RIVERSIDE FACILITIES MASTER PLAN

Draft Program Environmental Impact Report

Prepared for
Western Municipal Water District

September 2026

ESA



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Appendices

Appendix NOP	NOP and Public Comments
Appendix AQ/GHG	Air Quality and Greenhouse Gas Emissions Calculations and Modeling
Appendix BIO	Biological Resources Technical Report
Appendix CUL	Riverside Facilities Master Plan Cultural Resources Assessment (Confidential)
Appendix NOISE	Noise Calculations
Appendix PALEO	Paleontological Resources Assessment for the Riverside Facilities Master Plan Project (Confidential)
Appendix TRIBAL	Native American Consultation

EXECUTIVE SUMMARY

ES.1 Introduction and Background

Western Municipal Water District (WMWD; Western), as the lead agency pursuant to the California Environmental Quality Act (CEQA), is proposing to implement the Riverside Facilities Master Plan (FMP), which identifies water, wastewater, and recycled water infrastructure needs within its Riverside Retail Service Area. The Riverside FMP outlines system capacity requirements and provides a list of recommended capital improvement projects to support future demands within the Riverside Retail Service Area. The Riverside Retail Service Area encompasses approximately 104 square miles, providing retail service within portions of the cities of Riverside, as well as unincorporated areas of Riverside County, such as the communities of El Sobrante, Eagle Valley, Temescal Creek, Woodcrest, Lake Mathews, and March Air Reserve Base.

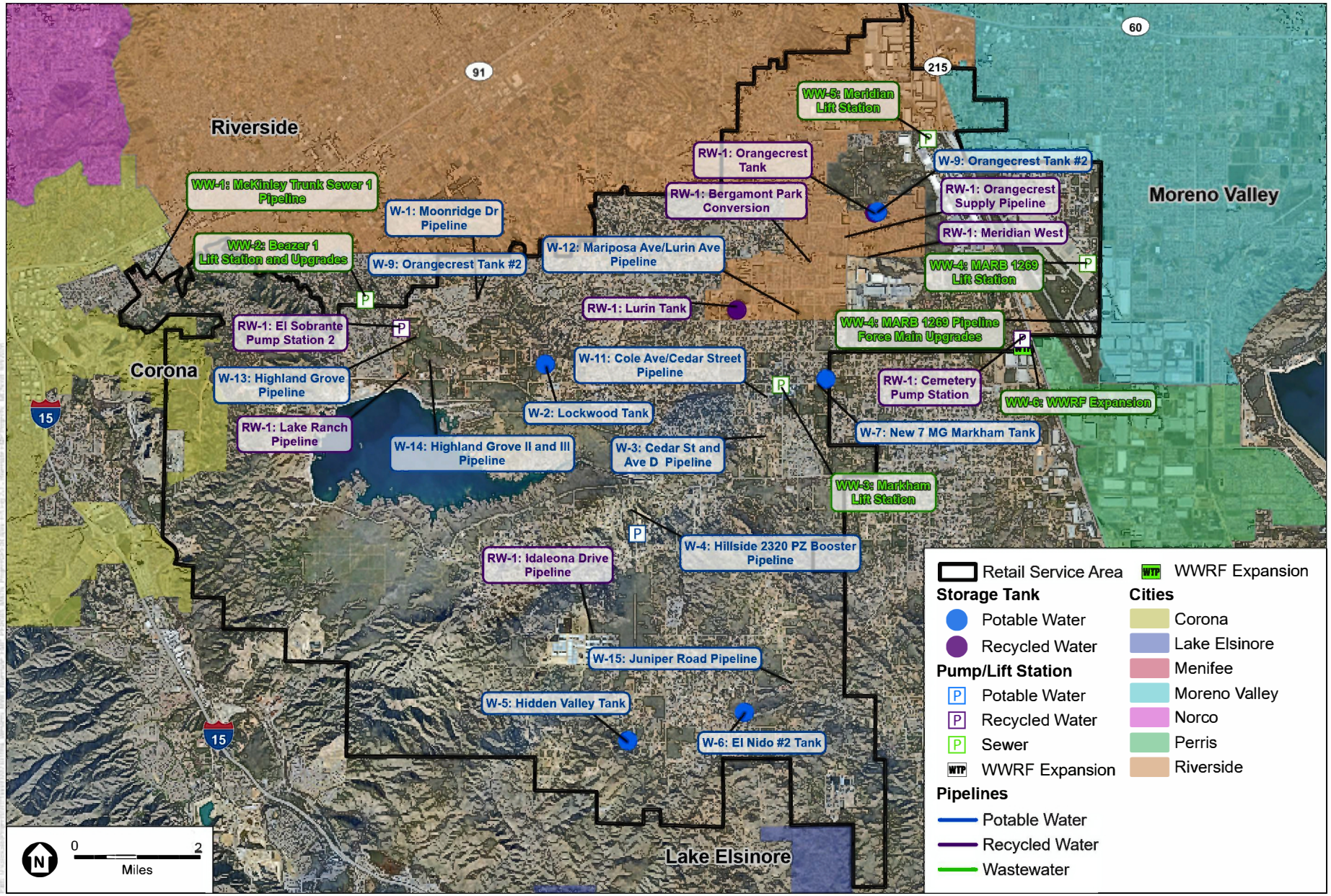
This Program Environmental Impact Report (PEIR) has been prepared in compliance with CEQA of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3. The State Clearinghouse Number is 2022040268. The proposed project is described further in Chapter 2, *Project Description*, and shown in **Figure ES-1**.

WMWD's service area is located in western Riverside County, approximately 50 miles east of Los Angeles. The Riverside FMP identifies infrastructure needs within WMWD's Riverside Retail Service Area, which is generally bounded by the City of Riverside to the north, the City of Moreno Valley to the east, the City of Lake Elsinore to the south, and the City of Corona to the west. The extent of the Riverside Retail Service Area is shown on **Figure ES-2**, which encompasses approximately 104 square miles, providing retail service within portions of the City of Riverside, as well as unincorporated areas of Riverside County.

ES.2 Project Objectives

The primary objectives of the proposed project are to:

- Provide water, wastewater, and recycled water services that meet the quantity, system pressure, and reliability requirements of the Riverside Retail Service Area;
- Ensure water, wastewater, and recycled water system infrastructure is sufficient to meet projected demands within the Riverside Retail Service Area;
- Maintain and enhance water quality through treatment system improvements and recycled water system expansion;
- Enhance water supply reliability in an environmentally and cost effective manner.

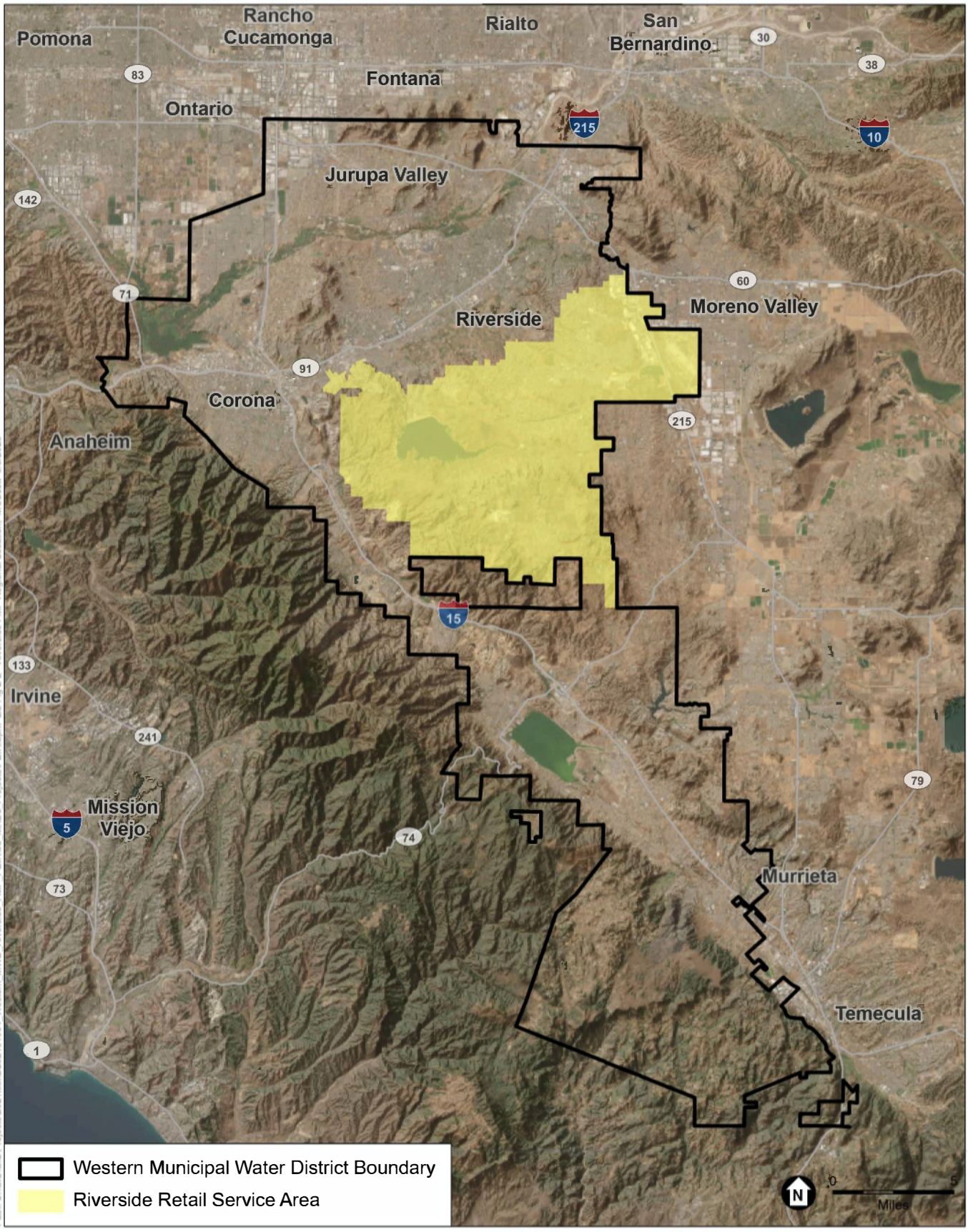


SOURCE: Nearmap, 2022; WMWD, 2026; ESA, 2026.

Riverside Facilities Master Plan

Figure ES-1
Riverside FMP Projects

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SOURCE: ESRI, 2022; WMWD, 2022; ESA, 2022.

Riverside Facilities Master Plan

Figure ES-2
Regional Location

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ES.3 Project Description

Based on Riverside County projections, the population within the Riverside Retail Service Area will grow from 40,534 in 2020 to 49,614 in 2035 (WMWD 2025), which is an approximate 22 percent increase. The Riverside FMP has been developed to accommodate existing demand and planned growth within the Riverside Retail Service Area for potable water, recycled water and wastewater services. The projects include upsizing of existing pipelines as well as installing new pipelines; new storage tanks; new booster pump stations; new pumps at existing pump stations; capacity upgrades at existing lift stations; and potential expansion the WWRF as shown on Figure ES-1. In total, there are fifty-four (54) recommended projects: twenty-five (25) water projects, sixteen (16) recycled water projects, and thirteen (13) wastewater projects. Projects are categorized into two stages: those to be implemented by 2030 (priority and near-term) and after 2030 (future).

The Riverside FMP identifies projects needed to address existing water and wastewater system deficiencies that critically affect the ability of WMWD to provide reliable service. These projects are assigned highest priority and are listed in **Table ES-1**.

TABLE ES-1
PRIORITY FACILITY UPGRADE PROJECTS

Type	CIP Project	Project Type	Project Name	Description
Water	W-1	Pipeline Upsize	Moonridge Dr. Pipeline Upsizing	Upsize 1,200 linear feet (LF) of 6-inch pipe to 12 inches.
Water	W-2	Pipeline Upsize	Blackburn Rd. Pipeline Upsizing	Upsize 8,000 LF of 6-inch pipe to 24 inches; Upsize 2,100 LF of 6-inch pipe to 8 inches.
Water	W-3	Pipeline Upsize	Cedar St. and Avenue D Pipeline Upsizing	Upsize 4,000 LF of 6-inch pipe to 8 inches.
Wastewater	WW-1	Pipeline Upsize	McKinley Trunk Sewer 1 (WCWRA)	Upsize 390 LF of existing 8-inch to 10-inch to accommodate existing wet weather flow conditions within Western design criteria.
Wastewater	WW-2	Lift Station Upgrade	Beazer 1 Lift Station and Forcemain Upgrades (WRCWRA)	Confirm influent flows based on known wet weather events. If peak wet weather flows (PWWFs) exceed capacity, upgrade Lift Station (LS) firm capacity to 0.25 million gallons per day (MGD) and upsize the existing 3-inch forcemain to 4 inch (1,300 LF).
Wastewater	WW-3	Lift Station Upgrade	Markham Lift Station Upgrade (WWRF)	Confirm influent flows based on known wet weather events. If PWWFs exceed capacity, upgrade LS firm capacity to 2.2 MGD.

Near-term projects include water, recycled water, and wastewater infrastructure improvements to occur before the year 2030. These near-term projects involve either the construction of new facilities to accommodate planned development or the improvement of existing facilities that require replacement or upgrades due to system deficiencies as listed in **Tables ES-2**.[1]

[1] WMWD is coordinating with the Meridian West Upper Plateau developer regarding infrastructure needed to support the development, which could include Projects W-10 and RW-1 (Orangecrest tank and pipelines).

TABLE ES-2
NEAR-TERM PROJECTS (BY 2030)

Type	CIP Project	Project Type	Project Name	Description
Water	W-4	Pump Station	Hillside 2320 PZ Booster Pump Station and Pipeline	Add pumping capacity into PZ2320 of 3,700 gallons per minute (gpm) in near-term, and ultimately 6,700 gpm; Upsize 4,700 LF existing 20- to 30-inch pipeline from the CITP Intake PS to Hillside PS.
Water	W-5	Storage Tank	New 3 MG Hidden Valley Tank	Build 3 million gallon (MG) of water storage tank in PZ 2320.
Water	W-6	Storage Tank	New 1.5 MG El Nido Tank	Build 1.5 MG of water storage tank in PZ 2320.
Water	W-7	Storage Tank	New 7 MG Markham Tank	Build 7 MG of water storage tank in PZ 2450.
Water	W-9	Storage Tank	New 12.5 MG Orangecrest Tank	Build 12.5 MG of water storage tank in PZ 1837.
Water	W-10	Pressure Reducing Valve	Highland Grove Pressure Reducing Valve	Add one pressure reducing valve (PRV) to supplement flow from PZ1650R to Highland Grove
Water	W-11	Pipeline Upsize	Cole Ave/Cedar Street Upsize	Upsize 460 feet of 16-in to 20-in and 2,600 feet 12- to 20-inch pipeline in Cole Ave between Markham St and Avenue C; upsize 2,000-LF 8- to 12-inch pipeline in Cedar St, just south of Markham St.
Water	W-12	Pipeline Upsize	Mariposa Ave/ Lurin Avenue Upsize	Upsize 670-LF 6- to 12-inch pipeline on Lurin between Mission Ranch Rd and 50 ft west of Dant St; Upsize 2,700-LF 8-in to 12-in on Mariposa Ave between Cole Ave and Wood Rd
Water	W-13	Pipeline	Highland Grove Pipeline III 18-Inch Pipeline	At the Greentree (Highland Grove III) development, build approximately 4,000 LF of 18-inch pipeline along El Sobrante Road, and 5,000 LF of 18-inch backbone pipeline going south to north across HG II and III.
Water	W-14	Pipeline	Highland Grove II and III 12-inch Pipeline	Build 4,000-LG 12-inch pipeline in Highland Grove IV.
Water	W-15	Pipeline Upsize	Juniper Road Pipeline Upsizing	Build 4,800 LF new 12-inch pipeline along Juniper Rd and 2,600 LF 12-inch pipeline along Blue Sky Rd in PZ2320.
Recycled Water	RW-1	Storage Tank	New Orangecrest Tank	Install new 5 MG Orangecrest Tank in the Lurin Irrigation zone.
Recycled Water	RW-1	Pipeline	Orangecrest Supply Pipelines	New 18-inch pipeline (1,300 feet); New 24-inch pipeline (3,500 feet), from the tank and south on Barton Street to the existing 12-inch pipeline on Gless Ranch Road at Barton Street.
Recycled Water	RW-1	Pipeline	Bergamont Park Conversion to RW	Install approximately 1,600 LF of 8-inch pipeline on Cole Avenue from Van Buren Boulevard to Citrus Grove Road, to convert Bergamont Park to recycled water (RW).
Recycled Water	RW-1	Storage Tank Upgrade	Lurin Irrigation Tank Improvements	Reconstruct a new 10 MG storage tank.
Recycled Water	RW-1	Pipeline	Meridian West Pipelines	New 16-inch pipeline (4,400 feet) along Van Buren Boulevard from Barton Street to the existing 12-inch pipeline on Van Buren east of Orange Terrance Parkway.
Recycled Water	RW-1	Pipeline Upsize	Idaleona Drive Upsizing	Upsize approximately 7,100 LF of existing 14-inch pipeline on Idaleona Drive in the Jim Jack (2250) Zone to 16 inches.

Type	CIP Project	Project Type	Project Name	Description
Recycled Water	RW-1	Pump Station Upgrade	Cemetery PS Expansion	Expand dedicated Cemetery pump station and parallel supply line to accommodate increased RW supply from WWRF to the onside RNC ponds.
Recycled Water	RW-1	Pipeline	Lake Ranch Pipelines	Install 2,400 LF of 8-inch pipelines in Lake Ranch development, near McAlister Street and El Sobrante Road.
Recycled Water	RW-1	Pump Station Upgrade	El Sobrante PS Expansion (150 HP)	Install additional pump at the El Sobrante PS sized at 1,100 gpm at 325 feet.
Wastewater	WW-4	Lift Station and Pipeline Upgrade	MARB 1269 Lift Station and Pipeline Upgrade 1269 Expansion	Increase the firm capacity of MARB 1269 lift station from 1.3 MGD to 1.9 MGD
Wastewater	WW-5	Lift Station Upgrade	Meridian Lift Station Upgrades (WWRF)	Increase capacity to 1.1 MGD.

The Riverside FMP identifies projects needed in the future to meet buildout service demands. The construction of these projects would start after 2030 and continue through 2050. The future projects would include the construction of new facilities or improvements to existing facilities as listed in **Table ES-3**. Since the long-term buildout of these projects is based on the projected demands for each pressure zone and is subject to the availability of funds, the phasing of the long-term projects is presented as a planning guideline for their future implementation. The actual timing of future facilities will be dependent upon the actual rate of growth and the timing of new developments expected in the Riverside Retail Service Area. Additionally, the exact location of infrastructure and sizing could change depending on buildout scenarios.

TABLE ES-3
FUTURE PROJECTS (BY 2050)

Type	CIP Project	Project Type	Project Name	Description
Water	W-8	Storage Tank	New 2 MG PZ1783 Tank	Build 2 MG of water storage tank in PZ 1783.
Water	W-16	Pump Station Upgrade	CITP (Intake PS)	Increase the firm capacity of CITP (Intake) PS that feeds PZ 1783 from 6,400 gpm to 9,500 gpm.
Water	W-17	Pump Station Upgrade	Increase Capacity of Mockingbird PS	Add 5,000 gpm capacity at Mockingbird PS that feeds PZ 1650 to meet Buildout demands, increasing the firm.
Water	W-18	Pump Station Upgrade	Bergamont PS	Increase the firm capacity of Bergamont PS that feeds PZ 1900 from 12,000 gpm to 14,600 gpm
Water	W-19	Pump Station Upgrade	Rolling Meadows PS	Increase the firm capacity of Rolling Meadows PS that feeds PZ 2450 from 1,165 gpm to 2,000 gpm
Water	W-20	Storage Tank	New 2 MG PZ2116 Tank	Build 2 MG of water storage in PZ 2116 in Buildout to cover storage deficiencies. Potential sites could be at the Existing Oaknoll Tank site, or at the site approximately 1,700 LF north of Idaleona Road and west of Rolling Meadows Drive.
Water	W-21	Storage Tank	New 4 MG PZ1550 Tank	Build 4 MG of water storage in PZ 1550 in Buildout phase to accommodate the increased demand with adjacent undeveloped parcels. Potential site is between Old Lake tank and Lake Hills tank where elevation is approximately 1,600 feet.

Type	CIP Project	Project Type	Project Name	Description
Water	W-22	Storage Tank	New 3 MG Hidden Valley Tank	Build additional 3 MG of water storage at the Existing Hidden Valley Tank site.
Water	W-23	Storage Tank	New 13 MG Orangecrest Tank	Build additional 13 MG of water storage at the Existing Orangecrest Tank site.
Water	W-24	Pipeline Upsize	PZ 2320 12-Inch Pipelines	New 6,700-LF 12-inch pipelines from PZ2320 to PZ2116 near Blue Sky Rd.
Water	W-25	Pipeline Upsize	Via Barranca Pipeline Upsizing	Upsize 4,200 LF of 8-inch pipeline on Via Barranca to 12-inch pipeline.
Recycled Water	RW-1	Pipeline	Upper Plateau Development Pipelines	Install 4.4 miles of Upper Plateau Development Pipelines. (While this project is included in the FMP as a near-term project, recent delays and inactivity have resulted in moving the project past 2030 and thus moving it into the future projects list.)
Recycled Water	RW-2	Pipeline Upsize	RNC Pipeline Upsize to 24″	Upsize approximately 3,000 LF of existing 16-inch pipeline to 24 inches on Village West Drive from Nandina Avenue to Lemay Drive.
Recycled Water	RW-2	Storage Tank	Additional 7-MG Storage in PZ1815	Install additional 7 MG of storage in PZ 1815.
Recycled Water	RW-2	Pipeline Upsizing	RNC Pipeline Upsize to 18″	Upsize approximately 3,000 LF of existing 12-inch pipeline to 18 inches on Gless Ranch Road between Barton Street and Cole Avenue.
Recycled Water	RW-2	Pump Station Upgrade	Oleander PS Expansion (200 HP)	Install additional pump at the Oleander PS sized at 3,100 gpm at 183 feet.
Recycled Water	RW-2	Pump Station Upgrade	McAllister PS Expansion (200 HP)	Additional 200 HP pump; upsize capacity.
Recycled Water	RW-2	Pump Station Upgrade	El Sobrante PS Expansion (150 HP)	Upsize El Sobrante PS firm capacity from 2,400 gpm to 4,600 gpm.
Wastewater	WW-7	Pipeline	McKinley Trunk Sewer 2 (WRCWRA)	Upsize 1,060 LF of existing 8- to 10-inch pipeline as well as 3,420 LF of existing 8- and 10-inch pipeline to 12-inch pipeline.
Wastewater	WW-6	WWRF Expansion Study	WWRF Expansion Study	This study should investigate the potential for either purchasing additional land and/or maximizing the footprint such that up to 6.0 MGD rated capacity could be achieved.
Wastewater	WW-8	Pipeline	La Sierra Trunk Sewer (WRCWRA)	Upsize 8,345 LF of existing 18- and 21-inch pipeline to 24-inch pipeline.
Wastewater	WW-9	Pipeline	Meridian Trunk Sewer North (WWRF)	Upsize 3,610 LF of existing 18- to 21-inch pipeline.
Wastewater	WW-10	Pipeline	Arnold Heights Trunk Sewer (WWRF)	Upsize 2,375 LF of existing 15- to 18-inch pipeline.
Wastewater	WW-11	Pipeline	Meridian Trunk Sewer South at RNC (WWRF)	Upsize 500 LF of existing 24- to 30-inch pipeline.
Wastewater	WW-12	Lift Station Upgrade	Markham Lift Station Ultimate Upgrades	Upgrade lift station to a firm capacity of 2.8 MGD.
Wastewater	WW-13	Lift Station Upgrade	MARB 1269 Lift Station Upgrade Study	Study required firm capacity increase of the MARB 1269 lift station to accommodate Ultimate flows

ES.4 Project Alternatives

CEQA requires that an EIR describe and evaluate a reasonable range of feasible alternatives to a project, or to the location of a project, that would attain most of the project objectives and avoid or substantially lessen significant project impacts. The alternatives analysis must include the "No Project Alternative" as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the project were not approved (CEQA Guidelines Section 15126(d)). The following alternatives are discussed further in Chapter 6, *Alternatives Analysis*.

ES.4.1 No Project Alternative

According to CEQA Guidelines Section 15126.6(e), discussion of the No Project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the project were not approved. Under the No Project Alternative, Western would not implement their Capital Improvement Program (CIP) for the Riverside Retail Service Area, which would hinder Western's ability to holistically address existing hydraulic system deficiencies, replace aging infrastructure, or provide the facilities necessary to meet future growth. Western would continue to maintain existing infrastructure, and facilities specifically included in the CIP that are aging, required to meet fire flow requirements, or address system deficiencies, would be constructed or modified individually on an ad hoc basis. While Western could continue to replace or modify infrastructure as needed, the benefits of a comprehensive approach to project implementation under the CIP would not occur under the No Project Alternative. Without the holistic approach and associated benefits of CIP project implementation, Western could encounter delays in implementing projects related to environmental reviews, local approvals, and other factors not envisioned at this time. Under the No Project Alternative, Western's ability to provide water, recycled water, and wastewater services to its customers could be at risk, due to delay of individual project implementation and other obstacles.

Implementation of the No Project Alternative would not provide the benefits of improving and replacing existing Western water, recycled, and wastewater system infrastructure, or provide new infrastructure to meet future growth within Western's service area. Implementation of the No Project Alternative would not meet any of the stated project objectives and would not address Western's need for ensuring a reliable water supply capable of meeting increased water demand in the Riverside Retail Service Area.

ES.4.2 Reduced Growth Assumptions+ Alternative

Under the Reduced Growth Assumptions Alternative, Western would only implement the Riverside FMP priority and near-term projects which address existing water system deficiencies and accommodate reasonably foreseeable planned growth in the Riverside Retail Service Area. These components are the highest priority for WMWD and are planned to be constructed prior to 2030. The future projects, which address long-term growth through 2050, would not be implemented. The Reduced Growth Assumptions Alternative would be implemented by Western if growth projections in the Riverside Retail Service Area do not materialize as planned, and the need for long-term components becomes less necessary.

Implementation of the Reduced Growth Assumptions Alternative would meet some of the project objectives because, fundamentally, this alternative would be implemented only if population growth and associated water demand was less than anticipated. The highest-priority components would be

constructed in order to improve and replace existing WMWD system infrastructure. However, without construction of Riverside FMP future projects, the Reduced Growth Assumptions Alternative would not fully meet the project objective of providing infrastructure to meet planned growth within WMWD's service area. Implementation of the Reduced Growth Assumptions Alternative would not holistically address WMWD's need for ensuring a reliable water and recycled water supply capable of meeting increased water demand within its service area.

ES.4.3 Increased Recycled Water Recharge Alternative

The Increased Recycled Water Recharge Alternative would increase the amount of recycled water recharged into the groundwater basin. This would modify water quality and permit requirements for recycled water produced at the WWRF and would reduce proposed delivery of non-potable recycled water to new customers as envisioned under the Riverside FMP. As a result, the recycled water projects in the Riverside FMP, namely the RW-1 project that would supply additional recycled water to the Lurin Irrigation Zone, and the RW-2 project that would supply the Riverside National Cemetery, would not be implemented. Project RW-1 includes the following nine individual projects that would not be implemented as part of the Increased Recycled Water Recharge Alternative: RW-1 New Orangecrest Tank, RW-1 Orangecrest Recycled Water Tank, RW-1 Orangecrest Supply Pipelines, RW-1 Bergamont Park Conversion to RW, RW-1 Lurin Irrigation Tank Improvements, RW-1 Meridian West Pipelines, RW-1 Cemetery PS Expansion, RW-1 Idaleona Drive Upsize, RW-1 Lake Ranch Pipelines. Project RW-2 includes the following seven individual projects that would not be implemented as part of the Increased Recycled Water Recharge Alternative: RW-2 Additional 7 MG Storage in PZ1815, RW-2 Oleander PS Expansion (200 HP), RW-2 McAllister PS Expansion (200 HP), RW-2 El Sobrante PS Expansion (150 HP), RW-2 McAllister PS Expansion (200 HP), RW-2 RNC Upsize to 18″, and RW-2 RNC Upsize to 24″. Instead of building these projects, Western would utilize existing pipelines to convey recycled water from the WWRF to the Victoria recharge basin in the City of Riverside, which was built in 2019 and currently replenishes approximately 1,800 acre-feet per year (UWMP 2021). The Recycled Water Recharge Alternative would recharge recycled water via the Victoria recharge basin into the Riverside-Arlington groundwater basin, increasing the volume of water in the groundwater basin available for treatment at the Arlington Desalter, which would provide a reliable local water source within Western's service area.

Implementation of the Increased Recycled Water Recharge Alternative would meet some of the project objectives. The potable water and wastewater projects would be constructed in order to meet the reliability requirements and projected demands within the Riverside Retail Service Area. However, without construction of recycled water projects, the Increased Recycled Water Recharge Alternative would not fully meet the project objectives of providing recycled water infrastructure to meet reliability requirements and planned growth. Implementation of the Increased Recycled Water Recharge Alternative would not holistically address WMWD's need for ensuring a reliable recycled water supply capable of meeting increased water demand within its service area.

ES.4.4 Alternatives Considered but Rejected from Further Consideration

CEQA Guidelines Section 15126.6(c) states that an EIR should identify any alternatives considered but rejected as infeasible by the lead agency during the scoping process and briefly explain the reasons for the exclusion. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects.

CEQA Guidelines Section 15126.6(f)(2) provides guidance regarding consideration of one or more alternative location(s) for a proposed project, stating that putting the project in another location should be considered if doing so would allow significant effects of the project to be avoided or substantially lessened. Only locations that would avoid or substantially lessen any of the significant effects of the proposed project need to be considered for inclusion in the EIR. If no feasible alternative locations exist, the EIR must disclose the reasons for this conclusion. Among the factors that may be considered when addressing the feasibility of an alternative site is suitability, economic viability, availability of infrastructure, general plan consistency, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site.

Western conducted an extensive review of proposed water, recycled water, and wastewater facilities in previous iterations of the Riverside FMP. Each previous iteration included different options of projects to be built to accommodate future growth. The projects proposed by WMWD take into consideration growth projections as well as developer plans. Given the fact that there are multiple storage tanks, pump/lift stations, and pipelines that would be installed over the entirety of the Riverside FMP area, there are no specific locations that would eliminate potentially significant impacts of the projects. The only significant unavoidable impacts resulting from the project are related to construction noise and vibration, which could occur from construction of pipelines as close to 5 feet from sensitive receptors. Given the fact that pipelines are installed within roadway rights-of-ways throughout the service area, there are no options to feasibly avoid impacting sensitive receptors for noise or vibration. The pipelines are needed to support water reliability, fire flow capacity, and recycled water and accommodate future growth, and without them project objectives would not be met. As a result, there are no other feasible alternative locations that would reduce potentially significant impacts.

ES.4.5 Environmentally Superior Alternative

As stated above, the No Project Alternative would avoid many of the environmental impacts of the proposed project, including the significant and unavoidable impacts to noise and vibration during construction, but would not meet any of the project objectives. CEQA requires that an EIR identify the environmentally superior alternative of a project other than the No Project Alternative (CEQA Guidelines Section 15126.6(e)(2). A comparison of the proposed project to the Reduced Growth Assumptions Alternative and the Increased Recycled Water Recharge Alternative presents a tradeoff between achieving project objectives and impacting the environment. The Reduced Growth Assumptions Alternative would meet some of the project objectives because the highest-priority components would be constructed in order to improve and replace existing WMWD system infrastructure. However, without construction of future projects, the Reduced Growth Assumptions Alternative may not meet the project objective of providing infrastructure to meet future growth within WMWD’s service area. The Increased Recycled

Water Recharge Alternative would meet some of the project objectives because the potable water and wastewater projects would be constructed in order to meet the reliability requirements and projected demands within the Riverside Retail Service Area. However, without construction of the recycled water projects, the Increased Recycled Water Recharge Alternative may not meet the project objective of providing recycled water infrastructure to meet reliability requirements and planned growth. In terms of impacts, the Reduced Growth Assumptions Alternative and the Increased Recycled Water Recharge Alternative result in the same impacts for the priority/near-term projects and the potable water/wastewater projects, respectively, for many of the resources above. Neither alternative completely avoids the significant and unavoidable impact of the project related to temporary noise and vibration during construction. However, since the Reduced Growth Assumptions Alternative does not include implementation of future projects, and the Increased Recycled Water Recharge Alternative does not include implementation of recycled water projects, they both results in fewer environmental impacts to Aesthetics, Air Quality and Greenhouse Gas, Biological Resources, Cultural, Resources, Energy, Geology, Soils, Seismicity, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, and cumulative impacts compared to the proposed project. The reductions in impacts are based in large part on the fewer number of components to be built than the proposed project. Furthermore, there are fewer individual projects, and therefore environmental impacts, associated with the Reduced Growth Assumptions Alternative than the Increased Recycled Water Recharge Alternative. As a result, the Reduced Growth Assumptions Alternative would be considered the environmentally superior alternative to the proposed project.

ES.5 Areas of Controversy

Pursuant to CEQA Guidelines Section 15123(b)(2), a lead agency is required to include areas of controversy raised by agencies and the public in the EIR summary. Areas of controversy have been identified for the proposed project, based on comments made during the public review period in response to information published in the Notice of Preparation (NOP).

ES.5.1 Notice of Preparation

During the NOP public review period, concerns were raised regarding potential impacts to recreational sources, traffic and transportation, tribal and cultural resources, regional water and utilities infrastructure, future development projects, and land use. These concerns have been addressed in Chapter 3 of this PEIR. All comments received on the NOP are included in **Appendix NOP** to this PEIR.

ES.6 Summary of Impacts

Table ES-4 presents a summary of the impacts and mitigation measures identified for the proposed project. The complete impact statements and mitigation measures are presented in Chapter 3 of this Draft PEIR. The level of significance for each impact was determined using significance criteria (thresholds) developed for each category of impacts; these criteria are presented in the appropriate sections of Chapter 3. Significant impacts are those adverse environmental impacts that meet or exceed the significance thresholds; less-than-significant impacts would not exceed the thresholds. Table ES-4 indicates the measures that will be implemented to avoid, minimize, or otherwise reduce significant impacts to a less-than-significant level.

