation measures for projects with potential impacts on resources would ensure that any impacts on biological resources are avoided, minimized, and mitigated in accordance with the PEIR.

C-7 The comment is noted. This comment does not raise any environmental issues relating to the Project. However, the District responds as follows. The District or District's contractors will obtain from the Department of Public Works right-of-way permit(s) and traffic control plan before any construction, as necessary. The requirement for a right-of-way permit has been added to Table 1-2 of the PEIR. The requirement for a traffic control plan was included in Table 1-2 of the Draft PEIR. In addition, mitigation measure MM TRA-1 included in the Draft PEIR involves the preparation and submission of a traffic control plan to the County when work is occurring within County roadways.

C-8 The comment is noted. This comment does not raise any environmental issues relating to the Project. However, the District responds as follows. The District or District's contractors will repair/replace pavements, as necessary, to the satisfaction of the County Traffic Engineer.

C-9 The comment is noted. This comment does not raise any environmental issues relating to the Project. However, the District responds as follows. The District or District's contractors will get special permits for night work, as necessary.

C-10 The comment is noted. This comment does not raise any environmental issues relating to the Project. However, the District responds as follows. The District will obtain Cal-OSHA permits for confined workspaces and other construction works that are regulated by Cal-OSHA, as necessary.

C-10 (cont.) This regulatory standard is mentioned on page 4.5-11 of the Draft PEIR. The Regulatory Standards and Requirements section in Chapter 4, Environmental Analysis, of the PEIR has been updated on page 4-9 as follows:

> The District would implement relevant regulatory requirements and industry standards into the design and construction of applicable improvements, including current versions of the following, as appropriate: (1) International Building Code (IBC); (2) California Building Code (CBC); (3) Standards and Specifications for Public Works Construction (Greenbook); (4) California Seismic Hazards Mapping Act and related guidelines; (5) Alquist-Priolo Earthquake Fault Zoning Act; ~~and~~(6) excavation safety standards of OSHA and Cal-OSHA; and (7) associated local standards, as applicable.

C-11 The comment is noted. This comment does not raise any environmental issues relating to the Project. However, the District responds as follows. The District will obtain permits for work within privately-owned lands in unincorporated areas of the county, and/or County-owned lands/resources, as necessary.

C-12 The comment is noted. This comment does not raise any environmental issues relating to the Project. However, the District responds as follows. The District will forward information to DPW about county roads that would be impacted by future projects as further review is required.

C-13 In accordance with mitigation measure MM HYD-2 included in the PEIR, individual projects are subject to screening by the District to determine their site-specific hydrological conditions, related potential impacts, and requirements for individual associated technical investigations. If project-related activities/facilities result in applicable proposed changes to mapped FEMA floodplains, the District would obtain an approved CLOMR and/or LOMR from FEMA and County of San Diego Flood Control District, as applicable. The requirement for a CLOMR and LOMR from FEMA was included in Table 1-2 of the Draft PEIR. The requirement for approval of a CLOMR and LOMR from the County of San Diego Flood Control District has been added to Table 1-2 of the PEIR.

C-14

2. The improvement plans associated with the water and sewer CIP projects not necessarily within a Floodplain/Floodway, but directly impacting FC's facilities should be routed through the FC department for review and approval.

WATERSHED

C-15

1. The Project could potentially generate stormwater impacts to adjacent parcels located in the unincorporated county. Therefore, the Project must consider the following items:

    a. Compliance with the San Diego Municipal Storm Water Permit Order No. R9-2013-0001, (as amended by Order Nos. R9-2015-0001 and R9-2015-0100). The Project may consider implementing permanent Site Design, Source Control, Pollutant Control, and Hydromodification Management in accordance with the County's Best Management Practices (BMP) Design Manual.

    b. Construction BMPs and associated plans for conformance with the County of San Diego's Grading Ordinance, Watershed Protection Ordinance and State of California's Construction General Permit.

FIELD ENGINEERING/ROAD MAINTENANCE

C-16

1. If any of the County-maintained roads are trench/cut within 3 years after the road is resurfaced, you will be required under the County's Cut Policy to resurface the full width of the road with the same treatment. Please coordinate with Lawrence Hirsch, Utility Coordinator, for any updates or questions at (858) 694-2215 or at lawrence.hirsch@sdcounty.ca.gov.

VECTOR CONTROL

The County of San Diego Vector Control Program (VCP) is responsible for the protection of public health through the surveillance and control of mosquitoes that are vectors for human disease including West Nile virus (WNV).

C-17

1. The VCP respectfully requests that the Project design features address potential impacts from possible mosquito breeding sources created by the Project and that the Project is constructed in a manner to minimize those impacts. Specifically, ensure construction-related depressions created by grading activities and vehicle tires do not result in depressions that will hold standing water. In addition, ensure that drainage areas and other structures do not create a potential mosquito breeding source. Any area that is capable of accumulating and holding at least ½ inch of water for more than 96 hours can support mosquito breeding and development.

C-18

2. Please note, the VCP has the authority pursuant to state law and County Code to order the abatement of any mosquito breeding that does occur either during construction or after the Project is completed that is determined to be a vector breeding public nuisance. The VCP will exert that authority as necessary to protect public health if the Project is not designed and constructed to prevent such breeding.

C-14 Improvement plans associated with projects not necessarily within a FEMA floodplain/floodway but directly impacting Flood Control's facilities will be routed through the Flood Control department for review and approval, as necessary.

C-15 Implementation of individual projects would comply with applicable stormwater permits and implement construction BMPs and associated plans for conformance with the County of San Diego's Grading Ordinance, Watershed Protection Ordinance, and State of California's Construction General Permit, as necessary. The Construction General Permit regulatory standard is mentioned in the Regulatory Standards and Requirements section in Chapter 4, Environmental Analysis, of the PEIR. This section has been updated on page 4-10 to specify in greater detail the applicable local standards of the County's Grading Ordinance and Watershed Protection Ordinance:

> These requirements are primarily intended to protect water resources and address potential concerns related to drainage systems, at a watershed-level or hydrologic area (e.g., drainage alteration), water quality, flood-related hazards, and groundwater. Specifically, this may include conformance with the applicable NPDES permits and related standards: (1) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit, Order No. 2009-0009 DDDWQ)); (2) General Permit for Waste Discharge Requirements for Storm Water Discharges From Small Municipal Separate Sewer Systems (MS4; MS4 Permit, Order No. R9-2015-0100); (3) RWQCB Basin Plan beneficial uses and water quality objectives; and (4) associated local standards, <u>including the County's Grading Ordinance and Watershed Protection Ordinance</u>, as applicable.

C-16 The comment is noted. This comment does not raise any environmental issues relating to the Project. However, the District responds as follows. The District will comply with the County's Cut Policy, as necessary.

C-17 As specified in Section 3.5, Construction Methods, of the PEIR, "in accordance with the County's Vector Control Program, the construction activities would:

- Be conducted in a manner that minimizes standing water resulting from construction-related depressions created by grading activities and vehicle tires, tree pits, and landscaping.

- Involve best management practices (BMPs) and drainage areas so as not to create a potential mosquito breeding source (an area capable of holding at least a half-inch of water for more than 96 hours)."

C-18 The comment is noted. This comment does not raise any environmental issues relating to the Project. No further response is necessary.

C-19

3. For your information, the County of San Diego Guidelines for Determining Significance for Vectors can be accessed at: http://www.sandiegocounty.gov/content/dam/sdc/pds/docs/vector_guidelines.pdf and the California Department of Public Health Best Management Practices for Mosquito Control in California is available at: https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/MosquitoesandMosquitoBorneDiseases.aspx#

4. If you have any questions regarding VCP's comments, please contact Daniel Valdez at 858-688-3722 or by e-mail at Daniel.Valdez@sdcounty.ca.gov.

HAZARDOUS MATERIALS DIVISION (HMD)

C-20

1. Please be advised that any and all construction/improvement-related hazardous wastes to be generated (e.g., used oil, paint waste, lead paint debris, waste materials containing asbestos) must be classified, labeled, and handled in a manner as to prevent release to the environment. Contractor(s) must ensure that hazardous wastes are properly disposed of by a California registered hazardous waste hauler and maintain documentation of proper disposal dating back 3 years. More information on hazardous wastes can be found here: https://www.sandiegocounty.gov/content/sdc/deh/hazmat/hazwaste.html

C-21

2. Depending on the nature of construction, a Hazardous Materials Plan Check review may be necessary in order for buildings to be cleared for occupancy. Similarly, if the Project will create new facilities that become subject to regulation by the HMD, permits must be established for those facilities. For your reference, information regarding the Hazardous Materials Plan Check requirement can be reviewed here: https://www.sandiegocounty.gov/content/sdc/deh/hazmat/hazmat/hmd_plan_check.html

C-22

3. The Project appears to affect multiple Rainbow MWD facilities currently under permit with the HMD for storing hazardous materials, generating hazardous waste, and/or being subject to the Aboveground Petroleum Storage Act (APSA) for storing petroleum products in aboveground tanks at or above 1,320 gallons of aggregate capacity. If the Project will entail any substantial changes to a facility's Hazardous Materials Business Plan (HMBP), those changes must be amended to the HMBP within 30 days of such changes occurring. Similarly, if the Project will affect an APSA-regulated facility in such a way as to affect the facility's petroleum discharge potential, a technical amendment must be made to the facility's Spill Prevention, Control, and Countermeasures Plan to address that change. More information on the HMBP program can be found here: https://www.sandiegocounty.gov/content/sdc/deh/hazmat/hazmat.html.
More information on the APSA program can be found here: https://www.sandiegocounty.gov/content/sdc/deh/hazmat/hmd_apsa.html#par_title

C-23

4. If you have any questions regarding Hazardous Material's comments, please contact Darren Thai at (858) 245-2567 or by email at Darren.Thai@sdcounty.ca.gov

The County appreciates the opportunity to comment on this Project. We look forward to receiving future documents related to this Project and providing additional assistance, at your request. If

C-19 The comment is noted. The District appreciates the County providing these resources.