TABLE ES-4
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Aesthetics		
3.1-1: The proposed project could have a substantial adverse effect on a scenic vista.	**AES-1:** Prior to approval of final construction plans for any storage tank, the applicant shall prepare a landscape plan for review and approval by the County or applicable lead agency. The landscape plan shall identify the location, species, size, and density of all proposed landscaping and revegetation measures and shall be designed to minimize visual contrasts between project facilities and the surrounding landscape. At a minimum, the plan shall: restore disturbed areas by replanting trees and/or reseeding with a native seed mix typical of the surrounding area; provide vegetation screening around storage tanks and aboveground facilities where feasible, taking into account operational, safety, and maintenance requirements; utilize a combination of trees, shrubs, and other vegetation sufficient to partially screen views of aboveground facilities form publicly accessible roads, trails, parks, and other identified public viewpoints to the extent feasible; and include performance standards requiring replacement of dead or diseased plant materials and maintenance of landscaping. The approved plan shall be implemented concurrently with project construction or at the earliest feasible planting season following construction. **AES-2:** Prior to approval of final construction plans, all aboveground buildings, storage tanks, and associated structures shall be designed to minimize visual contrasts with the surrounding environment. Project plans shall demonstrate compliance with the following standards: exterior surfaces shall utilize non-reflective, muted-earth tone, or other colors compatible with the predominant colors of the surrounding landscape; highly reflective materials and finishes shall be avoided except where necessary for operational or safety purposes; buildings and structures shall incorporate landscaping, architectural treatments, screening elements, or a combination thereof to reduce visual prominence from identified viewpoints to the extent feasible; and lighting associated with aboveground facilities shall be shielded and directed downward to minimize visibility from surrounding properties and public viewpoints.	Less than Significant with Mitigation
3.1-2: The proposed project could substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.	None Required	No Impact
3.1-3: The proposed project could substantially degrade the existing visual character or quality of public views of the site and its surroundings.	Implement Mitigation Measures AES-1 and AES-2	Less than Significant with Mitigation
3.1-4: The proposed project could create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	**AES-3:** Prior to approval of final construction plans, all permanent exterior lighting associated with the Riverside FMP shall be designed and installed to minimize off-site light spill and visibility from surrounding public viewpoints. At a minimum: all exterior luminaries shall be fully shielded and directed downward; lighting shall be limited to the minimum intensity necessary to satisfy operational, safety, and security requirements; lighting shall be designed to prevent direct illumination of adjacent properties to the maximum extent feasible; floodlights and other high-intensity fixtures shall be equipped with shielding, cutoff devices, or comparable features to minimize off-light trespass; and lighting shall comply with	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	applicable regulator standards and any requirements of the serving utility or responsible regulatory agency. Compliance with these requirements shall be demonstrated through final project design plans and verified during project review. **AES-4:** Prior to approval of final construction plans, all aboveground facilities associated with the Riverside FMP shall be designed to minimize glare and reflected light from public viewpoints and adjacent properties. At a minimum: exterior surfaces shall utilize non-reflective or low-reflection materials, coatings, and finishes to the extent feasible; highly polished, mirrored, or other reflective materials shall be avoided except where required for operational, safety, or regulatory purposes; exterior colors and finishes shall be selected to reduce visual contrast with the surrounding landscape and minimize reflected sunlight; and any required reflective surfaces shall be minimized in size and extent and oriented, where feasible, to reduce visibility from identified public viewpoints and adjacent properties. Compliance with these requirements shall be demonstrated through final project design plans and verified during project review.	
3.1-5: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to aesthetics.	Implement Mitigation Measures AES-1 through AES-4	Less than Significant with Mitigation
Agriculture		
3.2-1: The proposed project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.	**AG-1:** Prior to ground disturbance in areas within Prime or Unique Farmland, WMWD shall conduct a California Agricultural Land Evaluation and Site Assessment (LESA) model to assess the agricultural viability of the affected lands. The LESA Model will evaluate measures of soil resource quality, the size of individual Program components, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. These factors will be rated, weighted, and combined, resulting in a single numeric score per the LESA model. If the score is found to be considered significant per the California LESA Model Scoring Thresholds, Mitigation Measure AG-2 shall be implemented. **AG-2:** Mitigation land shall be provided for the loss of state-designated Prime Farmland, Unique Farmland, or Farmland of Local Importance. Prior to developing such state-designated farmland, agricultural lands of equivalent acreage (a 1:1 ratio), and with soil and farming conditions equivalent or superior to the state-designated farmland that would be converted, shall be set aside in perpetuity. One or more permanent, irreversible agricultural easements may be purchased for the benefit of WMWD or other qualifying entity acceptable to WMWD, or funds may be provided to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements, to be earmarked for the purchase of permanent, irreversible agricultural easements. The protected acreage shall be set aside prior to the commencement of any development activity.	Less than Significant with Mitigation
3.2-2: The proposed project could conflict with existing zoning for agricultural use, or a Williamson Act contract.	None Required	Less-than-Significant Impact

Impacts	Mitigation Measures	Significance after Mitigation
3.2-3: The proposed project could conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).	None Required	No Impact
3.2-4: The proposed project could result in the loss of forest land or conversion of forest land to non-forest use.	None Required	No Impact
3.2-5: The proposed project could 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.	None Required	Less-than-Significant Impact
3.2-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to agriculture and forestry resources.	Implement Mitigation Measures AG-1 and AG-2	Less than Significant with Mitigation
Air Quality and Greenhouse Gas Emissions		
3.3-1: The proposed project could conflict with or obstruct implementation of the applicable air quality plan.	None Required	Less-than-Significant Impact
3.3-2: The proposed project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.	**AQ-1:** WMWD shall track the construction schedules for projects implemented for the Riverside Facility Master Plan. If multiple projects would have construction activities occurring at the same time, WMWD shall limit the number of concurrent project types with construction activities to the following or fewer: two pipeline projects; two new storage tank projects; one storage tank upgrade project; two major wastewater lift station projects; and up to 10 blasts on one day. If the number of concurrent projects with construction activities exceeds the list above (either based on the total number of concurrent projects or the number of each project type), WMWD shall incorporate and implement all feasible mitigation measures necessary to reduce emissions below the applicable threshold. Such measures may include but are not limited to the use of equipment that meet the Tier 4 interim or final off-road emission standards, use of alternative-fueled or zero emission equipment in place of fossil-fueled equipment, use of cleaner fuels, and other measures identified through an air quality analysis. WMWD shall verify implementation of all required mitigation measures prior to and during construction.	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	AQ-2: Prior to approval of final design and commencement of construction for the WWRF Expansion, WMWD shall prepare a project-specific air quality emissions analysis for all proposed facilities and improvements associated with the WWRF. The analysis shall quantify construction and operational emissions and evaluate compliance with applicable regional and localized significance thresholds established by the applicable air quality management district. If the analysis identifies emissions that would exceed one or more significance thresholds, WMWD shall incorporate and implement all feasible mitigation measures necessary to reduce emissions below the applicable threshold. Such measures may include but are not limited to the use of equipment that meet the Tier 4 interim or final off-road emission standards, use of alternative-fueled or zero emission equipment in place of fossil-fueled equipment, use of cleaner fuels, and other measures identified through the project-specific air quality analysis. WMWD shall verify implementation of all required mitigation measures prior to and during construction and operation, as applicable.	
3.3-3: The proposed project could expose sensitive receptors to substantial pollutant concentrations.	Implement Mitigation Measures AQ-1 and AQ-2	Less than Significant with Mitigation
3.3-4: The proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	None Required	Less-than-Significant Impact
3.3-5: The proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	**GHG-1:** Prior to approval of final design and commencement of construction for the WWRF Expansion, WMWD shall prepare a project-specific greenhouse gas (GHG) emissions analysis for all proposed facilities and improvements associated with the WWRF. The analysis shall quantify construction and operational GHG emissions and evaluate compliance with applicable significance thresholds. If the analysis identifies emissions that would exceed one or more significance thresholds, WMWD shall incorporate and implement all feasible mitigation measures necessary to reduce GHG emissions below the applicable threshold. Such measures may include but are not limited to the use of alternative-fueled or zero emission equipment in place of fossil-fueled equipment, use of cleaner fuels, and other measures (GHG offsets, etc.) identified through the project-specific GHG analysis. WMWD shall verify implementation of all required mitigation measures prior to and during construction and operation, as applicable.	Less than Significant with Mitigation
3.3-6: The proposed project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	None Required	Less-than-Significant Impact
3.3-7: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to air quality.	Implement Mitigation Measures AQ-1 and AQ-2	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
3.3-8: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to greenhouse gas emissions.	Implement Mitigation Measure GHG-1	Less than Significant with Mitigation
Biological Resources		
3.4-1: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	**BIO-1: Special-Status Plant Surveys.** If suitable habitat for special-status plant species is identified to be present within work areas and/or a 500-foot buffer, a special-status plant survey of the work area and 500-foot buffer, focusing on the special-status plant species with a moderate to high potential to occur within the project site BSAs, shall be conducted by a qualified biologist(s) prior to construction. The surveys shall take place during the appropriate blooming period for each species in accordance with CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (2018). Target species include but are not limited to San Diego ambrosia, Munz's onion, chaparral sand-verbena, Yucaipa onion, paniculate tarplant, rigid fringepod, intermediate mariposa lily, long-spined spineflower, Parry's spineflower, and many-stemmed dudleya. Appropriate survey timing generally includes: • March–May: rigid fringepod • April–June: chaparral sand-verbena, Parry's spineflower, Yucaipa onion • April–July: long-spined spineflower • May–July: intermediate mariposa lily, many-stemmed dudleya • May–June: Munz's onion • May–November: paniculate tarplant • May–October: San Diego ambrosia If any special-status plant species are observed during the focused surveys, the qualified biologist(s) shall map all occurrences and establish avoidance buffers. Buffers of shall be a minimum of 50 feet unless a larger buffer is determined by a qualified botanist based on species sensitivity, topography, hydrology, construction methods, or other site-specific conditions. Buffer areas shall be clearly delineated in the field prior to construction and shall remain in place for the duration of construction. No vegetation clearing, grading, staging, equipment operation, or other ground-disturbing activities shall occur within the buffer areas. Avoidance of special-status plant populations shall be the preferred mitigation approach. If avoidance is not feasible for non-listed special-status plant species, the applicant shall prepare and implement a Special-Status Plant Mitigation Plan (SSPMP). The SSPMP shall be prepared by a qualified botanist and shall identify species-specific avoidance, minimization, and compensatory mitigation measures commensurate with the conservation status of the affected species and the extent of impacts. The SSPMP may include seed collection, salvage, transplantation, restoration, habitat enhancement, monitoring, adaptive management, or other measures, as appropriate to reduce impacts to a less-than-significant level. If avoidance is not feasible for Munz's onion and/or San Diego ambrosia, the applicant	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	shall obtain all applicable state and federal authorizations prior to construction, as required. Where applicable, a SSPMP shall also be prepared to satisfy permit requirements and shall include species-specific mitigation measures sufficient to offset project impacts. The SSPMP shall demonstrate that impacts to special-status species will be reduced to a less-than-significant level and shall include, at a minimum: • A description and quantification of direct and indirect impacts to special-status plant species and occupied habitat; • Documentation demonstrating why complete avoidance is infeasible; • Mitigation measures sufficient to achieve no net loss of occupied habitat, population viability, or ecological function, which may include preservation, restoration, enhancement, establishment, seed collection, transplantation, and/or other measures, as appropriate to the affected species; • Mitigation at a minimum ratio of 1:1 for permanent impacts to special-status plant populations (e.g., based on area, number of individuals, or as determined appropriate by a qualified restoration ecologist based on species-specific ecology); • Permanent protection of mitigation lands through conservation easements, deed restrictions, dedications to a resource agency, or another long-term protection mechanism; • Success criteria, including target survival, cover, density, recruitment, and habitat function metrics appropriate for the affected species; • A monitoring and reporting program to document progress towards meeting clearly defined biological performance standards; • A minimum monitoring period of five years to demonstrate achievement of performance standards; and • Adaptive management and contingency measures, which may include supplemental planting, reseeding, weed control, irrigation, erosion control, habitat enhancement, or additional mitigation acreage if performance standards are not achieved. If performance standards are not met at any monitoring milestone, the applicant shall implement the contingency measures identified in the approved SSPMP and continue monitoring until the performance standards have been achieved. If construction activities have the potential to result in take of a species protected under FESA and/or CESA, all required consultations, permits, consistency determinations, biological opinions, incidental take authorizations, and associated mitigation measures shall be obtained and implemented prior to commencement of activities that could result in take. **BIO-2: General BMPs and WEAP.** The following measures shall be incorporated into construction contracts and implemented during all ground-disturbing activities to avoid and minimize impacts to sensitive biological resources, including special-status species and sensitive habitats. The objective of this measure is to avoid direct mortality, injury, harassment, and habitat degradation and to reduce impacts to biological resources to the maximum extent feasible. • Prior to the start of construction, a qualified biologist shall prepare and conduct a Worker Environmental Awareness Program (WEAP) for all construction personnel. The WEAP shall describe sensitive biological resources known or with the potential to occur in the project area, applicable avoidance and minimization measures, reporting requirements, and procedures to be followed if	

Impacts	Mitigation Measures	Significance after Mitigation
	biological resources are encountered. All personnel shall complete the WEAP before performing work on the project, and records of attendance shall be maintained by WMWD. • To minimize the risk of vehicle collisions with wildlife and minimize dust, construction vehicles shall not exceed 10 miles per hour within the unpaved limits of construction. • All open trenches or excavations shall be fenced and/or sloped to prevent entrapment of wildlife species or have wildlife ramps available to allow for escape. • All food-related trash items such as wrappers, cans, bottles, and food scraps generated during construction activities shall be disposed of in closed containers only and removed daily from the work area. • No deliberate feeding of wildlife shall occur. • No pets shall be allowed within work areas. • No firearms shall be allowed within work areas. • Storage and staging areas shall be located outside of sensitive habitat and sensitive biological resources areas. All vehicle and equipment maintenance shall be performed in designated staging areas. • Access to the construction area shall be limited to established work hours. • Construction activities shall not be conducted at night (i.e., between dusk and dawn) within 500 feet of sensitive biological resources. Any nighttime lighting needed (e.g., security lighting) shall be shielded and directed downwards to minimize light spillover and/or glare. • All construction equipment used within work areas shall be properly maintained to avoid leaks of oil, fuel, or residues. • Construction contractors shall equip construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards to reduce construction equipment noise to the maximum extent possible. The construction contractor will place all stationary construction equipment so that noise emitted is directed away from sensitive biological resources, and stage equipment in areas that will create the greatest distance between construction-related noise sources and sensitive biological resources. • Provisions shall be in place to remediate accidental spills from construction equipment or other construction activities. All vehicle maintenance/fueling/staging shall occur a minimum of 100 feet away from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies. • No equipment shall be permitted to enter wetted portions of any affected drainage channel unless authorized by a permit from USACE, RWQCB, and/or CDFW. • If the construction has the potential to degrade water quality, water sampling shall be implemented to identify the pre-construction baseline, and to monitor during construction for comparison to the baseline. • Any worker who inadvertently injures or kills a special-status species or finds one dead, injured, or entrapped shall immediately report the incident to the construction foreman or biological monitor. The	

Impacts	Mitigation Measures	Significance after Mitigation
	construction foreman or biological monitor shall immediately notify Western, who then shall immediately inform CDFW. • The qualified biologist or biological monitor shall have authority to stop or redirect construction activities if necessary to prevent unauthorized impacts to special-status species or sensitive habitats and shall verify implementation of all applicable biological resource protection measures throughout construction. **BIO-3: Invasive Plant Species Control Measures.** WMWD shall require construction contractors to implement measures to prevent the introduction, transfer, and spread of invasive plant species during construction activities. Prevention best practices and guidelines for controlling the spread of invasive plants can be found on the California Invasive Plant Council's website (https://www.cal-ipc.org/). The objective of this measure is to avoid the transport of invasive plant propagules between work areas and prevent the expansion of invasive plant infestations within or adjacent to sensitive habitats. WMWD shall require construction contractors to ensure that equipment is free of invasive plant seeds, propagules, and any material which may contain them (e.g., soil). For purposes of this mitigation measure, invasive plant species shall include all species with a Cal-IPC rating of moderate or high. Prior to entering the work areas, equipment shall be inspected to confirm it is free of mud, dirt, and debris. For larger work areas that would be accessed via non-paved roads, tire track stations shall be installed at the work area entrances and exits, where appropriate. Staging areas and access routes shall avoid weed infestations, and infestations within the work area(s) shall be flagged and avoided to the maximum extent feasible. Only certified weed-free materials (e.g., fiber rolls, straw, and fill) shall be used during construction of future solar energy facilities. If invasive plant infestations are introduced or expanded as a result of project construction activities, WMWD shall implement appropriate control measures, which may include manual removal, targeted treatment, revegetation, monitoring, or other measures recommended by a qualified biologist. Following completion of construction, WMWD shall prepare a compliance report documenting implementation of the invasive plant species control measures and any corrective actions undertaken. The memorandum shall be maintained in the project file and provided to the County upon request. **BIO-4: Revegetation Plan.** Prior to commencement of ground-disturbing activities, for areas subject to temporary impacts on natural communities, a qualified biologist shall prepare a Revegetation Plan. The plan shall identify measures necessary to restore temporarily disturbed areas to pre-project conditions or equivalent biological function and habitat value. The plan shall be implemented following completion of construction and shall include, at a minimum, the following: • A description and map of all temporary disturbance areas requiring restoration. • Baseline documentation of existing vegetation communities, habitat conditions, and dominant plant species within areas to be restored. • A native planting palette appropriate for each vegetation community being restored and suitable for local conditions, including information regarding seed sources, plant materials, and installation methods. • Performance standards and success criteria, such as vegetation cover, species richness, native species establishment, survival rates, and invasive species control targets, sufficient to demonstrate successful restoration of habitat functions and values.	

Impacts	Mitigation Measures	Significance after Mitigation
	• A monitoring program conducted by a qualified biologist for a minimum of three years, or longer if necessary, to demonstrate achievement of performance standards. • Adaptive management and contingency measures to be implemented if performance standards are not achieved, including supplemental planting, reseeding, weed control, erosion repair, irrigation adjustments, or extension of the monitoring period. • Annual monitoring reports documenting restoration progress, compliance with performance standards, corrective actions taken, and recommendations for additional measures if necessary. Temporary impact areas shall be considered successfully restored only upon written determination by a qualified biologist that the approved performance standards have been achieved. **BIO-5: Coastal California Gnatcatcher.** Prior to commencement of ground-disturbing habitat, a qualified biologist shall determine whether suitable coastal California gnatcatcher habitat (e.g., coastal sage scrub and/or chaparral habitat) is present within the project site or within 500 feet of the project site. If suitable habitat is present, coastal California gnatcatcher protocol surveys shall be conducted in accordance with the most current USFWS guidance, including Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol (USFWS 1997), or any successor guidance. If surveys verify the absence of Coastal California Gnatcatchers, no further species-specific avoidance or mitigation measures shall be required. If California gnatcatcher or occupied habitat are detected within 500 feet or adjacent to the project site, a qualified biologist shall establish avoidance buffers sufficient to avoid direct or indirect impacts to the species and occupied habitat. Buffers shall be based on site-specific conditions, including habitat quality, topography, construction methods, noise levels, and location of occupied habitat. Buffer areas shall be clearly delineated in the field prior to construction, and no construction activities, staging, parking, or other disturbances shall occur within the buffer areas. Avoidance of occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to California gnatcatcher and/or occupied habitats, the applicant shall consult with USFWS prior to project approval and commencement of construction activities and shall obtain all required authorizations under the Federal Endangered Species Act (FESA). Such authorization may include but are not limited to a Biological Opinion issued pursuant to FESA Section 7 if there is a federal nexus (e.g., federal permits are being obtained), a Habitat Conservation Plan issued pursuant to FESA Section 10, or other applicable authorization. Alternatively, WMWD may seek coverage as a Participating Special Entity (PSE) of the Western Riverside County MSHCP, subject to all applicable requirements. If MSHCP take coverage is obtained, it would provide for regional conservation of the species, and no further mitigation is required. However, if project-specific take permits are obtained, mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by USFWS, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in the loss or degradation of occupied habitat, WMWD shall prepare and implement a USFWS-approved Coastal California Gnatcatcher Habitat Mitigation Plan. The Mitigation Plan shall identify measures necessary to necessary to minimize, avoid, and compensate for impacts and shall include, at a minimum: • A description and quantification of direct and indirect impacts to California coastal Gnatcatchers and occupied habitat;	

Impacts	Mitigation Measures	Significance after Mitigation
	• Documentation demonstrating why complete avoidance is infeasible; • Measures to avoid and minimize impacts during construction; • Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, or establishment measures sufficient to achieve no net loss of occupied habitat functions and values; • Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms; • A monitoring and reporting program with clearly defined biological performance standards and success criteria; • Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and • Adaptive management and contingency measures to be implemented if performance standards are not achieved. **BIO-6: Crotch's Bumble Bee.** Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable Crotch's bumble bee habitat is present within the project site or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, protocol surveys shall be conducted in accordance with the most current CDFW guidance, including the Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (CDFW 2023), or any successor guidance. Surveys shall be conducted during the appropriate survey period and under suitable environmental conditions to maximize detectability. At a minimum three surveys shall be conducted during the species' peak activity period (generally April through August), unless otherwise approved by CDFW. If surveys verify absence of Crotch's bumble bee within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation shall be required. If Crotch's bumble bees, occupied habitat, nesting habitat, or other important habitat features are identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts to species and its habitat. Buffer distances shall be based on site-specific conditions, including the location nests, foraging habitat, construction methods, topography, and nature of the anticipated disturbance. Unless otherwise approved by CDFW, a minimum 15-meter (approximately 50-foot) no disturbance buffer shall be established around occupied habitat or active nest locations. Buffer areas shall be clearly marked in the field prior to construction, and no ground disturbance, staging, parking, equipment operation, or other construction activities shall occur within the designated buffer areas. Avoidance of occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to Crotch's bumble bees and/or occupied habitats, the applicant shall consult with CDFW prior to commencement of construction and obtain any required authorizations pursuant to the California Endangered Species Act, which may include obtaining a "take" permit (e.g., CESA Section 2081 Incidental Take Permit from CDFW). Mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by CDFW, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in direct or indirect	

Impacts	Mitigation Measures	Significance after Mitigation
	impacts to Crotch's bumble bee or occupied habitat, WMWD shall prepare and implement a CDFW-approved Crotch's Bumble Bee Mitigation Plan that includes, at a minimum: • A description and quantification of direct and indirect impacts to Crotch's bumble bee and occupied habitat; • Documentation demonstrating why complete avoidance is infeasible; • Measures to avoid and minimize impacts during construction; • Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values; • Permanent protection of mitigation lands through conservation easements, deed restrictions, or other approved long-term protection mechanisms; • A monitoring and reporting program with clearly defined biological performance standards and success criteria; • Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and • Adaptive management and contingency measures to be implemented if performance standards are not achieved. **BIO-7: Least Bell's Vireo.** Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable riparian habitat for the least Bell's vireo is present within the project area or within 500 feet of the project site. If suitable habitat is present, protocol-level surveys shall be conducted during the appropriate survey window (generally April 10 through July 31) in accordance with the most current USFWS guidance, including Least Bell's Vireo Survey Guidelines (USFWS 2001), or any successor guidance. If protocol surveys verify absence of Least Bell's Vireo within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation is required. If Least Bell's Vireo, occupied habitat, or nesting territories are identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts to the species and occupied habitat. Buffer distances shall be based on site-specific conditions, including habitat quality, topography, construction methods, anticipated noise levels, and location of occupied habitat. Buffer areas shall be clearly marked in the field prior to construction, and no grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the buffer areas. Avoidance of occupied habitat and active nesting territories shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to least Bell's vireo and/or occupied habitats, WMWD shall consult with USFWS and CDFW prior to commencement of construction and obtain all required authorizations under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA). Such authorizations may include but are not limited to a Biological Opinion issued pursuant to FESA Section 7, a Habitat Conservation Plan issued pursuant to FESA Section 10, a CESA Section 2081 Incidental Take Permit, or CESA Section 2020.1 Consistency Determination. Alternatively, WMWD may seek coverage as a Participating Special Entity (PSE) under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), subject to all applicable MSHCP requirements including the preparation of a Determination of	

Impacts	Mitigation Measures	Significance after Mitigation
	Biologically Equivalent or Superior Preservation, if required. If MSHCP take coverage is obtained, it would provide for regional conservation of the species, and no further mitigation is required. However, if project-specific take permits are obtained, mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by USFWS and CDFW, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in direct or indirect impacts to Least Bell's Vireo or occupied habitat, WMWD shall prepare and implement a USFWS- and/or CDFW-approved Least Bell's Vireo Mitigation Plan that includes, at a minimum: • A description and quantification of direct and indirect impacts to Least Bell's Vireo and occupied habitat; • Documentation demonstrating why complete avoidance is infeasible; • Measures to avoid and minimize impacts during construction; • Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values; • Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms; • A monitoring and reporting program with clearly defined biological performance standards and success criteria; • Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and • Adaptive management and contingency measures to be implemented if performance standards are not achieved. **BIO-8: Stephens' Kangaroo Rat.** Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable Stephens' kangaroo rat habitat is present within the project impact area or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, focused surveys and protocol trapping shall be conducted by a qualified biologist. Surveys shall be conducted in accordance with the most current USFWS and CDFW guidelines. Trapping shall be conducted during appropriate seasonal and weather conditions. If surveys verify the absence of Stephens' kangaroo rat within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation shall be required. If Stephens' kangaroo rat, occupied habitat, active burrows, or other evidence of occupancy are detected within or adjacent to the project site, a qualified biologist shall establish avoidance buffer sufficient to avoid direct and indirect impacts to the species and occupied habitat. Buffer distances shall be based on site-specific conditions, including habitat quality, topography, construction methods, and location of occupied habitat. Buffer areas shall be clearly marked in the field prior to construction, and no grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the designated buffer areas. Avoidance of occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to Stephens' kangaroo rat and/or occupied habitats, WMWD shall consult with USFWS and CDFW prior to commencement of	

Impacts	Mitigation Measures	Significance after Mitigation
	construction and obtain all required authorizations under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA). Such authorizations may include but are not limited to a Biological Opinion issued pursuant to FESA Section 7, a Habitat Conservation Plan issued pursuant to FESA Section 10, CESA Section 2081 Incidental Take Permit, or CESA Section 2020.1 Consistency Determination. Alternatively, WMWD may seek coverage under the Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP), or as a Participating Special Entity (PSE) of the Western Riverside County Multiple Species Habitat Conservation Plan, subject to all applicable requirements. If SKR HCP or MSHCP take coverage is obtained, it would provide for regional conservation of the species, and no further mitigation is required. However, if project-specific take permits are obtained, mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by USFWS and CDFW, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in direct or indirect impacts to Stephens' kangaroo rat or occupied habitat, WMWD shall prepare and implement a USFWS- and/or CDFW-approved Stephens' Kangaroo Rat Mitigation Plan that includes, at a minimum: • A description and quantification of direct and indirect impacts to Stephens' kangaroo rat and occupied habitat; • Documentation demonstrating why complete avoidance is infeasible; • Measures to avoid and minimize impacts during construction; • Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values; • Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms; • A monitoring and reporting program with clearly defined biological performance standards and success criteria; • Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and • Adaptive management and contingency measures to be implemented if performance standards are not achieved. **BIO-9: Western Burrowing Owl.** Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable burrowing owl habitat is present within the project site or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, protocol-level surveys shall be conducted in accordance with the most current California Department of Fish and Wildlife guidance, Staff Report on Burrowing Owl Mitigation (CDFW 2012), or successor guidance. Surveys shall be conducted during the appropriate survey periods and shall include a pre-construction survey no more than 14 days prior to initiation of ground-disturbing activities, or within the timeframe specified by current CDFW guidance. If surveys verify absence of burrowing owls and occupied burrows within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation is required. If burrowing owls or occupied burrows are identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts to the species and	

Impacts	Mitigation Measures	Significance after Mitigation
	occupied habitat. Buffer distances shall be based on site-specific conditions, including habitat quality, topography, construction methods, and location of occupied habitat. Unless otherwise approved by CDFW, occupied burrows shall be protected by the buffer distances recommended in the current CDFW Burrowing Owl Staff Report. Buffer areas shall be clearly marked in the field prior to construction, and no grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the designated buffer areas. Avoidance of occupied burrows and occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to burrowing owl and/or occupied habitats, WMWD shall consult with CDFW prior to commencement of construction and obtain any required authorizations. Such authorizations may include but are not limited to a CESA Section 2081 Incidental Take Permit. Alternatively, WMWD may seek coverage as a Participating Special Entity (PSE) under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), subject to all applicable requirements, including preparation of a Determination of Biologically Equivalent or Superior Preservation, if required. If MSHCP take coverage is obtained, it would provide for regional conservation of the species, and no further mitigation is required. However, if project-specific take permits are obtained, mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by CDFW, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in direct or indirect impacts to burrowing owls, occupied burrows, or occupied habitat, WMWD shall prepare and implement a CDFW-approved Burrowing Owl Mitigation Plan. The plan may include passive relocation, habitat preservation, habitat restoration, habitat enhancement, conservation banking, or other measures approved by CDFW, as appropriate to the nature and extent of impacts. The Burrowing Owl Mitigation Plan shall include, at a minimum: • A description and quantification of direct and indirect impacts to burrowing owls, occupied burrows and habitat; • Documentation demonstrating why complete avoidance is infeasible; • Measures to avoid and minimize impacts during construction; • Procedures for passive relocation, if approved by CDFW and determined necessary; • Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values; • Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms; • A monitoring and reporting program with clearly defined biological performance standards and success criteria; • Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and • Adaptive management and contingency measures to be implemented if performance standards are not achieved.	

Impacts	Mitigation Measures	Significance after Mitigation
	BIO-10: Western Spadefoot. Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable western spadefoot breeding habitat (e.g., seasonal ponds, vernal pools, ephemeral drainages, or other seasonal ponding features) and associated upland habitat occur within the project site or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, focused surveys shall be conducted in accordance with accepted survey methodologies for western spadefoot. If surveys verify absence of the western spadefoot and occupied habitat within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation is required. If western spadefoot, breeding habitat, or occupied habitat is identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers to avoid direct and indirect impacts to the species and occupied habitat. Buffer distances shall be based on site-specific conditions, including habitat quality, breeding status, hydrological conditions, topography, and construction methods. Buffer areas shall be clearly marked in the field prior to construction, and no grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the designated buffer areas. Avoidance of occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to western spadefoot and/or occupied habitats, WMWD shall prepare and implement a Western Spadefoot Mitigation Plan approved by the appropriate regulatory agencies, as applicable, prior to commencement of construction activities that could affect the species or its habitat. Alternatively, WMWD may seek coverage as a Participating Special Entity under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), subject to all applicable requirements. The Western Spadefoot Mitigation Plan shall include, at a minimum: • A description and quantification of direct and indirect impacts to western spadefoot and occupied habitat; • Documentation demonstrating why complete avoidance is infeasible; • Measures to avoid and minimize impacts during construction; • Mitigation at a minimum ratio of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values; • Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms; • If egg masses, tadpoles, or individuals require relocation, a relocation plan shall be prepared and implemented by a qualified biologist and approved by the appropriate regulatory agencies; • A monitoring and reporting program with clearly defined biological performance standards and success criteria; • Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and • Adaptive management and contingency measures to be implemented if performance standards are not achieved.	

Impacts	Mitigation Measures	Significance after Mitigation
	BIO-11: Nesting Birds. To avoid impacts to nesting birds protected under the Migratory Bird Treaty Act, California Fish and Game Code Sections 3503, 3503.5, and 3513, and other applicable regulations, a qualified biologist shall conduct a pre-construction nesting bird surveys if vegetation removal, grading, ground disturbance, or other construction activities are scheduled to occur during the nesting season (generally February 1 through August 31). The pre-construction surveys shall be conducted no more than 7 days prior the start of construction activities within suitable nesting habitat located within the project impact area and a minimum 300-foot buffer surrounding the construction limits. Surveys shall identify active nests, nesting territories, and other evidence of breeding activity that could be affected by project construction. If no active nests are identified, no further species-specific mitigation measures shall be required. If any active nests are identified, a qualified biologist shall establish species-specific avoidance buffer to avoid direct and indirect impacts to nesting birds, eggs, and young. Buffer distances shall be based on the nesting species, nesting status, habitat conditions, topography, construction methods, and anticipated disturbance levels. Unless otherwise approved by a qualified biologist based on site-specific conditions: • A minimum 300-foot buffer shall be established around active nests of passerine birds; and • A minimum 500-foot buffer shall be established around active nests of raptors, special-status bird species, and federally or state-listed bird species. Buffer areas shall be clearly marked in the field. No grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the established buffer areas unless a qualified biologist determines that a reduced buffer would avoid nest abandonment, reproductive failure, or other adverse impacts based on species-specific behavior and site conditions. If an active white-tailed kite nest is identified, project activities shall avoid direct and indirect impacts to the occupied nest and nesting territory. Because white-tailed kite is designated as a California Fully Protected Species pursuant to Fish and Game Code Section 3511, project activities shall be modified, relocated, rescheduled, or otherwise redesigned, as necessary, to avoid take of the species. Construction activities shall not proceed in a manner that could result in take of white-tailed kite or abandonment of an active nest. If construction activities occur in close proximity to active nests, the qualified biologist shall monitor the nest site as necessary to verify that project activities are not causing behavioral disturbance, nest abandonment, reduced reproductive success, or other adverse effects. If adverse effects are observed, construction activities shall be modified, suspended, or relocated as necessary to avoid impacts. Established buffers shall remain in place until the qualified biologist determines that the nest is no longer active and the young have fledged and are no longer dependent on the nest for survival. The qualified biologist shall have the authority to temporarily halt or redirect construction activities if necessary to prevent unauthorized impacts to active nests, nesting birds, eggs, or dependent young. **BIO-12: Non-Listed Special-Status Ground-Dwelling Wildlife.** Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable habitat for non-listed special-status ground-dwelling wildlife species is present within the project impact area or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, the following measures shall be implemented to avoid and minimize impacts to special-status wildlife: • A qualified biologist(s) shall conduct pre-construction clearance surveys no more than 7 days prior to the start of construction (including staging and mobilization). The surveys shall cover the entire work	

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	area plus a minimum 200-foot buffer, if feasible, and shall identify all special-status wildlife species, occupied habitat features, burrows, dens, refugia, movement corridors, and other sensitive biological resources that could be affected by project activities. • Prior to commencement of construction, all construction workers shall receive a WEAP training consistent with Mitigation Measure BIO-2. The training shall include information regarding special-status wildlife species that may occur within the project area, applicable avoidance measures, reporting requirements, and procedures to follow if wildlife is encountered. • If any special-status wildlife species, occupied habitat, active burrows, nests, refugia, or other sensitive habitat features are identified within or adjacent to work areas, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts. Buffer distances shall be based on species-specific sensitivity, habitat conditions, construction methods, and the nature of the anticipated disturbance. Buffer areas shall be clearly marked in the field prior to construction, and no construction activities shall occur within the designated buffer areas unless authorized by the qualified biologist. • A qualified biologist(s) shall monitor all ground-disturbing activities, including vegetation removal, grading, trenching, and excavation, in areas supporting suitable habitat for special-status wildlife species. • All trenches, pipes, culverts or similar structures shall be inspected by a qualified biologist or designated monitor at the beginning of each workday and prior to backfilling, covering, capping relocation, or abandonment. Any wildlife found within these features shall be allowed to leave voluntarily or shall be relocated by a qualified biologist in accordance with applicable permits and regulatory requirements. • Open trenches and excavations left unattended shall be covered, fenced, or equipped with escape ramps to prevent wildlife entrapment. These protection measures shall remain in place until the excavation is backfilled or otherwise secured. • Any non-listed special-status species observed by the qualified biologist(s) or construction crew shall be allowed to move out of harm's way or shall be relocated from the work area either through direct capture or through passive exclusion by a qualified biologist(s) with appropriate permits. The qualified biologist shall have the authority to temporarily halt or redirect construction activities if necessary to prevent unauthorized impacts to special-status wildlife species or occupied habitat features. **BIO-13: Special-Status Bats.** Prior to commencement of ground-disturbing activities, vegetation removal, or demolition of structures that may support bat roosts, a qualified biologist shall determine whether suitable roosting habitat for special-status bat species is present within the project impact area or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, focused bat surveys shall be conducted to identify the presence, type, and status of roosts that could be affected by construction. Surveys shall be conducted during appropriate seasons and favorable weather conditions to evaluate potential daytime roosts, maternity roosts, night roasts, and hibernacula. Surveys shall include, as appropriate: • Daytime visual inspections of trees, structures, rock outcrops, bridges, culverts, and other potential roost features; • Evaluation of evidence of bat use, including guano, urine staining, staining around entry points, feeding remains, vocalizations, and direct observations of bats;	

Impacts	Mitigation Measures	Significance after Mitigation
	• Dusk emergence surveys and/or dawn re-entry surveys to determine roost occupancy and status; and • Acoustic monitoring using bat detectors and call analysis, as appropriate. If active bat roosts are identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts to roosting bats. Buffer distances shall be based on species sensitivity, roost type, colony size, construction methods, topography, and anticipate disturbance levels. Active maternity roosts and active hibernacula shall be avoided and protected during construction. Construction activities within established buffers shall be prohibited unless a qualified biologist determines that the activities would not affect the roost. Buffers shall remain in place until the qualified biologist determines that the roost is no longer active or no longer susceptible to project-related disturbance. Avoidance of active roosts shall be the preferred mitigation approach. Maternity roosts and active hibernacula shall not be removed, excluded, disturbed, or destroyed. If avoidance of a non-maternity roost is determined to be infeasible, WMWD shall consult with CDFW prior to implementation of exclusion activities and shall prepare a Bat Roost Management Plan. The plan shall identify measures necessary to avoid, minimize, and compensate for impacts to special-status bat species and shall include, at a minimum: • Documentation demonstrating why complete avoidance is infeasible; • Species identification, roost characterization, and estimated colony size; • Procedures for exclusion, if approved by CDFW; • Measures to ensure bats are not trapped, injured, or killed during exclusion activities; • Monitoring requirements before, during, and after exclusion activities; • Installation of alternative roost structures, such as bat boxes, where appropriate; • Long-term monitoring and reporting requirements; • Performance standards and success criteria; and • Adaptive management and contingency measures if performance standards are not achieved. • If exclusion is approved, exclusion devices shall: • Be designed to allow bats to exist but prevent re-entry; • Not utilize netting or other materials that could entangle bats; • Be installed only during periods approved by the qualified biologist and CDFW when maternity colonies and hibernating bats are not present; • Be monitored by a qualified biologist during installation and operation; and • Be inspected regularly to ensure effectiveness and prevent bat entrapment. If bat boxes or other replacement roost structures are required, they shall be installed prior to roost exclusion and maintained for a period specified in the approved Bat Roost Management Plan. **BIO-14: Future Project Habitat Assessments.** Prior to approval, final design, or commencement of ground-disturbing activities for any future project not evaluated at the project level in this DPEIR, WMWD shall retain a qualified biologist to prepare a site-specific biological resources assessment. The assessment shall evaluate the presence or potential presence of special-status plant species, special-status wildlife species, sensitive natural communities, jurisdictional waters and wetlands, wildlife	

Impacts	Mitigation Measures	Significance after Mitigation
	movement corridors, nesting habitat, roosting habitat, and other sensitive biological resources within the project impact area and an appropriate surrounding buffer. The biological resources assessment shall include, at a minimum: • A records search of available biological resources databases, including the California Natural Diversity Database; • Review of applicable conservation plans, recovery plans, habitat conservation plans, and regulatory constraints; • Site reconnaissance and habitat evaluation sufficient to determine the potential for special-status species and sensitive habitats to occur; • Identification of all sensitive biological resources that could be directly or indirectly affected by project construction or operation; • Recommendations regarding the need for focused species surveys, jurisdictional delineation, agency consultation, avoidance measures, monitoring, and compensatory mitigation. If the assessment determines that special-status species or other sensitive biological resources may occur within the project area or may be affected by project implementation, focused surveys shall be conducted in accordance with applicable agency protocols and current regulatory guidance prior to commencement of construction. If sensitive biological resources are identified, WMWD shall first avoid impacts to the maximum extent feasible through project siting, design modifications, seasonal restrictions, construction timing limitations, establishment of biological buffers, exclusion fencing, worker education, biological monitoring, lighting controls, noise controls, and other avoidance and minimization measures. Where sensitive biological resources occur outside the construction footprint but within an area that could be affected by project activities, the qualified biologist shall establish species- and resource-specific avoidance buffers and other protective measures sufficient to avoid direct and indirect impacts. Buffer distances shall be based on the resource present, site-specific conditions, construction methods, and applicable agency guidance. If, after implementation of avoidance and minimization measures, the qualified biologist determines that significant impacts to sensitive biological resources could still occur, WMWD shall implement the applicable mitigation measures identified in this DPEIR and any additional resource-specific mitigation necessary to avoid, minimize, compensate for, or otherwise address identified impacts. Such measures shall be developed in consultation with appropriate resource agencies, as applicable, and shall be implemented prior to or concurrent with project construction. The biological resource assessment and any required focused surveys shall be completed sufficiently in advance of construction to allow incorporation of all avoidance, minimization, monitoring, and mitigation measures into project plans and construction specifications.	

Impacts	Mitigation Measures	Significance after Mitigation
3.4-2: The proposed project could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	**BIO-15: Sensitive Natural Communities.** Prior to commencement of ground-disturbing activities, a qualified biologist shall identify, delineate, and map all sensitive natural communities within or adjacent to the project impact area. Sensitive natural communities shall include but are not limited to vegetation communities recognized by CDFW as sensitive, rare, or declining; communities identified in local or regional conservation plans; and other communities meeting the significance criteria used in the DEIR. The qualified biologist shall establish environmentally sensitive area (ESA) boundaries around sensitive natural communities that will be avoided. The boundaries of these areas shall be clearly marked in the field using high-visibility fencing, flagging, or staking prior to construction and shall remain in place throughout construction. No construction activities, equipment staging, or vehicle access shall occur within these areas. Avoidance of sensitive natural communities shall be the preferred mitigation approach. If temporary impacts to sensitive natural communities cannot be avoided, WMWD shall prepare and implement a Habitat Restoration Plan prior to the commencement of construction. The plan shall include, at a minimum: • Mapping and quantification of all temporarily impacted areas; • Baseline documentation of existing habitat conditions; • Site preparation, erosion control, weed management, and restoration procedures; • Native species seed mixes and planting palettes appropriate to the affected habitat type; • Quantitative performance standards and success criteria; • A monitoring and reporting program for a minimum of three years and up to five years, or longer if performance standards have not been achieved; • Adaptive management and contingency measures, including supplemental planting, reseeding, invasive species control, erosion repair, and extension of monitoring, if performance standards are not met. If permanent impacts to sensitive natural communities cannot be avoided, WMWD shall implement compensatory mitigation sufficient to achieve no net loss of the acreage, functions, and values of the affected community. Compensatory mitigation may be provided through on-site restoration, off-site restoration, habitat preservation, approved conservation banks, approved mitigation banks, or a combination thereof, as appropriate. Final mitigation requirements shall be developed and implemented prior to or concurrent with project impacts. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank), then prior to commencement of construction, WMWD shall prepare a Sensitive Natural Community Mitigation Plan that includes, at a minimum: • A description and quantification of direct and indirect impacts to sensitive natural communities; • Documentation demonstrating why complete avoidance is infeasible; • Compensatory mitigation at a minimum ratio of 1:1 for permanent impacts, habitat preservation, restoration, enhancement, establishment, and/or a combination thereof sufficient to offset project impacts; • Permanent protection of mitigation lands through conservation easements, deed restrictions, conservation banks, or other long-term protection mechanisms;	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	• Monitoring and reporting requirements with clearly defined biological performance standards and success criteria; • Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and • Adaptive management and contingency measures if performance standards are not achieved. Implement Mitigation Measures BIO-2 and BIO-3	
3.4-3: The proposed project could have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	**BIO-16: Aquatic Resources.** Prior to commencement of ground-disturbing activities, a qualified biologist and/or aquatic resources specialist shall identify, delineate, and map aquatic resources within and adjacent to the project impact area, including wetlands, streams, drainages, riparian habitat, and other potentially jurisdictional waters. Where required by the applicable regulatory agencies, formal jurisdictional delineation shall be prepared and verified. Avoidance of aquatic resources shall be the preferred mitigation approach. To the maximum extent feasible, project facilities, staging areas, access routes, stockpiles, and other construction-related activities shall be located outside aquatic resources and associated buffer areas. Where aquatic resources occur within or adjacent to construction work areas, the following measures shall be implemented. • Aquatic resources and avoidance buffers shall be clearly marked in the field using high-visibility fencing, flagging, staking or other approved methods prior to commencement of construction. Buffer distances shall be established by a qualified biologist based on site-specific conditions, resource sensitivity, and construction methods. Unless otherwise approved by the qualified biologist, a minimum 50-foot buffer shall be established around aquatic resources where feasible. • Construction staging areas, including laydown areas, and all materials and spoils shall be located outside aquatic resources and established buffer areas. Temporary sediment and erosion control measures (e.g., berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers) shall be installed as appropriate to prevent stormwater runoff from entering aquatic habitats. • Materials shall be stored on impervious surfaces or plastic ground covers and, to the extent feasible, at least 50 feet away from aquatic resources to prevent contamination from spills or leaks. • In the event of a spill, work shall stop if it is safe to do so. The affected area shall be contained, cleaned, and any contaminated materials properly disposed of. The project foreman or designated environmental representative shall be notified immediately. • No equipment, vehicles, materials, or personnel shall enter wetted portions of streams, wetlands, or other jurisdictional waters except as authorized by applicable permits and approvals. Prior to any activity that could result in direct or indirect impact to jurisdictional waters wetlands, or other regulated aquatic resources, WMWD shall coordinate with the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife, and any other applicable agencies as appropriate to determine permitting requirements. Such authorizations may include but are not limited to the Clean Water Act (CWA) Section 404 Nationwide Permit, CWA Section 401 Water Quality Certification, Porter-Cologne Act Waste Discharge Requirement, Fish and Game Code (FGC) Section 1602 Streambed Alteration Agreement. All required permits, authorizations, certifications, and approvals shall be obtained prior to commencement of the activity.	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	If impacts to aquatic resources cannot be avoided, mitigation for permanent impacts to regulated aquatic resources would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by the appropriate regulatory agencies, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then WMWD shall prepare and implement an Aquatic Resources Mitigation Plan prior to commencement of construction activities. The plan shall include, at a minimum: • A description and quantification of temporary and permanent impacts to aquatic resources, including direct and indirect impacts; • Documentation demonstrating why complete avoidance is infeasible; • Measures to avoid and minimize impacts during construction; • Restoration procedures for temporarily disturbed areas, including restoration of pre-project contours, hydrologic function, substrate conditions, and native vegetation communities; • Compensatory mitigation at a minimum ratio of 2:1 for permanent impacts, unless a higher ratio is required by the permitting agencies or resource-specific permit conditions sufficient to replace lost aquatic resource acreage, functions, and values; • Permanent protection of mitigation sites through conservation easements, deed restrictions, or other long-term protection mechanisms; • Monitoring and reporting requirements with clearly defined biological and functional performance standards; • Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and • Adaptive management and contingency measures if performance standards are not achieved. Implement Mitigation Measures BIO-2 and BIO-3	
3.4-4: The proposed project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Implement Mitigation Measures BIO-2 and BIO-3	Less than Significant with Mitigation
3.4-5: The proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	**BIO-17: Tree Protection.** Prior to the commencement of construction, WMWD shall retain a qualified arborist or qualified biologist to identify and map all City-managed trees and other protected trees that could be affected by project activities. WMWD shall coordinate with the City of Riverside to determine applicable permit requirements and tree protection standards pursuant to Chapter 13.25 of the Riverside Municipal Code and any other applicable regulations. Avoidance of tree removal shall be the preferred mitigation approach. To the maximum extent feasible, project facilities, staging areas, access routes, trench alignments, and other construction activities shall be designed and located to avoid impacts to protected trees and their root protection zones. Where trees are located adjacent to construction activities, the following measures shall be implemented:	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	• Prior to commencement of construction, protective fencing shall be installed around the dripline or root protection zone of trees designated for preservation, or at another distance approved by the qualified arborist or the City of Riverside. • Any pruning required for construction shall be performed by a qualified arborist in accordance with accepted arboricultural standards and applicable City requirements. • Construction activities occurring near preserved trees shall be monitored periodically by a qualified arborist to verify compliance with tree protection measures and identify any corrective actions necessary to avoid damage. If tree removal cannot be avoided, WMWD shall obtain all required permits and approvals and shall provide replacement planting or other compensatory mitigation in accordance with City requirements. If City requirements do not specify replacement standards, removed trees shall be replaced at a minimum ratio of 1:1 based on canopy value, trunk diameter, or another method approved by the City. Replacement trees shall consist of species appropriate for the project area and shall be maintained until successfully established. If construction activities result in damage to a protected tree designated for preservation, WMWD shall implement corrective actions recommended by a qualified arborist and the City, which may include remedial treatment, replacement planting, or other measures to compensate for loss of the tree resources. Implement Mitigation Measure BIO-8	
3.4-6: The proposed project could conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	None Required	No Impact
3.4-7: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to biological resources.	Implement Mitigation Measures BIO-1 through BIO-17	Less than Significant with Mitigation
Cultural Resources		
3.5-1: The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	**CR-1: Future Study – Historic Resources.** Should the District implement future projects whose locations are currently not known (i.e., W-20 New 2 MG PZ2116 Tank and W-21 New 4 MG PZ1550 Tank) that could have a potential direct or indirect impact to historic resources and are within or adjacent to (within 100 feet of) structures that are more than 45 years old, or have been recorded as historic resources, the District shall retain a qualified architectural historian, defined as meeting the Secretary of the Interior's Professional Qualification Standards for architectural history. The architectural historian will conduct a historic resources assessment including: a records search update if necessary, at the Eastern Information Center; a review of pertinent archives and sources; a pedestrian field survey; updates or full recordation of all identified historic resources on California Department of Parks and Recreation 523 forms; and preparation of a technical memo documenting the methods and results of the assessment. All identified historic resources shall be assessed for the project's potential to result in direct and/or indirect effects to	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	those resources and any historic resource that may be affected shall be evaluated for its potential significance (i.e., listing in the CRHR) prior to the District's approval of project plans and publication of subsequent CEQA documents. The qualified architectural historian shall provide recommendations regarding avoidance or minimizing impacts, or treatment for historical resources (i.e., resources found eligible for listing in the CRHR) that will be affected by the project.	
3.5-2: The proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	**CR-2:** The District shall retain a Qualified Archaeologist under the Secretary of the Interior Standards to carry out all mitigation related to archaeological resources as required for each project. Prior to the start of ground-disturbing activities, the Qualified Archaeologist or their designee shall conduct construction worker archaeological resources sensitivity training for all construction personnel. Construction personnel shall be informed on how to identify the types of prehistoric and historic archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources, and safety precautions to be taken when working with archaeological monitors. The District shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance. In addition, a cultural resource impact mitigation program (CRIMP) shall be filed with the County prior to site grading. The CRIMP shall specify the steps to be taken to mitigate impacts to cultural resources and shall include all of the Master Plan projects and be amended if necessary at a project level basis. **CR-3:** The qualified Archaeologist shall oversee an archaeological monitor who shall be present during construction activities on the priority, near term, and future projects deemed by the qualified Archaeologist to have the potential for encountering archaeological resources, such as demolition, clearing/grubbing, drilling/auguring, grading, trenching, excavation, or other ground disturbing activity associated with the project. The archaeological monitor shall have the authority to direct the pace of construction equipment activity in areas of higher sensitivity and to temporarily divert, redirect or halt ground disturbance activities to allow identification, evaluation, and potential recovery of archaeological resources in coordination with the qualified Archaeologist. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined appropriate by the qualified Archaeologist. In the event that historic-period (e.g., bottles, foundations, early infrastructure, refuse dumps/privies, railroads, etc.) or prehistoric (e.g., hearths, burials, stone tools, shell and faunal bone remains, etc.) archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A 50-foot buffer shall be established by the qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work may continue outside of the buffer area. All archaeological resources unearthed by project construction activities shall be evaluated by the qualified Archaeologist. If a resource is determined by the qualified Archaeologist to constitute a "historical resource" pursuant to CEQA Guidelines Section 15064.5(a) or a "unique archaeological resource" pursuant to Public Resources Code Section 21083.2(g), the Qualified Archaeologist shall coordinate with the district to develop a formal treatment plan that would serve to reduce impacts to the resources. If any prehistoric archaeological sites are encountered within the project area, consultation with consulting Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment and shall be explored to see if project activities can avoid archaeological resources, such as: if the	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	archaeological site can be deeded into a permanent conservation easement, if the resources can be capped with chemically stable soil or if the resource can be incorporated within open space. If, in coordination with the district, it is determined that preservation in place is not feasible, and in order to mitigate potential impacts to significant resources pursuant to Section 15064.5 of CEQA, date recovery is feasible. Appropriate treatment of the resource shall be developed by the qualified Archaeologist in coordination with the district and a data recovery plan shall be implemented. A data recovery plan will make provision for adequately recovering the scientifically consequential information from and about the historical resources. and may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing, analysis, reporting, and commemoration in the form of signage or other public education and awareness. This process will be in accordance with and further outlined in the CRIMP. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes. **CR-4:** At the conclusion of the archaeological monitoring, the qualified Archaeologist shall prepare a technical report that follows the format and content guidelines provided in California Office of Historic Preservation's Archaeological Resource Management Reports (ARMR). The technical report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. Appropriate California Department of Parks and Recreation Site Forms (Site Forms) shall also be prepared and provided in an appendix to the report. The technical report shall be prepared under the supervision of the qualified Archaeologist and submitted to the district within 150 days of completion of the monitoring. The final draft of the report shall be submitted to the Eastern Information Center. **CR-5:** Should the District implement any future projects whose locations are currently not known (i.e., W-20 New 2 MG PZ2116 Tank and W-21 New 4 MG PZ1550 Tank), or if any of the currently planned projects move location, the qualified archaeologist shall assess grading plans and geotechnical reports, as well as reviewing record search data (which should be updated every 2 to 3 years as applicable) and they or their designee shall survey the new project APE as well as a buffer, for the project to determine whether any archaeological sites could be impacted by the project, and to make recommendations for testing and/or monitoring. The archaeologist will amend the CRIMP as appropriate. **CR-6:** The CRIMP will compile existing information, discuss the types of resources which may be encountered, and provide research themes and treatment approaches in order to avoid or mitigate significant impacts to potentially significant archaeological resources as determined to possibly within the project APE's. The CRIMP will also outline protocols to follow for unanticipated discoveries. Impacts to known archaeological resources that are within or directly adjacent to project APE's require under Section 106 and CEQA significance evaluation and mitigation for avoidance or when avoidance is not possible, controlled archaeological data recovery. Planned priority, near term, and future, projects, as well as any additional projects added within the service area as part of the Riverside FMP, that have been determined to be within close proximity to known archaeological sites will be subject to additional controlled testing requirements which will be outlined fully in the CRIMP.	

Impacts	Mitigation Measures	Significance after Mitigation
	In order to determine site significance in accordance with CEQA and Section 106, site boundaries, and the potential for resources within the project area, any potholing, geotechnical testing, and other excavation in advance of construction will be closely monitored and tested by an archaeologist under the direction of the qualified Archaeologist. This will include placement of additional postholes or excavation if needed, observation and screening of soils excavated as part of potholing or geotechnical work. If geotechnical samples are taken in such a way that screening is not possible, additional excavation may be required by the qualified Archaeologist in order to assess significance. The qualified Archaeologist will make recommendations for additional avoidance, data recovery, and mitigation as outlined in the CRIMP. **CR-7:** If at some point archaeological monitoring has been discontinued or determined in the CRIMP to not be required, but archaeological resources are encountered, the archaeologist shall be notified immediately and shall assess the significance of the findings and recommendations in accordance with the CRIMP. The archaeologist shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. Appropriate California Department of Parks and Recreation Site Forms (Site Forms) shall also be prepared and provided in an appendix to the report. The technical report shall be prepared under the supervision of the qualified Archaeologist and submitted to the district within 150 days of completion of the monitoring. The final draft of the report shall be submitted to the Eastern Information Center. If any prehistoric archaeological sites are encountered within the project area, consultation with consulting Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.	
3.5-3: The proposed project could disturb any human remains, including those interred outside of dedicated cemeteries.	**CR-8: Inadvertent Discovery of Human Remains.** If human skeletal remains are uncovered during ground disturbance the district shall immediately halt work, contact the Riverside County coroner to determine whether the remains are human, and follow the procedures and protocols outlined in the CRMMP (see CUL-MM-1 through -4) and those set forth in CEQA Guidelines Section 15064.5(e)(1). If the County Coroner determines that the remains are Native American, they shall contact the Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5(c), and Public Resources Code (PRC) Section 5097.98 (as amended by AB 2641). The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD) of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. Per PRC 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC Section 5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	Less than Significant with Mitigation
3.5-4: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to cultural resources.	Implement Mitigation Measures CR-1 through CR-8	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
Energy		
3.6-1: The proposed project could result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	None Required	Less-than-Significant Impact
3.6-2: The proposed project could conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	None Required	Less-than-Significant Impact
3.6-3: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to energy.	None Required	Less-than-Significant Impact
Geology and Soils		
3.7-1: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.	None Required	No Impact
3.7-2: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	None Required	Less-than-Significant Impact
3.7-3: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.	None Required	Less-than-Significant Impact
3.7-4: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.	None Required	Less-than-Significant Impact
3.7-5: The proposed project could result in substantial soil erosion or the loss of topsoil.	None Required	Less-than-Significant Impact

Impacts	Mitigation Measures	Significance after Mitigation
3.7-6: The proposed project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	None Required	Less-than-Significant Impact
3.7-7: The proposed project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	None Required	Less-than-Significant Impact
3.7-8: The proposed project could have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.	None Required	No Impact
3.7-9: The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**PALEO-1:** The District shall retain a paleontologist who meets the Society of Vertebrate Paleontology's (SVP 2010) definition for Qualified Professional Paleontologist (Qualified Paleontologist) to carry out all mitigation related to paleontological resources as required for each project. Prior to the start of ground-disturbing activities, the Qualified Paleontologist or their designee shall conduct construction worker paleontological resources sensitivity training for all construction personnel. Construction personnel shall be informed on how to identify the types of paleontological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources, and safety precautions to be taken when working with paleontological monitors. The District shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance. In addition, and in accordance with the Riverside County General Plan, a paleontological resource impact mitigation program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall identify the project's paleontological sensitivity, establish monitoring requirements, define procedures for evaluation, documentation, recovery, and curation of significant paleontological resources, and specific notification and reporting requirements. The PRIMP shall apply to all Master Plan projects with the potential to affect paleontological resources and shall be updated, as necessary, to address project-specific conditions identified during subsequent design and environmental review. **PALEO-2:** Paleontological monitoring shall be conducted during all ground-disturbing activities that produce visible spoils or cuts for project construction in Older Alluvium, Miocene Lake Mathews Formation, and Cretaceous Ladd Formation. Monitoring shall be conducted by a qualified paleontological monitor (SVP 2010) working under the direct supervision of the Qualified Paleontologist. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting sediment samples to wet or dry screen to test promising horizons for smaller fossil remains. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	specific geologic conditions at the surface or at depth, the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. **PALEO-3:** If a potential fossil is found, the paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation of the discovery. An appropriate buffer area shall be established around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the monitor's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If a fossil is determined to be significant, the Qualified Paleontologist shall implement a paleontological salvage program to remove the resources from their location, following the guidelines of the SVP (2010). Any fossils encountered and recovered shall be prepared to the point of identification, catalogued, and curated at an accredited repository. If construction personnel discover any potential fossils during construction while the paleontological monitor is not present, regardless of the depth of work or location, work at the discovery location shall cease in a 25-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and recommended and implemented appropriate treatment as described in this measure. **PALEO-4:** At the conclusion of paleontological monitoring, the Qualified Paleontologist shall prepare a report summarizing the results of the monitoring and any salvage efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Qualified Paleontologist to the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the proposed project and required mitigation measures. **PALEO-5:** Should any additional projects outside the current list of priority, near-term, and future projects be planned within the service area as part of the Riverside FMP, or if any of the currently planned projects move location, or if a project planned in artificial fill or younger alluvium exceeds 10 feet in depth, a qualified paleontologist shall be retained by the District to assess grading plans and geotechnical reports for the project to determine whether the older Quaternary Alluvium, Miocene Lake Mathews Formation, or the Cretaceous Ladd Formation would be impacted by excavation. If so, the paleontologist shall recommend implementation of Mitigation Measures PALEO-1 through PALEO-4 as appropriate for identification and recovery of paleontological resources. The paleontologist will amend the PRIMP as appropriate. **PALEO-6:** If fossils are encountered at depths less than the anticipated depth of the older Quaternary Alluvium, Miocene Lake Mathews Formation, or the Cretaceous Ladd Formation, the paleontologist shall be notified immediately and shall assess the significance of those fossils and shall make recommendations for recovery of those and other potential fossils in the shallower horizons. If fossils are found on a project/formation that does not require monitoring, the qualified paleontologist will be contacted for evaluation and recommendations for salvage following the PRIMP or during monitoring. The paleontologist shall prepare a report summarizing the results of the monitoring program including methods of fossil recovery and curation, and a description of the fossils collected and their significance. A copy of the report shall be provided to the District. The fossils and a copy of the report shall be deposited in an accredited curation facility such as the Western Science Center.	

Impacts	Mitigation Measures	Significance after Mitigation
3.7-10: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to geology and soils.	Implement Mitigation Measures PALEO-1 through PALEO-6	Less than Significant with Mitigation
Hazards and Hazardous Materials		
3.8-1: The proposed project could create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials, or the upset and accident conditions involving the release of hazardous materials into the environment.	None Required	Less-than-Significant Impact
3.8-2: The proposed project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.	None Required	Less-than-Significant Impact
3.8-3: The proposed project could be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would create a significant hazard to the public or the environment.	**HAZ-1:** Prior to approval of final design or commencement of construction for any proposed project facility located within or adjacent to a known or suspected hazardous materials site, WMWD shall prepare a Phase I Environmental Site Assessment in accordance with ASTM standards or equivalent regulatory guidance to evaluate the potential for hazardous materials contamination to be encountered during project construction or operation. If the Phase I ESA identifies recognized environmental conditions or the potential for contaminated soil, groundwater, soil vapor, or other hazardous materials to be present, WMWD shall prepare a Phase II Site Investigation sufficient to characterize the nature and extent of contamination. If contamination is identified, WMWD shall prepare and implement a site-specific Soil and Groundwater Management Plan, Remedial Action Plan, or other regulatory-approved corrective action document, as applicable. Such plans shall include measures to protect workers and the public from exposure, properly manage, transport, and dispose of contaminated materials, and prevent release or migration of hazardous substances during construction. All remediation, corrective actions, and contaminated material handling shall be conducted in accordance with applicable federal, state, and local regulations and under the oversight of the appropriate regulatory agency. Prior to commencement of construction, WMWD shall obtain any required agency approvals, clearances, or closure determinations from the applicable Regional Water Quality Control Board, Department of Toxics Substance Control, or any other responsible regulatory agencies.	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
3.8-4: The proposed project could result in a safety hazard or excessive noise for people residing or working in the project area within an airport land use plan or 2 miles of a public airport or public use airport.	**HAZ-2:** Prior to approval of final design and commencement of construction for any proposed project located within the March Air Reserve Base Airport Influence Area Zones M, B-1, C-1, and C-2, WMWD shall coordinate with the Riverside County Airport Land Use Commission and MARB management, and any other agency with jurisdiction over land use compatibility. WMWD shall provide sufficient project information for review, including proposed facility locations, maximum structure heights, ground elevations, construction equipment heights, and final design specifications, if applicable. If the review identifies a potential conflict with applicable airport land use compatibility requirements, airspace protection standards, or aviation safety requirements, WMWD shall revise project plans or incorporate appropriate mitigation measures, such as height restrictions, obstruction marking, lighting, or other aviation safety features, as required by the reviewing agency. Any required approvals, determinations of consistency, or other agency clearances shall be obtained prior to commencement of construction.	Less than Significant with Mitigation
3.8-5: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Implement Mitigation Measure TRA-1 (see *Transportation* below)	Less than Significant with Mitigation
3.8-6: The proposed project could expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	Implement Mitigation Measure WDF-1 (see *Wildfire* below)	Less than Significant with Mitigation
3.8-7: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to hazards and hazardous materials.	Implement Mitigation Measures HAZ-1, HAZ-2, TRA-1, and WDF-1	Less than Significant with Mitigation
Hydrology and Water Quality		
3.9-1: The proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	None Required	Less-than-Significant Impact
3.9-2: The proposed project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	None Required	Less-than-Significant Impact

Impacts	Mitigation Measures	Significance after Mitigation
3.9-3: he proposed project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; 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; impede or redirect flood flows.	None Required	Less-than-Significant Impact
3.9-4: The proposed project could be located in flood hazard, tsunami, or seiche zones, and risk release of pollutants due to project inundation.	None Required	Less-than-Significant Impact
3.9-5: The proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	None Required	Less-than-Significant Impact
3.9-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to hydrology and water quality.	None Required	Less-than-Significant Impact
Land Use		
3.10-1: The proposed project could physically divide an established community.	None Required	No Impact
3.10-2: The proposed project could cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	None Required	Less-than-Significant Impact

Impacts	Mitigation Measures	Significance after Mitigation
3.10-3: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to land use and planning.	None Required	Less-than-Significant Impact
Noise		
3.11-1: The proposed project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	**NOISE-1:** Prior to commencement of ground disturbing activities involving potentially substantial noise-generating equipment within 200 feet of a noise-sensitive receptor, a qualified acoustical expert shall prepare a Construction Noise Plan. The plan shall identify measures necessary to avoid and minimize construction-noise impacts to the greatest extent feasible. As noted by Riverside County Code Section 9.52.020 and City of Riverside Municipal Code Section 7.35.020, noise related to emergency work would be exempt from the noise ordinances and would not be subject to the following measures. The plan shall be incorporated into the project plans and construction documents and shall include, at a minimum, the following: • A description and map of the construction area, nearby noise-sensitive receptors, anticipated construction schedule, work hours, and major noise-generating activities and equipment. • Limits on construction hours consistent with applicable jurisdictional requirements related to noise, unless otherwise approved by the jurisdiction with authority over the activity. • If nighttime or weekend construction activities are required, WMWD shall notify in writing all landowners and occupants of properties within 500 feet of the construction area at least 72 hours before commencement of such activities. The notice shall identify the nature, location, duration, and anticipated hours of construction. In the case of an unpredictable, emergency, or public safety event, a notice to all landowners and occupants of properties within 500 feet of the construction area shall be provided as soon as reasonably practicable. • All construction equipment shall be equipped with manufacturer-recommended mufflers and sound attenuation devices, which shall be maintained in good working order throughout construction. Mufflers and sound attenuation devices shall be rated to achieve a minimum noise attenuation level of 6 dBA compared to equipment without the devices installed. • Stationary noise-generating equipment, including generators, compressors, pumps, and similar equipment, shall be located as far as practicable from sensitive receptors and shall be shielded or enclosed when located within 500 feet of a sensitive receptor where feasible and effective. • Temporary noise barriers or other acoustical shielding measures shall be installed when construction activities are expected to exceed applicable construction noise standards at nearby sensitive receptors, where such measures are technically feasible and effective. Temporary noise barriers or other acoustical shielding shall be designed to achieve a minimum noise attenuation level of 10 dBA. • Designation of a Noise Complaint Coordinator responsible for responding to complaints regarding construction noise and ensuring that reasonable measures are implemented. • Compliance monitoring and corrective-action procedures, including modification of work practice or implementation of additional feasible controls when required measures are not implemented or are not effectively reducing avoidable noise.	Significant and Unavoidable

Impacts	Mitigation Measures	Significance after Mitigation
	WMWD shall monitor compliance with these requirements throughout construction and shall require corrective actions if contractors fail to implement required noise control measures, notifications, monitoring support, corrective actions, and associated costs through enforceable contract specifications. If a specified control is infeasible or ineffective under site-specific conditions, WMWD shall document the basis for that determination and implement another feasible measure that provides the greatest practicable noise reduction.	
3.11-2: The proposed project could generate excessive groundborne vibration or groundborne noise levels.	**NOISE-2:** Prior to commencement of construction activities involving blasting, vibratory compaction, jack and bore work, drilling pile driving, or other potentially substantial vibration-generating activities within the applicable distances identified in this Draft PEIR, a qualified acoustical expert shall prepare and implement a project-specific Vibration Control and Monitoring Plan. The plan shall identify measures necessary to avoid and minimize groundborne vibration effects to the greatest extent feasible. The plan shall be incorporated into project plans and construction contracts, and shall include, at a minimum, the following: • A description and map of the construction area, nearby sensitive receptors, sensitive structures, anticipated construction methods and equipment, schedule, and vibration-generating activities. • For purposes of vibration annoyance, blasting and vibratory roller activities occurring within 130 feet of a sensitive receptor, and pile driving activities to 115 feet or more from sensitive receptors shall be subject to the plan. Sensitive receptors for annoyance are defined as occupied residences, schools, hospitals, and other occupied uses that are sensitive to groundborne vibration or groundborne noise levels. • For the purposes of structural damage, blasting and vibratory roller activities within 30 feet of a sensitive structure, and pile driving activities within 25 feet of a sensitive structure shall be subject to the plan. Sensitive structures are defined as historic buildings, older residential buildings, and buildings that are susceptible to damage from high groundborne vibration levels. • Sensitive receptors (residences, residential areas, schools, hospitals, and other uses that are sensitive to groundborne vibration or groundborne noise levels) within 50 feet of project construction activities shall be identified and notified at least 24-hours prior to initiation of the construction activity. The notice shall identify the nature, location, anticipated duration, and hours of the activity and provide a contact for questions and complaints. • Prohibit the use of impact pile driving equipment during construction. Instead, utilize low vibration pile installation equipment such as sonic, vibratory, push or similar types of pile driving equipment. • WMWD and/or WMWD's contractors shall notify the owners of structures within the applicable structural impact distance, and with permission, conduct a preconstruction condition survey. Surveys shall be conducted by a licensed structural engineer to document existing conditions through photographs, video tape, or visual inventory, and shall include accessible interior and exterior building conditions, including walls, floors, foundations, driveways, and other relevant features. All existing cracks in walls, floors, and driveways shall be documented with sufficient detail for comparison after construction to determine whether actual vibration damage occurred. In cases where access is denied or unavailable, exterior photographs/video and notice records will satisfy the requirement to the extent practicable. • Monitoring of vibration impacts during activities that could exceed the applicable vibration criterion. The plan shall establish action levels below the applicable criterion that require corrective measures, which	Significant and Unavoidable

Impacts	Mitigation Measures	Significance after Mitigation
	may include modifying equipment or work practices, reducing energy or charge size, increasing setbacks, using an alternative method, or temporarily suspending work. • A post-construction survey shall be conducted by a licensed structural engineer to document the condition of the surrounding buildings after the construction is complete. In the event that damage occurs caused by project construction-related groundborne vibration, WMWD and/or WMWD's designated representative shall arrange for an investigation and cause determination of the damage. If it is determined that project construction-related damage was caused, WMWD and/or WMWD's designated representative shall ensure that appropriate repair is completed by the responsible party, subject to construction-contract requirements, insurance, indemnity, claims procedures, and all applicable legal rights and defenses. Such repairs, if needed, shall be undertaken by a contractor licensed by the State of California to conduct commercial building repairs. In the event damage occurs to historic buildings caused by project construction-related groundborne vibration, repairs, if needed, shall be undertaken in consultation with a qualified preservation consultant, and, if warranted, in a manner that meets the Secretary of the Interior's Standards. WMWD shall verify implementation of the plan and monitor compliance throughout construction. If a specified control is infeasible or ineffective under site-specific conditions, WMWD shall document the basis for that determination and implement another feasible measure that provides the greatest practicable reduction in groundborne vibration.	
3.11-3: The proposed project could expose people residing or working in the project area to excessive noise levels in the vicinity of a private airstrip or an airport land use plan.	None Required	Less-than-Significant Impact
3.11-4: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to noise and vibration.	Implement Mitigation Measures NOISE-1 and NOISE-2	Significant and Unavoidable
Transportation		
3.12-1: The proposed project could conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	**TRA-1:** For projects such as pipelines that may affect traffic flow along existing roadways, WMWD shall require that contractors prepare a construction Traffic Control Plan prior to commencement of construction activities that includes the following elements: • Show all signage, striping, delineated detours, flagging operations, and any other devices that will be used during project construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation. • Develop circulation and detour plans if necessary to minimize impacts to local street circulation. For roadways requiring lane closures that would result in a single open lane, maintain alternate one way traffic flow and utilize flagger-controls. • Coordinate with Riverside Transit Authority and/or City of Riverside at least 30 days prior to construction of pipelines within roadways or rights-of way that coincide with public transit routes to determine whether construction of the proposed project would affect bus stop locations or otherwise	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	disrupt public transit routes. A plan shall be developed to relocate bus stops or reroute buses to avoid disruption of transit service. • The Traffic Control Plan shall be prepared to ensure that emergency access will not be restricted. WMWD shall also notify local emergency responders of any planned partial or full lane closures required for project construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow emergency response providers adequate time to prepare for lane closures. • The Traffic Control Plan shall be reviewed and approved by the agency with jurisdiction over the affected roadway. The Traffic Control Plan shall demonstrate that construction activities will maintain safe circulation for motorists, bicyclists, pedestrians, transit users, and emergency responders throughout the construction period. If the Traffic Control Plan demonstrates that impacts would exceed thresholds identified in the PEIR, additional traffic control measures, revised construction phasing, lane restrictions, or other measures shall be implemented to reduce impacts to the maximum extent feasible. • The approved Traffic Control Plan shall be implemented throughout construction. WMWD shall monitor compliance with the Traffic Control Plan and require corrective actions if traffic control measures are not maintained in accordance with the approved plan.	
3.12-2: The proposed project could conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	None Required	Less-than-Significant Impact
3.12-3: The proposed project could substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	None Required	Less-than-Significant Impact
3.12-4: The proposed project could result in inadequate emergency access.	Implement Mitigation Measure TRA-1	Less than Significant with Mitigation
3.12-5: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to transportation.	Implement Mitigation Measure TRA-1	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
Tribal Cultural Resources		
3.13-1: The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is either listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	**TCR-1: Native American Monitoring.** Prior to the commencement of ground disturbing activity at any of the Riverside FMP project sites, the District shall notify the Morongo Band of Mission Indians of such activity. Should the Tribe choose not to monitor or not respond within 7 days, the work can continue with only the archaeologist present. The Tribal monitor will only be present on-site during the construction phases that involve ground disturbing activity as outlined in the Cultural Resources Mitigation Measures CR-2, CR-3, CR-4, CR-6, and CR-7. The on-site Tribal monitoring shall end when all ground disturbing activities on the project site are completed, or when the Tribal representatives and Tribal Monitor have indicated that the project site has little to no potential for impacting tribal cultural resources. In the event that cultural resources of Native American origin are identified during construction, the District will coordinate with the qualified archaeologist (who meets the Secretary of the Interior's Professional Qualifications Standards), and both tribes that participated in consultation. If the District, in consultation with the Rincon Band of Luiseño Indians and the Morongo Band of Mission Indians determines that the resource is a tribal cultural resource and thus significant under CEQA, avoidance of the resources will be explored. If avoidance is not a possible, a treatment plan shall be prepared and implemented in accordance with state guidelines and in consultation with the two Native American tribes. The treatment plan may include but would not be limited to avoidance, capping in place, excavation and removal of the resource, interpretive displays, sensitive area signage, or other mutually agreed upon measure.	Less than Significant with Mitigation
3.13-2: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to tribal cultural resources.	Implement Mitigation Measure TCR-1	Less than Significant with Mitigation
Utilities and Service Systems		
3.14-1: The proposed project could require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	**UTIL-1:** Prior to approval of final design and issuance of construction permits for any pipelines project, WMWD shall identify existing underground utilities within and adjacent to the construction area through utility record searches, field verification, utility potholing, and coordination with affected utility providers, as appropriate. WMWD shall incorporate utility protection, relocation, and service continuity measures into project plans and construction specifications to avoid or minimize disruption of existing utility services. If temporary disruption of utility service is necessary, WMWD shall coordinate with the affected utility provider and provide advance written notice to affected customers in accordance with the utility provider's requirements. Construction activities shall be conducted in a manner that maintains emergency access to utility infrastructure and minimizes the duration and extent of service interruptions.	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	UTIL-2: Prior to approval of any future project requiring new or expanded electrical utility infrastructure, WMWD shall evaluate whether the installation of such infrastructure is within the scope of the impact analysis contained in this PEIR. If the infrastructure is determined to be within the scope of the PEIR, applicable mitigation measures identified in this PEIR shall be incorporated into the project design and construction specifications and implemented during project construction. If the required electrical infrastructure or associated ground-disturbing activities were not analyzed in this PEIR, WMWD shall conduct additional environmental review required by CEQA and implement all feasible mitigation measures necessary to reduce identified impacts. WMWD shall coordinate with the Riverside Public Utilities during project design to ensure that utility infrastructure improvements are adequately planned and constructed in a manner that avoids or minimizes environmental impacts and service disruptions.	
3.14-2: The proposed project could have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	None Required	Less-than-Significant Impact
3.14-3: The proposed project could result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	None Required	Less-than-Significant Impact
3.14-4: The proposed project could generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	None Required	Less-than-Significant Impact
3.14-5: The proposed project could comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	None Required	Less-than-Significant Impact
3.14-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to utilities and service systems.	Implement Mitigation Measures UTIL-1 and UTIL-2	Less than Significant with Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
Wildfire		
3.15-1: The proposed project could substantially impair an adopted emergency response plan or emergency evacuation plan.	Implement Mitigation Measure TRA-1	Less than Significant with Mitigation
3.15-2: Due to slope, prevailing winds, and other factors, the proposed project could exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	**WDF-1: Fire Hazard Reduction Measures.** Prior to commencement of construction within State Responsibility Areas or areas designated as Very High Fire Hazard Severity Zones (VHFHSZs) by CAL FIRE, the project applicant shall prepare and implement a fire management plan, subject to review and approval by the applicable fire protection agency. The plan shall establish fire prevention, monitoring, and emergency response procedures for all construction activities. The plan shall address all staging areas, welding areas, or construction areas where spark-producing equipment may be used. These areas shall be cleared of dried vegetation, combustible materials, or other ignition sources prior to the commencement of construction activities. All construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. Construction vehicles and crews shall have immediate access to functional fire extinguishers at all times while working on-site. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. Implementation of the plan shall minimize the potential for construction-related wildfire ignitions and associated wildfire hazards.	Less than Significant with Mitigation
3.15-3: The proposed project could 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.	Implement Mitigation Measure WDF-1	Less than Significant with Mitigation
3.15-4: The proposed project could expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	None Required	Less-than-Significant Impact
3.15-5: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to wildfire.	Implement Mitigation Measure WDF-1 and TRA-1	Less than Significant with Mitigation

The CEQA Guidelines require that an EIR discuss the significant environmental effects of the proposed project (Section 15126.2(a)), which are summarized in Table ES-1 and provided in Chapters 3 through 6 of the Draft PEIR. The CEQA Guidelines also require that an EIR discuss the significant environmental effects which cannot be avoided (Section 15126.2(c)). These are discussed below.

ES.6.1 Significant and Unavoidable Environmental Effects

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

ES.7 Organization of the Draft PEIR

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

- **Executive Summary.** This chapter summarizes the contents of the Draft PEIR.
- **Chapter 1, Introduction.** This chapter discusses the CEQA process, explains the purpose of the Draft PEIR, and summarizes the background studies and processes that influenced the development of the proposed project.
- **Chapter 2, Project Description.** This chapter provides an overview of the proposed project, describes the need for and objectives of the proposed project, explains planning for construction, operation, and management of the proposed project, and presents a preliminary list of the agencies and entities, in addition to WMWD, that would use this PEIR in their consideration of specific permits and other discretionary approvals for the proposed project.
- **Chapter 3, Environmental Setting, Impacts, and Mitigation Measures.** This chapter describes the environmental setting and identifies the direct, indirect, and cumulative impacts of the proposed project for each of the following environmental topics: Aesthetics; Agriculture and Forestry Resources; Air Quality and Greenhouse Gas Emissions; Biological Resources; Cultural Resources; Energy; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use; Noise; Transportation; Tribal Cultural Resources; Utilities and Service Systems; and Wildfire. This chapter also summarizes environmental topics for which no significant impact would occur. For the assessment of cumulative impacts, this chapter includes a list of past, current, and probable future projects to be considered together with the proposed project.
- **Chapter 4, Other CEQA.** This chapter summarizes the proposed project's significant and unavoidable impacts and irreversible environmental commitments.
- **Chapter 5, Growth Inducement.** This chapter describes the potential for the proposed project to induce growth.

- **Chapter 6, Alternatives Analysis.** According to CEQA, an PEIR must describe a reasonable range of alternatives to a proposed project that would feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the proposed project's significant environmental effects. This chapter presents an overview of the alternatives development process, describes the alternatives to the proposed project that were considered, and describes potential impacts of feasible alternatives relative to those of the proposed project.
- **Chapter 7, Report Preparers.** This chapter identifies the parties involved in preparing this Draft PEIR, including persons and organizations consulted.
- **Appendices:** The appendices include materials related to the NOP and scoping process (**Appendix NOP**), as well as technical studies that support the impact analyses, such as an Air Quality and Greenhouse Gas Emissions Modeling (**Appendix AQ/GHG**), Biological Resources Technical Report (**Appendix BIO**), Cultural Resources Assessment (confidential; **Appendix CUL**), Paleontological Resources Assessment (confidential; **Appendix PALEO**), Noise Calculations (**Appendix NOISE**), and Native American Consultation (**Appendix TRIBAL**).

ES.8 References

WMWD (Western Municipal Water District). 2025. *Riverside Facilities Master Plan*. Prepared by Dudek, December 2025.

CHAPTER 1
Introduction

1.1 Introduction

Western Municipal Water District (WMWD; Western) is proposing to implement the Riverside Facilities Master Plan (FMP), which identifies water, wastewater, and recycled water infrastructure needs within its Riverside Retail Service Area. The Riverside FMP outlines system capacity requirements and provides a list of recommended capital improvement projects to support future demands within the Riverside Retail Service Area. The Riverside Retail Service Area encompasses approximately 104 square miles, providing retail service within portions of the cities of Riverside, as well as unincorporated areas of Riverside County, such as the communities of El Sobrante, Eagle Valley, Temescal Creek, Woodcrest, Lake Mathews, and March Air Reserve Base.

1.2 Purpose of the Draft PEIR

WMWD is the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and has prepared this Draft Program Environmental Impact Report (PEIR) in compliance with CEQA of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3. The purpose of the Draft PEIR is to provide the public and pertinent agencies with information about the potential effects on the local and regional environment associated with construction and operation of the proposed project. This Draft PEIR describes the environmental impacts of the proposed project and suggests mitigation measures where necessary to avoid or reduce any significant impacts. The impact analyses are based on a variety of sources, including publicly available documents, agency consultation, technical studies, and field surveys.

WMWD intends to use this PEIR to consider implementation of the proposed project. WMWD's Board of Directors, as the decision-making body for the Lead Agency, shall consider and certify prior to approving the proposed project that the Draft PEIR has been completed in compliance with CEQA, and that the PEIR reflects its independent judgment and analysis (CEQA Guidelines Section 15090(a)).

1.3 Draft PEIR Organization

This Draft PEIR has been organized into the following chapters:

- **Executive Summary.** This chapter summarizes the contents of the Draft PEIR.
- **Chapter 1, Introduction.** This chapter discusses the CEQA process, explains the purpose of the Draft PEIR, and summarizes the background studies and processes that influenced the development of the proposed project.