C-20 As discussed on page 4.7-7 of the PEIR, "[n]o acutely hazardous materials would be used on site during construction and the materials that would be handled would not pose a substantial risk to the public. In addition, the District and its construction contractor(s) would comply with applicable federal, state, and local regulations pertaining to hazardous materials use, handling, storage, and disposal."

C-21 The comment is noted. This comment does not raise any environmental issues relating to the Project. However, the District responds as follows. The Project does not include buildings that would involve occupancy. If the Project creates new facilities that become subject to regulation by the HMD, permits would be established for those facilities, as necessary.

C-22 The Project is not anticipated to affect facilities that are currently under permit with the HWD for storing hazardous materials or generating hazardous waste. However, if it is found that one of the Project's improvements entails substantial changes to a facility's Hazardous Materials Business Plan (HMBP), those changes will be amended to the HMBP within 30 days of such changes occurring. Similarly, if the Project affects an Aboveground Petroleum Storage Act- (APSA-) regulated facility in such a way as to affect the facility's petroleum discharge potential, a technical amendment will be made to the facility's Spill Prevention, Control, and Countermeasures Plan to address that change.

C-23 The comment is noted. The District appreciates the contact information should questions arise.

you have any questions regarding these comments, please contact Timothy Vertino, Land Use / Environmental Planner, at (858) 505-6677, or via e-mail at timothy.vertino@sdcounty.ca.gov.

Sincerely,

Scott Christman
Group Program Manager, Long Range Planning
Planning & Development Services

cc: Hunter McDonald, Policy Advisor, Board of Supervisors, District 5
Luis Pallera, CAO Staff Officer, LUEG
Emmet Aquino, Park Project Manager, DPR
Mary Bennett, Administrative Analyst, DEH
Chelsea Oakes, Group Program Manager, DPR
Lynnette Tessitore, Chief, LRP
Sue Waters, Land Use/Environmental Planner, DPW

PEIR Appendix H

Mitigation, Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program for the Rainbow Municipal Water District Water and Sewer Facilities Plan

Program Environmental Impact Report

The California Environmental Quality Act (CEQA) requires the adoption of feasible mitigation measures to reduce the severity and magnitude of potentially significant environmental impacts associated with project development. To ensure that the mitigation measures identified in an Environmental Impact Report (EIR) are implemented, the public agency adopts a program for monitoring and reporting the measures it has imposed to mitigate or avoid significant effects (CEQA Guidelines Section 15097(a)). The State CEQA Guidelines require that a mitigation monitoring and reporting program (MMRP) be adopted at the same time that the EIR is adopted.

According to Section 15097(c) of the State CEQA Guidelines, reporting generally consists of a written compliance review that is presented to the decision-making body or authorized staff person. A report may be required at various stages during project implementation or upon completion of the mitigation measure. Monitoring is generally an ongoing or periodic process of project oversight. This program identifies the party responsible for implementing the action, the timing for the implementation of each measure, and the procedure for documenting the mitigation efforts.

The Rainbow Municipal Water District (District) is responsible for the implementation and monitoring of the measures during design and construction of the Rainbow Municipal Water District Water and Sewer Facilities Plan components unless otherwise stated herein. Only the environmental issues presented in the Program EIR that have mitigation measures are provided in the MMRP table. All other subsections do not contain mitigation measures. For each mitigation measure, the MMRP table identifies the following: (1) mitigation measure; (2) implementation action; (3) responsible agency/party; (4) monitoring schedule; and (5) verification date. The District may impose requirements for implementation of the measures on other parties responsible for constructing project components that would require approval from the District.

The District may modify how it will implement a mitigation measure, if the alternative means of implementing the mitigation still achieves the same or greater attenuation of the impact.

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
			Before Construction	During Construction	After Construction	
Biological Resources						
MM BIO-1: Project-Specific Biological Resource Surveys. Prior to construction of CIP Projects listed in Table 4.2-2, Table 4.2-3, district-wide CIP Projects (CIP Projects 600007, 600009, 600030, and 600055), and ODP Category A Projects and ODP Category B Projects included in BTR Appendices C-1, C-2, D-1, and D-2 that will be sited within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District shall retain a qualified biologist to perform a pre-construction survey to verify existing biological resources on and adjacent to the project construction areas. The District shall provide the biologist with a copy of the CIP and ODP project plans that clearly depict the construction work limits, including construction staging and storage areas, to determine which specific portion(s) of the project will require inspection of adjacent open space areas during the pre-construction survey. The surveys shall verify whether the project would occur on or in the immediate vicinity of sensitive natural communities, including habitat suitable for special-status species, in addition to potential jurisdictional aquatic resources. The surveys shall also verify whether the project could result in direct or indirect impacts to sensitive natural communities, special-status species, and potential jurisdictional aquatic resources. The survey results shall be submitted to the District to determine the need for additional environmental compliance actions. If suitable habitat for special-status plant species is confirmed within or immediately adjacent to potential impact areas of the projects, then the District shall implement mitigation measure MM BIO-2. If suitable habitat for special-status wildlife species is confirmed	• Require a qualified biologist to perform a pre-construction survey to verify existing biological resources on and adjacent to the project construction areas and verify whether the project would occur on or in the immediate vicinity of sensitive natural communities. • If suitable habitat for special-status plant species is confirmed, then the District shall implement mitigation measure MM BIO-2. • If suitable habitat for special-status wildlife species is confirmed, then the District shall implement mitigation measure MM BIO-3. • If potential impacts to sensitive natural communities are identified, then the District shall implement mitigation measures MM BIO-15A and MM BIO-15B. • If potential jurisdictional aquatic resources are identified within areas proposed to be impacted, then the District shall implement mitigation measure MM BIO-16.	District; Qualified Biologist	X			

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
			Before Construction	During Construction	After Construction	
within or immediately adjacent potential impact areas of the projects, then the District shall implement mitigation measure MM BIO-3. If potential impacts to sensitive natural communities are identified, then the District shall implement mitigation measure MM BIO-15A and MM BIO-15B. If potential jurisdictional aquatic resources are identified within areas proposed to be impacted, then the District shall implement mitigation measure MM BIO-16.						
MM BIO-2: Rare Plant Surveys, Avoidance, and Mitigation. If it is confirmed through the implementation of mitigation measure MM BIO-1 that the CIP and ODP project components could impact suitable habitat for special-status (rare) plant species, the District shall retain a qualified biologist to conduct focused presence/absence surveys for rare plants prior to project construction. Surveys shall follow protocols and guidelines approved by the USFWS, CDFW, and CNPS, and shall be conducted by qualified biologists. If a significant population of rare plant species with CNPS California Rare Plant Rank 1A, 1B, 2A, or 2B is identified within a project impact area, then to the extent feasible to implement the project, the District shall avoid impacts to the population through project-level design changes and/or construction methods (e.g., trenchless installation of pipelines) in consultation with the USFWS and CDFW. Prior to initiating construction activities, the District shall require that the rare plant locations detected during project-specific rare plant surveys are clearly shown on final construction plans. The District shall further require that the locations are demarcated in the field by a qualified biologist and protected-in-place through the installation of temporary construction fencing or alternative means that are approved by the qualified	• Require a qualified biologist to conduct focused presence/absence surveys for rare plants prior to project construction. • If a significant population of rare plant species with CNPS California Rare Plant Rank 1A, 1B, 2A, or 2B is identified within a project impact area, require consultation with the USFWS and CDFW to avoid impacts through project-level design changes. • Require rare plant locations to be identified on final construction plans, demarcated in the field by a qualified biologist, and protected-in-place. • Require a qualified biologist to monitor appropriate construction activities to ensure avoidance of the areas. • Require a final compliance report be prepared by the qualified biologist and	District; Qualified Biologist; USFWS and/or CDFW	X	X	X	

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
			Before Construction	During Construction	After Construction	
biologist. The qualified biologist shall monitor construction activities, as appropriate, to help ensure avoidance of the areas. A final compliance report shall be prepared by the qualified biologist and submitted to the District, CDFW, and USFWS for record, verifying that no impacts occurred to the species. Any inadvertent and unavoidable impacts shall be mitigated as specified below. If complete avoidance is determined not to be feasible, then the District shall restrict and minimize impacts to no more than 20 percent of the population, which is consistent with regional conservation standards. Mitigation for unavoidable impacts shall include one or a combination of the following and occur at a minimum ratio of 1:1, as determined by the District in consultation with the CDFW and USFWS: a. Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and CDFW; b. Acquisition and preservation of off-site mitigation land containing occupied habitat; and/or c. Preparation and implementation of a rare plant salvage and relocation plan, to include the following requirements, at a minimum: i. Evaluation of options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within existing or proposed preserved lands; ii. Seed collection and/or transplantation to a suitable receptor site based on the most reliable methods of successful relocation;	submitted to the District, CDFW, and USFWS. • If any inadvertent and unavoidable impacts occur or avoidance is infeasible, require the mitigation for the impacts at a 1:1 ratio through a mitigation bank purchase, off-site mitigation of occupied habitat, or implementation of a rare plant salvage and relocation plan.					