- **Chapter 2, Project Description.** This chapter provides an overview of the proposed project, describes the need for and objectives of the proposed project, explains planning for construction, operation, and management of the proposed project, and presents a preliminary list of the agencies and entities, in addition to WMWD, that would use this PEIR in their consideration of specific permits and other discretionary approvals for the proposed project.
- **Chapter 3, Environmental Setting, Impacts, and Mitigation Measures.** This chapter describes the environmental setting and identifies the direct, indirect, and cumulative impacts of the proposed project for each of the following environmental topics: Aesthetics; Agriculture and Forestry Resources; Air Quality and Greenhouse Gas Emissions; Biological Resources; Cultural Resources; Energy; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use; Noise; Transportation; Tribal Cultural Resources; Utilities and Service Systems; and Wildfire. This chapter also summarizes environmental topics for which no significant impact would occur. For the assessment of cumulative impacts, this chapter includes a list of past, current, and probable future projects to be considered together with the proposed project.
- **Chapter 4, Other CEQA.** This chapter summarizes the proposed project's significant and unavoidable impacts and irreversible environmental commitments.
- **Chapter 5, Growth Inducement.** This chapter describes the potential for the proposed project to induce growth.
- **Chapter 6, Alternatives Analysis.** According to CEQA, an PEIR must describe a reasonable range of alternatives to a proposed project that would feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the proposed project's significant environmental effects. This chapter presents an overview of the alternatives development process, describes the alternatives to the proposed project that were considered, and describes potential impacts of feasible alternatives relative to those of the proposed project.
- **Chapter 7, Report Preparers.** This chapter identifies the parties involved in preparing this Draft PEIR, including persons and organizations consulted.
- **Appendices.** The appendices include materials related to the NOP and scoping process (**Appendix NOP**), as well as technical studies that support the impact analyses, such as an Air Quality and Greenhouse Gas Emissions Modeling (**Appendix AQ/GHG**), Biological Resources Technical Report (**Appendix BIO**), Cultural Resources Assessment (confidential; **Appendix CUL**), Paleontological Resources Assessment (confidential; **Appendix PALEO**), Noise Calculations (**Appendix NOISE**), and Native American Consultation (**Appendix TRIBAL**).

1.4 CEQA Environmental Review Process

1.4.1 CEQA Process Overview

The basic purposes of CEQA are to (1) inform decision makers and the public about the potential, significant adverse environmental effects of proposed governmental decisions and activities; (2) identify the ways those environmental effects can be avoided or significantly reduced; (3) prevent significant, avoidable and adverse environmental effects by requiring changes in projects through the use of alternatives or mitigation measures when feasible; and (4) disclose to the public the reasons why an

implementing agency may approve a project even if significant unavoidable environmental effects are involved.

An EIR uses a multidisciplinary approach, applying social and natural sciences to make a qualitative and quantitative analysis of all the foreseeable environmental impacts that a proposed project would exert on the surrounding area. As stated in CEQA Guidelines Section 15151:

> *An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible.*

This Draft PEIR has been prepared to comply with CEQA and the CEQA Guidelines and is to be used by local regulators and the public in their review of the potential significant adverse environmental impacts of the proposed project and alternatives, and mitigation measures that would minimize or avoid those potential environmental effects. WMWD will consider the information presented in this Draft PEIR, along with other factors, prior to considering and making any final decisions regarding the proposed project.

1.4.2 Notice of Preparation and Public Scoping

Pursuant to CEQA Guidelines Section 15082, the lead agency is required to send a Notice of Preparation (NOP) stating that a PEIR will be prepared to the Governor's Office of Land Use and Climate Innovation (LCI), Responsible and Trustee agencies, and federal agencies involved in funding or approving the project. The NOP must provide sufficient information in order for responsible agencies to make a meaningful response. At a minimum, the NOP must include a description of the project, location of the project, and probable environmental effects of the project (CEQA Guidelines Section 15082(a)(1)). Within 30 days after receiving the NOP, Responsible and Trustee agencies and LCI shall provide the lead agency with specific detail about the scope and content of the environmental information related to that agency's area of statutory responsibility that should be included in this Draft PEIR (CEQA Guidelines Section 15082(b)).

On April 14, 2022, WMWD published a NOP of an PEIR for a 30-day review period and circulated it to LCI State Clearinghouse and local, state, and federal agencies, including Responsible and Trustee agencies, as well as organizations and persons who expressed interest in the proposed project. The NOP provided a general description of the proposed project, a description of the proposed project areas, and an overview of environmental topics that will be evaluated within the PEIR. The NOP was made available on the WMWD website, and copies were made available at three local libraries. Five letters were received in response to the NOP. A copy of the NOP and comment letters are included in this Draft PEIR in **Appendix NOP**. On April 26, 2022, in accordance with CEQA Guidelines Section 15082, WMWD held a public scoping meeting to describe the proposed project, to identify the environmental topics that would be addressed, and to describe the CEQA process for the PEIR. To notify the public of the Scoping Meeting, WMWD published the legal notification in the *Press Enterprise* in English and Spanish and posted information about the meeting on WMWD's website. The District provided an opportunity for attendees to submit written and verbal comments on the scope of the environmental evaluation; no written or verbal comments were received at the scoping meeting.

1.4.3 Draft PEIR

This Draft PEIR has been prepared pursuant to the requirements of CEQA Guidelines Section 15126. This Draft PEIR provides an analysis of reasonably foreseeable impacts associated with the construction and operation of the proposed project. The environmental baseline for determining potential impacts is the date of publication of the NOP for the proposed project unless otherwise indicated (CEQA Guidelines Section 15125(a)). The baseline setting for each environmental topic assessed in this Draft PEIR describes the existing conditions as of the publication of the NOP. The impact analysis is based on changes to existing conditions that would result due to implementation of the proposed project.

In accordance with the CEQA Guidelines Section 15126, Chapter 3 of this Draft PEIR describes the proposed project site and the existing baseline environmental setting, identifies potential short-term, long-term, and cumulative adverse environmental impacts associated with project implementation, and identifies mitigation measures for potentially significant adverse impacts. Significance criteria are defined at the beginning of each impact analysis section for each environmental topic analyzed in this Draft PEIR. In addition, Chapter 5 of this Draft PEIR analyzes potential growth-inducing impacts, and Chapter 6 of this Draft PEIR provides an analysis of alternatives to the project.

1.4.4 Draft PEIR Public Review

In accordance with CEQA Guidelines Section 15105, this Draft PEIR has been submitted to the LCI State Clearinghouse for review by state agencies. In addition, this Draft PEIR has been circulated to federal, state, and local agencies and interested parties who may wish to review and provide comments on its contents. A minimum 45-day public review period is required for a Draft PEIR submitted to the State Clearinghouse. WMWD is making the Draft PEIR available for public review and comment for a 45-day review period. Please submit all comments to:

Western Municipal Water District
14205 Meridian Parkway
Riverside, California 92518
Contact: Ginger Han
ghan@wmwd.com

1.4.5 Final PEIR Publication and Certification

Once this Draft PEIR public review period has ended, WMWD will prepare written responses to all timely submitted comments. The Final PEIR will be comprised of this Draft PEIR, responses to comments received on this Draft PEIR, and any changes or corrections to this Draft PEIR that are made as part of the responses to comments. As the Lead Agency, WMWD will make the Final PEIR available for public review prior to it considering any final decision regarding approval of the proposed project (CEQA Guidelines Section 15089(b)). The Final PEIR must be available to commenting agencies at least 10 days prior to certification (CEQA Guidelines Section 15088(b)).

Prior to considering the proposed project for approval, WMWD will review and consider the information presented in the Final PEIR and will decide whether to certify that the Final PEIR has been adequately prepared in accordance with CEQA. Once the Final PEIR is certified, the WMWD Board of Directors may proceed to consider any final decisions regarding the proposed project (CEQA Guidelines Sections 15090, 15096(f)). Prior to approving the proposed project, WMWD must make written Findings

in accordance with Section 15091 of the CEQA Guidelines. In addition, WMWD must adopt a Statement of Overriding Considerations (SOC) concerning each significant environmental effect identified in the Final PEIR (if any) that cannot be fully mitigated to a less than significant level. If one is needed, then the SOC will be included in the record of the proposed project's approval and mentioned in the Notice of Determination (NOD) following CEQA Guidelines Section 15093(c). Pursuant to CEQA Guidelines Section 15094, WMWD will file an NOD with the State Clearinghouse and County Clerk within five working days, if the proposed project is approved.

1.4.6 Mitigation Monitoring and Reporting Program

CEQA Guidelines Section 15097 requires lead agencies to "adopt a reporting or monitoring project for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." The mitigation measures, if any, adopted as part of the Final PEIR will be included in a Mitigation Monitoring and Reporting Program (MMRP) and implemented by WMWD.

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CHAPTER 2
Project Description

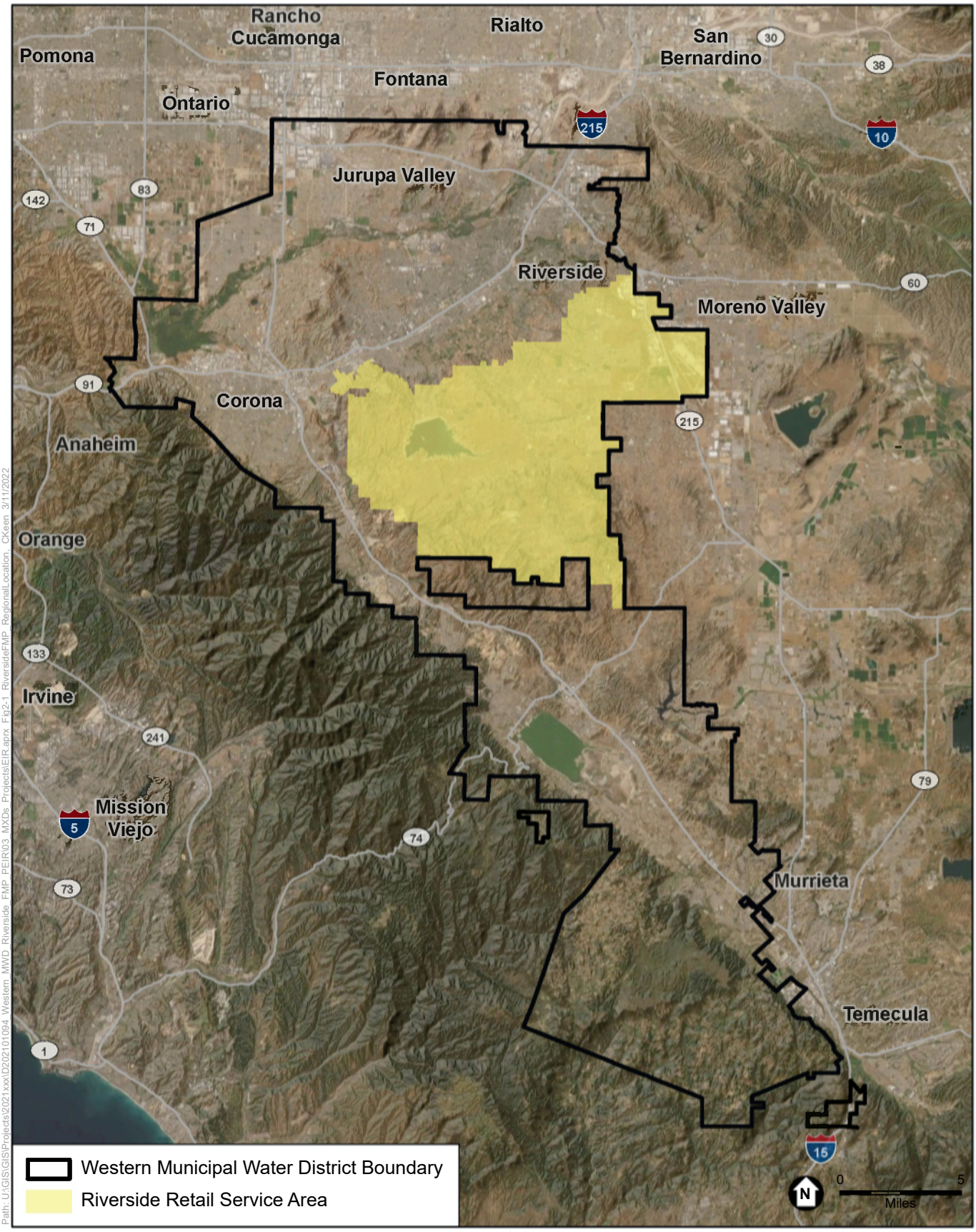
2.1 Introduction

Western Municipal Water District (WMWD, Western) provides water, wastewater, and recycled water services to nearly 1 million people within its 527-square-mile service area in western Riverside County. WMWD has prepared the Riverside Facilities Master Plan (FMP) that outlines the existing and proposed potable water, wastewater, and recycled water systems within the Riverside Retail Service Area, which is a subset of the larger district boundary as shown in **Figure 2-1**. The Riverside FMP outlines system capacity requirements and provides a list of recommended capital improvement projects to support future demands within the Riverside Retail Service Area (WMWD 2025).

As the lead agency pursuant to the California Environmental Quality Act (CEQA), WMWD has prepared this Program Environmental Impact Report (PEIR) to evaluate potential environmental impacts of implementing the Riverside FMP, including priority and near-term projects to be implemented before 2030 and long-term projects to be implemented from 2030 to 2050. Projects addressed by 2030 will be evaluated at a project level in the PEIR, while projects addressed after 2030 are considered long-term projects that will be evaluated at a programmatic level in the PEIR.

2.2 Project Location

WMWD's service area is located in western Riverside County, approximately 50 miles east of Los Angeles. The Riverside FMP identifies infrastructure needs within WMWD's Riverside Retail Service Area, which is generally bounded by the City of Riverside to the north, the City of Moreno Valley to the east, the City of Lake Elsinore to the south, and the City of Corona to the west. The extent of the Riverside Retail Service Area is shown on Figure 2-1, which encompasses approximately 104 square miles, providing retail service within portions of the City of Riverside, as well as unincorporated areas of Riverside County.



SOURCE: ESRI, 2022; WMWD, 2022; ESA, 2022.

Riverside Facilities Master Plan

Figure 2-1
Regional Location

ESA

2.3 Project Background

WMWD was founded in 1954 as a member agency of the Metropolitan Water District of Southern California (Metropolitan). WMWD was initially a wholesale water supplier and began providing retail water services in 1962. Historically, WMWD's water supplies consisted primarily of imported water from the State Water Project (SWP) and Colorado River Aqueduct (CRA). Since the early 1990s, Western has augmented local water supplies and increased reliability through the addition of local groundwater treatment projects and recycled water projects. WMWD currently treats groundwater from local wells at its Arlington Desalter. The Chino Basin Desalter Authority's (CDA) Chino II Desalter in Jurupa Valley also provides locally treated groundwater to Western. In addition, Western produces and distributes recycled water within its retail service areas.

WMWD also provides wastewater collection services to approximately 11,500 acres within its Riverside Retail Service Area. Sewage generated within the retail service area is divided into two drainage basins. The western portion of the service area flows to the Western Riverside County Regional Wastewater Authority (WRCRWA) Treatment Plant and is primarily from residential sources. The eastern portion of the service areas flows to the Western Water Recycling Facility (WWRF) and is from a mix of residential, commercial, and industrial sources, including March Air Reserve Base (MARB).

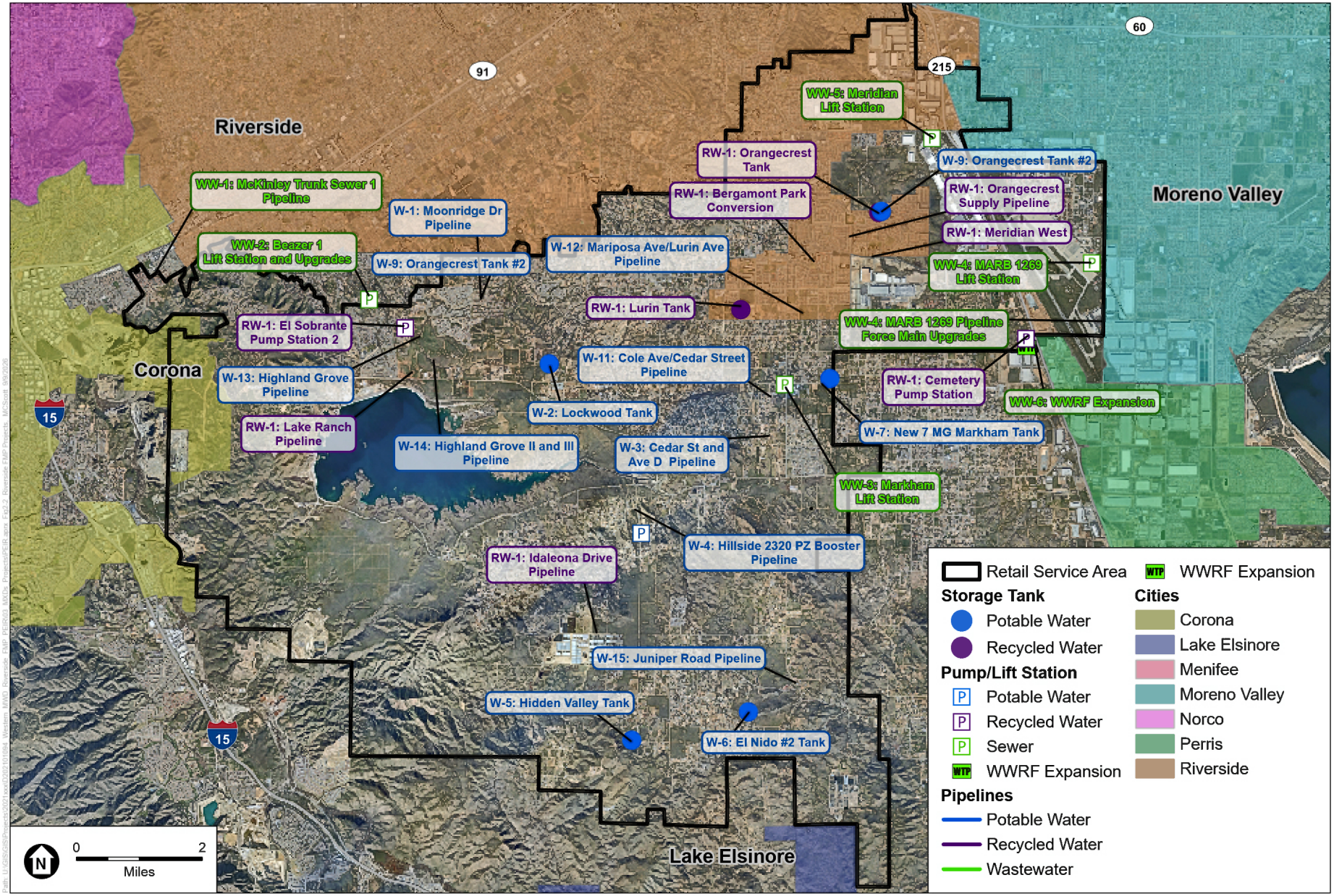
2.4 Project Objectives

The primary objectives of the proposed project are to:

- Provide water, wastewater, and recycled water services that meet the quantity, system pressure, and reliability requirements of the Riverside Retail Service Area;
- Ensure water, wastewater, and recycled water system infrastructure is sufficient to meet projected demands within the Riverside Retail Service Area;
- Maintain and enhance water quality through treatment system improvements and recycled water system expansion;
- Enhance water supply reliability in an environmentally and cost effective manner.

2.5 Project Description

Based on Riverside County projections, the population within the Riverside Retail Service Area will grow from 40,534 in 2020 to 49,614 in 2035 (WMWD 2025), which is an approximate 22 percent increase. The Riverside FMP has been developed to accommodate existing demand and planned growth within the Riverside Retail Service Area for potable water, recycled water and wastewater services. The projects include upsizing of existing pipelines as well as installing new pipelines; new storage tanks; new booster pump stations; new pumps at existing pump stations; capacity upgrades at existing lift stations; and potential expansion the WWRF as shown on **Figure 2-2**. In total, there are fifty-four (54) recommended projects: twenty-five (25) water projects, sixteen (16) recycled water projects, and thirteen (13) wastewater projects. Projects are categorized into two stages: those to be implemented by 2030 (priority and near-term) and after 2030 (future).



SOURCE: Nearmap, 2022; WMWD, 2026; ESA, 2026.

Riverside Facilities Master Plan

Figure 2-2
Riverside FMP Projects

ESA

2.5.1 Priority Facility Upgrade Projects

The Riverside FMP identifies projects needed to address existing water and wastewater system deficiencies that critically affect the ability of WMWD to provide reliable service. These projects are assigned highest priority as listed in **Table 2-1** and shown on **Figure 2-3**.

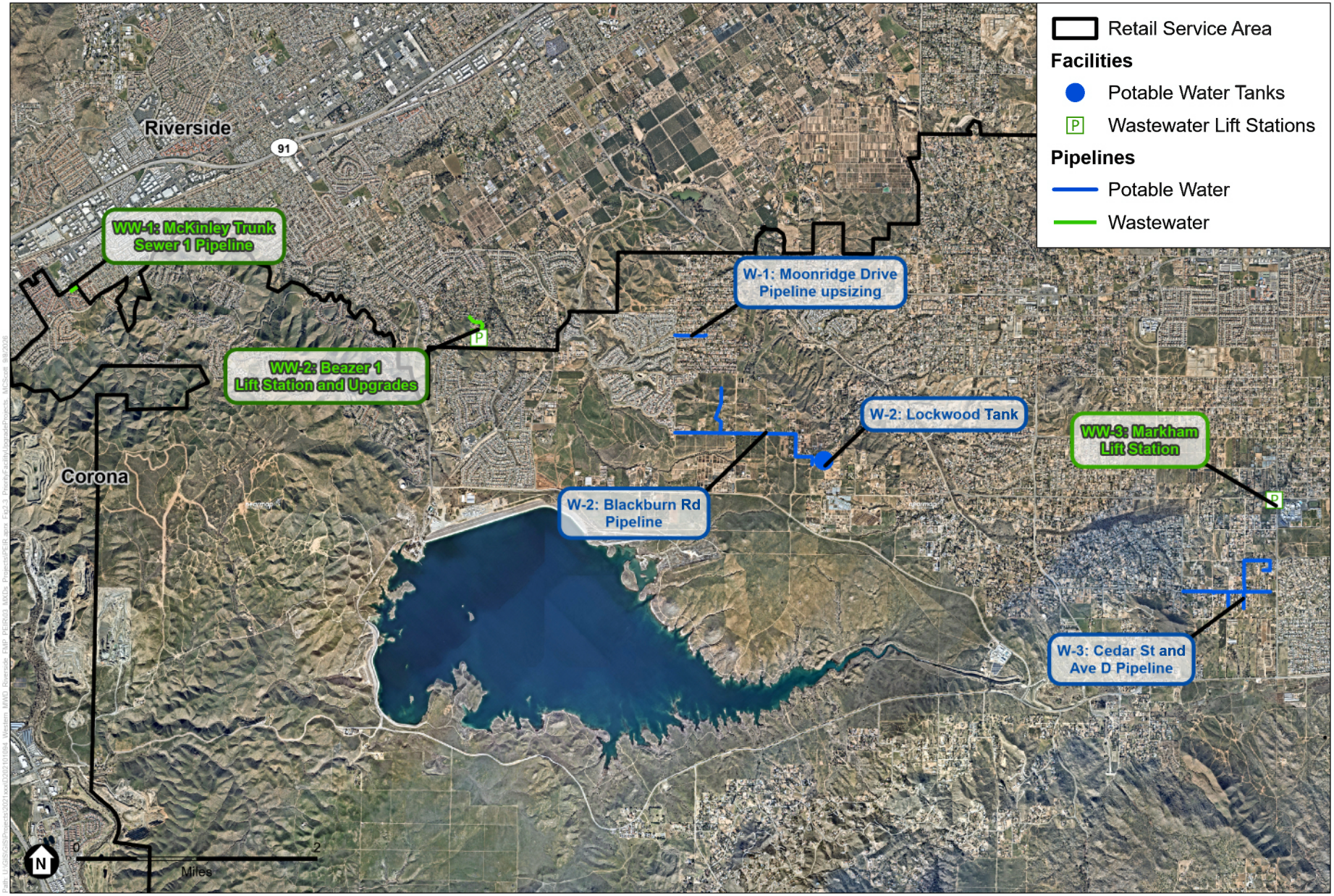
TABLE 2-1
PRIORITY FACILITY UPGRADE PROJECTS

Type	CIP Project	Project Type	Project Name	Description
Water	W-1	Pipeline Upsize	Moonridge Dr. Pipeline Upsizing	Upsize 1,200 linear feet (LF) of 6″ pipe to 12″.
Water	W-2	Pipeline Upsize	Blackburn Rd. Pipeline Upsizing	Upsize 8,000 LF of 6″ pipe to 24″; Upsize 2,100 LF of 6″ pipe to 8″.
Water	W-3	Pipeline Upsize	Cedar St. and Avenue D Pipeline Upsizing	Upsize 4,000 LF of 6″ pipe to 8″.
Wastewater	WW-1	Pipeline Upsize	McKinley Trunk Sewer 1 (WCWRA)	Upsize 390 LF of existing 8″ to 10″ to accommodate existing wet weather flow conditions within Western design criteria.
Wastewater	WW-2	Lift Station Upgrade	Beazer 1 Lift Station and Forcemain Upgrades (WRCWRA)	Confirm influent flows based on known wet weather events. If peak wet weather flows (PWWFs) exceed capacity, upgrade Lift Station (LS) firm capacity to 0.25 million gallons per day (MGD) and upsize the existing 3″ forcemain to 4″ (1,300 LF).
Wastewater	WW-3	Lift Station Upgrade	Markham Lift Station Upgrade (WWRF)	Confirm influent flows based on known wet weather events. If PWWFs exceed capacity, upgrade LS firm capacity to 2.2 MGD.

Pipelines

Three segments of potable water pipelines totaling up to approximately 16,990 linear feet (LF) would be upsized to address velocity issues, increase fire flow capacity, and improve reliability to this area.

- **Project W-1 Moonridge Drive Pipeline Upsizing:** On Moonridge Drive, west of Canyon Ridge Drive, 1,200 LF of 6-inch pipeline connect to Sweet Ave via a 16-inch cross-country pipe. While the pipeline on Moonridge Drive is 6-inch, the surrounding pipelines are all between 16-inch or 10-inch and, therefore, the Moonridge Drive segment creates a bottleneck to transmit water due to the small diameter. The project would upsize the pipeline to a 12-inch pipeline to improve water transmission west.
- **Project W-2 Blackburn Road Pipeline Upsizing:** A 6-inch pipeline connects Lockwood Reservoir to agricultural customers west of the reservoir on Blackburn Road and adjoining streets. The project would upsize approximately 8,000 LF of 6-inch pipeline to 24-inch pipeline and 2,100 LF of 6-inch pipeline to 8-inch pipeline to address velocity issues, increase the available fire flow, and improve reliability to this area.
- **Project W-3 Cedar Street and Avenue D Pipeline Upsizing:** The project would upsize approximately 4,000 LF of 6-inch pipeline to an 8-inch pipeline to address velocity issues and increase available fire flow to this area.



SOURCE: Nearmap, 2022; WMWD, 2026; ESA, 2026.

Riverside Facilities Master Plan

Figure 2-3
Priority Facility Upgrade Projects

ESA

- **Project WW-1 McKinley Trunk Sewer 1 Pipeline Upsizing:** The project would upsize approximately 390 LF of 8-inch pipeline to a 10-inch pipeline to accommodate anticipated capacity issues under existing peak wet weather flow conditions.
- **Project WW-2 Beazer 1 Lift Station and Forcemain Upgrades (WRCWRA):** The project would upsize approximately 1,300 LF of the existing 3-inch forcemain pipeline to 4-inch pipeline to accommodate the existing and anticipated Near-Term and Ultimate project flows.

Lift Stations

Improvements are proposed at two existing wastewater lift stations to achieve better performance of the wastewater collection system and to accommodate the existing and anticipated near-term and future project flows.

- **Project WW-2 Beazer 1 Lift Station and Forcemain Upgrades (WRCWRA):** The lift station currently exceeds its firm capacity during wet weather events, which could result in sanitary sewer overflow and potentially a public safety hazard. The project would increase firm capacity of the lift station from 0.16 MGD to 0.25 MGD to accommodate Existing and anticipated Near-Term and Ultimate flows.
- **Project WW-3 Markham Lift Station Upgrade (WWRF):** The lift station currently exceeds its firm capacity during wet weather events, which could result in sanitary sewer overflow and potentially a public safety hazard. The project would increase firm capacity of the lift station from 1.44 million gallons per day (MGD) to 2.2 MGD to accommodate Existing and anticipated Near-Term flows.

2.5.2 Near-Term Projects

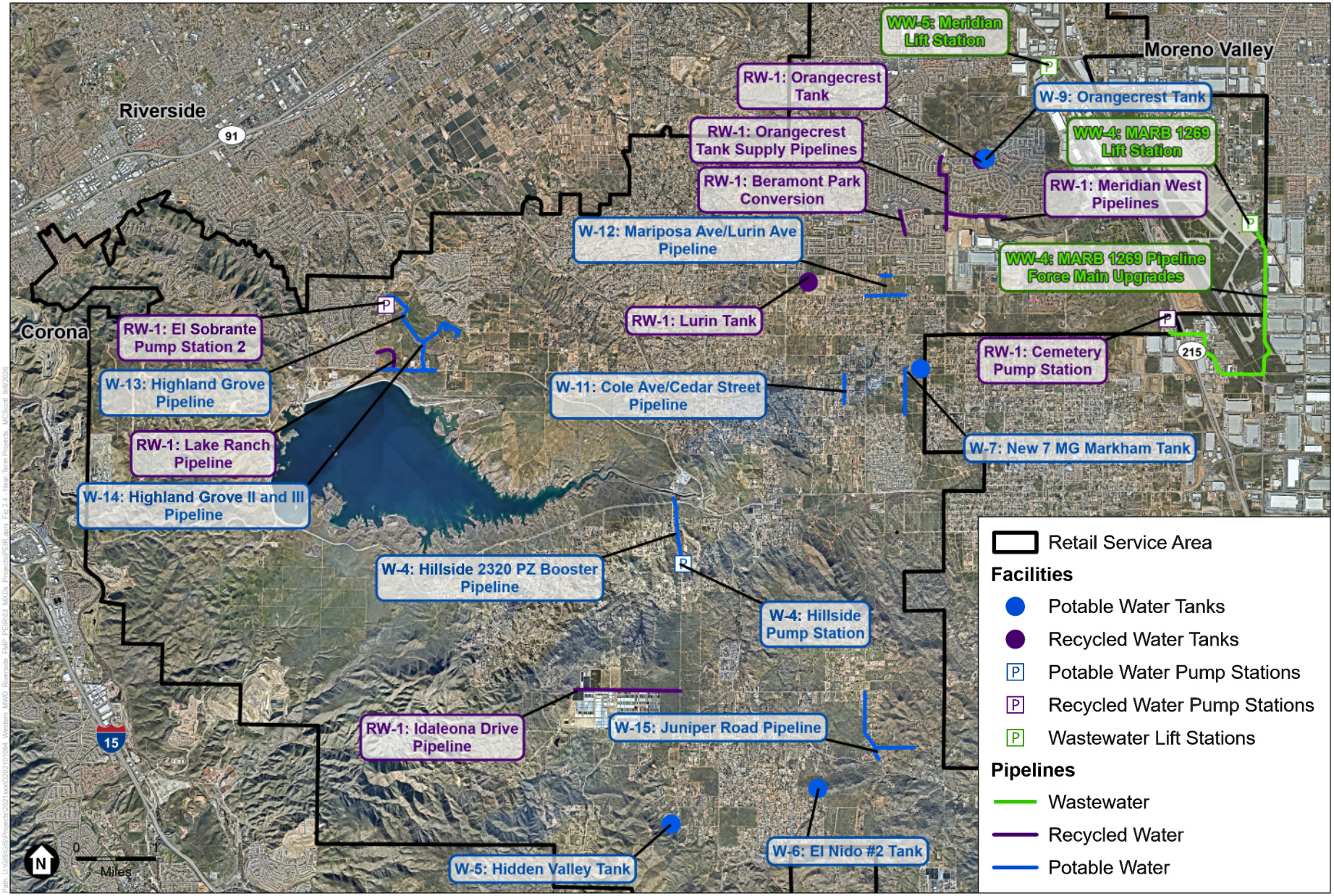
Near-term projects include water, recycled water, and wastewater infrastructure improvements to occur before the year 2030. These near-term projects involve either the construction of new facilities to accommodate planned development or the improvement of existing facilities that require replacement or upgrades due to system deficiencies. Recycled water improvements are focused exclusively within the Lurin Irrigation Zone (Pressure Zone 1815).[1] Projects are listed in **Table 2-2** and shown on **Figure 2-4**.

TABLE 2-2
NEAR-TERM PROJECTS (BY 2030)

Type	CIP Project	Project Type	Project Name	Description
Water	W-4	Pump Station	Hillside 2320 PZ Booster Pump Station and Pipeline	Add pumping capacity into PZ2320 of 3,700 gallons per minute (gpm) in near-term, and ultimately 6,700 gpm; Upsize 4,700 LF existing 20″ to 30″ from the CITP Intake PS to Hillside PS.
Water	W-5	Storage Tank	New 3-million-gallon (MG) Hidden Valley Tank	Build 3 MG of water storage tank in PZ 2320.
Water	W-6	Storage Tank	New 1.5 MG El Nido Tank	Build 1.5 MG of water storage tank in PZ 2320.

[1] WMWD is coordinating with the Meridian West Upper Plateau developer regarding infrastructure needed to support the development, which could include Projects W-10 and RW-1 (Orangecrest tank and pipelines).

Type	CIP Project	Project Type	Project Name	Description
Water	W-7	Storage Tank	New 7 MG Markham Tank	Build 7 MG of water storage tank in PZ 2450.
Water	W-9	Storage Tank	New 12.5 MG Orangecrest Tank	Build 12.5 MG of water storage tank in PZ 1837.
Water	W-10	Pressure Reducing Valve	Highland Grove Pressure Reducing Valve	Add one pressure reducing valve (PRV) to supplement flow from PZ1650R to Highland Grove
Water	W-11	Pipeline Upsize	Cole Ave/Cedar Street Upsize	Upsize 460 feet of 16″ to 20″ and 2,600 feet 12″ to 20″ in Cole Ave between Markham St and Avenue C; upsize 2,000-LF 8″ to 12″ in Cedar St, just south of Markham St.
Water	W-12	Pipeline Upsize	Mariposa Ave/ Lurin Avenue Upsize	Upsize 670-LF 6″ to 12″ on Lurin between Mission Ranch Rd and 50 feet west of Dant St; Upsize 2,700-LF 8″ to 12″ on Mariposa Ave between Cole Ave and Wood Rd
Water	W-13	Pipeline	Highland Grove Pipeline III 18-Inch Pipeline	At the Greentree (Highland Grove III) development, build approximately 4,000 LF of 18″ pipeline along El Sobrante Road, and 5,000 LF of 18″ backbone pipeline going south to north across HG II and III.
Water	W-14	Pipeline	Highland Grove II and III 12-Inch Pipeline	Build 4,000-LG 12″ in Highland Grove IV.
Water	W-15	Pipeline Upsize	Juniper Road Pipeline Upsizing	Build 4,800 LF new 12″ pipeline along Juniper Rd and 2,600 LF 12″ pipeline along Blue Sky Rd in PZ2320.
Recycled Water	RW-1	Storage Tank	New Orangecrest Tank	Install new 5 MG Orangecrest Tank in the Lurin Irrigation zone.
Recycled Water	RW-1	Pipeline	Orangecrest Supply Pipelines	New 18″ pipeline (1,300 feet); New 24″ pipeline (3,500 feet), from the tank and south on Barton Street to the existing 12″ pipeline on Gless Ranch Road at Barton Street.
Recycled Water	RW-1	Pipeline	Bergamont Park Conversion to RW	Install approximately 1,600 LF of 8″ pipeline on Cole Avenue from Van Buren Boulevard to Citrus Grove Road, to convert Bergamont Park to recycled water (RW).
Recycled Water	RW-1	Storage Tank Upgrade	Lurin Irrigation Tank Improvements	Reconstruct a new 10 MG storage tank.
Recycled Water	RW-1	Pipeline	Meridian West Pipelines	New 16″ pipeline (4,400 feet) along Van Buren Boulevard from Barton Street to the existing 12″ pipeline on Van Buren east of Orange Terrance Parkway.
Recycled Water	RW-1	Pipeline Upsize	Idaleona Drive Upsizing	Upsize approximately 7,100 LF of existing 14″ pipeline on Idaleona Drive in the Jim Jack (2250) Zone to 16″.
Recycled Water	RW-1	Pump Station Upgrade	Cemetery PS Expansion	Expand dedicated Cemetery pump station and parallel supply line to accommodate increased RW supply from WWRF to the onside RNC ponds.
Recycled Water	RW-1	Pipeline	Lake Ranch Pipelines	Install 2,400 LF of 8″ pipelines in Lake Ranch development, near McAlister Street and El Sobrante Road.
Recycled Water	RW-1	Pump Station Upgrade	El Sobrante PS Expansion (150 HP)	Install additional pump at the El Sobrante PS sized at 1,100 gpm at 325 feet.
Wastewater	WW-4	Lift Station and Pipeline Upgrade	MARB 1269 Lift Station and Pipeline Upgrade 1269 Expansion	Increase the firm capacity of MARB 1269 lift station from 1.3 MGD to 1.9 MGD
Wastewater	WW-5	Lift Station Upgrade	Meridian Lift Station Upgrades (WWRF)	Increase capacity to 1.1 MGD.



SOURCE: Nearmap, 2022; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 2-4
Near-Term Projects

ESA

Storage Tanks

A total of six new water storage tanks would be implemented to support future development. Three new potable water storage tanks would be implemented to support future development. One new recycled water storage tank and an upgrade to an existing recycled water tank would be implemented to support recycled water expansion within the Lurin Irrigation Zone. Both recycled water tanks would have a combined capacity of approximately 15 MG.

- **Project W-5 New 3 MG Hidden Valley Tank:** A new 3 MG water storage tank would be built to improve Near Term capacity issues in Pressure Zone 2320 and to cover storage deficiencies in Near-Term phase at the Existing site of Hidden Valley Tank site.
- **Project W-6 New 1.5 MG El Nido Tank:** A new 1.5 MG water storage tank would be built to improve Near Term capacity issues in Pressure Zone 2450.
- **Project W-7 New 7 MG Markham Tank:** A new 7 MG water storage tank would be built to improve Near Term capacity issues in Pressure Zone 1900.
- **Project W-9 New Orangecrest Tank:** Pressure Zone 1837 is anticipated to have a storage deficit of approximately 3.6 MG in the buildout scenario. An approximate 12.5 MG storage tank could be situated at the Orangecrest site. The site is also planned for a 5 MG recycled water tank (see project RW-1 Orangecrest Recycled Water Tank below), which would be collocated with the potable water storage tank. A potable water storage tank in this location could also service Pressure Zone 1783.
- **Project RW-1 Orangecrest Recycled Water Tank:** New recycled water storage capacity is needed within the Lurin Irrigation Zone, which currently has a deficit of 2.4 MG and represents the highest recycled water demand within WMWD's system. The tank would be collocated at WMWD's existing Orangecrest potable water storage tank off Community Grove Drive in Riverside. The recycled water storage tank would be approximately 5 MG. The site is also planned for a 12.5 MG potable water tank (see project W-9 above), which would be collocated with the recycled water storage tank.
- **Project RW-1 Lurin Irrigation Tank Improvements:** To support the new Orangecrest Tank, improvements are needed at the Lurin Irrigation Tank located off Lurin Avenue in Riverside. Proposed improvements include extending the existing recycled water storage tank approximately 21 feet to a height of 40 feet, for a total capacity of 10 MG.

Pump/Lift Stations

Upgrades at one water pump station would be required to add pumping capacity into Pressure Zone 2320. Two recycled water pump station upgrades would be required to support increased pipeline and storage capacity within the Lurin Irrigation Zone. Upgrades would consist of adding new pump facilities at existing pump stations. Two wastewater lift stations would be upgraded in order to maintain velocities within District criteria and to accommodate capacity during wet weather events.

- **Project W-4 Hillside 2320 PZ Booster Pump Station and Pipeline:** The upgrades to the water pump station in Pressure Zone 2320 would add pumping capacity of 3,700 gpm in the near-term, and ultimately 6,7000 gpm in the future to improve Near Term capacity issues.
- **Project RW-1 Cemetery PS Expansion:** In order to accommodate the increased recycled water supply from the Western Water Recycling Facility to the onsite cemetery ponds, the Cemetery Pump

Station and parallel supply line would need to be upgraded and expanded to accommodate the flows. This would support the Phase V and VI cemetery expansion on the east side of the cemetery off Interstate 2015.

- **Project RW-1 El Sobrante PS Expansion (150 HP):** A fifth (new additional) pump at the El Sobrante pump station (1,100 gpm at 325-ft) would be required due to the need to run all four existing pumps to supply the Lurin Irrigation zone. The pump station is located north of Lake Mathews.
- **Project WW-4 MARB 1269 Lift Station and Forcemain Upgrade (WWRF):** Upgrades to the wastewater lift station would increase the firm capacity from 1.3 MGD to 1.9 MGD to maintain velocities within District criteria and to accommodate anticipated Near-Term wet weather flows.
- **Project WW-5 Meridian Lift Station Upgrades (WWRF):** The wastewater lift station, located on Meridian Parkway south of East Alessandro Boulevard across the I-215 from the March Air Reserve Base, currently exceeds its firm capacity during wet weather events, which could result in sanitary sewer overflow and potentially a public safety hazard. The project would increase firm capacity of the lift station to 1.1 MGD to accommodate flows. The existing peak wet weather flows in the Meridian basin are at 95% of the existing firm capacity and the lift station would be upgraded to accommodate anticipated Near-Term and Ultimate flows.

Pipelines

New and upsized water and recycled water pipelines would be upsized or added under the near-term scenario. These pipelines would support new recycled water expansion within the Riverside Retail Service Area.

- **Project W-11 Cole Ave/Cedar Street Upsize:** Approximately 460 feet of 16-inch pipeline would be upsized to 20-inch pipeline, and 2,600 feet of 12-inch pipeline would be upsized to 20-inch pipeline in Cole Avenue between Markham Street and Avenue C. Additionally, 2,000 LF of 8-inch pipeline would be upsized to 12-inch pipeline in Cedar Street south of Markham Street to improve Near Term capacity issues.
- **Project W-12 Mariposa Ave/Lurin Avenue Upsize:** Approximately 670 LF of 6-inch pipeline would be upsized to 12-inch on Lurin Avenue between Mission Ranch Road and 50 feet west of Dant Street. Additionally, 2,700 LF of 8-inch pipeline would be upsized to 12-inch on Mariposa Avenue between Cole Avenue and Wood Road to improve Near Term capacity issues.
- **W-13 Highland Grove III 18-Inch Pipelines:** A new 4,000 LF, 18-inch pipeline would be built along El Sobrante Road and a 5,000 LF, 18-iunch backbone pipeline would be built going south to north across Highland Grove II and II to improve Near Term capacity issues.
- **Project W-14 Highland Grove II and III 12-Inch Pipeline:** A new 4,000 LF, 12-inch pipeline would be built in Highland Grove IV to improve Near Term capacity issues.
- **Project W-15 Juniper Road Pipeline Upsizing:** A new 4,800 LF, 12-inch pipeline would be built along Juniper Road and 2,600 LF of 12-inch pipeline would be built along Blue Sky Road in Pressure Zone 2320 to improve Near Term capacity issues.
- **Project RW-1 Orangecrest Supply Pipelines:** Recycled water pipelines are needed to connect the new Orangecrest tank to existing pipeline infrastructure. Approximately 1,300 LF of 18-inch and

3,500 LF of 24-inch pipelines would be installed from the tank and south on Barton Street to the existing 12-inch pipeline on Gless Ranch Road at Barton Street.

- **Project RW-1 Bergamont Park Conversion to RW:** In order to convert Bergamont Park to recycled water (RW), approximately 1,600 LF of 8-inch pipeline would be installed on Cole Avenue from Van Buren Boulevard to Citrus Grove Road to improve Ultimate capacity issues.
- **Project RW-1 Meridian West Pipelines:** To support the Meridian West Campus Development, an additional 16-inch recycled water pipeline is needed from Barton Street east on Van Buren Boulevard. approximately 4,400 LF of the existing 12-inch pipeline would be upsized to 14-inch east of Orange Terrace Parkway to improve Near Term capacity issues.
- **Project RW-1 Idaleona Drive Upsize:** In anticipation of an expansion of the Altman Plants nursery, the existing 14-inch pipeline within Idaleona Drive may experience exceedances of the maximum pipeline velocity criteria. As a result, approximately 7,100 LF of the pipeline would be upsized to a 16-inch pipeline in the Jim Jack Zone (2250).
- **Project RW-1 Lake Ranch Pipelines:** Approximately 2,400 LF of 8-inch pipeline would be installed in the Lake Ranch development, near McAllister Street and El Sobrante Road.

Other Improvements

The near-term projects would also include other improvements, such as a pressure reducing valve.

- **Project W-10 Highland Grove PRV:** In order to improve Near Term capacity issues, one pressure reducing valve would added to supplement flow from Pressure Zone 1650 to Highland Grove.

2.5.3 Future Projects

The Riverside FMP identifies projects needed in the future to meet buildout service demands. The construction of these projects would start after 2030 and continue through 2050. The future projects would include the construction of new facilities or improvements to existing facilities, and would consist of 6 new water storage tanks, 7 pump station upgrades, 2 lift station upgrades, 10 pipeline projects, and the WWRF Expansion Study. Since the long-term buildout of these projects is based on the projected demands for each pressure zone and is subject to the availability of funds, the phasing of the long-term projects is presented as a planning guideline for their future implementation. The actual timing of future facilities will be dependent upon the actual rate of growth and the timing of new developments expected in the Riverside Retail Service Area. Additionally, the exact location of infrastructure and sizing could change depending on buildout scenarios. Projects are listed in **Table 2-3** and shown, as currently anticipated, on **Figure 2-5**.

TABLE 2-3
FUTURE PROJECTS (BY 2050)

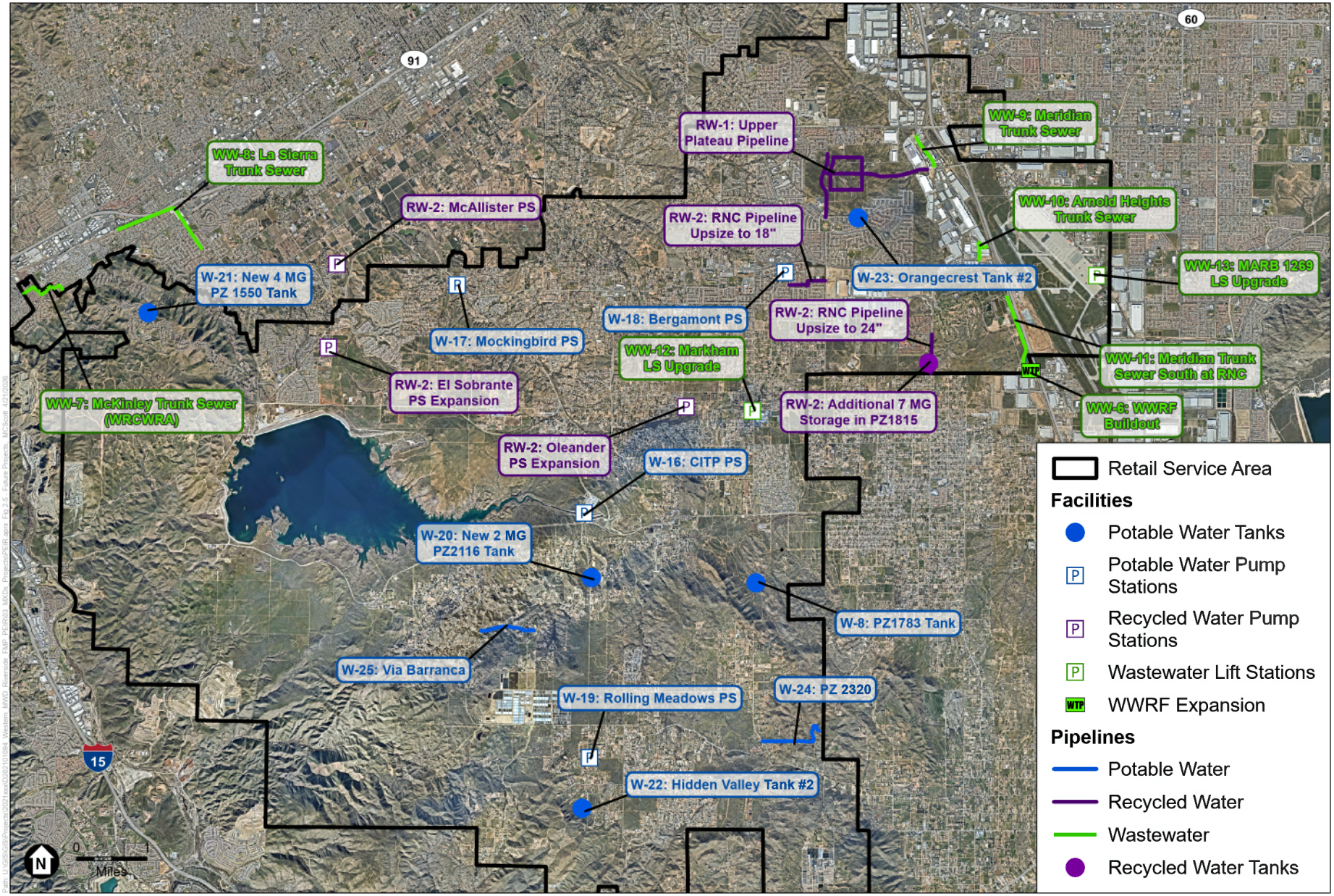
Type	CIP Project	Project Type	Project Name	Description
Water	W-8	Storage Tank	New 2 MG PZ1783 Tank	Build 2 MG of water storage tank in PZ 1783.
Water	W-16	Pump Station Upgrade	CITP (Intake PS)	Increase the firm capacity of CITP (Intake) PS that feeds PZ 1783 from 6,400 gpm to 9,500 gpm.
Water	W-17	Pump Station Upgrade	Increase Capacity of Mockingbird PS	Add 5,000 gpm capacity at Mockingbird PS that feeds PZ 1650 to meet Buildout demands, increasing the firm.
Water	W-18	Pump Station Upgrade	Bergamont PS	Increase the firm capacity of Bergamont PS that feeds PZ 1900 from 12,000 gpm to 14,600 gpm
Water	W-19	Pump Station Upgrade	Rolling Meadows PS	Increase the firm capacity of Rolling Meadows PS that feeds PZ 2450 from 1,165 gpm to 2,000 gpm
Water	W-20	Storage Tank	New 2 MG PZ2116 Tank	Build 2 MG of water storage in PZ 2116 in Buildout to cover storage deficiencies. Potential sites could be at the Existing Oaknoll Tank site, or at the site approximately 1,700 LF north of Idaleona Road and west of Rolling Meadows Drive.
Water	W-21	Storage Tank	New 4 MG PZ1550 Tank	Build 4 MG of water storage in PZ 1550 in Buildout phase to accommodate the increased demand with adjacent undeveloped parcels. Potential site is between Old Lake tank and Lake Hills tank where elevation is approximately 1,600 feet.
Water	W-22	Storage Tank	New 3 MG Hidden Valley Tank	Build additional 3 MG of water storage at the Existing Hidden Valley Tank site.
Water	W-23	Storage Tank	New 13 MG Orangecrest Tank	Build additional 13 MG of water storage at the Existing Orangecrest Tank site.
Water	W-24	Pipeline Upsize	PZ 2320 12-Inch Pipelines	New 6,700-LF 12″ pipelines from PZ2320 to PZ2116 near Blue Sky Rd.
Water	W-25	Pipeline Upsize	Via Barranca Pipeline Upsizing	Upsize 4,200 LF of 8″ on Via Barranca to 12″.
Recycled Water	RW-1	Pipeline	Upper Plateau Development Pipelines	Install 4.4 miles of Upper Plateau Development Pipelines. (While this project is included in the FMP as a near-term project, recent delays and inactivity have resulted in moving the project past 2030 and thus moving it into the future projects list.)
Recycled Water	RW-2	Pipeline Upsize	RNC Pipeline Upsize to 24″	Upsize approximately 3,000 LF of existing 16″ pipeline to 24″ on Village West Drive from Nandina Avenue to Lemay Drive.
Recycled Water	RW-2	Storage Tank	Additional 7-MG Storage in PZ1815	Install additional 7 MG of storage in PZ 1815.
Recycled Water	RW-2	Pipeline Upsizing	RNC Pipeline Upsize to 18″	Upsize approximately 3,000 LF of existing 12″ pipeline to 18″ on Gless Ranch Road between Barton Street and Cole Avenue.
Recycled Water	RW-2	Pump Station Upgrade	Oleander PS Expansion (200 HP)	Install additional pump at the Oleander PS sized at 3,100 gpm at 183 feet.
Recycled Water	RW-2	Pump Station Upgrade	McAllister PS Expansion (200 HP)	Additional 200 HP pump; upsize capacity
Recycled Water	RW-2	Pump Station Upgrade	El Sobrante PS Expansion (150 HP)	Upsize El Sobrante PS firm capacity from 2,400 gpm to 4,600 gpm.
Wastewater	WW-6	WWRF Expansion Study	WWRF Expansion Study	This study should investigate the potential for either purchasing additional land and/or maximizing the footprint such that up to 6.0 MGD rated capacity could be achieved.
Wastewater	WW-7	Pipeline	McKinley Trunk Sewer 2 (WRCWRA)	Upsize 1,060 LF of existing 8″ to 10″ as well as 3,420 LF of existing 8″ and 10″ to 12″

Type	CIP Project	Project Type	Project Name	Description
Wastewater	WW-8	Pipeline	La Sierra Trunk Sewer (WRCWRA)	Upsize 8,345 LF of existing 18″ and 21″ to 24″.
Wastewater	WW-9	Pipeline	Meridian Trunk Sewer North (WWRF)	Upsize 3,610 LF of existing 18″ to 21″
Wastewater	WW-10	Pipeline	Arnold Heights Trunk Sewer (WWRF)	Upsize 2,375 LF of existing 15″ to 18″
Wastewater	WW-11	Pipeline	Meridian Trunk Sewer South at RNC (WWRF)	Upsize 500 LF of existing 24″ to 30″
Wastewater	WW-12	Lift Station Upgrade	Markham Lift Station Ultimate Upgrades	Upgrade lift station to a firm capacity of 2.8 MGD
Wastewater	WW-13	Lift Station Upgrade	MARB 1269 Lift Station Upgrade Study	Study required firm capacity increase of the MARB 1269 lift station to accommodate Ultimate flows

Storage Tanks

New potable water storage tanks and recycled water storage tanks would be required in the buildout scenario to accommodate future growth within the Riverside Retail Service Area. Anticipated projects are explained below; other projects may be developed as needed based on future growth in the service area.

- **Project W-8 New 2 MG PZ1783 Tank:** A new 2 MG water storage tank would be built to improve capacity issues in Pressure Zone 1783. The potential site is approximately 7,000 feet southwest of the intersection of Cajalco Road and Wood Road.
- **Project W-20 New 2 MG PZ2116 Tank:** A 2 MG water storage tank would be built in Pressure Zone 2116 to cover storage deficiencies and to improve Near Term capacity issues. Potential site locations could be at the existing Oaknoll Tank site, or at the site approximately 1,700 LF north of Idaleona Road and west of Rolling Meadows Drive.
- **Project W-21 New 4 MG PZ1550 Tank:** A 4 MG water storage tank would be built in Pressure Zone 1550 to accommodate the increased demand with adjacent undeveloped parcels and Ultimate capacity issues. The potential site location is between the Old Lake tank and Lake Hills tank where elevation is approximately 1,600 feet.
- **Project W-22 New 3 MG Hidden Valley Tank:** The Pressure Zone 2320 is anticipated to experience an increase in demand in the buildout condition that requires approximately 6 MG additional potable water storage. The existing Hidden Valley site at intersection of Hidden Valley Road and Rolling Meadows Drive has space for an additional tank. The proposed new Hidden Valley Tank #2 would satisfy half of this need at approximately 3 MG and to improve Ultimate capacity issues.



SOURCE: Nearmap, 2022; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 2-5
Future Projects

ESA

- **Project W-23 New 13 MG Orangecrest Tank:** An additional 13 MG water storage tank would be built at the existing Orangecrest tank site to improve Ultimate capacity issues.
- **Project RW-2 Additional 7 MG Storage in PZ1815:** An additional 7 MG recycled water storage tank would be installed in Pressure Zone 1815 to improve Ultimate capacity issues.

Pump/Lift Stations

New potable water pump stations and wastewater lift stations would be required in the buildout scenario to accommodate future growth within the Riverside Retail Service Area. Anticipated projects are explained below; other projects may be developed as needed based on future growth in the service area.

- **Project W-16 CITP (Intake PS):** The firm capacity of the CITP (Intake) Pump Station that feeds Pressure Zone 1783 would be increased from 6,400 gpm to 9,500 gpm to improve Ultimate capacity issues. A new booster pump would be needed at the existing facility with one 150 horsepower pump.
- **W-17 Increase Capacity of Mockingbird PS:** To meet buildout demands and increase the firm capacity to improve Ultimate capacity issues, a 5,000 gpm capacity would be added at the Mockingbird Pump Station that feeds Pressure Zone 1650.
- **W-18 Bergamont PS:** The firm capacity of Bergamont Pump Station that feeds Pressure Zone 1900 would be increased from 12,000 gpm to 14,600 gpm to improve Ultimate capacity issues.
- **W-19 Rolling Meadows PS:** The firm capacity of Rolling Meadows Pump Station that feeds Pressure Zone 2450 would be increased from 1,165 gpm to 2,000 gpm to improve Ultimate capacity issues.
- **RW-2 Oleander PS Expansion (200 HP):** An additional 200 HP pump would be installed at the Oleander Pump Station sized at 3,100 gpm at 183 feet to improve Ultimate capacity issues.
- **RW-2 McAllister PS Expansion (200 HP):** An additional 200 HP pump would be installed at the McAllister Pump Station in order to upsize capacity and to improve Ultimate capacity issues.
- **RW-2 El Sobrante PS Expansion (150 HP):** A 150 HP pump would be installed at the El Sobrante Pump Station to upsize the firm capacity from 2,400 gpm to 4,600 gpm to improve Ultimate capacity issues.
- **WW-12 Markham Lift Station Ultimate Upgrades:** The Markham Lift Station would be upgraded to a firm capacity of 2.8 MGD. Based on the peak wet weather flows and the currently anticipated Ultimate development in the Markham sewer subbasin, it is recommended the lift station be upgraded to accommodate anticipated Ultimate flows.
- **Project WW-13 MARB 1269 Lift Station Buildout Upgrade Study:** Under anticipated buildout peak wet weather flows, the MARB 1269 lift station would experience flows in excess of firm capacity. Because the size and scope of future development on MARB is unknown, the lift station will potentially be expanded under the buildout scenario to reflect anticipated development of MARB projects.

Pipelines

New and upsized water and recycled water pipelines would be required in the buildout scenario to accommodate future growth within the Riverside Retail Service Area. Anticipated projects are explained below; other projects may be developed as needed based on future growth in the service area.

- **Project W-24 PZ 2320 12-Inch Pipelines:** Approximately 6,700 LF of new 12-inch pipelines would be installed from Pressure Zone 2320 to Pressure Zone 2116 near Blue Sky Road to improve Ultimate capacity issues.
- **Project W-25 Via Barranca Pipeline Upsizing:** This project is needed to provide fire flow capacity within the Pressure Zone 2116. Approximately 4,200 LF of the 8-inch pipeline within Via Barranca Road would be upsized to a 12-inch pipeline from Via Liago to Sultana Road to achieve fire flow of 1,000 gpm or greater and to improve Ultimate capacity issues.
- **Project RW-1 Upper Plateau Development Pipelines:** Approximately 4.4 miles of pipeline would be installed for the Upper Plateau Development to improve Near Term capacity issues.
- **Project RW-2 RNC Upsize to 18″:** To accommodate the Riverside National Cemetery pump station upgrade to be built in the near-term and to improve Ultimate capacity issues, approximately 3,000 LF of 12-inch pipeline would be upsized to 18-inch pipeline.
- **Project RW-2 RNC Upsize to 24″:** To accommodate the Riverside National Cemetery pump station upgrade to be built in the near-term and to improve Ultimate capacity issues, approximately 3,000 LF of 16-inch pipeline would be upsized to 24-inch pipeline.
- **Project WW-7 McKinley Trunk Sewer 2 (WRCWRA):** Approximately 1,060 LF of the existing 8-inch pipeline would be upsized to 10-inch pipeline and 3,420 LF of the 8-inch and 10-inch pipelines would be upsized 12-inch pipeline in order to address anticipated capacity issues under existing peak wet weather flow conditions.
- **Project WW-8 La Sierra Trunk Sewer (WRCWRA):** Approximately 8,345 LF of the existing 18-inch and 21-inch pipelines would be upsized to 24-inch pipeline to accommodate anticipated future flows within Western design criteria.
- **Project WW-9 Meridian Trunk Sewer North (WWRF):** Approximately 3,610 LF of the existing 18-inch pipeline would be upsized to 21-inch pipeline to accommodate anticipated future flows within Western design criteria.
- **Project WW-10 Arnold Heights Trunk Sewer (WWRF):** Approximately 2,375 LF of the existing 15-inch pipeline would be upsized to 18-inch pipeline to accommodate anticipated future flows within Western design criteria.
- **Project WW-11 Meridian Trunk Sewer South at RNC (WWRF):** Approximately 500 LF of the existing 24-inch pipeline would be upsized to 30-inch pipeline to accommodate anticipated future flows within Western design criteria.

Other Improvements

The future projects would also include other improvements, such as potential expansion of the WWRF.

- **Project WW-6 WWRF Expansion Study:** Previous studies have concluded that the existing Western Water Recycling Facility plant footprint is capable of accommodating a maximum rated capacity of 5.0 MGD. Based on planned growth, it is anticipated that the WWRF (located off the I-215 Freeway near the March Air Reserve Base) will be using 77 percent of its capacity nearing 2030. Increased use of the WWRF could result in sanitary sewer overflow and potentially a public safety hazard. A study should investigate the potential for either purchasing additional land and/or maximizing the footprint such that the anticipated buildout capacity of the Western Water Recycling Facility service area can achieve approximately 6.0 MGD. It is assumed the study would be completed by 2030 but that building a WWRF expansion would not occur until after 2030, which is why it is included as a future capital project.

2.6 Project Implementation

2.6.1 Construction Activities

Construction activities would be required for the installation of new facilities and upgrades to existing facilities within the WMWD Riverside Retail Service Area. As shown in Figure 2-2, new and expanded storage tanks, pump/lift stations, treatment plant upgrades, and pipelines would be installed throughout the project area as part of proposed project.

Pipelines

Construction of proposed pipelines would involve trenching using a conventional cut and cover technique, as well as jack-and-bore or directional drilling techniques where necessary to avoid sensitive land features or roadway intersections. Dewatering may be required depending on location. Pipelines would be installed primarily within existing roadway rights-of-way to the extent feasible. The trenching technique would include saw cutting of the pavement where applicable, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition.

Trench width and depth would generally depend on the size of the pipe to be installed, which would range from 8 to 24 inches. Pipelines would be installed in accordance with the District standard detail W-1540 and W-1550. The construction corridor would be wide enough to accommodate the trench and to allow for staging areas and vehicle access. Offsite construction staging areas would be identified by contractors for pipe lay-down, soil stockpiling, and equipment storage. The length of an open trench would not exceed 100 feet at any time, and on average 50 to 100 feet of pipeline would be installed per day.

Trenches would be backfilled at the end of each work day or temporarily closed by covering with steel trench plates. The construction equipment needed for pipeline installations generally includes concrete/industrial saws, backhoes, dozers, excavator, dump trucks, cranes, pump, shoring equipment, steam roller, welder, paver, and plate compactor. Approximately three to six workers would be required during various phases of pipeline installation. Excavated soils would be reused as backfill and otherwise disposed offsite. Once pipelines are installed, the disturbed area would be restored to pre-construction conditions. Staging areas would be located adjacent to pipeline installation within rights-of-way.

Construction would occur in a linear fashion and is anticipated to be contained within one lane of traffic. Traffic control would be necessary during pipeline construction within rights-of-way. Typically, five to 10 workers would be required for traffic control during pipeline installation. Equipment necessary for traffic control includes changeable message signs, delineators, arrow boards, and K-Rails. The traffic control plan for each pipeline project would be coordinated with the applicable jurisdictions.

Storage Tanks

Construction of storage tanks would require site preparation and clearing, excavation, grading, tank erection and painting, and site restoration. Tanks typically would be constructed of prefabricated steel rings, stacked and welded to the desired height. Once erected, each tank would be sandblasted, primed, painted and treated. Architectural and color elements of the storage tanks would be designed to blend in with the surrounding landscape and fit in with the visual character of the area.

The construction equipment needed for tank installation generally includes air compressors, backhoes, excavators, dozers, graders, compactors, pavers, rollers, dump trucks, cement mixers, forklifts, girth welder, iron worker, pumps, truck crane, boom lift truck, and scaffolding. Construction of storage tanks may require pile driving, blasting, and other construction equipment to remove bedrock and/or achieve underground support. Approximately four to seven workers would be required at a time during various phases of tank construction. Excavated soils would be reused onsite to the extent feasible and otherwise disposed offsite. Concrete would be required for construction of tank foundations and pads.

Pump Stations and Lift Stations

Pump stations would be housed in single-story buildings that may include pump rooms, an electric control room, and a room for disinfection facilities. Pump station exteriors typically would be built in accordance with standard construction methods for roofed masonry buildings, and would be designed to blend in with the surrounding landscape. Construction of pump stations would involve installation of onsite piping and electrical equipment, excavation and structural foundation installation, pump house construction, pump and motor installation, and final site restoration. Pump stations would be equipped with portable emergency generator connections and manual transfer switches. Power to the pump station would be provided through underground service to minimize possibility of damage during fires.

Sewerage lift stations would be constructed in a similar fashion but may require additional excavation to access sewers below grade. Excavated soils would be trucked off site for disposal. Dry wells would be constructed and pumps installed that would lift sewage to gravity-fed sewer lines.

The construction equipment needed for pump station and lift station installation generally includes air compressor, auger truck, backhoe, boom lift truck, concrete/industrial saw, forklift, paver, plate compactor, roller, welder, and scaffolding. Approximately three to seven workers would be required during various phases of pump station construction. Excavated soils would be reused onsite to the extent feasible and otherwise disposed offsite. Concrete would be required for construction of pump station foundations and pads.

Treatment Facilities

Upgrades to treatment facilities could involve site preparation and clearing, excavation, grading, facility erection and painting, and site restoration. The construction equipment needed for treatment facility upgrades generally includes backhoes, excavators, bulldozers, compactors, dump trucks, girth welder, iron worker, truck crane, boom lift truck, and scaffolding. Approximately four to seven workers would be required at a time during various phases of construction. Excavated soils would be reused onsite to the extent feasible and otherwise disposed offsite. Concrete would be required for construction of foundations and pads. Staging areas would be located within and adjacent to proposed facility property boundaries.

Construction Timelines

Construction timelines for each individual project will vary, but it is anticipated that the priority projects would be constructed from 2023 to 2025, the near-term projects from 2023 to 2030, and the future projects by 2050. Construction of projects may overlap. For active construction of pipelines, a rate of 50 to 100 LF per day would require a range of 10 to 20 days per 1,000 LF of installation (50 LF of pipeline requires 20 days per 1,000 feet and 100 LF of pipeline requires 10 days per 1,000 feet). The active construction duration for a tank improvement would be approximately 9 to 10 months. The duration for tank construction would range from approximately 3 to 4 months for the smaller tanks to approximately 31 to 32 months for the larger tanks. The active construction duration for a minor lift station would be approximately 6 months and for a major lift station would be approximately 12 months.

2.6.2 Operation and Maintenance

Operation of the proposed facilities, such as storage tanks, pump stations, pipelines, and treatment facilities would not require daily staffing but rather require only periodic maintenance. No new workers would be added to support operation and maintenance of the upgraded/new facilities; existing staff would be rotated to serve maintenance needs. Maintenance activities of the facilities may include, but are not limited to, periodic removal of accumulated sediment and debris, replacement of non-operational machinery, and inspection and maintenance of all structures.

2.7 Permits and Approvals

Potential regulatory agencies that may have approval authority over various project components are identified in **Table 2-4**.

TABLE 2-4
REGULATORY AUTHORIZATIONS

Agency	Type of Approval	Needed for
South Coast Air Quality Management District	Permit to Construct and Operate	Treatment plant expansions and combustion equipment
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	Work in drainages
California Department of Transportation	Encroachment Permit	In-street work
City of Riverside	Encroachment Permit	In-street work
County of Riverside	Encroachment Permit	In-street work and in-channel work
Regional Water Quality Control Board	Clean Water Act Section 401 Certification; Discharge requirements during construction	Work in drainages
State Water Resources Control Board	Construction General Permit/SWPPP approval	All construction greater than 1 acre
	Title 22 Engineering Report	Recycled water end use projects
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit	Work in drainages

2.8 References

WMWD (Western Municipal Water District). 2025. *Riverside Facilities Master Plan.* Prepared by Dudek. December 2025.

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CHAPTER 3
Environmental Setting, Impact Analysis, and Mitigation Measures

3.0 Introduction to the Analysis

In compliance with CEQA Guidelines Sections 15125 and 15126, Chapter 3 of this Draft PEIR provides an analysis of the significant environmental effects of the Riverside Facilities Master Plan (proposed project) with respect to existing baseline conditions. The baseline environmental conditions for the analysis included within this Draft PEIR are generally from April 2022 when the NOP was published, except where otherwise noted in each environmental section. The following environmental topics are assessed in detail in this chapter in accordance with CEQA Guidelines Appendix G:

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

The CEQA Guidelines Section 15128 requires that an EIR "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and therefore were not discussed in detail in the EIR." The following environmental topics from CEQA Guidelines Appendix G are not discussed in detail in this Draft PEIR because no significant impacts could occur as a result of implementation of the proposed project:

- Mineral Resources
- Population and Housing
- Public Services
- Recreation

The effects found not to be significant associated with these environmental topics are explained further below in Section 3.0.2, *Effects Found Not to Be Significant*.

3.0.1 Format of the Environmental Analysis

This Draft PEIR provides analysis of impacts for those environmental topics where it was determined in the NOP, or through subsequent analysis, that the proposed project would result in "potentially significant impacts." Sections 3.1 through 3.15 discuss the environmental impacts that may result with approval and implementation of the proposed project. The format of the environmental analysis for each environmental topic included in Sections 3.1 through 3.15 includes an environmental setting, regulatory framework summary, impact analysis and mitigation measures (if required), and references.

"Significant effect" is defined by the CEQA Guidelines Section 15382 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. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."

Determining the severity of project impacts is fundamental to achieving the objectives of CEQA. The level of significance for each impact examined in this Draft PEIR was determined by considering the predicted magnitude of the impact to baseline environmental conditions against the applicable threshold. Thresholds were developed using criteria from the CEQA Guidelines and Appendix G Checklist; state, federal, and local schemes; local/regional plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions.

The assessment of each issue area begins with any relevant baseline setting information that is needed to provide context for the impact analysis that follows. Extraneous setting information that does not shed light on the impact analysis is not included in this Draft PEIR.

The impact analysis includes any necessary description of methodologies used and the "significance thresholds," which are those criteria adopted by the State, County, City, or other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. Each effect under consideration for an issue area is separately listed with the discussion of the effect and its significance following. Each potentially significant impact includes a numbered impact statement and significance determination.

Following each environmental effect discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases, where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect.

Environmental Setting and Baseline

In accordance with CEQA Guidelines Section 15125(a), the environmental setting contains a description of the regional and local physical environmental conditions in the project vicinity at the time of the publication of the NOP. Given that the NOP was published in 2022 and the FMP went through several updates after the NOP publication from 2022 to 2025, the baseline has been updated to reflect the most current physical conditions for analysis in this PEIR. This environmental setting constitutes the baseline physical condition

against which the implementation of the proposed project is assessed in order to determine whether an environmental impact would occur (CEQA Guidelines Section 15126.2(a)). Individual resource sections discuss the baseline conditions in the setting section, which may vary from topic to topic.

Regulatory Framework

Where the project site and/or surrounding area falls within the jurisdiction of federal, state, and local regulatory agencies, the proposed project would be subject to the laws, rules, regulations, and policies of those agencies. These regulations are intended to guide development, reduce adverse effects on sensitive resources, and/or offer general guidance on the protection of such resources. The regulatory framework section summarizes the applicable laws, rules, regulations, and policies for the proposed project. These rules may also set the standards, in the form of significance criteria or thresholds of significance as discussed below, by which the potential impacts of the proposed project are evaluated.

Impact Analysis and Mitigation Measures

Significance Criteria and Methodology

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

Impact Analysis

This section provides an analysis of the potential environmental impacts that could result from implementation of the proposed project. This Draft PEIR addresses the direct, indirect, and cumulative impacts associated with implementation of the proposed project, including short-term and long-term impacts.

The level of significance for each environmental impact examined in this Draft PEIR was determined by considering the predicted magnitude of the impact in relation to baseline environmental setting and the applicable regulatory requirements, measured against the significance criterion. Based on the significance criterion, the significance of each potential environmental impact is determined according to the following categories:

- **Significant and Unavoidable:** A significant and unavoidable impact is a substantial adverse effect on the environment that cannot be reduced to below a significance threshold given reasonably available and feasible mitigation measures. A project with significant and unavoidable impacts could still proceed, but WMWD would be required to prepare a Statement of Overriding Considerations, pursuant to CEQA Guidelines Section 15093, explaining why WMWD would proceed with the project in spite of the potential for a significant environmental impact.
- **Less than Significant Impact with Mitigation:** A potentially significant impact occurs if the proposed project could result in a potentially substantial adverse change in the physical conditions of the environmental topic being evaluated. If such a determination is made, reasonably available and feasible mitigation measures must be considered if they would avoid or substantially reduce the significant impact. An impact that can be reduced to below the significance threshold with such mitigation measures is considered less than significant with mitigation. Such an impact requires findings to be made under CEQA Guidelines Section 15091.

- **Less than Significant Impact:** A less than significant impact is an impact that may be adverse, but does not exceed the significance threshold and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** A no impact determination would occur if the project would not result in a substantive change to the environmental topic that is being evaluated.
- **Beneficial Impact:** An effect that would enhance existing environmental conditions or reduce existing environmental problems or hazards.

Mitigation Measures and Significance Determination

Mitigation measures are recommended for any identified potentially significant impacts as a result of the proposed project. The significance determination provides the level of significance after the implementation of recommended mitigation measures, if applicable, based on the categories described above.

References

References used for the analysis of each environmental topic addressed in this Draft PEIR are included at the end of each subsection.

3.0.2 Effects Found Not to Be Significant

Mineral Resources

The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

According to the State of California Department of Conservation, the Riverside Retail Service Area is located in the Temescal Valley Production Area which contains significant aggregate deposits. The majority of the area is classified as MRZ-3, where the significance of mineral deposits is undetermined. There are isolated areas designated as MRZ-2 in the western portion of the service area, which are areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present (DOC 2014). None of the project components would be within close proximity to the lands that contain these mineral resources. The proposed project areas are not used for mineral extraction and do not contain mineral resources of economic value. Additionally, the proposed project facilities would involve superficial excavation to install utilities and would not result in the loss of a known mineral resources. As such, no impact would occur to known mineral resources.

The proposed project would not 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.

According to the City of Riverside General Plan Open Space and Conservation Element, the entire eastern portion of land within the Riverside Retail Service Area (both in the City and its sphere of influence) are classified as MRZ-3, which are areas where the significance of the mineral deposits is undetermined (City of Riverside 2012). Lands classified as MRZ-2 are located outside and north of the service area boundary. There are isolated “rock product” mining areas within the Riverside Retail Service Area, although none overlap with proposed project facilities. None of the project components would be within close proximity

to the lands that contain these mineral resources. The proposed project facilities would involve superficial excavation to install utilities and would not result in the loss of a known mineral resources. As such, no impact would occur to known mineral resources.

Population and Housing

The proposed project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

The County of Riverside is projected to have a population increase of approximately 21% by 2035. The Riverside FMP will accommodate existing demand and planned growth in the area for potable water, recycled water, and wastewater services. Implementation of the proposed project would involve installation of pipelines, construction of storage tanks, expansion of a water reclamation facility, and other water infrastructure improvements. Although the Riverside FMP would support population growth, it would support planned population growth identified by the City of Riverside and County of Riverside rather than induce it (see more information in Chapter 5, *Growth Inducement*, for a discussion of growth in the project area). The proposed project would not create new housing opportunities or extend roads or other infrastructure to areas not previously served. Neither construction nor operation of the project would create new jobs or necessitate the hiring of new workers. Therefore, the proposed project would not induce substantial unplanned population growth and impacts would be less than significant.

The proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

A majority of the storage tanks and lift/pump stations would be constructed within residential areas, but would be constructed on parcels owner or operated by Western that would not require the removal of housing. Pipelines would be constructed within public rights-of-way. Therefore, the project would not displace substantial numbers of existing people or housing and no impact would occur.

Public Services

The proposed project would not 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 any of the following public services:

Fire Protection

There are approximately 4 fire departments within the Riverside Retail Service Area (Riverside County Fire 2021; City of Riverside 2022). The Riverside FMP includes installation of new facilities and upgrades to existing facilities within the Riverside Retail Service Area. The proposed project would not cause an increase in employment or development in Riverside to a point where it would necessitate construction of new homes or businesses, thus requiring additional services or extended response times for fire protection services. Therefore, no impact would occur to fire protection services.

Police Protection

There are no police stations within the Riverside Retail Service Area (City of Riverside 2022). The facilities master plan includes installation of new facilities and upgrades to existing facilities within the Riverside Retail Service Area. The proposed project would not cause an increase in employment or development in Riverside to a point where it would necessitate construction of new homes or businesses, thus requiring additional services or extended response times for police protection services. Therefore, no impact would occur to police protection services.

Schools

The Western Riverside Retail Service Area lies within the Riverside Unified School District (RUSD). The proposed project would not increase employment or development in the county or city of Riverside to a point where it would necessitate construction of new homes or businesses, thus requiring additional student generation rates or enrollment numbers within RUSD. As such, the proposed project would not require new or expanded school facilities. No impact to schools would occur.

Parks

There are multiple parks and open space areas within the Riverside Retail Service Area. Within the southern portion of the City of Riverside, parks include Bergamont Park, Orange Terrace Park, Taft Park, and Thundersky Park. Land designated by the City of Riverside General Plan as parks are shown on Figure 4.10-1 in relation to priority and near-term projects and on Figure 4.10-4 for future projects (see Section 3.10, *Land Use and Planning*). Within the County of Riverside, parks and open space areas include Harford Springs Park, a 530-acre open space reserve, the Gavilan Hills, and the Lake Mathews Estelle Mountain Reserve. Land designated by the County of Riverside General Plan as parks are shown on Figures 4.10-2 and 4.10-3 in relation to priority and near-term projects and on Figure 4.10-5 for future projects (see Section 3.10, *Land Use and Planning*). The proposed project does not include the addition of residential uses, and its implementation would not increase demand for parks. Therefore, no impacts to parks would occur.