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iii. Recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success; and iv. Implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures.						
MM BIO-3: Special-Status Wildlife Species Surveys, Avoidance, and Mitigation. If it is confirmed through the implementation of mitigation measure MM BIO-1 that the CIP and ODP project components could directly or indirectly impact suitable habitat for special-status wildlife species, the District shall retain a qualified biologist to conduct focused, protocol-level surveys for special-status wildlife species prior to project implementation. Surveys shall follow protocols and guidelines approved by the USFWS and CDFW and shall be conducted by qualified biologists permitted by the USFWS and CDFW, as applicable. Impacts to federally listed species shall require consultation with the USFWS, and impacts to state-listed species shall require consultation with the CDFW as specified below. If special-status wildlife species are identified within a project impact area, the District shall, in coordination with the CDFW and USFWS, as applicable, avoid impacts to occupied habitat through project-level design changes and/or construction methods (e.g., trenchless installation of pipelines) prior to project implementation. If complete avoidance is determined not to be feasible, then the District shall compensate for the loss of occupied habitat through one or a combination of the following at a minimum ratio of 1:1, as determined by the District in consultation with the CDFW and USFWS, as applicable:	• If the project components could directly or indirectly impact suitable habitat for special-status wildlife species, require a qualified biologist to conduct focused, protocol-level surveys for special-status wildlife species. • If special-status wildlife species are identified within a project impact area, require coordination with the CDFW and USFWS to avoid impacts to occupied habitat through project-level design changes and/or compensate for the loss of occupied habitat at a minimum ratio of 1:1 through mitigation bank credits or off-site mitigation. • Require the appropriate consultation and permitting for species protected under Federal or state law.	District; Qualified Biologist; USFWS and/or CDFW	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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a. Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and CDFW; b. Acquisition and preservation of off-site mitigation land containing occupied habitat; and c. Where species protected under Federal law may be impacted, the District shall either consult directly with the USFWS to develop and implement a habitat conservation plan and obtain an Incidental Take Permit pursuant to the Federal Endangered Species Act Section 10(a), obtain take coverage in coordination with the County of San Diego, if applicable, or in the case of projects with a federal action agency, the District shall adhere to the requirements of Federal Endangered Species Act Section 7, which requires the federal action agency to consult with the USFWS to obtain a Biological Opinion and Incidental Take Statement for the project; or Where species protected under state law may be impacted, the District shall either consult with the CDFW pursuant to Sections 2081 or 2080.1 of the California Endangered Species Act. For projects with direct or indirect impacts to species that are only State-listed and not federally-listed as endangered or threatened, the District shall obtain a California Endangered Species Act Section Incidental Take Permit from CDFW. For projects with impacts to species that are both state- and federally-listed as endangered or threatened, the District shall obtain a California Endangered Species Act Section 2080.1 Consistency Determination from the CDFW, unless otherwise required by the CDFW.						

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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Off-site mitigation for impacts to special-status wildlife may also be used for off-site mitigation of impacts to sensitive communities and jurisdictional waters.						
MM BIO-4: Avoidance of Nesting Birds and Raptors. To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the District shall enforce the following: Project activities requiring the removal and/or trimming of vegetation suitable for nesting birds shall occur outside of the general bird breeding season (February 1 to September 30) to the extent feasible. If the activities cannot avoid the general bird breeding season, a qualified biologist with experience in conducting bird breeding surveys shall be retained to conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed with the reassurance that no violation to the MBTA and CFG Code would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Avoidance buffers should start at 300 feet for passerine birds and 500 feet for raptors. The buffer should be demarcated by temporary fencing and remain in effect until the nest is no longer active. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, and other factors as determined by the qualified biologist.	• Require the removal and/or trimming of vegetation suitable for nesting birds to occur outside of the general bird breeding season (February 1 to September 30). • If the general bird breeding season cannot be avoided, a qualified biologist shall conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. • If an active bird nest is found by the qualified biologist, require avoidance buffers until the qualified biologist determines the nest is no longer active.	District; Qualified Biologist	X	X		
MM BIO-5: Coastal California Gnatcatcher Pre-Construction Surveys and Avoidance. CIP projects listed in Table 4.2-2 are located within and adjacent to suitable coastal California	• If construction activities are planned to occur during the coastal California gnatcatcher breeding season (February 15	District; USFWS-Permitted Biologist;	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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gnatcatcher habitat. CIP Projects 600002, 600067, 530020, and 5300XX-6 are located within 500 feet of historical observations. In addition, CIP Projects 600002, 600048, 600050, 600051, 600061, 600066, 600068, 600070, 530018, 530020, 5300XX-1, 5300XX-4, 5300XX-5, and 5300XX-6 are located within designated critical habitat. If construction activities are planned to occur during the coastal California gnatcatcher breeding season (February 15 to August 30), then prior to initiating construction activities on or within 500 feet of off-site suitable coastal California gnatcatcher habitat, the District shall retain a USFWS-permitted biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The survey efforts shall consist of three surveys spaced one week apart, with the final survey occurring no more than three days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If gnatcatchers are confirmed to be absent on and within 500 feet of planned construction areas, then no additional measures shall be required. If gnatcatchers are confirmed to be present, then the District shall mitigate as specified below or unless otherwise prescribed by the USFWS through the implementation of mitigation measure MM BIO-3: If the results of pre-construction surveys determine the presence of coastal California gnatcatcher within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the gnatcatcher breeding season (February 15 to August 30). If activities at these locations cannot avoid the gnatcatcher breeding season, then the District shall implement required monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11, unless otherwise prescribed by the	to August 30) within 500 feet of suitable coastal California gnatcatcher habitat, require a USFWS-permitted biologist to conduct pre-construction surveys to confirm the presence or absence of the species. • If gnatcatchers are confirmed to be present, require monitoring, training, and staging pursuant to MM BIO-10 through MM BIO-13, unless addressed by USFWS through MM BIO-3. • If construction noise levels during the gnatcatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied gnatcatcher habitat by MM BIO-10 and MM BIO-11, require MM BIO-3 or construction to occur outside of the breeding season.	USFWS and/or CDFW.				

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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USFWS through the implementation of mitigation measure MM BIO-3. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13. If, after implementation of mitigation measures MM BIO-10 and MM BIO-11, construction noise levels during the gnatcatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied gnatcatcher habitat, then the District shall implement mitigation measure MM BIO-3 or complete the remainder of construction activities outside of the gnatcatcher breeding season.						
MM BIO-6: Stephens' Kangaroo Rat Pre-construction Surveys and Avoidance. CIP Projects 600002, 600040, and 600061 are located within potentially suitable Stephens' kangaroo rat habitat, and CIP Project 600026 is located within 500 feet of a historical Stephens' kangaroo rat observation. Prior to initiating construction activities within potentially suitable Stephens' kangaroo rat habitat, the District shall retain a USFWS-permitted biologist to conduct protocol surveys to confirm the presence or absence of the species. The survey efforts shall consist of live trapping within suitable habitat over five consecutive nights. If Stephens' kangaroo rat are confirmed to be absent on and within 500 feet of planned construction areas, then no additional measures shall be required. If kangaroo rats are confirmed to be present, then the District shall mitigate as specified below or unless otherwise prescribed by the USFWS through the implementation of mitigation measure MM BIO-3: If the results of the protocol surveys determine the presence of Stephens' kangaroo rat, then the	• Require protocol surveys conducted by a USFWS-permitted biologist to confirm the presence or absence of Stephens' kangaroo rat prior to initiating construction activities within potentially suitable habitat for the species. • If Stephens' kangaroo rats are confirmed to be present, require monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11 and contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13, unless otherwise prescribed by the USFWS through the implementation of mitigation measure MM BIO-3.	District; USFWS-Permitted Biologist; USFWS	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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District shall implement required monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11, unless otherwise prescribed by the USFWS through the implementation of mitigation measure MM BIO-3. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13.						
MM BIO-7: Least Bell's Vireo Pre-construction Surveys and Avoidance. CIP projects listed in Table 4.2-2 are located within and adjacent to suitable least Bell's vireo habitat. CIP Projects 600002, 600063, 600071, 530020, and 5300XX-7 are located within 500 feet of historical observations. In addition, CIP Projects 530020, 5300XX-4, 5300XX-5, and 5300XX-7 are located within designated critical habitat. If construction activities are planned to occur during the least Bell's vireo breeding season (March 15 to September 15), then prior to initiating construction activities in any project construction areas within 500 feet of least Bell's vireo critical habitat or suitable habitat, the District shall retain a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If vireos are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If vireo are confirmed to be present, then the District shall mitigate as specified below. If the results of pre-construction surveys determine the presence of least Bell's vireo within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the vireo breeding season (March 15 to September 15). If activities at these	• If construction activities are planned to occur within 500 feet of least Bell's vireo critical habitat or suitable habitat during the breeding season (March 15 to September 15), require a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. • If the pre-construction surveys determine the presence of least Bell's vireo within 500 feet of planned construction areas and construction activity cannot avoid the breeding season, require monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11and contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13. • If, after implementation of mitigation measures MM BIO-10 and MM BIO-11, construction noise levels during the vireo breeding season cannot be reduced below a 60 dBA hourly	District; Qualified Biologist	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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locations cannot avoid the vireo breeding season, then the District shall implement required monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13. If, after implementation of mitigation measures MM BIO-10 and MM BIO-11, construction noise levels during the vireo breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied vireo habitat, then the District shall implement mitigation measure MM BIO-3 or complete the remainder of construction activities outside of the vireo breeding season.	average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied vireo habitat, require mitigation measure MM BIO-3 or complete the remainder of construction activities outside of the vireo breeding season.					
MM BIO-8: Southwestern Willow Flycatcher Pre-Construction Surveys and Avoidance. CIP projects listed in Table 4.2-2 are located within and adjacent to suitable southwestern willow flycatcher habitat. No CIP projects are located within 500 feet of a historical observation or within designated critical habitat. If construction activities are planned to occur during the southwestern willow flycatcher breeding season (May 15 and July 17), then prior to initiating construction activities in any project construction areas within 500 feet of southwestern willow flycatcher critical habitat or suitable habitat, the District shall retain a qualified biologist to conduct pre-construction surveys to confirm the presence or absence of the species. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If flycatcher are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be	• If construction activities are planned to occur during the southwestern willow flycatcher breeding season (May 15 and July 17) and within 500 feet of southwestern willow flycatcher critical habitat or suitable habitat, require a qualified biologist conduct pre-construction surveys to confirm the presence or absence of the species. • If the results of pre-construction surveys determine the presence of southwestern willow flycatcher within 500 feet of planned construction areas and construction activities cannot avoid the flycatcher breeding season, require the District to implement monitoring pursuant to mitigation	District; Qualified Biologist	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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required. If flycatcher are confirmed to be present, then the District shall mitigate as specified below: If the results of pre-construction surveys determine the presence of southwestern willow flycatcher within 500 feet of planned construction areas, then construction activities at these locations shall be completed outside of the flycatcher breeding season (May 15 and July 17). If activities at these locations cannot avoid the flycatcher breeding season, then the District shall implement required monitoring pursuant to mitigation measures MM BIO-10 and MM BIO-11. In addition, the District shall implement contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13. If, after implementation of mitigation measures MM BIO-10 and MM BIO-11, construction noise levels during the flycatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied flycatcher habitat, then the District shall implement mitigation measure MM BIO-3 or complete the remainder of construction activities outside of the flycatcher breeding season.	measures MM BIO-10 and MM BIO-11 and contractor/crew training and construction staging pursuant to mitigation measures MM BIO-12 and MM BIO-13. • If after implementation of mitigation measures MM BIO-10 and MM BIO-11, construction noise levels during the flycatcher breeding season cannot be reduced below a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average from the edge of occupied flycatcher habitat, require implementation of mitigation measure MM BIO-3 or complete the remainder of construction activities outside of the flycatcher breeding season.					
MM BIO-9: Pre-Construction Biological Resource Surveys. Prior to construction of ODP projects included in BTR Appendices C-1, C-2, D-1, and D-2 that will be sited adjacent to or within an undeveloped open space area (i.e., an area supporting naturalized habitat, sensitive habitat, and/or habitat potentially suitable for special-status species), the District shall retain a qualified biologist to perform a pre-construction survey to verify existing biological resources adjacent to the project construction areas. The District shall provide the biologist with a copy of the ODP project plans that clearly depict the construction work limits, including construction staging and	• Require a qualified biologist to perform a pre-construction survey prior to construction that will be sited adjacent to or within an undeveloped open space area to verify existing biological resources and determine the likelihood for special-status species to occur. • If sensitive resources are identified, require applicable construction measures	District; Qualified Biologist	X			

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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storage areas, to determine which specific portion(s) of the project will require inspection of adjacent open space areas during the pre-construction survey. At minimum, the biologist shall perform a visual inspection of the adjacent open space area to characterize the existing habitat types and determine the likelihood for special-status species to occur, including the Quino checkerspot butterfly, arroyo toad, western spadefoot toad, San Diego fairy shrimp, Riverside fairy shrimp, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, migratory songbirds, and other bird species with the potential to breed in the area. The biologist's inspection shall include all potential habitat for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher that occurs within 500 feet of construction areas. The pre-construction survey results shall be submitted to the District prior to construction to verify the need for the additional construction measures proposed within MM BIO-10 through MM BIO-13, below.	proposed within MM BIO-10 through MM BIO-13.					
MM BIO-10: Construction-Related Noise. Construction noise created during the general bird breeding season (February 1 to September 30) that could affect the breeding of the coastal California gnatcatcher, least Bell's vireo and/or southwestern willow flycatcher, associated with adjacent undeveloped areas shall be avoided. No loud construction noise (exceeding a 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average, adjusted for ambient noise levels, at the nesting site) may take place within 500 feet of active nesting sites during the general breeding season (February 1 to September 30). If it is confirmed through the implementation of mitigation measures MM BIO-1, MM BIO-3, MM BIO-5 through MM BIO-9 that the CIP and ODP project could generate construction-related noise	• Prohibit construction noise exceeding a 60 dBA hourly average or the ambient noise level if it already exceeds 60 dBA hourly average within 500 feet of active nesting sites during the general breeding season (February 1 to September 30). • If the project could generate construction-related noise in excess of a 60 dBA hourly average or the ambient noise level if it already exceeds 60 dBA hourly average at the location of suitable nesting habitat during the general breeding season, require	District; Qualified Biologist; USFWS and/or CDFW	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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in excess of a 60 dBA hourly average or the ambient noise level if it already exceeds 60 dBA hourly average at the location of suitable nesting habitat during the general breeding season for coastal California gnatcatcher least Bell's vireo and/or southwestern willow flycatcher, the District shall retain a qualified biologist to monitor the construction operations. The biological monitor shall be present to monitor construction activities that occur adjacent to the undeveloped open space area potentially supporting breeding birds. The monitor shall verify that construction noise levels do not exceed a 60 dBA hourly average or the ambient noise level if it already exceeds 60 dBA hourly average and shall have the ability to halt construction work, if necessary, and confer with the District, and if applicable, USFWS and CDFW, to ensure no breeding birds are adversely affected and additional protection measures are properly implemented during construction. The biologist shall report any violation to the USFWS and CDFW within 24 hours of its occurrence.	monitoring of construction operations by a qualified biologist during construction activities that occur adjacent to the undeveloped open space area potentially supporting breeding birds. • Require construction to halt if construction noise levels exceed a 60 dBA hourly average or the ambient noise level if it already exceeds 60 dBA hourly average. • Require the qualified biologist to report any violation to the USFWS and CDFW within 24 hours of its occurrence.					
MM BIO-11: Biological Construction Monitoring and Temporary Construction Fencing. If it is confirmed through the implementation of mitigation measures MM BIO-1, MM BIO-2, and/or MM BIO-3 that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, then the District shall retain a qualified biologist to monitor construction activities and supervise the installation of temporary construction fencing, which clearly delineates the edge of the approved limits of grading and clearing, and the edges of environmentally sensitive areas that occur beyond the approved limits. This fencing shall be installed prior to construction and maintained for the duration of construction activity. Fencing shall be installed in a manner that does not impact habitats to be avoided. Once fencing is installed, the	• If the projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, require a qualified biologist to monitor construction activities and supervise the installation of temporary construction fencing, which clearly delineates the edge of the approved limits of grading and clearing, and the edges of environmentally sensitive areas that occur beyond the approved limits. • Require inspections and monitoring throughout	District; Qualified Biologist	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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District and qualified biologist shall determine the need for additional inspections and monitoring activities throughout the duration of construction. If determined necessary by the District and qualified biologist, the monitoring shall include inspection of construction work areas, including staging and storage areas, to confirm that activities are kept within the approved limits and that Best Management Practices are in place to prevent incidental animal entrapment and burrow and nest establishment within equipment and staged materials. If work occurs beyond the fenced or demarcated limits of impact, or if a trapped animal or burrow or nest is found, work in the affected areas shall cease until the problem has been remedied and mitigation identified by the District and qualified biologist. Temporary construction fencing shall be removed upon completion of construction of the project. The District shall verify the implementation of this measure prior to and concurrent with construction.	construction as determined by the District and qualified biologist. • If work occurs beyond the fenced or demarcated limits of impact, or if a trapped animal or burrow or nest is found, require work in the affected areas to cease until the problem has been remedied and mitigation has been identified by the District and qualified biologist.					
MM BIO-12: Construction Staging Areas. If it is confirmed through the implementation of mitigation measures MM BIO-1, MM BIO-2, and/or MM BIO-3 that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, the District shall design the final project construction staging areas such that no staging areas shall be located within sensitive habitat areas. The construction contractor shall receive approval by the District prior to mobilization and staging of equipment outside of the project boundaries.	• If it is confirmed that projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, prohibit staging areas from being located within sensitive habitat areas.	District	X			
MM BIO-13: Contractor Training. If it is confirmed through the implementation of mitigation measures MM BIO-1, MM BIO-2, and/or MM BIO-3 that the CIP and ODP projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for	• If it is confirmed that projects would occur immediately adjacent to sensitive habitat areas and/or habitat potentially suitable for special-status species, require a qualified	District; Qualified Biologist; Contractor	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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special-status species, the District shall retain a qualified biologist to attend pre-construction meetings to conduct a WEAP training to inform construction crews of the sensitive resources and associated avoidance and/or minimization requirements. Contractor must ensure that equipment shall be free of any weed seeds, contaminants, or pollutants to reduce the potential of anon-native and invasive species spread. Prior to work within sage scrub and/or chaparral habitats, equipment and work boots will be disinfected with 10 percent bleach solution to help prevent the spread of Rabbit hemorrhagic disease.	biologist to attend pre-construction meetings to conduct a WEAP training to inform construction crews of the sensitive resources and associated avoidance and/or minimization requirements. • Require equipment be free of any weed seeds, contaminants, or pollutants. • Prior to work within sage scrub and/or chaparral habitats, require equipment and work boots to be disinfected with 10 percent bleach solution.					
MM BIO-14: Maintenance Project Compliance. Maintenance activities shall occur within existing or previously disturbed or developed areas such as a facility easement, facility maintenance easement, and/or developed facility footprint. Vegetation clearing and removal shall be limited to non-native and invasive species to the extent feasible; however, trimming of native species is allowable. Additional studies, as specified in mitigation measure MM BIO-1, may be required for impacts outside of existing facility footprints. Furthermore, maintenance projects shall implement appropriate BMPs where applicable to avoid and minimize potential indirect impacts to special-status species, their habitat, and potentially jurisdictional areas from water pollution during project activities. Maintenance activities shall occur outside of the general breeding season (February 1 to September 30). In addition, maintenance activities will occur outside of the coastal California gnatcatcher (February 15 to August 30), least Bell's vireo (March 15 to September 15), and southwestern willow flycatcher (May 15 to July 17)	• Require maintenance activities to occur within existing or previously disturbed or developed areas. • Require vegetation clearing and removal to be limited to non-native and invasive species to the extent feasible. • Require additional studies specified in MM BIO-1 for impacts outside of existing facility footprints. • Require implementation of appropriate BMPs during maintenance projects. • Require maintenance activities to occur outside of the breeding seasons for general breeding (February 1 to September 30), coastal California gnatcatcher (February 15 to August 30),	District	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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breeding seasons. If activities cannot avoid the gnatcatcher and occur within 500 feet of suitable gnatcatcher habits (i.e., Diegan coastal sage scrub), the District shall implement mitigation measure MM BIO-5. If activities cannot avoid the vireo, and/or flycatcher breeding seasons and occur within 500 feet of suitable vireo and flycatcher habitat (i.e., riparian scrub, woodland, and forest), the District shall implement mitigation measures MM BIO-7 and MM BIO-8.	least Bell's vireo (March 15 to September 15), and southwestern willow flycatcher (May 15 to July 17). • If activities cannot avoid the gnatcatcher breeding season and occur within 500 feet of suitable gnatcatcher habits require MM BIO-5. • If activities cannot avoid the vireo and/or flycatcher breeding seasons and occur within 500 feet of suitable vireo and flycatcher habitat require MM BIO-7 and MM BIO-8.					
MM BIO-15A: Compensatory Mitigation for CIP Project Impacts to Sensitive Upland Communities. If it is demonstrated through the implementation of mitigation measure MM BIO-1 that the project, CIP or ODP, could directly impact sensitive upland communities, the District shall mitigate for the loss of habitat according to the ratios provided in Table 4.2-5*, Estimated Mitigation for CIP Project Impacts to Sensitive Upland Communities within the Service Area*, and Table 4.2-6*, Estimated Mitigation for ODP Project Impacts to Sensitive Upland Communities within the Service Area,* below, unless otherwise specified in the required agency permits and approvals. Off-site mitigation for impacts to special-status wildlife may also be used for off-site mitigation of impacts to sensitive upland communities.	• Require mitigation according to the ratios in Table 4.2-5 and 4.2-6, unless otherwise specified by the applicable agency, for impacts to sensitive upland communities.	District; USFWS and/or CDFW	X			
MM BIO-15B: Compensatory Mitigation for Project Impacts to Sensitive Wetland/Riparian Communities. If it is demonstrated through the implementation of mitigation measure MM BIO-1 that the project, CIP or ODP, could directly impact	• Require mitigation according to the ratios in Table 4.2-7 and 4.2-8, unless otherwise specified by the applicable agency, for impacts to	District; USFWS, USACE,	X			