Other Public Facilities

The proposed project does not include the addition of residential uses, and its implementation would not increase demand for other public facilities, such as city administrative offices or library facilities. The proposed project would not require or impact other additional public facilities. Therefore, no impacts to other public facilities would occur.

Recreation

The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Use of existing neighborhood and regional parks would increase if the proposed project would increase the population within the area. There are multiple parks and open space areas within the Riverside Retail Service Area. Within the southern portion of the City of Riverside, parks include Bargamont Park, Orange Terrace Park, Taft Park, and Thundersky Park. Land designated by the City of Riverside General Plan as parks are shown on Figure 4.10-1 in relation to priority and near-term projects and on Figure 4.10-4 for

future projects (see Section 3.10, *Land Use and Planning*). Within the County of Riverside, parks and open space areas include Harford Springs Park, a 530-acre open space reserve, the Gavilan Hills, and the Lake Mathews Estelle Mountain Reserve. Land designated by the County of Riverside General Plan as parks are shown on Figures 4.10-2 and 4.10-3 in relation to priority and near-term projects and on Figure 4.10-5 for future projects (see Section 3.10, *Land Use and Planning*).

The proposed project consists of water projects, recycled water projects, and wastewater projects. Implementation of the Riverside FMP would not include development of new housing that would attract additional population to the area. Further, implementation of the proposed project would not result in substantial permanent employment that could indirectly induce population growth. Construction of the priority/near-term and future projects would create some short-term construction employment opportunities over the duration of project activities through 2050. However, the amount of opportunities created would not require persons outside of the existing western Riverside County work force. Therefore, the project would not create additional housing or increase the population such that substantial physical deterioration of the regional parks or other recreational facilities would occur or be accelerated. No impact would occur.

The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

The proposed project includes upsizing of existing pipelines as well as installing new pipelines; new storage tanks; new booster pump stations; new pumps at existing pump stations; capacity upgrades at existing lift stations; and potential expansion of the WWRF. The proposed project would not require the construction or expansion of additional recreational facilities, which might have an adverse physical effect on the environment. Therefore, no impact would occur.

3.0.3 Cumulative Impacts

As indicated above, in addition to direct and indirect impacts associated with implementation of the proposed project, this Draft PEIR also includes an assessment of cumulative impacts for each environmental topic evaluated in Chapter 3. The cumulative effects of implementing the proposed project in combination with other past, present, and reasonably foreseeable future projects within and around the project site are considered. The analysis of cumulative impacts considers whether other projects could cause related environmental impacts similar to the environmental impacts anticipated to occur due to the proposed project.

CEQA requires that an EIR assess the cumulative impacts of a project with respect to past, current, and probable future projects within the region. CEQA Guidelines Section 15355 defines cumulative effects as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in environment which results from the incremental impact of the project when added to other closely related and reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis is given in CEQA Guidelines Section 15130:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable", (i.e., the incremental effects of an individual project are considerable

when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects, including those outside the control of the lead agency, if necessary).

- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.

According to CEQA Guidelines Section 15130(b), elements considered necessary to provide an adequate discussion of cumulative impacts of a project include either (1) list of past, present, and probable future projects producing related or cumulative impacts or (2) a summary of projections contained in an adopted local, regional or statewide plan, or related planning document that is designed to evaluate regional or areawide conditions.

Because the implementation of the proposed project would occur over an approximately 27-year time frame (2023–2050), this PEIR utilizes both the summary of projections approach coupled with the list of cumulative projects method. CEQA Guidelines Section 15130(d) states that the summary of projections could be contained in an adopted local, regional or statewide plan such as a general plan, regional transportation plan or plans for the reduction of greenhouse gas emissions. Other projects within the geographic area or temporal scope of the project were also considered as part of this cumulative analysis, as well as a programmatic approach to future projects that are planned to occur within the project area over the next 30 years.

Population Projections

The Riverside County Projections 2010 (RCP2010) collection of data from the Riverside County General Plan and the most recent data available, projected that the 2020 population of the WMWD Riverside Retail Service Area (Lake Mathews/Woodcrest area per RCP2010) will be 40,534 (WMWD 2021; as found in RCP2010's Appendix F, Table 6). The RCP2010 projected the 2035 population of the WMWD Riverside Retail Service area would be 49,614. Therefore, a straight line interpolation between the 2020 and 2035 projected populations gives a 2030 population of 46,587. Based on Riverside County 2010 projections, the population within the Riverside Retail Service Area will grow from 40,534 in 2020 to 49,614 in 2035 (WMWD 2021), which is an approximate 22 percent increase.

Related Projects

Cumulative effects could result when considering the effects of the proposed project in combination with the effects of other projects in the area. For this analysis, other past, present, and reasonably-foreseeable future projects have been identified. Additionally, a programmatic assessment of future infrastructure and commercial projects are included in the analysis of cumulative impacts.

Geographic Scope

Geographically, the proposed project is located in unincorporated portions of Riverside County and within the City of Riverside. Within this area, **Table 3-1** summarizes the geographic scope of the analyses for cumulative impacts for each environmental resource area discussed in Chapter 3 of this PEIR. More details as to the geographic and temporal scope used in generating this list of cumulative projects are included below.

TABLE 3-1
GEOGRAPHIC SCOPE OF CUMULATIVE IMPACT ANALYSES

Environmental Issue	Geographic Scope of Cumulative Impact Analyses
Aesthetics	Foreground views immediately surrounding project components; long-distance viewshed views within Riverside County
Agriculture and Forestry Resources	Agriculture and Forestry lands within the Riverside Retail Service Area
Air Quality and Greenhouse Gas Emissions	South Coast Air Basin (Air Quality); Global
Biological Resources	Biological Study Area identified for the proposed project
Cultural Resources	Riverside County and surrounding areas as manifested through cultural resources
Energy	Service areas for Riverside Public Utilities, SoCal Gas, City of Riverside
Geology and Soils	Geologic sediments and formations within Riverside County
Hazards and Hazardous Materials	Individual project sites and public rights-of-ways within the project area
Hydrology and Water Quality	Riverside Retail Service Area and downstream receiving waters
Land Use and Planning	City of Riverside, County of Riverside
Noise	Areas within 1,000 feet of project components
Transportation	Roadways, public transit systems, bicycle, and pedestrian facilities within Riverside Retail Service Area
Tribal Cultural Resources	Project area
Utilities and Service Systems	Utility Service Providers' service areas within Riverside Retail Service Area
Wildfire	Heavily vegetated areas within Riverside Retail Service Area

Temporal Scope

In addition to the geographic scope, cumulative impacts must also consider the temporal scope of other projects relative to the proposed project. Schedule is particularly relevant to the consideration of cumulative construction-related impacts. It can be assumed that the construction of project components would begin in 2023 and occur in phases based in part on future demand and growth through 2050. Therefore, the temporal scope for selecting cumulative projects was defined as 2023 through 2050.

List of Cumulative Projects

Cumulative effects could result when considering the effects of the proposed project in combination with the effects of other cumulative projects in the area. For this Draft PEIR analysis, other past, present, and reasonably foreseeable future projects are within the scope of cumulative impacts considered. The Riverside FMP identifies potable water, recycled water, and sewer improvements to address existing

deficiencies and future growth within the Riverside Retail Service Area through 2050. As part of the hydraulic planning for the Riverside FMP, WMWD identified past, present, and reasonably foreseeable cumulative projects to develop assumptions about the type and quality of infrastructure needed to support future development (see Sections 2.5.2 and 2.5.3 in the Riverside FMP [WMWD 2021]). The FMP includes recent development projects from 2018 to 2020, some of which have been built or are partially built, and future projects planned to be built between 2020 and 2030. These projects, which constitute the cumulative baseline, are listed in **Table 3-2** and graphically displayed on **Figure 3-1**.

As discussed above, significant growth within the Riverside Retail Service Area is anticipated through the year 2050, which the project proposes to accommodate with new water, recycled water, and sewer infrastructure. Given the Riverside FMP timeframe, future infrastructure (linear water/recycled water/sewer pipelines, electrical/gas conduits, transportation) and commercial/residential projects could occur within the vicinity of the project area or possibly within the same public rights-of-way as project infrastructure. For this reason, and because projects generally gave not been identified past the 2030 horizon, this cumulative analysis assumes cumulative future development would occur concurrently with the proposed project and is included as "Cumulative Future Infrastructure Projects."

3.0.4 References

County of Riverside. 2015. *County of Riverside General Plan*. Section 4.14, Mineral Resources. Available at: https://rctlma.org/Portals/14/genplan/general_plan_2015/DEIR%20521/04-14_MineralResources.pdf, accessed May 3, 2022.

County of Riverside. 2022. Public Safety. Available at: https://www.google.com/maps/d/viewer?mid=1rP32IZJfQ9FDoPz86ja18xcPCVBRbNHG&ll=33.874690303960726%2C-117.40919336044924&z=12, accessed June 8, 2022.

Riverside County Fire. 2021. Fire Stations Map. Available at: https://www.rvcfire.org/resources/fire-stations-map, accessed June 8, 2022.

Western Municipal Water District. 2025. *Riverside Facilities Master Plan Potable Water, Recycled Water, and Wastewater.* Prepared by Dudek, December 2025.

TABLE 3-2
PROJECTS FOR CUMULATIVE ANALYSIS

Name	Location	Project Type	Project Description	Status	Source
Tract 36390 (Citrus Heights Phase I)	Sweet Avenue and Compass Drive	Residential	Residential development consisting of 343 single-family residential dwelling units	Constructed from 2018 to 2020	FMP Table 2-2
Tract 36475 (Citrus Heights Phase II)	Sweet Avenue and Compass Drive	Residential	Residential development consisting of 171 single-family residential dwelling units	Constructed from 2018 to 2020	FMP Table 2-2
Tract 30231	Via Caseria	Residential	Residential development consisting of 5 single-family residential dwelling units	Constructed from 2018 to 2020	FMP Table 2-2
Tract 30238 and 36910	Via Los Cabalerros and King Drive	Residential	Residential development consisting of 25 single-family residential dwelling units	Constructed from 2018 to 2020	FMP Table 2-2
Meridian West Campus	Meridian Parkway and Alessandro Boulevard	Commercial	90 acres of commercial development. Addition of 16 acres of commercial development to the partially developed industrial area.	Constructed from 2018 to 2020; additional development through 2030	FMP Table 2-2
Alessandro Commerce Center	Alessandro Boulevard and Brown Street	Industrial	Two industrial buildings	Constructed from 2018 to 2020	FMP Table 2-2
Boulder Springs (Specific Plan 229)	Cajalco Road and Wood Road	Residential	Residential development consisting of 1,321 single-family residential dwelling units	Constructed from 2018 to 2020	FMP Table 2-2
Tract 32997	Lurin Ave and Roosevelt Street	Residential	Residential development consisting of 90 single-family residential dwelling units	Constructed from 2018 to 2020	FMP Table 2-2
Meridian South Campus	Perris Boulevard and Cactus Avenue	Industrial	96 acres of partially developed industrial area.	Constructed from 2018 to 2020	FMP Table 2-2
MS Van Buren I	Van Buren Boulevard and Meridian Parkway	Commercial	Fully developed 4-acre commercial business park	Constructed from 2018 to 2020	FMP Table 2-2
Veteran Plaza	Van Buren Boulevard and I-215	Commercial	Fully developed 0.15-acre commercial business park	Constructed from 2018 to 2020	FMP Table 2-2
Tract 27557	Gavilan Road and Ellis Avenue	Residential	Residential development consisting of 76 single-family residential dwelling units	Constructed from 2018 to 2020	FMP Table 2-2
Riverside National Cemetery Expansion	Riverside National Cemetery	Recreation	Additional recycled water demand to expand cemetery (Phases V and VI); 73 acres	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3

Name	Location	Project Type	Project Description	Status	Source
Tract 30238 and 36910	Van Buren Boulevard and Mockingbird Canyon Road	Residential	Residential development consisting of 9 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Lake Ranch Project (Tract 36730)	Riverside County; north of Lake Mathews	Residential	The Lake Ranch Project includes development of Tentative Tract Map (TTM) 36730, consisting of 272 residential lots on approximately 53.32 acres; a park site on 2.18 acres; three onsite water quality/detention basins totaling 3.18 acres, one offsite water quality basin totaling 30.25 acres; and circulation facilities (including on-site portions of McAllister Street and El Sobrante Road) on 29.60 acres.	Lake and Streambed Alteration Agreement Executed in 2016; Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract XXXX	Riverside County; off Lurin Avenue	Residential	Residential development consisting of 41 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 37731	Riverside County; off Lurin Avenue	Residential	Residential development consisting of 138 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 37732	Riverside County; off Lurin Avenue	Residential	Residential development consisting of 81 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
16725 Dant St	Riverside County; off Lurin Avenue	Residential	Residential development consisting of 93 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Meridian West Campus	Van Buren Boulevard and Meridian Parkway	Industrial	16 acres of partially developed industrial area.	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
University Highlands (Gateway)	I-215 and Box Springs Road	Residential and Commercial	Residential development consisting of 494 medium density residential units and 749 high density residential units; 3.3 acres of commercial	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Sycamore Hills Distribution Center	Alessandro Boulevard and Barton Street	Industrial	Approximately 12 acres of warehouse buildings	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Alessandro Service Station	Alessandro Boulevard and the I-215	Commercial / Industrial	2 acres of commercial buildings and 7 acres of industrial buildings	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
MS 215	Alessandro Boulevard and the I-215	Commercial	3 acres of office buildings	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 32647	Riverside County; off Lurin Avenue	Residential	Residential development consisting of 109 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 37593	Riverside County; off Lurin Avenue	Residential	Residential development consisting of 90 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3

Name	Location	Project Type	Project Description	Status	Source
18171 Van Buren Blvd at Little Ct	18171 Van Buren Blvd at Little Ct	Commercial	3 acres of Restaurants, Corporate Office, Medical Clinic and Day Care	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 22102 (Mockingbird Canyon)	Mockingbird Canyon Road and Mariposa Ave	Residential	Residential development consisting of 59 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 36963	Olive Street and El Mineral Road	Residential	Residential development consisting of 31 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 28767	Off Van Buren Boulevard	Residential	Residential development consisting of 23 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
MS Prime Six	Van Buren and Meridian Parkway	Commercial	2 acres of commercial business park	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
MS Van Buren II	Van Buren and Meridian Parkway	Commercial	4 acres of commercial business park.	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Veterans Plaza	Van Buren and Meridian Parkway	Commercial	3 additional acres will be developed and added to the business park in the future.	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Boulder Springs (Specific Plan 229)	Avenue C and Wood Street	Residential and Commercial	Residential development consisting of 1,321 single-family residential dwelling units, with school, and 42 acres of commercial. 257 units were constructed from 2018 to 2020.	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Meridian South Campus	Van Buren Boulevard and Village West Drive	Mixed Use, Commercial, Industrial	90 acres of industrial was constructed from 2018 to 2020. 18 acres of mixed use, 227 acres of commercial, and 86 acres of industrial to be constructed in the future.	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Belle Meadows Ranch (Specific Plan 198)	Dawson Canyon Drive and Gavilan Springs Road	Residential	Residential development consisting of 257 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 27557 (Galvin Springs)	Olive Street and El Mineral Road	Residential	Residential development consisting of 76 single-family residential dwelling units. 41 units were constructed from 2018 to 2020	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Altman Plants/ Springs	Gavilan Road and Markham Street	Recycled Water	Additional development to include an additional 207 gallons per minute (gpm)	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Chicago/Iris Ave	Chicago Avenue and Iris Avenue	Residential	Residential development consisting of 273 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 37665 (Mockingbird)	Mockingbird Canyon Road and Van Buren Boulevard	Residential	Residential development consisting of 36 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 36639	Gavilan Road and Markham Street	Residential	Residential development consisting of 52 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3

Name	Location	Project Type	Project Description	Status	Source
Tract 36763	Chicago Avenue and Van Buren Boulevard	Residential	Residential development consisting of 24 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 37594	Meridian Parkway and Cactus Avenue	Residential	Residential development consisting of 5 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 32477	Van Buren Boulevard and Mockingbird Canyon Road	Residential	Residential development consisting of 64 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Gavilan Hills	Gavilan Road and Ellis Avenue	Residential	Residential development consisting of 420 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 30992	Van Buren Boulevard and Chicago Avenue	Residential	Residential development consisting of 181 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 30993	Van Buren Boulevard and Mockingbird Canyon Road	Residential	Residential development consisting of 72 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 31842	Van Buren Boulevard and Mockingbird Canyon Road	Residential	Residential development consisting of 52 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Tract 34059-1	Chicago Avenue and Van Buren Boulevard	Residential	Residential development consisting of 50 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Markham/Wood	Markham Street and Wood Road	Residential	Residential development consisting of 132 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Highland Grove III (Greentree)	Chicago Avenue and Van Buren Boulevard	Residential	Residential development consisting of 163 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Meridian Upper Plateau	Van Buren Boulevard and Meridian Parkway	Industrial and Open space/park	254 acres of industrial development and 60 acres of open space	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Highland Grove II	Chicago Avenue and Van Buren Boulevard	Residential	Residential development consisting of 200 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3

Name	Location	Project Type	Project Description	Status	Source
Highland Grove IV (Willow Creek)	Chicago Avenue and Van Buren Boulevard	Residential	Residential development consisting of 206 single-family residential dwelling units	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Bergamont Park	Chicago Avenue and Van Buren Boulevard	Open space/park	5 acres of open space/park	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Orange Terrace Community Park	Chicago Avenue and Van Buren Boulevard	Open space/park	30 acres of open space/park	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Highland Grove V	Chicago Avenue and Van Buren Boulevard	Residential	Residential development consisting of approximately 36.55 acres	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
Highland Grove VI	Chicago Avenue and Van Buren Boulevard	Residential	Residential development consisting of approximately 62.22 acres	Planning; Constructed anticipated between 2020 and 2030	FMP Table 2-3
VIP 215 (Hillwood)	March Air Reserve Base	Industrial	Approximately 2.2 million square feet of industrial buildings over 143 acres	Planning; Constructed anticipated through 2030	FMP Table 2-18
MARB East – Lifecare	Van Buren Boulevard and I-215	Commercial	Commercial development to include 139 gpm	Planning; Constructed anticipated through 2030	FMP Table 2-18
Meridian Park/K4 Warehouse	Meridian Parkway and Perris Boulevard	Industrial	36 acres of industrial development	Planning; Constructed anticipated through 2030	FMP Table 2-18
Meridian Park D-1	Meridian Parkway and Perris Boulevard	Industrial	23 acres of industrial development	Planning; Constructed anticipated through 2030	FMP Table 2-18
MARB US Vets	Van Buren Boulevard and I-215	Residential	High density residential development of 52 dwelling units	Planning; Constructed anticipated through 2030	FMP Table 2-18

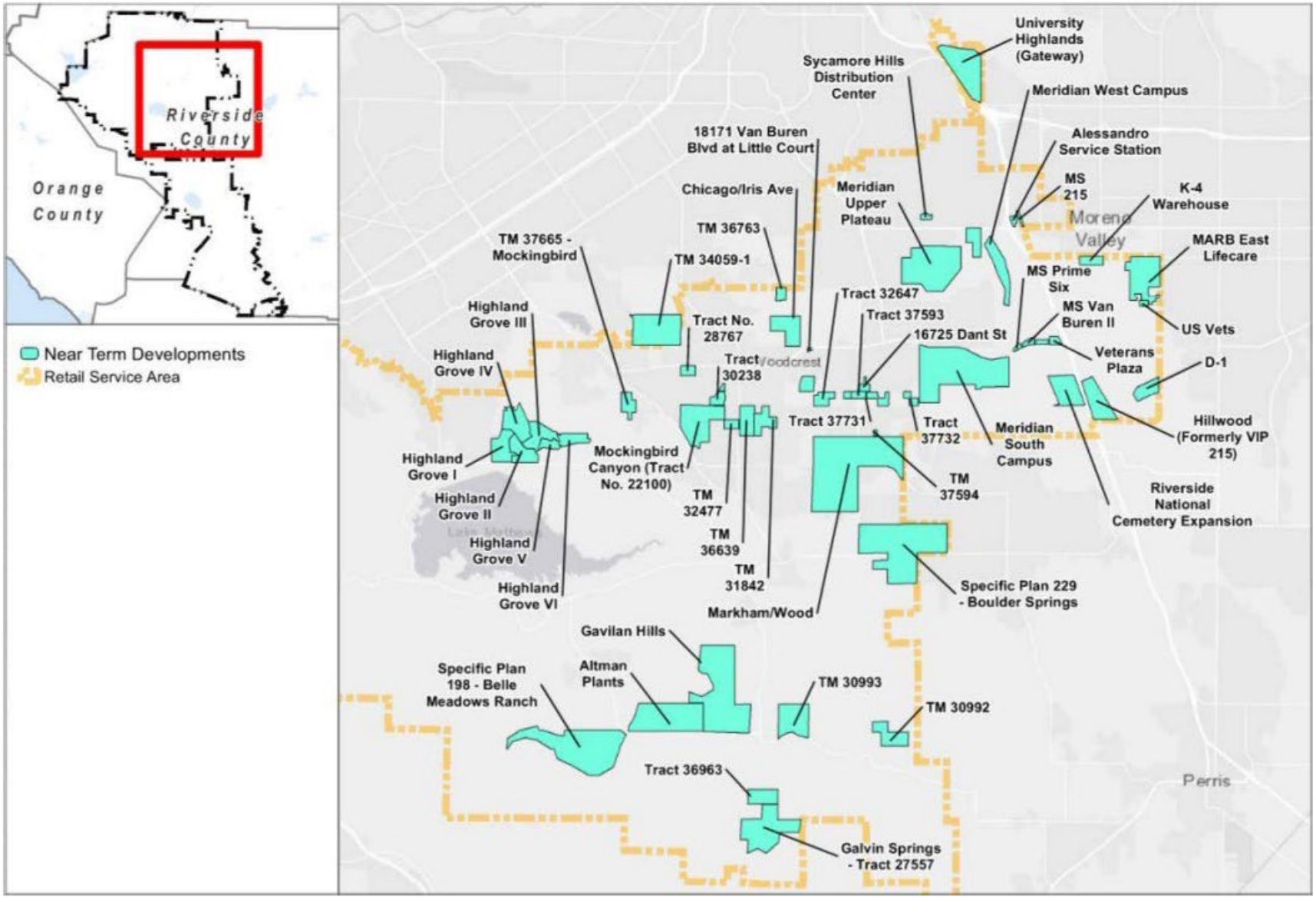


Figure 3-1
Cumulative Project Locations

3.1 Aesthetics

This section addresses the aesthetics impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP; proposed project). This section includes: a description of the existing aesthetics conditions at the proposed project site; a summary of applicable regulations related to aesthetics; and an evaluation of the potential impacts of the proposed project related to aesthetics at the proposed project site and in the surrounding area, including cumulative impacts.

3.1.1 Environmental Setting

Regional Setting

Visual resources consist of natural landscapes and scenic views, including hillsides, ridgelines, and the unique elements of the built environment. The proposed project is located in western Riverside County, within the city of Riverside and portions of unincorporated Riverside County. The topography within the project area provides scenic views from urban and rural areas toward surrounding hills and mountains, including the San Gabriel and San Bernardino mountains in the distant background. Key regional visual resources that are visible from the proposed project area include the La Sierra/Norco Hills to the northwest, Sycamore Canyon Wilderness and Box Springs Mountain to the northeast, and Arlington Mountain to the west. The largest body of water within the area, Lake Mathews, is located in the western portion of the project area, and is surrounded by flatland with moderate amounts of vegetation to the north and hills to the south. Mountainous and hill-like terrain can also be found south of the Lake Mathews region, with the most notable being the Lake Mathews Estelle Mountain Reserve, Gavilan Hills, and the Harford Springs County Park, which can be viewed from the southern portion of the project area. The general aesthetic of the unincorporated portions of the service area consist of multiple plant communities and sparsely inhabited landscape with views of Lake Mathews and surrounding mountain ranges. The urbanized aesthetic and visual character of the project area is defined by development within the City of Riverside and smaller communities such as El Sobrante and Mead Valley. The built environment is dominated by rural residential, conservation and open space lands, and mixed use lands.

Local Setting and Local Visual Character

The project area is characterized primarily by rural residential, mixed use land uses, and some area reserved for public facilities. The project area includes a portion of the City of Riverside, which primarily contains low density and medium density residential areas. Mead Valley, an unincorporated community located in the eastern portion of the project area, contains residential, agricultural, and open space areas. In the more rural areas, the Lake Mathews/Woodcrest area is characterized by undulating terrain with riparian corridors, rugged outcrops, and hills (County of Riverside 2021). El Sobrante, located to the northwest of Lake Mathews, is a predominantly medium density residential community located in a collection of hillsides with views of the surrounding area, including Lake Mathews (County of Riverside 2021). The March Air Reserve Base (MARB) is located in the eastern portion of the project area, which previously operated as an Air Force Base and currently supports a reduced level of military and civilian aircraft operations.

The Riverside FMP includes pipelines, storage tanks, pumps/lift stations, and a potential expansion of a treatment plant in locations throughout the project area. **Figure 3.1-1a through 3.1-1f** shows representative photos of these facilities. The locations of priority and near-term project components are shown in Figures 2-3 and 2-4 (see Chapter 2, *Project Description*). The preliminary locations of future project facilities to be constructed are shown on Figure 2-5 (see Chapter 2, *Project Description*). The visual character of areas surrounding the proposed project is described generally below.

Pipelines

Multiple segments of transmission pipelines would be constructed throughout the project area. The visual character of the pipelines to be constructed before 2030 includes the following:

- The W-1 Moonridge Drive pipeline replacement is surrounded by low-density residential land use, consisting mostly of single family homes. The pipeline would run within Moonridge Drive which is a paved right-of-way perpendicular to Sweet Avenue.
- The W-2 Blackburn Road pipeline replacement is located adjacent to agriculture (nursery) and rural undeveloped land, as well as sparsely populated rural residential properties. The pipeline would run along Blackburn Road, Palm Road, and unpaved rural roads, and would be located within an undeveloped parcel in the northwestern extent.
- The W-3 Cedar Street and Avenue D pipeline replacement is adjacent to rural residential land. The pipeline would run along Cedar Street, a partially unpaved road, and Avenue D, an unpaved road.
- The WW-1 McKinley Trunk Sewer 1 pipeline replacement is surrounded by rural residential properties. The pipeline would run along Tehama Circle, a paved road within the City of Riverside.
- The WW-1 Beazer forcemain upgrade is surrounded by rural residential and undeveloped land. The pipeline would run along Orangemont Lane and Treetop Lane, paved roads within El Sobrante.
- The W-11 Cole Avenue/Cedar Street pipeline replacement is surrounded by rural residential and undeveloped land. The pipeline would run along Cedar Street and unpaved road within unincorporated Riverside County.
- The W-12 Mariposa Avenue/Lurin Avenue pipeline replacement is surrounded by rural residential and undeveloped land. The pipelines would run along Lurin Avenue and Mariposa Avenue, paved roads within the City of Riverside.
- The W-14 Highland Grove II and III pipeline replacement is surrounded by rural residential and undeveloped land. The pipeline would run along El Sobrante Road and portions of undeveloped land within the City of Riverside. The W-15 Juniper Road Pipeline Upsizing is surrounded by rural residential and undeveloped land. The pipeline would run along Juniper Road and Blue Sky Road, unpaved roads within unincorporated Riverside County.
- The RW-1 Orangecrest Tank Supply Pipeline would run along Van Buren Boulevard, Barton Street, Orange Terrace Parkway, and Deercreek Drive, which are all paved roads within the City of Riverside. The pipeline would be surrounded by residential development, as well as Thundersky park and Orange Terrace Community Park to the east. The RW-1 Bergamont Park pipeline conversion is surrounded by rural residential land and Bergamont Park to the west. The pipeline would run along Cole Avenue, a paved road within the City of Riverside.



Riverside Facilities Master Plan

SOURCE: ESA, 2022

Figure 3.1-1a
Pump/lift Station (McAllister)



Riverside Facilities Master Plan

SOURCE: ESA, 2022

Figure 3.1-1b
Treatment Facility (WWRF)



Riverside Facilities Master Plan

SOURCE: ESA, 2022

Figure 3.1-1c
Storage Tank (Orangecrest)



Riverside Facilities Master Plan

SOURCE: ESA, 2022

Figure 3.1-1d
View from Right-of-Way at Orangecrest Storage Tank



Riverside Facilities Master Plan

SOURCE: ESA, 2022

Figure 3.1-1e
Pipeline – Undeveloped



Riverside Facilities Master Plan

SOURCE: ESA, 2022

Figure 3.1-1f
Pipeline – Developed

- The RW-1 Meridian West pipeline replacement is surrounded by rural residential and undeveloped land. The pipeline would run along Van Buren Boulevard, a paved road within the City of Riverside.
- The RW-1 Idaleona Drive Pipeline would run along an unpaved access road in unincorporated Riverside County. Land surrounding the pipeline is vacant and agricultural land.
- The RW-1 Lake Ranch pipeline is surrounded by vacant land. The pipeline would run along Highland Grove Road, an unpaved road within the City of Riverside.

Future project pipelines to be constructed from 2030 to 2050 would primarily be located within the right-of-way of existing roadways throughout the project area. It is possible that some pipelines would be implemented within undeveloped land or open areas.

Storage Tanks

The Riverside FMP includes construction of up to six new storage tanks (five potable water and one recycled water), and an upgrade to one recycled water storage tank. The storage tanks would be constructed/upgraded by 2030. The visual character of the storage tanks to be constructed by 2030 includes the following:

- The W-5 New 3 MG Hidden Valley Tank would be constructed in Pressure Zone 2320 within unincorporated Riverside County at the existing Hidden Valley Tank site. The nearest residence is located approximately 260 feet north of the proposed tank location. Public views of the proposed tank site are experienced from Rolling Meadows Drive, Finch Drive, and Hidden Valley Road.
- The W-6 New 1.5 MG El Nido Tank would be constructed in Pressure Zone 2450 within unincorporated Riverside County at the existing El Nido Tank site. The nearest residence is approximately 800 feet to the south of the proposed tank location. The existing tank site is located on a small rise in topography and therefore the tank site is visible from surrounding rights-of-way such as El Nido Road and Rose Quartz Drive.
- The W-7 New 7 MG Markham Tank would be constructed in Pressure Zone 1900 within the City of Riverside at the existing Markham Tank site. The nearest residence is approximately 150 feet to the northeast of the proposed tank location. The existing tank site is located on a small rise in topography and therefore the tank site is visible from surrounding rights-of-way such as Ray Avenue, Oleander Avenue, Markham Street, Northstar Avenue, Cole Avenue, Ontario Avenue, Ray Avenue, Landin Lane, Warren Road, and Spalding Avenue.
- The W-9 New 12.5 MG Orangecrest Tank would be constructed in the Orangecrest area of the City of Riverside adjacent to an existing storage tank operated by WMWD. The nearest residence is located adjacent to the proposed tank location (approximately 30 feet west). Public views of the proposed tank site are experienced from Grove Community Drive and are heavily screened by existing vegetation.
- The RW-1 New Orangecrest Tank would be constructed in the Orangecrest area of the City of Riverside adjacent to an existing storage tank operated by WMWD. The nearest residence is located adjacent to the proposed tank location (approximately 30 feet west). Public views of the proposed tank site are experienced from Grove Community Drive and are heavily screened by existing vegetation.

The RW-1 Lurin Irrigation Tank Improvements would be implemented in the City of Riverside at the existing Lurin recycled water tank. The nearest residence is approximately 70 feet to the northwest. Public views of the site are experienced from adjacent Lurin Avenue. Additionally, the existing tank site is located on a small rise in topography and therefore the tank site is visible from surrounding rights-of-way such as Mariposa Avenue to the south and Krameria Avenue to the north.

Six new water storage tanks would be constructed by 2050 that may be located on WMWD-owned sites adjacent to existing storage tanks. These potential future sites are located in low density residential areas as well as on isolated hillsides.

Pump/Lift Stations

The FMP includes upgrades/expansion of eight recycled water pump stations/wastewater lift stations and construction of one new potable water pump station. Upgrades/expansion at the pump/lift stations are to be completed by 2030. The visual character of the pump/lift stations to be constructed by 2030 are as follows:

- Upgrades at the WW-2 Beazer Lift Station would be installed within the existing Beazer Lift station, adjacent to a rural residential property. Public views of the site are experienced from Treetop Lane.
- Upgrades at the WW-3 Markham Lift Station (WWRF) would be installed within the existing Markham Lift station at the intersection of Wood Road and Markham Street within undeveloped land just west of a parking lot, in a rural residential area. Public views of the site are experienced from Wood Road and Markham Street.
- Upgrades at the W-4 Hillside Booster Pump Station would be installed at the existing pump station site in Pressure Zone 2320, within undeveloped land in a rural residential area. Public views of the site are experienced from Pamlico Street, Tonta Court, Elderidge Drive, and Chalon Road.
- Upgrades at the RW-1 Riverside National Cemetery Pump Station would be installed at the existing Riverside National Cemetery pump station at the Western Water Recycling Facility (WWRF) near the intersection of Nandina Avenue and Harvill Avenue surrounded by commercial businesses and industrial buildings. Public views of the site are available from Nandina Avenue and are partly shielded by vegetation.
- An additional pump for RW-1 El Sobrante Pump Station would be installed within the existing El Sobrante pump station, surrounded by land currently used for agriculture. The site is partially visible from McAllister Parkway and shielded by existing vegetation.
- Upgrades for the WW-4 MARB Lift Station 1269 Expansion would be installed within the existing March Air Reserve Base Lift Station. Public views of the site are experienced from Heacock Street.
- Upgrades for the WW-5 Meridian Lift Station would be installed within the existing Meridian lift station, near the intersection of Meridian Parkway and E Alessandro Boulevard within mixed use and built-up land. The site is mostly shielded from public views off Meridian Parkway by an existing wall.

One new recycled water pump station and other nine water pump/lift station expansions are anticipated between 2030 and 2050. The new pump stations would be constructed on sites that contains existing pump/lift station or other infrastructure and are surrounded by land that is mostly undeveloped or located near a base of a hill. The expansion for the existing potable water pump station could be constructed near

intake infrastructure on a site that is surrounded by undeveloped land but shielded from public vantage points. A lift station expansion likely will be needed at the MARB.

Treatment Plant

The Riverside FMP proposes an expansion of the existing WWRF, near the intersection of Nandina Avenue and Harvill Avenue. The site is surrounded by commercial businesses and industrial buildings. Public views of the site are available from Nandina Avenue and are partly shielded by vegetation.

Scenic Vistas

The City of Riverside General Plan describes the hills and ridgelines that surround the city as scenic vistas, which provide long distance views of natural terrain for residents. Some notable scenic vistas in the city include La Sierra/Norco Hills, Sycamore Canyon Wilderness Park, Box Springs Mountain, Mt. Rubidoux, and the smaller ranges located south of the City (City of Riverside 2007). These scenic vistas provide a visual backdrop as viewed from public rights-of-way, buildings, and open spaces (City of Riverside 2007). From elsewhere in the unincorporated portion project area, elevated topography located south of Lake Mathews includes a series of mountain ranges and open space areas such the Lake Mathews Estelle Mountain Reserve and Harford Springs County Park, as well as hills and ridges located in Gavilan Hills.

Scenic Highways and Routes

There are no Officially Designated Scenic Highways within the project area (Caltrans 2026). The nearest Scenic Highway is State Route (SR) 55, approximately 17 miles west of the project area. The City of Riverside General Plan 2025 has designated several streets as scenic boulevards, which require special landscaping. Scenic Boulevards that would be in close proximity to project areas include Van Buren Boulevard and Alessandro Boulevard (City of Riverside 2007). The County of Riverside has designated Cajalco Road, La Sierra Avenue, and El Sobrante Road as eligible county scenic highways (County of Riverside 2021, 2023).

Light and Glare

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

Glare is caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces or vehicle headlights. Perceived glare is the unwanted and potentially objectionable sensation as observed by a person as they look directly into the light source of a luminaire. Daytime glare generation in urban areas is typically associated with buildings with exterior facades largely or entirely comprised of highly

reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources, such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses include residences, and transportation corridors. Potentially affected viewers in the local viewshed include motorists, residents, and recreational visitors.

3.1.2 Regulatory Framework

Federal

National Scenic Byways Program

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration. The program was established under the Intermodal Surface Transportation Efficiency Act of 1991, and was reauthorized in 1998 under the Transportation Equity Act for the 21st Century. Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. The only National Scenic Byway located within southern California is the Arroyo Seco Historic Parkway – Route 110 in Los Angeles County, which is not located near the project area.

State

State Scenic Highway Program

In 1963, the California legislature created the Scenic Highway Program to protect scenic highway corridors from changes that could diminish the aesthetic value of lands adjacent to the highways. The state regulations and guidelines governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. A highway is designated under this program when a local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway. When a city or county nominates an eligible scenic highway for official designation, it defines the scenic corridor, which is land generally adjacent to and visible to a motorist on the highway.

Local

County of Riverside General Plan

The following policies of the County of Riverside General Plan are related to scenic resources (County of Riverside 2015, 2021, 2023):

Mead Valley Area Plan:

> **MVAP 12.1:** Protect the scenic highways in the Mead Valley planning area from change that would diminish the aesthetic value of adjacent properties in accordance with the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements.

Lake Mathews/ Woodcrest Area Plan:

LMWAP 10.1: Protect scenic highways from change that would diminish the aesthetic value of adjacent properties in accordance with policies in the Scenic Corridors sections of the Land Use, Multipurpose Open Space, and Circulation Elements.

LMWAP 10.2: Preserve and protect outstanding scenic vistas and visual features such as Gavilan Peak and Steele Peak.

Multipurpose Open Space Element:

OS 21.1: Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County. (AI 79)

OS 22.1: Design developments within designated scenic highway corridors to balance the objectives of maintaining scenic resources with accommodating compatible land uses. (AI 3)

OS 22.2: Study potential scenic highway corridors for possible inclusion in the Caltrans Scenic Highways Plan.

OS 22.3: Encourage joint efforts among federal, state, and county agencies, and citizen groups to ensure compatible development within scenic corridors.

OS 22.4: Impose conditions on development within scenic highway corridors requiring dedication of scenic easements consistent with the Scenic Highways Plan, when it is necessary to preserve unique or special visual features. (AI 3)

OS 22.5: Utilize contour grading and slope rounding to gradually transition graded road slopes into a natural configuration consistent with the topography of the areas within scenic highway corridors.

City of Riverside General Plan

The following policies within the City of Riverside General Plan are related to scenic resources (City of Riverside 2007):

Objective LU-3: Preserve prominent ridgelines and hillsides as important community visual, recreational and biological assets.

Objective LU-15: Recognize Van Buren Boulevard as a significant parkway, linking neighborhoods along its path to the Santa Ana River, the Arlington Heights Greenbelt, Victoria Avenue and the California Citrus State Historic Park.

Policy LU-15.3: Balance the traffic carrying function of Van Buren Boulevard with goals to enhance neighborhood aesthetics, pedestrian/bicycle safety and the historic environments of Arlington Village and the Arlington Heights Greenbelt. Keep Van Buren Boulevard’s width as small as possible.

Objective OS-1: Preserve and expand open space areas and linkages throughout the City and sphere of influence to protect the natural and visual character of the community and to provide for appropriate active and passive recreational uses.