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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sensitive wetland/riparian communities, the District shall mitigate for the loss of habitat according to the ratios provided in Table 4.2-7, *Estimated Mitigation for CIP Project Impacts to Sensitive Wetland/Riparian Communities within the Service Area,* and Table 4.2-8, *Estimated Mitigation for ODP Project Impacts to Sensitive Wetland/Riparian Communities within the Service Area,* below, unless otherwise specified in the required agency permits and approvals. To comply with state and federal regulations for impacts to jurisdictional resources regulated by the United States and the State of California, prior to project approval or implementation, the District shall either obtain the following permits and agreements or evidence from the respective agency that such permit or agreement is not required if development activities are proposed within jurisdictional waters: A Clean Water Act section 404 permit issued by the U.S. Army Corps of Engineers for all project-related disturbances of jurisdictional non-wetland waters. A Clean Water Act section 401 permit issued by the Regional Water Quality Control Board for all project-related disturbances of jurisdictional non-wetland waters. A Section 1602 Streambed Alteration Agreement issued by the California Department of Fish and Wildlife for all project-related disturbances of any streambed and associated riparian habitat.	sensitive wetland/riparian communities. • Require appropriate permits or evidence from the applicable agency that permits are not required for impacts to jurisdictional waters.	RWQCB, and/or CDFW				
MM BIO-16: Project-Level Jurisdictional Delineations. If it is demonstrated through the implementation of mitigation measure MM BIO-1 that a CIP and/or ODP project could impact potential jurisdictional waters and/or wetlands, the District shall retain a qualified biologist to perform formal jurisdictional delineations of the project sites prior to project approval and implementation.	• Require formal jurisdictional delineations to be completed by a qualified biologist where a project could impact potential jurisdictional waters. • If the formal jurisdictional delineations determine that the	District; Qualified Biologist; USACE, RWQCB, and/or CDFW	X			

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If the formal jurisdictional delineations determine that there are no resources present that could be subject to the regulatory jurisdiction of the USACE, RWQCB, or CDFW, then no further action shall be required. However, if the formal jurisdictional delineations determine that the features are subject to USACE, RWQCB, and/or CDFW jurisdiction, then the District shall avoid and/or minimize impacts through redesign and/or implementing trenchless construction methods (i.e., jack-and-bore or horizontal directional drilling) and obtain USACE, RWQCB, and/or CDFW concurrence prior to project implementation that impacts have been avoided. If concurrence is not obtained, the District shall implement mitigation measure MM BIO-17.	features are subject to USACE, RWQCB, and/or CDFW jurisdiction, avoid and/or minimize impacts and obtain USACE, RWQCB, and/or CDFW concurrence prior to project implementation that impacts have been avoided or implement MM BIO-17.					
MM BIO-17: Compensatory Mitigation for Impacts to Jurisdictional Resources. Compensatory mitigation in accordance with the permit conditions imposed by USACE, RWQCB, and CDFW, for the unavoidable impacts to jurisdictional waters and wetlands, which would include one or a combination of the following measures: • Purchase of preservation, establishment, re-establishment, rehabilitation and/or enhancement credits from a mitigation bank approved by the USACE and CDFW, such as the San Luis Rey Mitigation Bank, Brook Forest Conservation and Mitigation Bank, or another approved mitigation bank in the region; or • Implement Permittee-responsible preservation, establishment, re-establishment, rehabilitation and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan,	• Require mitigation in accordance with permit conditions imposed by USACE, RWQCB, and CDFW through mitigation bank credits or permittee-responsible mitigation. • Require a conservation easement, restrictive covenant, or other protection be recorded over the mitigation area, which shall be managed in perpetuity, unless otherwise specified by the USACE, RWQCB, and/or CDFW.	District; USACE, RWQCB, and/or CDFW	X			

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restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. • Plans for restoration or revegetation should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation. A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. Off-site mitigation for impacts to jurisdictional waters may also be used for off-site mitigation of impacts to sensitive communities and special-status wildlife.						
Cultural and Tribal Cultural Resources						
MM CUL-1: Project-specific Cultural Resource Procedures. Project-specific cultural resources analysis is required for Project improvements, including CIP projects, ODP projects, and maintenance projects that involve (a) demolition of an aboveground built environment resource that is more than 45 years in age or (b) ground disturbance in areas of moderate or high cultural sensitivity, as depicted on Figure 4.3-2, *Cultural Sensitivity Mitigation*. This requirement does not apply to improvements that involve the ongoing	• Require project-level cultural resources analysis for (a) demolition of an aboveground built environment resource that is more than 45 years in age or (b) ground disturbance in areas of moderate or high cultural sensitivity. • Require the Principal Investigator to conduct a	District; Principal Investigator	X			

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operation, repair, and/or maintenance of existing aboveground District facilities and/or equipment, or those that are necessary to remedy an emergency condition that poses an imminent threat to health and safety, or property. The following framework is provided to guide the identification, evaluation, and mitigation of potential impacts to cultural resources. Each of the following sections serves as a necessary step to the next section and is dependent upon meeting the criteria of each previous section. The District shall retain a qualified Project cultural resources management professional (Principal Investigator) to carry out the following procedures: 1. The Principal Investigator shall conduct a Project-specific cultural resources analysis to determine if significant cultural resources are within, or likely to be within, the Project improvement area. The analysis shall include conducting background research, including a focused CHRIS record search update at the SCIC, a review of site photographs and existing historic information, and a field survey including a Native American monitor. Prior to field reconnaissance, a review of the Sacred Lands File maintained by the NAHC shall also be conducted. If no known or potentially significant cultural resources are identified within the Project improvement area, and site conditions are determined to be such that there is low potential for subsurface cultural resources to be present within the Project improvement area, then no further action is required beyond (1) the preparation of a Cultural Resources Technical Report documenting the methods and results of the Project-specific cultural resources analysis, and (2) the implementation of mitigation measure MM CUL-3, presented herein.	cultural resources analysis and oversee a significance evaluation and treatment, as appropriate.					

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2. If avoidance is not possible, cultural resource significance evaluations shall be required when new resources are identified as a result of a survey, or when previously recorded resources that have not been previously evaluated are reidentified during a survey. Significance evaluations shall not be required if the resource has been evaluated for CEQA significance or for NRHP eligibility previously and if there has been no change in the conditions that contributed to the determination of significance or eligibility. A resource shall be reevaluated if its condition or setting has either improved or deteriorated, if new information is available, or if the resource is becoming increasingly rare due to the loss of other similar resources. a. An archaeological testing program shall be required for potentially significant archaeological sites in need of cultural resource significance evaluation. Archaeological testing programs include evaluating the horizontal and vertical dimensions of a site, the chronological placement, site function, artifact/ecofact density and variability, presence/absence of subsurface features, and research potential. Tribal representatives and/or Native American monitors shall be involved in making recommendations regarding the significance of prehistoric archaeological sites during this phase of the process. The testing program may require reevaluation of the proposed Project improvement, which could result in a combination of project redesign to preserve significant resources, as well as mitigation in the form of data recovery and monitoring						

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(as recommended by the qualified Project archaeologist and Native American representative). b. For above-ground historic period structures, buildings, or objects, the evaluation program shall include the development of an appropriate research design and methodological approach to the resource. Evaluation methods shall include literature review and research, the development of a historic context, documentation and photography of existing conditions and alterations over time, and historical significance evaluation under the NRHP and CRHR criteria. 3. Resources found to be non-significant as a result of a survey and/or testing will require no further work beyond documentation of the resources on the appropriate California Department of Parks and Recreation site forms and inclusion of results in the survey and/or assessment report. If no significant resources are identified within the Project improvement area but results of the initial survey or and testing/evaluation phase indicate there is a potential for unknown subsurface cultural resources to be present in the Project improvement area, then the implementation of mitigation measure MM CUL-2, presented herein, is required. 4. Preferred treatment for significant cultural resources is preservation. Pursuant to California Public Resources Code Section 21083.2(b), avoidance through project redesign is the preferred method of preservation. If a significant resource cannot be entirely avoided, all prudent and feasible						

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measures to minimize adverse impacts shall be taken. a. For archaeological resources for which preservation is not an option, a research design for a data recovery program shall be prepared. The data recovery program shall be based on a written research design and is subject to the provisions as outlined in CEQA Section 21083.2. Materials collected during the Data Recovery Program shall be processed and curated at a San Diego County facility that meets federal standards per 36 Code of Federal Regulations Part 79 unless, in the case of prehistoric or tribal cultural resources, other appropriate treatment measures such as the reburial of recovered cultural material are agreed upon by the District and tribal representative(s). Upon completion of the data recovery program, implementation of mitigation measure MM CUL-2 will be required. Such measures may also be required during building demolition and/or construction grading when significant cultural resources are known or suspected to be present on a site but cannot be recovered prior to grading due to obstructions such as existing development or dense vegetation. b. For non-archaeological significant resources, the development and implementation of a Historical Resources Treatment Plan shall be prepared to provide for appropriate treatments measures to mitigate adverse impacts. The Historical Resources Treatment Plan shall be						

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approved by the District prior to the implementation of any treatment measures.						
MM CUL-2: Cultural Resources Monitoring Program. If significant cultural resources have been identified within the proposed Project improvement area where ground disturbance is proposed, or the Project archaeologist has determined that there is the potential for subsurface cultural resources to occur within a proposed Project improvement area, as identified during the implementation of mitigation measure MM CUL-1, a cultural resources monitoring program shall be implemented. 1. The District shall retain a qualified Project archaeologist and Native American monitor(s) associated with a tribe that is traditionally and culturally affiliated (TCA) with the Project Location ("TCA Tribe") to implement the monitoring program. 2. The District shall enter into a Tribal Cultural Resource Treatment and Monitoring Agreement (also known as a pre-excavation agreement) with the TCA Tribe, if requested by the TCA Tribe. The purposes of the agreement are (1) to provide the District with clear expectations regarding tribal cultural resources; and (2) to formalize protocols and procedures between the District and the TCA Tribe for the protection and treatment of, including but not limited to, Native American human remains; funerary objects; cultural and religious landscapes; ceremonial items; traditional gathering areas; and cultural items located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations,	• If determined to be necessary during MM CUL-1, require a cultural monitoring program facilitated by a qualified Project archaeologist and Native American Monitor • Require a pre-excavation agreement and attendance by the monitors at pre-grading meetings and grading activities. • Require evaluation and treatment of any unevaluated cultural resources. • Require preparation of a report after monitoring is complete.	District; Qualified Native American Monitor; Qualified Project Archaeologist	X	X	X	

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grading, and all other ground-disturbing activities. 3. The qualified Project archaeologist and a Native American monitor shall attend the pre-grading meeting with the grading contractors to explain and coordinate the requirements of the monitoring program. 4. During the initial grubbing, site grading, excavation, trenching, or disturbance of the ground surface, an archaeological monitor and a Native American monitor shall be on-site full-time. The frequency of inspections shall depend on the rate of excavation, the materials excavated, and any discoveries of tribal cultural resources as defined in California Public Resources Code Section 21074. Archaeological and Native American monitoring will be discontinued when the depth of grading and soil conditions no longer retain the potential to contain cultural deposits. The qualified Project archaeologist, in consultation with the Native American monitor, shall be responsible for determining the duration and frequency of monitoring. 5. If unevaluated potentially significant cultural resources are discovered, construction activities shall be diverted away from the discovery until significance evaluation can be conducted, as described in mitigation measure MM CUL-1, and the appropriate preservation or treatment actions can be taken. Construction activities would be allowed to resume after the completion of mitigation measure MM CUL-1, along with the continuation of monitoring. All cultural material collected during monitoring would be processed and curated at a San Diego County facility that meets federal standards per 36 Code of Federal Regulations Part 79						

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unless, in the case of Native American cultural material, other appropriate treatment measures such as the reburial of recovered cultural material are agreed upon by the District and the TCA Tribe. **6.** After the completion of monitoring, an appropriate report shall be prepared. If no significant cultural resources are discovered, a brief letter shall be prepared. If significant cultural resources are discovered, a report with the results of the monitoring and any data recovery (including the interpretation of the data within the research context) shall be prepared.						
MM CUL-3: Procedure for Project Improvements with no Archaeological Monitoring Program. In cases where proposed ground-disturbing Project improvements are located within moderate or high cultural sensitivity areas, and the implementation of mitigation measure MM CUL-2 is not required, as specified in mitigation measure MM CUL-1, the District shall retain a qualified Project archaeologist, defined as meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior 2008) to ensure no inadvertent impacts occur to significant cultural resources occur during the implementation of an individual Project improvement. 1. Prior to construction activities, the selected Project archaeologist or their designee will provide a Worker Environmental Awareness Program (WEAP) training to construction crews that provides information on regulatory requirements for the protection of cultural resources. As part of the WEAP training, construction crews shall be briefed on proper procedures to follow should unanticipated cultural resources discoveries	• Require a qualified Project archaeologist to provide a WEAP training to construction personnel. • If a cultural resource is inadvertently unearthed, require construction activities to move away from the area and the Project Archaeologist to conduct a significance evaluation.	District; Qualified Project Archaeologist	X	X		

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be made during construction. In addition, workers will be shown examples of the types of resources that would require the notification of the Project archaeologist. 2. In the event that cultural resource(s) are inadvertently unearthed during ground-disturbing activities, construction activities shall be diverted away from the discovery until the Project archaeologist is contacted, a significance evaluation can be conducted, and the appropriate actions can be taken as described in mitigation measure MM CUL-1. Construction activities would be allowed to resume in the area of the discovery only after the completion of the significance evaluation and treatment measures defined in mitigation measure MM CUL-1.						
MM CUL-4: Identification of Human Remains. As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Coroner's office. Determination of whether the remains are human shall be conducted on-site and in situ where they were discovered by a forensic anthropologist, unless the forensic anthropologist and the Native American monitor agree to remove the remains to an off-site location for examination. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition. A temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. In the event that the remains	• Require notification to the San Diego County Coroner's Office for human remains encountered during construction. • Prohibit work in the region of the finding until the Coroner and Native American representative complete their investigations.	District; Construction Contractor; San Diego County Coroner		X		