Policy OS-1.7: Work closely with the County of Riverside pursuant to the Joint Cities/County Memorandum of Understanding, emphasizing the City's need to participate in the development

review process of projects proposed in surrounding unincorporated areas. Work to ensure that such developments proceed consistent with City standards, including hillside and arroyo grading preservation standards.

Objective OS-2: Minimize the extent of urban development in the hillsides, and mitigate any significant adverse consequences associated with urbanization.

Policy OS-2.1: Continue to require hillside development to be consistent with Proposition R and Measure C through the provisions of the RC Zone.

Policy OS-2.2: Limit the extent and intensity of uses and development in areas of unstable terrain, steep terrain, scenic vistas, arroyos and other critical environmental areas.

Policy OS-2.3: Control the grading of land, pursuant to the City's Grading Code, to minimize the potential for erosion, landsliding and other forms of land failure, as well as to limit the potential negative aesthetic impact of excessive modification of natural landforms.

Policy OS-2.4: Recognize the value of ridgelines, hillsides and arroyos as significant natural and visual resources and strengthen their role as features which define the character of the City and its individual neighborhoods.

Policy OS-2.5: Review the feasibility of creating a "night-time sky" ordinance to reduce light pollution.

3.1.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

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

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.
3. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from 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.
4. Create a new source of substantial light or glare that would adversely affect sensitive day or nighttime views in the area.
5. Result in cumulatively considerable impacts to aesthetics.

Impact Analysis

Scenic Vistas

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

Priority and Near-Term Projects

Pump/Lift Stations

The seven proposed priority and near-term pump station upgrades (WW-2 Beazer 1 Lift Station and Forcemain Upgrades (WRCWRA), WW-3 Markham Lift Station Upgrade (WWRF), W-4 Hillside 2320 PZ Booster Pump Station and Pipeline, RW-1 Cemetery PS Expansion, RW-1 El Sobrante PS Expansion (150 HP), WW-4 MARB 1269 Lift Station and Pipeline Upgrade 1269 Expansion, WW-5 Meridian Lift Station Upgrades (WWRF)) would be implemented within existing pump stations, which are predominantly surrounded by very low-density, low-density residential, hillside residential, and agricultural/rural residential uses and existing developed commercial uses. Two pump stations are situated within the visual context of scenic vistas within the project area: W-4 Hillside 2320 PZ Booster pump station with views of the Lake Mathews Estelle Mountain Reserve, and WW-5 Meridian Lift Station Upgrades (WWRF) with views of Box Springs Mountain, all of which are designated scenic vistas in the City of Riverside. From public rights-of-way adjacent to the W-4 Hillside Booster Pump Station, views are provided in the middleground to the Lake Mathews Estelle Mountain Reserve. From public rights-of-way Meridian Parkway adjacent to the WW-5 Meridian Lift Station Upgrades (WWRF), the Box Springs Mountain is visible in the background. No other scenic vistas are visible from the right-of-way that is adjacent to the remaining pump/lift stations. The new pumps would have small footprints of approximately 500 square feet and would be completely contained within the existing facility footprint and single-story buildings. The exteriors of the pump stations would be built in accordance with standard construction methods for roofed masonry buildings, and would be designed to blend in with the surrounding landscape. The addition of single-story pumps/buildings at existing pump stations would not introduce new features into the landscape that would obscure scenic views of distant mountains or surrounding hillsides relative to existing conditions. Impacts would be less than significant.

Storage Tanks

The six proposed near-term storage tanks (W-5 New 3 MG Hidden Valley Tank, W-6 New 1.5 MG El Nido Tank, W-7 New 7 MG Markham Tank, W-9 New 12.5 MG Orangecrest Tank, RW-1 New Orangecrest Tank, RW-1 Lurin Irrigation Tank Improvements) would be implemented within developed areas of the City of Riverside on existing storage tank sites owned and operated by WMWD or within areas of unincorporated Riverside County on low-density undeveloped land.

Storage tank W-5 New 3 MG Hidden Valley Tank would be located at the existing Hidden Valley Tank site off Rolling Meadows Drive. The tank could be approximately 120 feet in diameter and could be approximately 40 feet tall. The proposed storage tank is surrounded by rural residential and undeveloped land. In the immediate foreground, the proposed storage tank would be visible from public rights-of-way Rolling Meadows Drive, Finch Drive, and Hidden Valley Road. Given the underdeveloped nature of the surrounding land, the storage tank would be visible from motorists or pedestrians traveling on public rights-of-way both in the foreground and at farther distances due to the fact that the proposed tank is located on a hill. There are views of the Gavilan Hills, which is designated as a unique feature by the County of Riverside, to the west, southwest, and south of the proposed location for the storage tank.

Nevertheless, the scenic view would not be blocked or significantly obscured given the existing storage tank that is part of the baseline condition and given the intervening distance between the infrastructure and the scenic view. Impacts would be less than significant.

Storage tank W-6 El Nido would be located at the existing El Nido Tank site off El Nido Road. The tank could be approximately 120 feet in diameter and could be approximately 40 feet tall. The proposed storage tank is surrounded by rural undeveloped land. In the immediate foreground, the proposed storage tank would be visible from public rights-of-way El Nido Road and Rose Quartz Drive. Given the underdeveloped nature of the surrounding land, the storage tank would be visible from motorists or pedestrians traveling on public rights-of-way both in the foreground and at farther distances due to the fact that the proposed tank is located on a hill. There are distant views of the Gavilan Hills, which is designated as a unique feature by the County of Riverside, to the west, southwest, and south of the proposed location for the storage tank. Nevertheless, the scenic view would not be blocked or significantly obscured given the existing storage tank that is part of the baseline condition and given the intervening distance between the infrastructure and the scenic view. Impacts would be less than significant.

Storage tank W-7 Markham would be located at the existing Markham Tank site off Markham Street. The tank could be approximately 120 feet in diameter and could be approximately 40 feet tall. The proposed storage tank is surrounded by rural residential and undeveloped land. In the immediate foreground, the proposed storage tank would be visible from public rights-of-way Ray Avenue, Oleander Avenue, Markham Street, Northstar Avenue, Cole Avenue, Ontario Avenue, Ray Avenue, Landin Lane, Warren Road, and Spalding Avenue. Given the underdeveloped nature of the surrounding land, the storage tank would be visible from motorists or pedestrians traveling on public rights-of-way both in the foreground and at farther distances due to the fact that the proposed tank is located on a hill. Nevertheless, none of the scenic vistas identified by the City of Riverside or County of Riverside general plans would be blocked or significantly obscured by the increased height of the tank. Impacts would be less than significant.

Storage tank W-9 New 12.5 MG Orangecrest Tank and RW-1 New Orangecrest Tank would be collocated at an existing storage tank site located in the Orangecrest area off of Grove Community Drive. Each of these tanks could be approximately 120 feet in diameter and could be approximately 40 feet tall. The proposed storage tanks are surrounded by residential areas toward the west, south and east. In the immediate foreground, the proposed storage tank would be visible from public rights-of-way Jacob Drive and Grove Community Drive. Vacant land is located to the north of the site that is proposed for future development. There are distant views of the Box Springs Mountain, which is designated as a scenic vista by the City of Riverside, to the north of the proposed location for the storage tank, which could be obstructed by implementation of the proposed storage tanks. However, existing vegetation and trees (see Figure 3.1-1d) on the site significantly obstruct the distant views of the scenic vista provided from the Box Springs Mountain. As a result of existing conditions at the project site, operation of near-term storage tanks W-9 New 12.5 MG Orangecrest Tank and RW-1 New Orangecrest Tank would not introduce infrastructure into the landscape that would block a scenic vista from surrounding rights-of-way. Impacts would be less than significant to scenic vistas.

Storage Tank RW-1 Lurin Irrigation Tank Improvements would be constructed within an existing storage tank site located off Lurin Avenue. The existing 155-foot diameter recycled water storage tank would

either be demolished and reconstructed or extended an additional 40 feet in height. The nearest developed public right-of-way is Lurin Avenue located immediately downhill of the tank; views of the tank are pronounced from this location given the hill on which the tank is located. Additionally, views of the tank site are visible from more distant public streets such as Krameria Avenue to the north. Given the underdeveloped nature of the surrounding land, the storage tank extension would be visible from motorists or pedestrians traveling on public rights-of-way both in the foreground and at farther distances due to the fact that the proposed tank is located on a hill. Nevertheless, none of the scenic vistas identified by the City of Riverside or County of Riverside general plans would be blocked or significantly obscured by the increased height of the tank, given the existing storage tank that is part of the baseline condition. Extending the facility 40 feet in height would not block views of scenic vistas significantly more than the existing baseline condition. Impacts would be less than significant.

Pipelines

Once constructed, the disturbed area would be restored to pre-construction conditions, and the proposed pipelines would be located underground primarily within existing roadway rights-of-way to the extent feasible. Pipelines would therefore not affect views from publicly accessible vantage points. No impacts to scenic vistas would occur as a result of operation of pipelines.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Future Projects

Pump/Lift Stations

The nine proposed future pump/lift stations (W-16 CITP (Intake PS), W-17 Increase Capacity of Mockingbird PS, W-18 Bergamont PS, W-19 Rolling Meadows PS, RW-2 Oleander PS Expansion (200 HP), RW-2 McAllister PS Expansion (200 HP), RW-2 El Sobrante PS Expansion (150 HP), WW-12 Markham Lift Station Ultimate Upgrades, and WW-13 MARB 1269 Lift Station Buildout Upgrade Study) would be implemented within existing pump station facilities, which are surrounded by rural residential and public facilities. The new pumps would have small footprints of approximately 500 square feet and would be completely contained within single-story buildings. The exteriors of the pump stations would be built in accordance with standard construction methods for roofed masonry buildings, and would be designed to blend in with the surrounding landscape. Additionally, the existing pump station facilities where new pumps would be installed are either shielded from public views by walls, topography, or vegetation, or do not currently contribute to an adverse impact on local scenic vistas in the area. As a result, the addition of pumps at existing pump stations would not introduce new features into the landscape that would obscure scenic views of distant mountains or surrounding hillsides relative to existing conditions. Impacts would be less than significant.

Storage Tanks

Storage tanks would be large, visible structures and some could appear substantially different than surrounding land uses. Storage tanks are typically between 15 to 40 feet in height and their footprints vary depending on necessary storage capacity. A total of six storage tanks could be constructed over the

project's long-term planning period. The W-8 PZ1783 Tank would be constructed in Pressure Zone 1783 within unincorporated Riverside County approximately 7,000 feet southwest of the intersection of Cajalco Road and Wood Road. In the immediate foreground, the proposed storage tank would be visible from public rights-of-way Ruder Street. Given the underdeveloped nature of the surrounding land, the storage tank would be visible from motorists or pedestrians traveling on public rights-of-way both in the foreground and at farther distances due to the fact that the proposed tank is located on a hill. Nevertheless, none of the scenic vistas identified by the City of Riverside or County of Riverside general plans would be blocked or significantly obscured by the increased height of the tank. Impacts would be less than significant.

While the exact locations for W-20 New 2 MG PZ2116 Tank, W-21 PZ1550 Tank, and RW-2 Additional 7 MG Storage in PZ1815 tank are unknown, the W-22 Hidden Valley Tank would be located within undeveloped land and/or on hillsides; therefore, it is possible that the storage tank could obstruct views of distant mountains or surrounding hillsides. The proposed location for W-22 Hidden Valley is less than half a mile away from Gavilan Hills, which are a designated unique feature by the County of Riverside Lake Mathews Area General Plan. Given the potential location of future storage tanks in vicinity of hillsides, ridges, and within the vantage point of scenic vistas, impacts of permanent addition of these features into the landscape could be potentially significant. WMWD would be required to implement **Mitigation Measure AES-1**, which would require a landscape plan for the storage tanks to screen facilities from public view. Additionally, **Mitigation Measure AES-2** would design the storage tanks to have color palettes that blend in with the surrounding character of the site and would minimize contrasting features in the visual landscape. The design of the storage tanks and implementation of landscape plans required under Mitigation Measures AES-1 and AES-2 would minimize contrasting features within the immediate project areas; therefore, impacts would be less than significant with the implementation of mitigation.

The W-23 Orangecrest tank would be constructed at the existing Orangecrest Tank site and there are distant views of the Box Springs Mountain, which is designated as a scenic vista by the City of Riverside, to the north of the proposed location for the storage tank, which could be obstructed by implementation of the proposed storage tank. However, existing vegetation and trees on the site significantly obstruct the distant views of the scenic vista provided from the Box Springs Mountain. As a result of existing conditions at the project site, the proposed tank would not introduce infrastructure into the landscape that would block a scenic vista from surrounding rights-of-way. Impacts would be less than significant to scenic vistas.

WWRF Expansion

All upgrades to expand the capacity of the WWRF would be implemented within the existing treatment facility. Proposed infrastructure would be similar to existing infrastructure onsite, including tanks, basins, and large buildings housing equipment (see Figure 3.1-1b). Proposed infrastructure would not obscure scenic vistas more than the exiting condition. Therefore, impacts would be less than significant.

Pipelines

Once constructed, the proposed pipelines would be located underground primarily within existing roadway rights-of-way to the extent feasible. Pipelines would therefore not affect views from publicly accessible vantage points. No impacts to scenic vistas would occur as a result of operation of pipelines.

Mitigation Measures

AES-1: Prior to approval of final construction plans for any storage tank, the applicant shall prepare a landscape plan for review and approval by the County or applicable lead agency. The landscape plan shall identify the location, species, size, and density of all proposed landscaping and revegetation measures and shall be designed to minimize visual contrasts between project facilities and the surrounding landscape. At a minimum, the plan shall: restore disturbed areas by replanting trees and/or reseeding with a native seed mix typical of the surrounding area; provide vegetation screening around storage tanks and aboveground facilities where feasible, taking into account operational, safety, and maintenance requirements; utilize a combination of trees, shrubs, and other vegetation sufficient to partially screen views of aboveground facilities form publicly accessible roads, trails, parks, and other identified public viewpoints to the extent feasible; and include performance standards requiring replacement of dead or diseased plant materials and maintenance of landscaping. The approved plan shall be implemented concurrently with project construction or at the earliest feasible planting season following construction.

AES-2: Prior to approval of final construction plans, all aboveground buildings, storage tanks, and associated structures shall be designed to minimize visual contrasts with the surrounding environment. Project plans shall demonstrate compliance with the following standards: exterior surfaces shall utilize non-reflective, muted-earth tone, or other colors compatible with the predominant colors of the surrounding landscape; highly reflective materials and finishes shall be avoided except where necessary for operational or safety purposes; buildings and structures shall incorporate landscaping, architectural treatments, screening elements, or a combination thereof to reduce visual prominence from identified viewpoints to the extent feasible; and lighting associated with aboveground facilities shall be shielded and directed downward to minimize visibility from surrounding properties and public viewpoints.

Significance Determination

Less than Significant with Mitigation

Scenic Resources

Impact 3.1-2: The proposed project could substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

Priority, Near-Term, and Future Projects

All Facilities

There are no officially-designated State Scenic Highways or Eligible State Scenic Highways within the WMWD service area (Caltrans 2026). Therefore, none of the projects would impact scenic resources within a State Scenic Highway corridor. While the City of Riverside designates scenic boulevards within the project area that have landscaping requirements, the project facilities located near Van Buren Boulevard and Alessandro Boulevard would involve pipelines installed underground and new infrastructure shielded by existing facility walls. The County of Riverside has identified potentially eligible scenic highways on El Sobrante Road and Cajalco Road that are in close proximity to W-16 CITP (Intake PS). However, the pump station would be located within Western's existing facility of El Sobrante Road shielded from surrounding potential eligible scenic highways. As a result, no impact would occur.

Mitigation Measures

None required

Significance Determination

No Impact

Visual Character or Quality

Impact 3.1-3: The proposed project could substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Priority and Near-Term Projects

Pump/Lift Stations

All proposed priority and near-term pumps (WW-1 McKinley, WW-2 Beazer, W-4 Hillside Booster Pump Station, RW-1 Riverside National Cemetery Pump Station, RW-1 El Sobrante, WW-3 Markham Lift Station Upgrade, WW-4 MARB Lift Station, and WW-5 Meridian Lift Station) would be implemented at existing pump/lift stations located primarily in rural residential areas. The pumps/lift stations would be constructed within or adjacent to existing pump station housing and would mostly be shielded from public views by walls, topography, or vegetation. Therefore, the proposed pumps/lifts would not substantially degrade the existing visual character of or quality of the project area. Impacts would be less than significant.

Storage Tanks

The six proposed near-term storage tanks (W-5 New 3 MG Hidden Valley Tank, W-6 New 1.5 MG El Nido Tank, W-7 New 7 MG Markham Tank, W-9 New 12.5 MG Orangecrest Tank, RW-1 New Orangecrest Tank, RW-1 Lurin Irrigation Tank Improvements) would be implemented on existing storage tank sites in low density residential and open space areas. While the storage tanks would be large, visible structures, they would not introduce features into the landscape that would contrast with the visual character in the immediate areas, because each site is already characterized with storage tanks. Nevertheless, the design of the storage tanks and implementation of landscape plans required under Mitigation Measures AES-1 and AES-2 would minimize contrasting features within the immediate project areas; therefore, impacts related to visual character would be considered less than significant with the implementation of mitigation.

Pipelines

Following construction, the proposed pipelines would be located underground. After the pipelines are buried, each site would be restored to pre-construction conditions; thus, no permanent impacts to the existing visual character or quality of the project sites or surrounding area would occur.

Mitigation Measures

Implement Mitigation Measure AES-1 and AES-2

Significance Determination

Less than Significant with Mitigation

Future Projects

Pump/Lift Stations

The proposed future pump/lift stations (W-16 CITP, W-17 Increase Capacity of Mockingbird PS, W-18 Bergamont PS, W-19 Rolling Meadows PS, RW-2 Oleander PS Expansion, RW-2 McAllister PS Expansion, RW-2 El Sobrante PS Expansion, W-12 Markham Lift Station Ultimate Upgrades, and WW-13 MARB 1269 Lift Station) would be implemented at existing pump stations surrounded by land that is mostly undeveloped. The pumps/lifts would not be taller than one story in height and would not substantially alter the existing visual character in and around the already developed pump/lift station sites. Therefore, the proposed pumps/lifts would not degrade the existing visual character of or quality of the project area. Impacts would be less than significant.

Storage Tanks

The proposed future storage tanks (W-20 PZ2116 Tank, W-21 PZ1550 Tank, and RW-2 Additional 7 MG Storage in PZ1815 tank, W-22 Hidden Valley, W-23 Orangecrest) would be implemented within existing storage tank sites and in undeveloped areas in the southern region of the Riverside Retail Service Area. Storage tanks that are implemented within undeveloped areas would introduce features in the landscape that could contrast with the visual character of these rural areas. The design of the storage tanks and implementation of landscape plans required under Mitigation Measures AES-1 and AES-2 would minimize contrasting features within the immediate project areas; therefore, impacts related to visual character would be less than significant with the implementation of mitigation.

Pipelines

Following construction, the proposed future pipelines would be located underground. After the pipelines are buried, each site would be restored to pre-construction conditions; thus, no permanent impacts to the existing visual character or quality of the project sites or surrounding area would occur.

WWRF Expansion

All upgrades to expand the capacity of the WWRF would be implemented within the existing treatment facility. Proposed infrastructure would be similar to existing infrastructure onsite, including tanks, basins, and large buildings housing equipment (see Figure 3.1-1b). Proposed infrastructure would not alter the visual character of the site and its surroundings more than the exiting condition. Therefore, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measure AES-1 and AES-2

Significance Determination

Less than Significant with Mitigation

Light or Glare

Impact 3.1-4: The proposed project could create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Priority and Near-Term Projects

Pump/Lift Stations

All proposed pumps (WW-1 McKinley, WW-2 Beazer, W-4 Hillside Booster Pump Station, RW-1 Riverside National Cemetery Pump Station, RW-1 El Sobrante, WW-3 Markham Lift Station Upgrade, WW-4 MARB Lift Station, and WW-5 Meridian Lift Station) would be constructed within or adjacent to existing pump station-housing and in close proximity to sensitive receptors (residences). The pumps may require additional security and/or operational lighting at the existing pump stations. Implementation of **Mitigation Measure AES-3** would require any permanent lighting on buildings/structures to be shielded and directed downward to avoid light intrusion onto surrounding land uses. Therefore, impacts associated with light or glare would be less than significant with mitigation.

Storage Tanks

Storage tanks (W-5 Hidden Valley, W-6 El Nido, W-7 Markham, W-8 PZ1783, W-9 Orangecrest, RW-1 Orangecrest, RW-1 Lurin) would be located within existing storage tank sites in close proximity to residential areas. RW-1 Lurin would be located approximately 70 feet away from the closest sensitive receptors (residential). RW-1 Orangecrest and W-9 Orangecrest would be located as close as 30 feet away from the closest sensitive receptors (residential). Storage tank design may require new exterior nighttime lighting for operational and security purposes. The increase in lighting could result in spill over lighting onto neighboring parcels. Due to the topography of the surrounding areas and largely undeveloped land, the storage tanks may include lighting that could be visible by the nearest residences. Implementation of Mitigation Measure AES-3 would require any permanent lighting on buildings/structures to be shielded and directed downward to avoid light intrusion onto surrounding land uses. Once constructed, building materials could create sources of glare during various times of the day. Implementation of **Mitigation Measure AES-4** would ensure the storage tanks are designed to minimize glare or reflection, including non-glare exterior materials or coatings. With implementation of Mitigation Measures AES-3 and AES-4, impacts to storage tanks associated with light or glare would be reduced to a less-than-significant level.

Pipelines

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

Mitigation Measures

> **AES-3:** Prior to approval of final construction plans, all permanent exterior lighting associated with the Riverside FMP shall be designed and installed to minimize off-site light spill and visibility from surrounding public viewpoints. At a minimum: all exterior luminaries shall be fully shielded and directed downward; lighting shall be limited to the minimum intensity necessary to satisfy operational, safety, and security requirements; lighting shall be designed to prevent direct illumination of adjacent properties to the maximum extent feasible; floodlights and other high-intensity fixtures shall be equipped with shielding, cutoff devices, or comparable features to minimize off-light trespass; and lighting shall comply with applicable regulator standards and any requirements of the serving utility or responsible regulatory agency.

Compliance with these requirements shall be demonstrated through final project design plans and verified during project review.

AES-4: Prior to approval of final construction plans, all aboveground facilities associated with the Riverside FMP shall be designed to minimize glare and reflected light from public viewpoints and adjacent properties. At a minimum: exterior surfaces shall utilize non-reflective or low-reflection materials, coatings, and finishes to the extent feasible; highly polished, mirrored, or other reflective materials shall be avoided except where required for operational, safety, or regulatory purposes; exterior colors and finishes shall be selected to reduce visual contrast with the surrounding landscape and minimize reflected sunlight; and any required reflective surfaces shall be minimized in size and extent and oriented, where feasible, to reduce visibility from identified public viewpoints and adjacent properties. Compliance with these requirements shall be demonstrated through final project design plans and verified during project review.

Significance Determination

Less than Significant with Mitigation

Future Projects

Pump/Lift Stations

All proposed pumps (W-16 CITP, W-17 Increase Capacity of Mockingbird PS, W-18 Bergamont PS, W-19 Rolling Meadows PS, RW-2 Oleander PS Expansion, RW-2 McAllister PS Expansion, RW-2 El Sobrante PS Expansion, W-12 Markham Lift Station Ultimate Upgrades, and WW-13 MARB 1269 Lift Station) would be constructed within or adjacent to existing pump station-housing and in close proximity to sensitive receptors (residences). The pumps may require additional security and/or operational lighting at the existing pump stations. Implementation of Mitigation Measure AES-3 would require any permanent lighting on buildings/structures to be shielded and directed downward to avoid light intrusion onto surrounding land uses. Therefore, impacts associated with light or glare would be less than significant with mitigation.

Storage Tanks

Future storage tanks (W-20 PZ2116 Tank, W-21 PZ1550 Tank, and RW-2 Additional 7 MG Storage in PZ1815 tank, W-22 Hidden Valley, W-23 Orangecrest) would be located within undeveloped lands on hillsides. Storage tank design may require new exterior nighttime lighting for operational and security purposes. The increase in lighting could result in spill over lighting onto neighboring parcels. Due to the topography of the surrounding areas and largely undeveloped land, the storage tanks may include lighting that could be visible by the nearest residences. Implementation of Mitigation Measure AES-3 would require any permanent lighting on buildings/structures to be shielded and directed downward to avoid light intrusion onto surrounding land uses. Lighting impacts from operation or for security purposes would therefore be reduced to a less-than-significant level. Once constructed, building materials could create sources of glare during various times of the day. Implementation of Mitigation Measure AES-4 would ensure the storage tanks are designed to minimize glare or reflection, including non-glare exterior materials or coatings. With implementation of Mitigation Measures AES-3 and AES-4, impacts to storage tanks associated with light or glare would be reduced to a less-than-significant level.

Pipelines

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

WWRF Expansion

The upgrades for the WWRF would be constructed within the existing facility footprint which is not located in close proximity to sensitive receptors (residences). The expansion may require additional security and/or operational lighting. Even though there are no surrounding sensitive receptors, Western would implement Mitigation Measure AES-3, which would require permanent lighting on buildings/structures to be shielded and directed downward to avoid light intrusion onto surrounding land uses. Therefore, impacts associated with light or glare would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measure AES-3 and AES-4

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

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

The western Riverside Retail Service Area is mostly rural. The north-eastern portion is built out with residential, commercial and industrial development. As the service area continues to develop, future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve residential, commercial, and industrial development and could eliminate portions of the remaining natural areas that are within the service area. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. With regard to the overall visual and scenic character of the service area, cumulative development would result in more alterations of the existing visual quality of the region and could result in cumulatively significant impacts to existing scenic vistas. The proposed project facilities would be installed primarily within existing facilities or as belowground features. Because the potential impacts to aesthetics associated with the implementation of the Riverside FMP projects would be less than significant with implementation of Mitigation Measures AES-1 through AES-4, the project's contribution to cumulative aesthetics impacts would be less than cumulatively considerable. As a result, a less than significant cumulative aesthetics impact would occur.

Mitigation Measures

Implement Mitigation Measures AES-1 through AES-4

Significance Determination

Less than Significant with Mitigation

3.1.4 References

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WMWD (Western Municipal Water District). 2025. *Riverside Facilities Master Plan.* Prepared by Dudek. December 2025.

3.2 Agriculture and Forestry Resources

This section addresses the agriculture and forestry resources impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing agriculture and forestry conditions at the proposed project site; a summary of applicable regulations related to agriculture and forestry resources; and an evaluation of the potential impacts of the proposed project related to agriculture and forestry resources at the proposed project site and in the surrounding area, including cumulative impacts.

3.2.1 Environmental Setting

Regional Setting

According to the California Department of Conservation's (DOC) 2016–2018 California Farmland Conversion Report, which is the most recent report available, Southern California comprised 56 percent of the statewide urban development increase at 21,046 acres and had a net loss of approximately 14,263 acres or irrigated farmland (DOC 2018). Specifically, Riverside County converted approximately 440 net acres of irrigated farmland to urban between 2016 and 2018 (DOC 2018).

The proposed project area is not located within close proximity to any National Forests. San Bernardino National Forest, the closest National Forest, is approximately 22 miles to the northeast of the project area. The Cleveland National Forest borders the County of Riverside in the southwest. There is no land designated or zoned as Forest or Timberland within the project area.

Local Setting

Agriculture

The project area is located within unincorporated Riverside County as well as a portion of the City of Riverside. The County of Riverside General Plan has designated land for agriculture use throughout the Riverside Retail Service Area. The primary concentration of agricultural land is located in the area north of Lake Mathews, where there are plant orchards and nurseries. A majority of the farmland within the City boundaries can be found in Arlington Heights and La Sierra South.

The DOC Farmland Mapping and Monitoring Program (FMMP) maps and ranks important farmland in California. As determined by the DOC, and shown in **Figure 3.2-1** and **Figure 3.2-2**, the project area is designated primarily as Urban and Built-Up Land and Other Land, although there are significant pockets of FMMP-designated farmland in the project area. The northwestern portion of the Riverside Retail Service Area includes areas of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, most notably along El Sobrante Road, McAllister Street, and Blackburn Road and in other areas northwest of Lake Matthews (Figure 3.2-1). Other small pockets of Prime Farmland exist along Harley John Road east of Lake Matthews. Lands designated as Farmland of Local Importance are located throughout the Riverside Retail Service area a shown on Figures 3.2-1 and 3.2-2, including within the City of Riverside. Grazing Land exists in large swaths to the west of Lake Matthews and in the southeastern portion of the Riverside Retail Service Area (Figure 3.2-1 and 3.2-2).

The Williamson Act is the State of California's primary program for the conservation of private land in agricultural and open space use. According to the Riverside County Williamson Act maps, and as shown on **Figure 3.2-3**, there are active Williamson Act contracts in the northwest portion of the Riverside Retail Service Area north of Lake Matthews (DOC 2024).

3.2.2 Regulatory Framework

Federal

Farmland Protection Policy Act

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs federal programs to be compatible with state and local policies for the protection of farmlands. For the purpose of the FPPA, farmland includes Prime Farmland, Unique Farmland, and Land of Statewide or Local Importance. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency.

State

California Farmland Mapping and Monitoring Program

The DOC, under the Division of Land Resource Protection, has established the FMMP. The FMMP monitors the conversion of the state's farmland to and from agricultural use. The FMMP maintains an inventory of state agricultural land and updates its "Important Farmland Series Maps" every two years. The FMMP map series identifies eight classifications and uses a minimum mapping unit size of 10 acres. The FMMP also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. Important farmlands are divided into the following five categories based on their suitability for agriculture:

Prime Farmland. Prime Farmland is land with the best combination of physical and chemical characteristics able to sustain long-term production of agricultural crops. This land has produced irrigated crops at sometime within the four years prior to the mapping date.

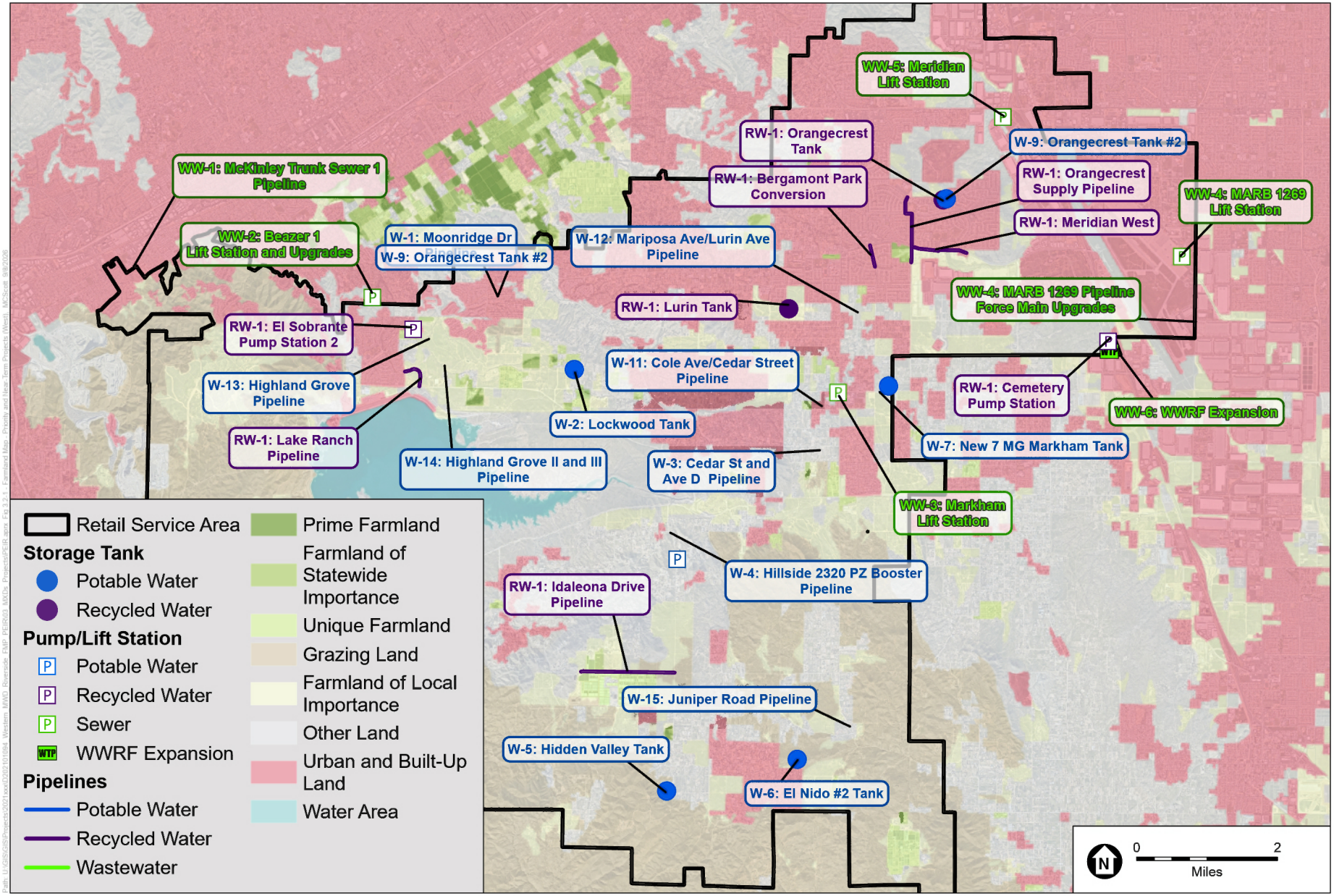
Farmland of Statewide Importance. Farmland of Statewide Importance is land that meets the criteria for Prime Farmland but with minor shortcomings such as greater slopes or lesser soil moisture capacity.

Unique Farmland. Unique Farmland has even lesser quality soils and produces the state's leading agricultural crops. This land is usually irrigated, but also includes non-irrigated orchards and vineyards.

Farmland of Local Importance. Farmland of Local Importance is land that is important to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing Land. Grazing Land is land on which the existing vegetation is suited to the grazing of livestock.

Other Lands. This land does not meet the criteria of any of the other categories.

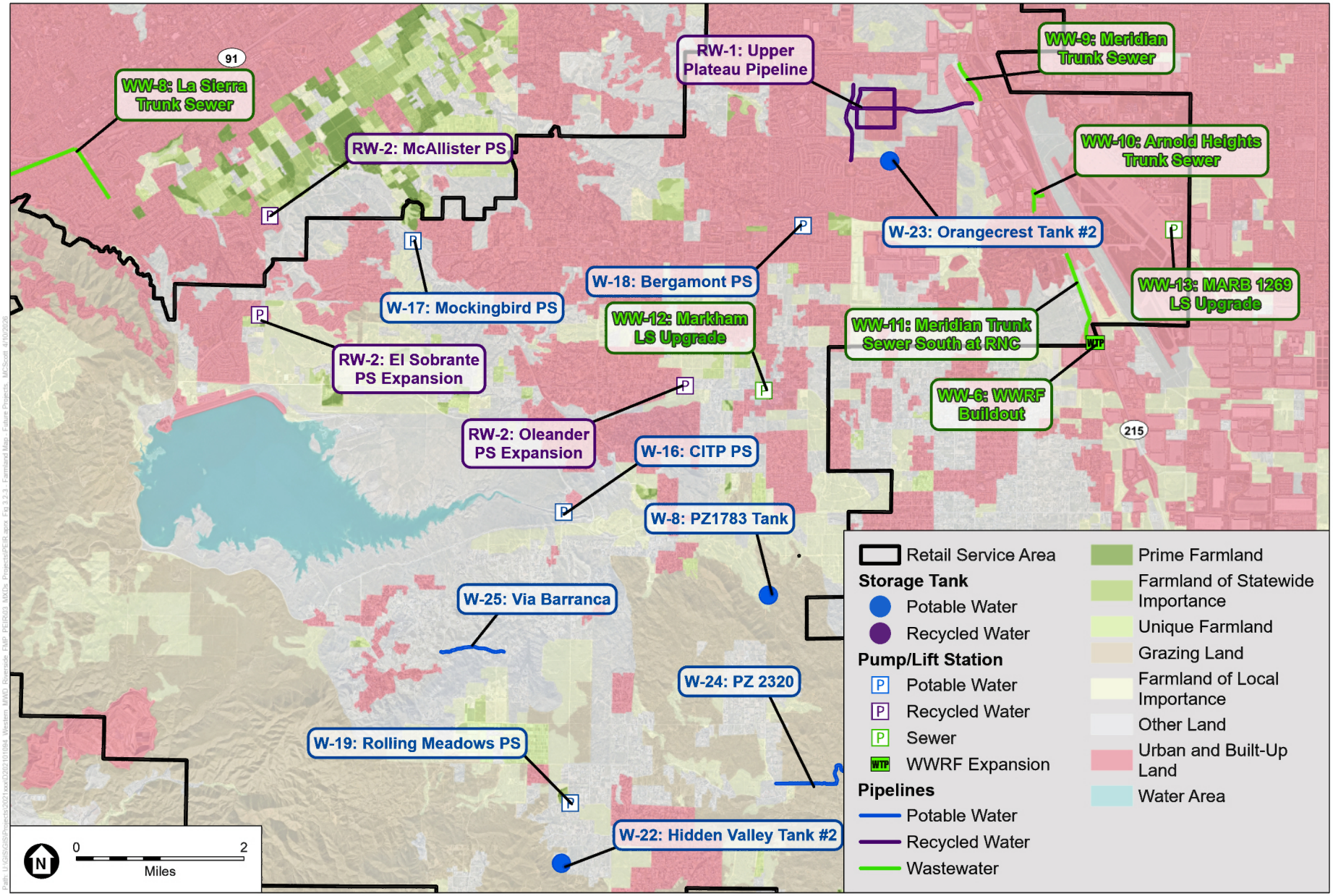


SOURCE: Nearmap, 2022; FMMP, 2025; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.2-1
Farmland Map
Priority and Near-Term Projects

ESA

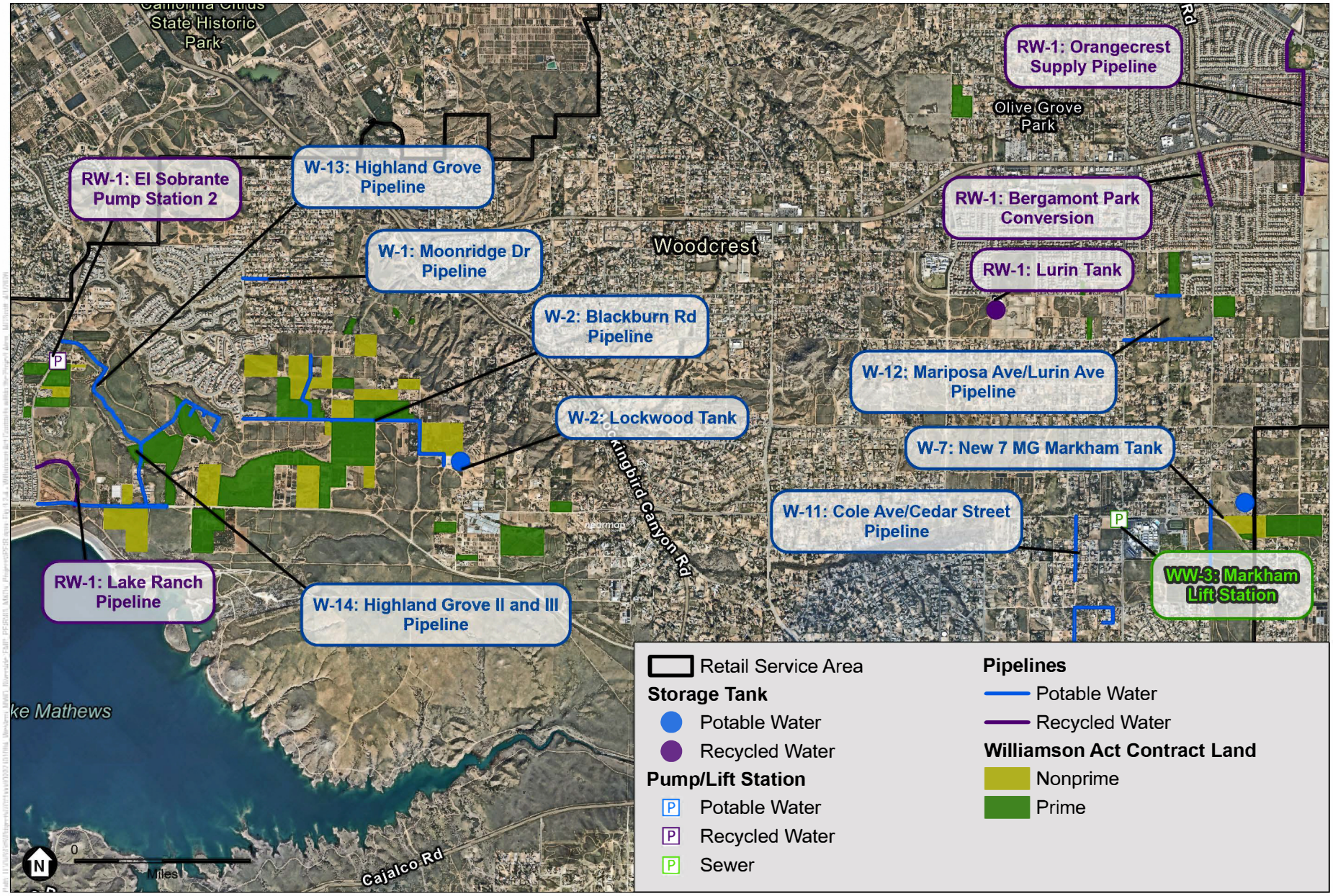


SOURCE: Nearmap, 2022; FMMP, 2025; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.2-3
Farmland Map
Future Projects

ESA



SOURCE: Nearmap, 2022; WMWD, 2025; USDA, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.2-3
Williamson Act Contracts within the Project Area

ESA

Williamson Act

The California Land Conservation Act of 1965, also known as the Williamson Act, is designed to preserve agricultural and open space lands by discouraging their premature and unnecessary conversion to urban uses. Williamson Act contracts, also known as agricultural preserves, create an arrangement whereby private landowners contract with counties and cities to voluntarily restrict their land to agricultural and compatible open-space uses. The vehicle for these agreements is a rolling term 10-year contract.[1] In return, restricted parcels are assessed for tax purposes at a rate consistent with their actual use, rather than potential market value. To cancel a Williamson Act contract, either the local government or the landowner can initiate the nonrenewal process. A "notice of nonrenewal" starts a 9-year nonrenewal period. During the nonrenewal process, the annual tax assessment gradually increases. At the end of the 9-year nonrenewal period, the contract is terminated. Contracts renew automatically every year unless the nonrenewal process is initiated. Williamson Act contracts can be divided into the following categories: Prime Agricultural Land, Non-Prime Agricultural Land, Open Space Easement, Built Up Land, and Agricultural Land in Non-Renewal.