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are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains in accordance with California Public Resources Code section 5097.98. The Native American remains shall be kept in situ, or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of a Native American monitor.						
Geology and Soils						
MM GEO-1: Conduct Site-Specific Geotechnical Investigations. All improvement projects that include excavation shall be subject to initial screening by the District to determine their site-specific geologic conditions, potential susceptibility to geologic hazards, and related requirements for an individual geotechnical evaluation. Based on the results of the initial screening, site-specific geotechnical investigations shall be completed for applicable improvement projects prior to final project design and construction. These investigations will identify site-specific criteria related to considerations such as grading, excavation, fill, and structure/facility design. All applicable results and recommendations from the geotechnical investigations shall be incorporated into the associated individual project design and construction documents to address identified potential geologic and soil hazards, including but not necessarily limited to: (1) seismic hazards including ground rupture, ground acceleration (ground shaking), soil liquefaction (and related issues such as dynamic settlement and lateral spreading), and landslides/slope instability; and (2) non-seismic hazards including manufactured slope instability, subsidence/compressible soils, expansive or corrosive soils, and trench/excavation instability. The final project	• Require site-specific geotechnical investigations where the District determines one is necessary. • Require final project design and plans to incorporate all applicable results and recommendations from the geotechnical investigation and applicable standard design and construction practices from established regulatory/ industry sources.	District; Project Engineer; Construction Contractor	X	X		

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design and construction documents shall also encompass applicable standard design and construction practices from established regulatory/ industry sources including the CBC, IBC, CGS, Greenbook and District standards, as well as the results/recommendations of geotechnical review and field observations/testing to be conducted during project excavation, grading and construction activities (with all related requirements to be included in applicable engineering/design drawings and construction contract specifications).						
MM GEO-2: Paleontological Construction Monitoring in Sensitive Areas. Project improvements that involve excavation activities in areas identified as having marginal, moderate, or high paleontological sensitivity, as depicted on Figure 4.5-3, shall implement a paleontological construction monitoring program. Areas identified as having marginal, moderate, or high paleontological sensitivity are underlain by Pleistocene-age old and very old alluvial flood plain and colluvial deposits, strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and Mesozoic quartzites and related metasedimentary rocks. The paleontological monitoring program shall include the following components: a. Pre-construction (personnel and repository): Prior to the commencement of construction, a qualified Project Paleontologist shall be retained to oversee the mitigation program. The County of San Diego defines a Project Paleontologist as a person with a Ph.D. or master's degree in Paleontology or related field, and who has knowledge of San Diego County paleontology and documented experience in professional paleontological procedures and techniques. In addition, a regional fossil repository shall be	• Require a paleontological construction monitoring program for excavation activities in areas identified as having marginal, moderate, or high paleontological sensitivity. • Require the paleontological construction monitoring program to include a pre-construction meeting and training, construction monitoring, and a final report. • If fossils are discovered, require the monitor to recover them, redirecting grading if necessary, catalog them, and prepare them for curation by the designated repository.	District; Qualified Project Paleontologist	X	X	X	

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designated to receive any discovered fossils. Because the District service area is in San Diego County, the recommended repository is the San Diego Natural History Museum. b. Pre-construction (meeting): The Project Paleontologist shall attend the pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues. c. Pre-construction (training): The Project Paleontologist shall conduct a paleontological resource contractor awareness training workshop to be attended by earthwork personnel. d. During construction (monitoring): A paleontological monitor (working under the direction of the Principal Paleontologist) shall be on-site on a full-time basis during all original cutting of previously undisturbed Pleistocene-age old and very old alluvial flood plain and colluvial deposits, previously undisturbed strata of the Pliocene-age Temecula Arkose and Eocene-age Santiago Formation, and previously undisturbed Mesozoic-age quartzites and related metasedimentary rocks to inspect fresh exposures for unearthed fossils. The County of San Diego defines a paleontological monitor as an individual with at least one year of experience in field identification and collection of fossil materials under the supervision of a Project Paleontologist. e. During construction (fossil recovery): If fossils are discovered, the Principal Paleontologist (or paleontological monitor)						

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shall recover them. Bulk sedimentary matrix samples may also be collected from stratigraphic horizons that appear likely to contain microvertebrate fossils. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens (e.g., a bone bed or a complete large mammal skeleton) may require an extended salvage period. In these instances, the Principal Paleontologist (or paleontological monitor) has the authority to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. f. Post-construction (treatment): Fossil remains collected during monitoring and salvage shall be prepared (including washing of bulk sediment matrix samples to recover microvertebrate fossils), repaired, sorted, and cataloged as part of the mitigation program. g. Post-construction (curation): Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited (as a donation) in the designated fossil repository. Donation of the fossils shall be accompanied by financial support for initial specimen storage. h. Post-construction (final report): A final summary paleontological mitigation report shall be completed that outlines the results of the mitigation program. This report shall include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, inventory lists of catalogued fossils, and significance of recovered fossils.						
See mitigation measure MM HYD-1 under Hydrology and Water Quality.						

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Hazards and Hazardous Materials						
MM HAZ-1: Sewer Pipeline and Lift Station Safety Features. Sewer lift stations shall incorporate standard safety features, including an emergency generator on the site in case of electrical failure, and sufficient sewage detainment capacity in the event of generator and/or pump mechanism failure to allow time for repair and/or emergency conveyance of the sewage. Portable emergency generators may be used for lift stations that cannot be equipped with an on-site generator. Each sewer lift station, pipeline, and treatment facility would implement a Sewer System Management Plan that includes contingency measures in the event of emergency leaks or spills.	• Require incorporation of standard safety features at sewer lift stations, including an emergency generator and sufficient sewage detainment capacity. • Require a Sewer System Management Plan for each sewer lift station, pipeline, and treatment facility.	District; Project Engineer	X	X		
MM HAZ-2: Conduct Site-Specific Environmental Site Assessment. Project improvements that involve excavation shall be subject to initial screening by the District to determine their site-specific potential susceptibility to hazards and hazardous materials/risk of upset. Based on the results of the initial screening, a site-specific environmental site assessment shall be completed for Project improvements, when project-specific designs have been finalized, that would require ground-disturbing activities such as grading and trenching. The environmental site assessment will entail a regulatory database records review to determine if known hazardous waste sites occur on or near the proposed project site. If hazardous materials are identified, a full Phase I environmental site assessment investigation shall be completed for the project improvement site. Phase I environmental site assessment investigations include: (1) appropriate regulatory database records review; (2) site reconnaissance; (3) review of appropriate maps, aerial photographs and other pertinent documents;	• Require a site-specific environmental site assessment when determined necessary by the District for activities including grading and trenching. • If hazardous materials are identified, require a full Phase I environmental site assessment investigation and any subsequent investigations recommended by the Phase I. • If prepared, require incorporation of results and recommendations from the Phase I and Phase II investigations into the associated final project design documents.	District; Project Engineer; Construction Contractor	X	X		

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(4) interviews with current/previous property owners, local government/industry officials, and other individuals with knowledge of the property and/or local environmental conditions; (5) documentation of known or potential Recognized Environmental Conditions (RECs); and (6) identification of recommendations to address RECs or other concerns, if applicable (including Phase II environmental site assessment investigations, as outlined below). Depending on the results of the described Phase I investigation, one or more Phase II environmental site assessment investigations shall be conducted if identified as part of the Phase I recommendations. Phase II environmental site assessments consist of "intrusive" investigations, in which original samples of soil, groundwater, and/or building materials are collected and submitted for laboratory analysis to identify applicable contaminates. Based on the results of this testing, the Phase II investigations shall identify the type and extent of REC (or other) contamination, and provide appropriate remedial measures to address associated hazards. Typical remedial measures may include efforts such as removal and proper disposal of contaminated materials (or on-site treatment and reuse, if applicable), or in situ treatments such as oxidation (use of aerobic bacteria to accelerate natural attenuation of organic contaminants) or bioremediation (e.g., using bacteria to remove contaminates from groundwater). Environmental site assessments shall be prepared in conformance with applicable regulatory and industry standards, including ASTM International E1527-05 Standard Practice for Environmental Site Assessments, and CFR Part 312, Standards and Practices for All Appropriate Inquiries. Results and recommendations from the described Phase I and						

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Phase II investigations shall be incorporated into the associated individual final project design documents to address identified potential hazardous material concerns.						
MM HAZ-3: Construction Fire Safety Plan. The following fire prevention strategies shall be implemented during Project construction: • Construction within areas of dense foliage during dry conditions shall be avoided. • In cases where avoidance is not feasible, brush fire prevention and management practices shall be incorporated. Specifics of the brush management program shall be incorporated into Project construction documents.	• Require construction in areas of dense foliage to avoid times of dry conditions or implement a brush management program.	District; Construction Contractor		X		
See mitigation measure MM TRA-1 under Transportation.						
Hydrology and Water Quality						
MM HYD-1: Conduct Site-Specific Water Quality Investigations. All projects are subject to initial screening by the District to determine their site-specific hydrological conditions, related potential impacts, and requirements for individual associated technical investigations. Site-specific water quality investigations will be completed prior to approval of final design for proposed projects involving activities that may potentially affect surface water quality, as determined by the District during initial screening. All applicable results and recommendations from these investigations will be incorporated into the associated individual final project design documents to address identified potential long-term water quality issues related to conditions such as: anticipated and potential pollutants to be used, stored, or generated on-site; the location and nature (e.g., impaired status) of on-site and downstream receiving waters; and project design	• Require site-specific water quality investigations prior to approval of final design where the District determines project activities may affect surface water quality. • Require incorporation of applicable results and recommendations from water quality investigations into the final project design documents in addition to standard design practices such as NPDES criteria. • If no site-specific recommendations are provided, require incorporation of appropriate standard	District; Project Engineer; Construction Contractor	X	X		

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features to avoid/address potential pollutant discharges. The final project design documents will also encompass standard design practices from sources including NPDES criteria and other applicable regulatory standards (with all related requirements to be included in engineering/design drawings and construction contract specifications). A summary of the types of BMPs typically associated with identified potential water quality concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The BMPs identified/recommended as part of the described site-specific water quality investigations will take priority over the more general types of standard regulatory/industry measures listed below: • Low Impact Development (LID)/Site Design BMPs: LID/site design BMPs are intended to avoid, minimize, and/or control post-development runoff, erosion potential, and pollutant generation to the maximum extent practicable by mimicking the natural hydrologic regime. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain, and infiltrate runoff close to its source through efforts such as: (1) minimizing developed/disturbed areas to the maximum extent feasible; (2) utilizing natural and/or unlined drainage features in on-site storm water systems; (3) disconnecting impervious surfaces to slow concentration times, and directing flows from impervious surfaces into landscaped or vegetated areas; and (4) using pervious surfaces in developed areas to the maximum extent feasible. • Source Control BMPs: Source control BMPs are intended to avoid or minimize the introduction of pollutants into storm drains	regulatory/industry measures listed in MM HYD-1:					

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and natural drainages by reducing on-site pollutant generation and off-site pollutant transport through measures such as: (1) installing “no dumping” stencils/tiles and/or signs with prohibitive language at applicable locations such as drainages and storm drain inlets to discourage illegal dumping; (2) designing trash storage areas to reduce litter/pollutant discharge through methods such as paving with impervious surfaces, installing screens or walls to prevent trash dispersal, and providing attached lids and/or roofs for trash containers; (3) designing site landscaping to maximize the retention of native vegetation and use of appropriate native, pest-resistant, and/or drought-tolerant varieties to reduce irrigation and pesticide application requirements; and (4) providing secondary containment (e.g., enclosed structures, walls, or berms) for applicable areas such as trash or hazardous material use/storage. • Pollutant Control BMPs: Pollutant control BMPs are designed to remove pollutants from runoff to the maximum extent practicable through means such as filtering, treatment, or infiltration. Pollutant control BMPs are required to address applicable pollutants, and may include efforts such as: (1) providing water quality treatment and related facilities such as sediment basins, vegetated swales, infiltration basins, filtration devices, and velocity dissipators to treat appropriate runoff flows and reduce volumes prior to off-site discharge (per applicable regulatory requirements); (2) creating a construction spill contingency plan in accordance with Department of Environmental Health regulations and retaining a copy of the plan on- site by the construction manager; and (3) conducting						

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regular inspection, maintenance, and as-needed repairs of pertinent facilities and structures.						
MM HYD-2: Conduct Site-Specific Hydrologic and Hydraulic Investigations. All projects are subject to initial screening by the District to determine their site-specific hydrological conditions, related potential impacts, and requirements for individual associated technical investigations. All applicable results and recommendations from these investigations shall be incorporated into the associated final design documents to address identified potential hydrologic concerns, including, but not necessarily limited to drainage alteration, runoff rates/amounts, storm water management and hydromodification, and flood hazards. The final project design documents shall also encompass applicable standard design and construction practices from sources including NPDES (with related requirements to be included in applicable engineering/design drawings and/or construction contract specifications). A summary of the types of remedial measures typically associated with identified potential hydrologic concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The remedial measures identified/recommended as part of the described site-specific hydrologic investigations will take priority over the more general types of standard regulatory/industry measures listed below. • Drainage Alteration: (1) locate applicable facilities outside of surface drainage courses and drainage channels; (2) re-route surface drainage around applicable facilities, with such re-routing to be limited to the smallest area feasible and re-routed drainage to be directed back to the original drainage course at the closest feasible	• Require incorporation of the recommendations made by applicable technical investigations related to hydrology. • Require final project design documents to encompass applicable standard design and construction practices including NPDES. • Implement remedial measures associated with identified hydrologic concerns, pursuant to applicable regulatory and industry standards where a site-specific technical study has not been completed.	District; Project Engineer; Construction Contractor	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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location (i.e., the closest location to the point of diversion); and (3) use drainage structures to convey flows within/through development areas and maintain existing drainage patterns, where appropriate and feasible. • Runoff Rates/Amounts, Storm Water Management and Hydromodification: (1) minimize the installation of new impervious surfaces (e.g., by surfacing with pervious pavement, gravel or decomposed granite); (2) use flow regulation facilities (e.g., detention/retention basins) and velocity control structures (e.g., riprap dissipation aprons at drainage outlets), to maintain pre-development runoff rates and amounts for design storm events, if applicable; and (3) utilize additional and/or enlarged drainage facilities to ensure adequate on- and off-site storm drain system capacity, if applicable. • Capacity of surface drainage: Follow County of San Diego Hydraulic Design Manual for stormwater drainage and flood management facilities in the unincorporated San Diego County. • Flood Hazards: (1) locate proposed facilities outside of mapped 100-year floodplain boundaries wherever feasible; (2) based on technical analyses such as Hydrologic Engineering Center-River Analysis System (HEC-RAS) studies, restrict facility locations to avoid adverse impacts related to impeding or redirecting flood waters; (3) based on HEC-RAS studies, use measures such as raised fill pads to elevate proposed structures above calculated flood levels, and/or utilize protection/ containment structures (e.g., berms, barriers or water-tight doors) to avoid flood damage; and						

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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(4) if Project-related activities/facilities result in applicable proposed changes to mapped FEMA floodplains, obtain an approved Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) from FEMA and County of San Diego Flood Control District, as applicable.						
Noise						
MM NOI-1: General Construction and Maintenance Noise Limits. Noise from Project-related construction and maintenance activities shall comply with the following local noise ordinances as applicable and feasible depending on the location of the activity. • County of San Diego: A noise level limit of 75 dBA (8-hour L_{EQ}) between 7:00 a.m. to 7:00 p.m. • City of Oceanside: A noise level limit of 85 dBA at 100 feet from the source; a noise level limit of 50 dBA at the property line when construction equipment is operating within any residential zone or 500 feet from any residential zone between 8:00 p.m. and 7:00 a.m.; a noise level limit of 5 dBA above ambient between 6:00 p.m. and 7:00 a.m. The District shall employ measures to reduce construction and maintenance noise levels to the specified limits, including, but not limited to, the following: • Construction equipment shall be properly outfitted and maintained with manufacturer-recommended noise-reduction devices. • Diesel equipment shall be operated with closed engine doors and equipped with factory-recommended mufflers. • Mobile or fixed “package” equipment (e.g., arc-welders and air compressors) shall be	• Require compliance with applicable local ordinances as feasible. • Require implementation of measures to reduce construction noise.	District; Construction Contractor		X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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equipped with shrouds and noise control features that are readily available for that type of equipment. • Electrically powered equipment shall be used instead of pneumatic or internal-combustion powered equipment, where feasible. • Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) shall be prohibited. • Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise sensitive receptors. • The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. • Any truck or equipment equipped with back-up alarm moving within 300 feet of a noise-sensitive land use (residence) should have the normal back-up alarm disengaged and safety provided by lights and flagman or broad-spectrum noise backup alarm (as appropriate for conditions) used in compliance with the Occupational Safety and Health Administration safety guidelines. • Temporary sound barriers or sound blankets shall be installed between construction operations and adjacent noise-sensitive receptors. The project Contractor shall construct a 12-foot high temporary noise barrier meeting the specifications listed below (or of a Sound Transmission Class [STC] 19 rating or better) to attenuate noise. • The District shall notify residences within 300 feet of the project's disturbance area in						

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writing within one week of any construction activity. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure. • The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.						
MM NOI-2: Operational Compliance with Noise Regulations. Stationary operating equipment associated with proposed CIP projects, which are located within San Diego County, shall be designed to comply with the applicable one-hour average sound level limits set forth in Section 36.404, *General Sound Level Limits,* of the County of San Diego Code of Regulatory Ordinances, presented above in Table 4.9-6, where feasible.	• Require project components to be designed to comply with the one-hour average sound level limits of the County of San Diego Code of Regulatory Ordinances where feasible.					
Transportation						
MM TRA-1: Traffic Control Plan. At least 30 days prior to the start of construction of improvements within roadway rights-of-way, the District Contractor shall prepare and submit a traffic control plan (TCP) to the agency of jurisdiction (County, City of Oceanside, and/or Caltrans as applicable) to address vehicular traffic during construction of individual Project improvements within public rights-of-way of the affected jurisdiction(s), including bicycle, pedestrian, and transit facilities. The TCP shall include signage, striping, delineated detours, flagging operations, and other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the	• Require preparation of a traffic control plan 30 days prior to construction within public rights-of-way. • If a residential driveway will be affected, notify the occupant five working days prior and reestablish access at the end of each workday.	District; Construction Contractor	X	X		

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule			Verification Date
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construction areas and allow for adequate access and circulation. The TCP shall ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. During construction, the District shall maintain continuous vehicular and pedestrian access to affected residential driveways from the public right-of-way to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access shall be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the District shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The TCP shall include provisions to ensure that the construction of the conveyance pipelines do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services. The TCP shall also be consistent with local emergency response plans. The District shall notify local emergency responders of 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 for emergency response providers adequate time to prepare for lane closures.						
Wildfire						
See mitigation measures MM HAZ-3 under Hazards and Hazardous Materials and MM TRA-1 under Transportation.						