The Williamson Act states that a board or council by resolution shall adopt rules governing the administration of agricultural preserves. The rules of each agricultural preserve specify the uses allowed. Generally, any commercial agricultural use will be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted with a use permit.

California Government Code Section 53091

California Government Code Section 53091 specifies that water supply facilities such as those associated with the proposed project, are exempt from zoning restrictions. Specifically, Section 53091 states:

> *(d) Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency.*
>
> *(e) Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water.*

California Public Resources Code Section 12220(g)

The California Public Resources Code defines "forest land" under section 12220(g) as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Projects are subject to this code if there are any potentially significant changes to existing areas zoned as forest land.

California Public Resources Code Section 4526

The California Public Resources Code defines "timberland" as land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district

[1] Information about the basic provisions of Williamson Act contracts can be found on the California Department of Conservation, Division of Land Resource Protection web site: http://www.consrv.ca.gov/DLRP/lca/basic_contract_provisions/Pages/index.aspx, accessed October 17, 2012.

basis after consultation with the district committees and others. Projects may have significant impacts to timberland if the project conflicts with existing zoning.

California Government Code Section 51104(g)

The California Government Code defines "timberland production zone" under Section 51104(g) as an area which has been zoned pursuant to Sections 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h) of the Government Code 51104. Projects may significantly impact timberland resources if the project conflicts with existing areas zoned for timberland production.

Local

City of Riverside

In 1979, Riverside voters approved Proposition R: "Taxpayer's Initiative to Reduce Costly Urban Sprawl by Preserving Riverside's Citrus and Agricultural lands, Its Unique Hills, Arroyos and Victoria Avenue." The two main features of Proposition R relate to (1) preservation of agriculture through application of the RA-5 – Residential Agricultural Zone to two specific areas of the City and (2) protection of hillside areas through application of the RC-Residential Conservation Zone to areas of the City based on slopes over 15 percent. The two areas of the City which were zoned to RA-5 are (1) the Arlington Heights Greenbelt, in the south and central portion of the City, and (2) an area commonly known as Rancho La Sierra lying on a bluff above the Santa Ana River and bordered by Tyler Street on the east and Arlington Avenue on the west.

In 1987, Riverside voters passed Measure C, a bolstering amendment to Proposition R, entitled "Citizens' Rights Initiative to Reduce Costly Urban Sprawl, to Reduce Traffic Congestion, to Minimize Utility Rate Increases and to Facilitate Preservation of Riverside's Citrus and Agricultural Lands, its Scenic Hills, Ridgelines, Arroyos and Wildlife Areas". Measure C amended Proposition R to promote agriculture by adding the following as official City policy:

> **Policy to Promote and Encourage Agriculture:** It is hereby declared to be the policy of the City of Riverside to promote and encourage agriculture as an essential industry and a desirable open space use. The Greenbelt and La Sierra Lands are important agricultural lands because of their high soil quality, favorable climate and low water costs. It is further declared to be the policy of the City to retain, wherever feasible, agricultural lands in private ownership and to encourage and assist the maintenance and formation of family farms, especially for farmers who live on their land.

Measure C also required a specific plan be prepared for Rancho La Sierra, to cluster housing in a manner which preserves important natural features and scenic vistas.

Riverside County Ordinance No. 509.2

The Board of Supervisors of the County of Riverside, State of California, do ordain as follows:

> **Section 1.** Designated suitable areas of the County of Riverside may by resolution of this Board be established as agricultural preserves pursuant to the California Land Conservation Act of 1965 (Government Code Section 51200, et seq.), to be devoted to agricultural and compatible uses.
>
> **Section 2.** All agricultural preserves shall be administered pursuant to the California Land Conservation Act as 1965, as now enacted or hereafter amended, and pursuant to the following uniform rules which shall apply in all agricultural preserves now or hereafter established.

The following uses are hereby determined to be agricultural and compatible uses within an agricultural preserve, and all other uses of land are prohibited therein:

3. Gas, electric, water, and communication utility facilities, and public service facilities of like nature operated by a public agency or mutual water company.
7. Public works required for fish and wildlife enhancement and preservation.

3.2.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

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

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract.
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).
4. Result in the loss of forest land or conversion of forest land to non-forest use.
5. 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.
6. Result in cumulatively considerable impacts to agriculture and forestry resources.

Impact Analysis

Farmland

Impact 3.2-1: The proposed project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

Priority and Near-Term Projects

All Facilities

According to the Department of Conservation FMMP, several of the proposed project facilities would be located within FMMP-designated farmland. One priority project, the W-2 Blackburn Rd Pipeline, would be installed adjacent to and within approximately 4.25 acres of Farmland of Local Importance, 0.45 acres of Grazing Land, and 0.80 acres of land designated as Unique Farmland (see Figure 3.2-1). Eleven near-term projects would be installed adjacent to and within FMMP-designated farmland including the: RW-1 El Sobrante PS Expansion (150 HP) within approximately 0.02 acres of Unique Farmland, W-13 Highland Grove Pipeline III 18-Inch Pipeline within approximately 6.82 acres of Farmland of Local Importance and 0.02 acres of Unique Farmland, W-14 Highland Grove II and III 12-Inch Pipeline within

approximately 2.91 acres of Farmland of Local Importance,W-4 Hillside 2320 PZ Booster Pump Station and Pipeline within approximately 0.48 acres of Farmland of Local Importance, RW-1 Idaleona Drive Upsize within approximately 2.22 acres of Farmland of Local Importance, 1.28 acres of Grazing Land, and 0.92 acres of Unique Farmland, W-15 Juniper Road Pipeline Upsizing within approximately 1.60 acres of Farmland of Local Importance and 1.47 acres of Grazing Land, RW-1 Lake Ranch Pipelines within approximately 1.57 acres of Farmland of Local Importance, RW-1 Lurin Irrigation Tank Improvements within approximately 0.02 acres of Farmland of Local Importance, W-12 Mariposa Ave/Lurin Avenue Upsize within approximately 0.31 acres of Farmland of Local Importance, RW-1 Meridian West Pipelines within approximately 0.06 acres of Farmland of Local Importance, W-7 New 7 MG Markham Tank within approximately 1.61 acres of Farmland of Local Importance, and RW-1 Orangecrest Supply Pipelines within approximately 0.55 acres of Farmland of Local Importance, 0.13 acres of Farmland of Statewide Importance, and 0.10 acre of Unique Farmland (see Figure 3.2-1). While all eight pipelines would temporarily impact FMMP-designated lands, disturbed areas would be restored to pre-construction conditions after construction is completed, and would not prevent land from being cultivated as farmland. The W-11 El Nido #2 Storage Tank would be collocated on an existing WMWD water storage tank site of approximately 0.18 acres of land that is designated as Grazing land by the FMPP. Given the fact that the entire site has already been cleared and is used for existing infrastructure, the addition of a second storage tank would not convert the land to non-agricultural use beyond its baseline conditions. The RW-1 El Sobrante PS Expansion (150 HP) would be constructed within approximately 0.18 acres of land classified as Unique Farmland. However, the project would be installed at an existing WMWD pump station site that contains four active pump stations. The addition of the fifth pump station would not require the conversion of Unique Farmland to non-agricultural use within the existing facility. As a result, implementation of the pump/lift station and pipelines would not result in the permanent conversion of any Farmland to non-agricultural use above baseline conditions. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Future Projects

All Facilities

The future projects as currently proposed would mostly be sited on land designated as urban and built-up land as well as “other land.” Three future projects would be installed within FMMP-designated Farmland, including: W-24 PZ 2320 12-inch Pipelines within approximately 0.16 acres of Farmland of Local Importance and 3.55 acres of Grazing Land, RW-2 RNC Upsize to 18″ within approximately 0.001 acre of Farmland of Local Importance and 0.10 acre of Farmland of Statewide Importance, and RW-1 Upper Plateau Development Pipelines within approximately 0.17 acres of Farmland of Local Importance. The location of two future projects, the W-20 New 2 MG PZ2116 Tank and W-21 New 4 MG PZ1550 Tank, have not yet been determined. It should also be noted that the location of the future projects may change based on where development occurs within the Riverside Retail Service Area. There may be a potential for future projects to be sited on land designated as FMMP land. Depending on final design, ground disturbing activities associated with installation of the future projects would have the potential to impact

agricultural uses in areas designated as Unique Farmland, and potentially in areas of Prime Farmland located near pipeline alignments, which would result in a potentially significant impact. To reduce potential impacts, once final design of pipelines is determined, WMWD would be required to implement the following mitigation measures to identify whether the viability of Prime or Unique Farmland would be impacted significantly by implementation of conveyance facilities, and secure agricultural easements to mitigate for the loss of Prime and Unique Farmland. Specifically, Mitigation Measure AG-1, would conduct a California Agricultural Land Evaluation and Site Assessment (LESA) model to assess the agricultural viability of the land and soils through which pipelines and pump stations would be installed. If the LESA model determines the proposed Program to have a California LESA Model Scoring Thresholds of significance, WMWD would be required to implement Mitigation Measure AG-2, which would require an agricultural conservation easement to mitigate for the loss of Prime Farmland and Unique Farmland. With implementation of these mitigation measures, impacts would be reduced to a less-than-significant level. If WMWD locates storage tanks to avoid Prime or Unique Farmland areas, impacts would be reduced to a less-than-significant level and no mitigation would be required.

Mitigation Measures

AG-1: Prior to ground disturbance in areas within Prime or Unique Farmland, WMWD shall conduct a California Agricultural Land Evaluation and Site Assessment (LESA) model to assess the agricultural viability of the affected lands. The LESA Model will evaluate measures of soil resource quality, the size of individual Program components, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. These factors will be rated, weighted, and combined, resulting in a single numeric score per the LESA model. If the score is found to be considered significant per the California LESA Model Scoring Thresholds, Mitigation Measure AG-2 shall be implemented.

AG-2: Mitigation land shall be provided for the loss of state-designated Prime Farmland, Unique Farmland, or Farmland of Local Importance. Prior to developing such state-designated farmland, agricultural lands of equivalent acreage (a 1:1 ratio), and with soil and farming conditions equivalent or superior to the state-designated farmland that would be converted, shall be set aside in perpetuity. One or more permanent, irreversible agricultural easements may be purchased for the benefit of WMWD or other qualifying entity acceptable to WMWD, or funds may be provided to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements, to be earmarked for the purchase of permanent, irreversible agricultural easements. The protected acreage shall be set aside prior to the commencement of any development activity.

Significance Determination

Less than Significant with Mitigation

Williamson Act Contracts

Impact 3.2-2: The proposed project could conflict with existing zoning for agricultural use, or a Williamson Act contract.

Priority and Near-Term Projects

All Facilities

As shown in Figure 3.2-3, there are active Williamson Act Contracts within the Riverside Retail Service Area (DOC 2024), primarily within the western portion of the project area north of Lake Matthews. Segments of the W-2: Blackburn Rd Pipeline and W-13 Highland Grove Pipeline would be constructed within Williamson Act-Prime Agricultural Land and Non-Prime Agricultural Land. According to the *Ordinance No. 509.2 Riverside County Uniform Rules for Agricultural Preserves*, compatible uses within agricultural preserves include "gas, electric, water, and communication utility facilities, and public service facilities of like nature operated by a public agency or mutual water company" (County of Riverside 1988). As a result, installation of water-related and other public facilities operated by water districts, such as the proposed project, would not conflict with a Williamson Act Contract. There are no other proposed project facilities that would be installed on lands contracted through the Williamson Act. Therefore, impacts would be less than significant.

Regarding conflicts with agriculture-related zoning, the W-2 Blackburn Rd Pipeline would be constructed within a Light Agriculture (A-1) zone (County of Riverside 2026). However, per *Government Code Section 53091*, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. No other project components would be installed within land zoned for agriculture. As a result, construction of project facilities would not conflict with the existing zoning for agricultural use.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Future Projects

All Facilities

None of the future projects as currently sited would occur on land contracted through the Williamson Act. The location of two future projects, the W-20 New 2 MG PZ2116 Tank and W-21 New 4 MG PZ1550 Tank, have not yet been determined. It should also be noted that the location of the future projects may change based on where development occurs within the Riverside Retail Service Area. There may be a potential for future projects to be sited within Williamson Contract land or land zoned for agriculture. As stated above, water infrastructure and public service facilities operated by a mutual water company would be consistent with *Ordinance No. 509.2 Riverside County Uniform Rules for Agricultural Preserves* and *Government Code Section 53091*. Therefore, impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Conflict with Forest Land Zoning

Impact 3.2-3: The proposed project could conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).

Priority, Near-Term, and Future Projects

All Facilities

The proposed projects do not overlap with forest lands. There is no land designated or zoned as Forest or Timberland within the project area. Therefore, no impacts regarding zoning or rezoning of forest or timberlands would occur.

Mitigation Measures

None required

Significance Determination

No Impact

Loss or Conversion of Forest Land

Impact 3.2-4: The proposed project could result in the loss of forest land or conversion of forest land to non-forest use.

Priority, Near-Term, and Future Projects

All Facilities

The proposed project does not overlap with forest lands. There is no land designated or zoned as Forest within the project areas. Therefore, no impacts regarding the loss of forest land or conversion of forest land to non-forest use would occur.

Mitigation Measures

None required

Significance Determination

No Impact

Conversion of Farmland or Forest Land to Non-Agricultural Use

Impact 3.2-5: The proposed project could 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.

Priority and Near-Term Projects

All Facilities

As shown in Figure 3.2-1, the RW-1 Lurin Irrigation Tank Improvement project would be installed on land designated as Farmland of Local Importance. Two existing storage tanks already exist on the project site that would be upsized to accommodate larger storage tanks. Because Western-owned infrastructure already exists onsite, the proposed project's upsizing of existing tanks would not convert land to non-agricultural use. The W-2 Blackburn Rd Pipeline would be installed on land designated as Farmland of Local Importance. Approximately 190 feet of the RW-2 RNC Pipeline Upsize to 24″ would be installed on land designated as Farmland of Local Importance. Other pipelines such as the RW-1 Idaleona Drive Upsizing and the RW-1 Meridian West Pipelines projects would be installed adjacent to Farmland of Local Importance, but would be installed within existing rights-of-ways and would not therefore convert agricultural land. All pipelines would be installed underground and the disturbed areas would be restored to pre-construction conditions after construction is completed. No other facilities are currently located on Farmland of Local Importance. Implementation of the project would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Future Projects

All Facilities

One future project, the W-8 New 2 MG PZ1783 Tank, would be installed adjacent to and within land designated as Farmland of Local Importance (see Figure 3.2-3). However, conversion of this farmland type to non-agricultural use would not result in a significant impact given the scale of agricultural land within service area. No other future projects as currently proposed would be located on Farmland of Local Importance. The locations of the W-20 New 2 MG PZ2116 Tank and W-21 New 4 MG PZ1550 Tank have not yet been determined. It should also be noted that the location of the future projects may change based on where development occurs within the Riverside Retail Service Area. There may be a potential for future projects to be sited on land designated as Farmland of Local Importance. Nevertheless, due to the size of the facilities, the largest of which would be a storage tank that could be sited on less than 1 acre of land, conversion of these farmland types to non-agricultural use would not result in a significant impact given the scale of agricultural land within service area. None of the projects would be located on forest land. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Cumulative Impacts

Impact 3.2-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to agriculture and forestry resources.

The cumulative analysis for impacts to agricultural resources involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve many large-scale community development projects that would be installed within areas of Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance particularly in the areas northeast of Lake Matthews. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development and could be implemented in farmland areas. The projected growth through 2050 would result in rapid development of commercial, industrial, and residential land uses that could convert farmlands to non-agricultural use, resulting in a potentially significant cumulative impact. For the Riverside FMP, there may be a potential for future projects to be sited on land designated as FMMP land. Depending on final design, ground disturbing activities associated with installation of the future projects would have the potential to impact agricultural uses, which could result in a potentially significant impact. Mitigation Measures AG-1, to identify impacts through a LESA model, and Mitigation Measure AG-2, to secure agricultural easements, would be required should facilities be installed on FMMP-designated farmland. Because the potential impacts to agriculture associated with the implementation of the Riverside FMP projects would be mitigated to a less-than-significant level, the project's contribution to cumulative agricultural impacts would be less than cumulatively considerable and thus a less than significant cumulative impact would occur.

Mitigation Measures

Implement Mitigation Measures AG-1 and AG-2

Significance Determination

Less than Significant with Mitigation

3.2.4 References

County of Riverside. 1988. Ordinance No. 509.2, An Ordinance of the County of Riverside Relating to Agricultural Preserves, Uniform Rules for Agricultural Preserves. Available at: https://www.rivcocob.org/ords/500/509.htm#:~:text=ORDINANCE%20NO.%20509.2%20AN%20ORDINANCE%20OF%20THE%20COUNTY,Riverside%2C%20State%20of%20California%2C%20do%20ordain%20as%20follows%3A, accessed June 2, 2022.

County of Riverside. 2026. Riverside Map My County. Available at: https://gis1.countyofriverside.us/Html5Viewer/?viewer=MMC_Public, accessed February 13, 2026

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DOC. 2024. Williamson Act Enrollment Finder. Available at: https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/, accessed February 13, 2026.

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3.3 Air Quality and Greenhouse Gas Emissions

This section addresses the air quality and greenhouse gas emissions impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing air quality and greenhouse gas emissions conditions at the proposed project site; a summary of applicable regulations related to air quality and greenhouse gas emissions; and an evaluation of the potential impacts of the proposed project related to air quality and greenhouse gas emissions at the proposed project site and in the surrounding area, including cumulative impacts.

3.3.1 Environmental Setting

Regional Climate and Meteorology

The proposed project is located in the eastern portion of the South Coast Air Basin (Air Basin). The Air Basin includes all of Orange County, Los Angeles County (excluding the Antelope Valley portion), the western, non-desert portion of San Bernardino County, the western Coachella Valley and San Gorgonio Pass portions of Riverside County, and the non-desert portions of Los Angeles County, Riverside County, and San Bernardino County. The South Coast Air Quality Management District (SCAQMD) is the local air district with jurisdiction over air pollution sources in the City of Riverside and unincorporated portions of Los Angeles County where the proposed project is located. The Air Basin is an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Air Basin is a subregion within the western portion of the SCAQMD jurisdiction. While air quality in the Air Basin has improved, the Air Basin requires continued diligence to meet the air quality standards.

Criteria Air Pollutants

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in air quality. The following pollutants are regulated by the United States Environmental Protection Agency (U.S. EPA) and are subject to emissions control requirements adopted by Federal, State and local regulatory agencies. These pollutants are referred to as "criteria air pollutants" as a result of the specific standards, or criteria, which have been adopted for them. A description of the health effects of these criteria air pollutants are provided below.

Ozone (O_3)

Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds (VOCs) and nitrogen oxides (NO_X) in the presence of sunlight under favorable meteorological conditions, such as high temperature and stagnation episodes. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. According to the U.S. EPA, ozone can cause the muscles in the airways to constrict potentially leading to wheezing and shortness of breath (USEPA 2026a). Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat;

inflame and damage the airways; aggravate lung diseases such as asthma, emphysema and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have disappeared; and cause chronic obstructive pulmonary disease (USEPA 2026a). Long-term exposure to ozone is linked to aggravation of asthma, and is likely to be one of many causes of asthma development and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children (USEPA 2026a). According to the California Air Resources Board (CARB), inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath (CARB 2025a). The U.S. EPA states that people most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers (USEPA 2026a). Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure (USEPA 2026a).

Volatile Organic Compounds

VOCs are organic chemical compounds of carbon and are not "criteria" pollutants themselves; however, they contribute with NO_X to form ozone, and are regulated to prevent the formation of ozone (USEPA 2025a). According to CARB, some VOCs are highly reactive and play a critical role in the formation of ozone, other VOCs have adverse health effects, and in some cases, VOCs can be both highly reactive and have adverse health effects (CARB 2005). VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.) (CARB 2005).

Nitrogen Dioxide (NO_2) and Nitrogen Oxides

NO_X is a term that refers to a group of compounds containing nitrogen and oxygen. The primary compounds of air quality concern include nitrogen dioxide (NO_2) and nitric oxide (NO). Ambient air quality standards have been promulgated for NO_2, which is a reddish-brown, reactive gas (CARB 2025b). The principle form of NO_X produced by combustion is NO, but NO reacts quickly in the atmosphere to form NO_2, creating the mixture of NO and NO_2 referred to as NO_X (CARB 2025b). Major sources of NO_X include emissions from cars, trucks and buses, power plants, and off-road equipment (USEPA 2025b). The terms NO_X and NO_2 are sometimes used interchangeably. However, the term NO_X is typically used when discussing emissions, usually from combustion-related activities, and the term NO_2 is typically used when discussing ambient air quality standards. Where NO_X emissions are discussed in the context of the thresholds of significance or impact analyses, the discussions are based on the conservative assumption that all NO_X emissions would oxidize in the atmosphere to form NO_2.

According to the U.S. EPA, short-term exposures to NO_2 can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms while longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections (USEPA 2025b). According to CARB, controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics (CARB 2025b). In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children,

respiratory symptoms, emergency room visits for asthma, and intensified allergic responses (CARB 2025b). Infants and children are particularly at risk from exposure to NO_2 because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Adults risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2025b).

Carbon Monoxide (CO)

Carbon monoxide (CO) is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel, such as natural gas, gasoline, or wood, with the majority of outdoor CO emissions from mobile sources (CARB 2025c). According to the U.S. EPA, breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain and at very high levels, which are possible indoors or in other enclosed environments. CO can cause dizziness, confusion, unconsciousness and death (USEPA 2025c). Very high levels of CO are not likely to occur outdoors; however, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease since these people already have a reduced ability for getting oxygenated blood to their hearts and are especially vulnerable to the effects of CO when exercising or under increased stress (USEPA 2025c). In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (USEPA 2025c). The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain (USEPA 2025c). Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (USEPA 2025c).

Sulfur Dioxide (SO_2)

According to the U.S. EPA, the largest source of sulfur dioxide (SO_2) emissions in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities while smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content (USEPA 2026b). In 2006, California phased-in the ultra-low-sulfur diesel regulation limiting vehicle diesel fuel to a sulfur content not exceeding 15 parts per million (ppm), down from the previous requirement of 500 ppm, substantially reducing emissions of sulfur from diesel combustion (CARB 2004). According to the U.S. EPA, short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult (USEPA 2026b). Health effects at levels near the State 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity and exposure at elevated levels of SO_2 (above 1 ppm) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality (USEPA 2026b). Children, the elderly, and those with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most likely to experience the adverse effects of SO_2 (CARB 2025d; USEPA 2026b).

Particulate Matter (PM10 and PM2.5)

Particulate matter air pollution is a mixture of solid particles and liquid droplets found in the air (USEPA 2025d). Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the

naked eye while other particles are so small they can only be detected using an electron microscope (USEPA 2025d). Particles are defined by their diameter for air quality regulatory purposes: inhalable particles with diameters that are generally 10 micrometers and smaller (PM10); and fine inhalable particles with diameters that are generally 2.5 micrometers and smaller (PM2.5) (USEPA 2025d). Thus, PM2.5 comprises a portion or a subset of PM10. Sources of PM10 emissions include dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, and wind-blown dust from open lands (CARB 2025e). Sources of PM2.5 emissions include combustion of gasoline, oil, diesel fuel, or wood (CARB 2025e). PM10 and PM2.5 may be either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO_2, NO_X, and certain organic compounds (CARB 2025e).

According to CARB, both PM10 and PM2.5 can be inhaled, with some depositing throughout the airways; PM_{10} is more likely to deposit on the surfaces of the larger airways of the upper region of the lung while PM2.5 is more likely to travel into and deposit on the surface of the deeper parts of the lung, which can induce tissue damage, and lung inflammation (CARB 2025e). Short-term (up to 24 hours' duration) exposure to PM10 has been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2025e). The effects of long-term (months or years) exposure to PM10 are less clear, although studies suggest a link between long-term PM10 exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2025e). Short-term exposure to PM2.5 has been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days; long-term exposure to PM2.5 has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children (CARB 2025e). According to CARB, populations most likely to experience adverse health effects with exposure to PM10 and PM2.5 include older adults with chronic heart or lung disease, and children (CARB 2025e).

Lead (Pb)

Major sources of lead emissions include ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers (USEPA 2025e). In the past, leaded gasoline was a major source of lead emissions; however, the removal of lead from gasoline has resulted in a decrease of lead in the air by 98 percent between 1980 and 2014 (USEPA 2025e). Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system, and affects the oxygen carrying capacity of blood (USEPA 2025e). The lead effects most commonly encountered in current populations are neurological effects in children, such as behavioral problems and reduced intelligence, anemia, and liver or kidney damage (CARB 2025f). Excessive lead exposure in adults can cause reproductive problems in men and women, high blood pressure, kidney disease, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain (CARB 2025f).

Other Criteria Pollutants (California Only)

The California Ambient Air Quality Standards (CAAQS) regulate the same criteria pollutants as the NAAQS but in addition, regulate State-identified criteria pollutants, including sulfates, hydrogen sulfide,

visibility-reducing particles, and vinyl chloride (CARB 2025g). With respect to the State-identified criteria pollutants (i.e., sulfates, hydrogen sulfide, visibility reducing particles, and vinyl chloride), the proposed project would either not emit them (i.e., hydrogen sulfide and vinyl chloride), or they would be accounted for as part of the pollutants estimated in this analysis (i.e., sulfates and visibility reducing particles). For example, visibility reducing particles are associated with particulate matter emissions and sulfates are associated with SO_2 emissions. Both particulate matter and SO_2 are included in the emissions estimates for the proposed project.

Toxic Air Contaminants

In addition to criteria pollutants, the SCAQMD periodically assesses levels of toxic air contaminants (TACs) in the Air Basin. A TAC is defined by California Health and Safety Code Section 39655:

> *"Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.*

Diesel particulate matter, which is emitted in the exhaust from diesel engines, was listed by the State as a toxic air contaminant in 1998. Most major sources of diesel emissions, such as ships, trains, and trucks operate in and around ports, railyards, and heavily traveled roadways. These areas are often located near highly populated areas resulting in greater health consequences for urban areas than rural areas (CARB 2025h). Diesel particulate matter has historically been used as a surrogate measure of exposure for all diesel exhaust emissions. Diesel particulate matter consists of fine particles (fine particles have a diameter <2.5 μm), including a subgroup of ultrafine particles (ultrafine particles have a diameter <0.1 μm). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and cancer-causing substances.

Exposure to diesel particulate matter may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Diesel particulate matter levels and resultant potential health effects may be higher in proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities. According to CARB, diesel particulate matter exposure may lead to the following adverse health effects: aggravated asthma; chronic bronchitis; increased respiratory and cardiovascular hospitalizations; decreased lung function in children; lung cancer; and premature deaths for people with heart or lung disease (CARB 2025h; CARB 2008).

Odorous Emissions

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency and intensity of the source; wind speed and direction; and the sensitivity of receptors. Generally, increasing the distance between the receptor and the source will mitigate odor impacts.

Greenhouse Gas Emissions

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however, data indicates that the current global conditions differ from past climate changes in rate and magnitude. The current changes in global climate have been attributed to anthropogenic (human-caused) activities by the Intergovernmental Panel on Climate Change (IPCC 2014). The term GHG refers to gases that trap long-wave radiation or heat in the atmosphere, which heats the surface of the Earth. Without human intervention, the Earth maintains an approximate balance between the GHG emissions in the atmosphere and the storage of GHGs in the oceans and terrestrial ecosystems. GHGs are the result of both natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

The State of California recognized that anthropogenic GHG emissions are contributing to changes in the global climate, and that such changes are having and will have adverse effects on the environment, the economy, and public health. While worldwide contributions of GHG emissions are expected to have widespread consequences, it is not possible to link particular changes to the environment of California or elsewhere to GHGs emitted from a particular source or location. In other words, emissions of GHGs have the potential to cause global impacts rather than local impacts. Increased concentrations of GHGs in the Earth's atmosphere have been linked to global climate change and such conditions as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increased frequency and magnitude of severe weather conditions (IPCC 2014). Existing climate change models also show that climate warming portends a variety of impacts on agriculture, including loss of microclimates that support specific crops, increased pressure from invasive weeds and diseases, and loss of productivity due to changes in water reliability and availability (CNRA 2018). In addition, rising temperatures and shifts in microclimates associated with global climate change are expected to increase the frequency and intensity of wildfires (USGCRP 2018).

State law defines GHGs to include the following compounds: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) (see e.g., CEQA Guidelines Section 15364.5 and Health and Safety Code, Section 38505(g)). The most common GHG that results from human activity is CO_2, which represents 76 percent of total anthropogenic GHG emissions in the atmosphere (as of 2010 data), (IPCC 2014) followed by CH_4 and N_2O. Scientists have established a Global Warming Potential (GWP) to gauge the potency of each GHG's ability to absorb and re-emit long-wave radiation and these GWP ratios are available from the IPCC. The GWP of a gas is determined using CO_2 as the reference gas with a GWP of 1 over 100 years. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. The sum of each GHG multiplied by its associated GWP is referred to as carbon dioxide equivalents (CO_2e). The measurement unit CO_2e is used to report the combined potency of GHG emissions.

CARB compiles GHG inventories for the State of California. Based on the year 2022 GHG inventory data (the latest year for which data are available), California emitted 371.1 $MMTCO_2e$ which includes emissions resulting from imported electrical power (CARB 2024). Between 1990 and 2022, the population of California grew by approximately 9.4 million (from 29.8 to 39.2 million) (California Department of Finance 2024a). This represents an increase of approximately 32 percent from 1990

population levels. In addition, the California economy, measured as gross state product, grew from $773 billion in 1990 to $3.6 trillion in 2022, representing an increase of almost five times the 1990 gross state product (California Department of Finance 2024b). Despite the population and economic growth, the State of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 $MMTCO_2e$ in 2016. The 2030 statewide target emissions level is 260 $MMTCO_2e$.

Existing Conditions

The extent and severity of pollutant concentrations in the Air Basin are a function of the area's natural physical characteristics (weather and topography) and man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Air Basin, making it an area of high pollution potential. The Air Basin's meteorological conditions, in combination with regional topography, are conducive to the formation and retention of ozone, which is a secondary pollutant that forms through photochemical reactions in the atmosphere. Thus, the worst air pollution conditions throughout the Air Basin typically occur from June through September. These conditions are generally attributed to the seasonally light winds and shallow vertical atmospheric mixing, which reduce the potential for the dispersal of air pollutant emissions, thereby causing elevated air pollutant levels. Pollutant concentrations in the Air Basin vary with location, season, and time of day. Concentrations of ozone, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert (SCAQMD 2016a). **Table 3.3-1** shows the attainment status of the Air Basin for each criteria pollutant for the Riverside County portion of the Air Basin.

TABLE 3.3-1
SOUTH COAST AIR BASIN ATTAINMENT STATUS (RIVERSIDE COUNTY PORTION)

Pollutant	National Standards (NAAQS)	California Standards (CAAQS)
O_3 (1-hour standard)	N/A[a]	Non-attainment – Extreme
O_3 (8-hour standard)	Non-attainment – Extreme	Non-attainment
CO	Attainment (Maintenance)	Attainment
NO_2	Attainment (Maintenance)	Attainment
SO_2	Attainment/Unclassifiable	Attainment
PM10	Attainment (Maintenance)	Non-attainment
PM2.5	Non-attainment – Serious	Non-attainment
Lead (Pb)	Attainment/Unclassifiable	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride[b]	N/A	N/A

N/A = not applicable

a. The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.
b. In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

SOURCES: U.S. EPA, 2025f, The Green Book Non-Attainment Areas for Criteria Pollutants, https://www.epa.gov/green-book; CARB 2023, Area Designations Maps/State and National, https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations.

As shown in Table 3.3-1, the Air Basin is designated under Federal or State ambient air quality standards as nonattainment for ozone, PM10, and fine particulate matter PM2.5.

As detailed in the AQMP, the major sources of air pollution in the Air Basin are divided into four major source classifications: point, area stationary sources, and on-road and off-road mobile sources. Point and area sources are the two major subcategories of stationary sources. Point sources are permitted facilities that contain one or more emission sources at an identified location (e.g., power plants, refineries, emergency generator exhaust stacks). Area sources consist of many small emission sources (e.g., residential water heaters, architectural coatings, consumer products, and permitted sources such as large boilers) which are distributed across the region. Mobile sources consist of two main subcategories: On-road sources (such as cars and trucks) and off-road sources (such as heavy construction equipment).

The SCAQMD maintains a network of air quality monitoring stations located throughout the Air Basin to measure ambient pollutant concentrations. The proposed priority, near-term, and future projects would be located near two monitoring stations, the Corona/Norco Monitoring Station located in Source Receptor Area (SRA) 22 and the Metropolitan Riverside Monitoring Station (SRA 23). The majority of the proposed projects would be within Source Receptor Area 23. Therefore, the monitoring station most representative of the project site is the Metropolitan Riverside Monitoring Station, located at 5888 Mission Boulevard, Riverside, CA 92509. Criteria pollutants monitored at this station include ozone, NO_2, CO, Pb, PM10, and PM2.5. The most recent data available from the SCAQMD for this monitoring station are from years 2021 to 2023 (SCAQMD 2024). The pollutant concentration data for these years are summarized in **Table 3.3-2**.

Sensitive Receptors

Land uses, such as schools, hospitals, and convalescent homes are considered to be sensitive to poor air quality conditions because infants, children, the elderly, and people with health afflictions (especially respiratory ailments), are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution, even though exposure periods during exercise are generally short.

Multiple priority and near-term components of the proposed project, such as storage tanks, pipelines, and station upgrades, are located in close proximity (i.e., adjacent or within 100 feet) of the nearest sensitive receptors, such as single-family residences. Some of the various future project components consisting of pipelines, pump stations, storage tanks, and lift stations are expected to be located in proximity to sensitive land uses such as residences, schools, hospitals and daycare centers. As shown in Figures 2-3, 2-4, and 2-5 in Chapter 2, *Project Description*, many of the proposed project components are planned within or nearby residential neighborhoods.

TABLE 3.3-2
AMBIENT AIR QUALITY IN THE PROJECT VICINITY

Pollutant/Standard[a]	2021	2022	2023
Ozone, O^3 (1-hour)			
Maximum Concentration (ppm)	0.117	0.122	0.139
Days > CAAQS (0.09 ppm)	20	30	48
Ozone, O^3 (8-hour)			
Maximum Concentration (ppm)	0.097	0.095	0.106
4th High 8-hour Concentration (ppm)	0.091	0.092	0.097
Days > CAAQS (0.070 ppm)	57	72	70
Days > NAAQS (0.070 ppm)	55	70	69
Nitrogen Dioxide, NO_2 (1-hour)			
Maximum Concentration (ppm)	0.052	0.056	0.055
98th Percentile Concentration (ppm)	0.051	0.048	0.047
Nitrogen Dioxide, NO_2 (Annual)			
Annual Arithmetic Mean (0.030 ppm)	0.014	0.013	0.012
CO (1-hour)			
Maximum Concentration (ppm)	2.1	3.3	1.4
CO (8-hour)			
Maximum Concentration (ppm)	1.8	1.2	1.2
SO_2 (1-hour)			
Maximum Concentration (ppm)	0.002	0.007	0.003
99th Percentile Concentration (ppm)	0.002	0.003	0.002
Respirable Particulate Matter, PM10 (24-hour)			
Maximum Concentration (µg/m^3)	76	153	166
Samples > CAAQS (50 µg/m^3)	16	55	43
Samples > NAAQS (150 µg/m^3)	0	0	1
Respirable Particulate Matter, PM10 (Annual)			
Annual Arithmetic Mean (20 µg/m^3)	34.2	37.0	24.0
Fine Particulate Matter, PM2.5 (24-hour)			
Maximum Concentration (µg/m^3)	82.1	38.5	48.7
98th Percentile Concentration (µg/m^3)	36.7	23.2	23.5
Samples > NAAQS (35 µg/m^3)	10	1	1
Fine Particulate Matter, PM2.5 (Annual)			
Annual Arithmetic Mean (12 µg/m^3)	12.6	10.8	10.5
Lead			
Maximum 30-day average (µg/m^3)	0.008	0.007	0.007

a. ppm = parts per million; µg/m^3 = micrograms per cubic meter

SOURCE: SCAQMD, 2024, Historical Data by Year, http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year, accessed June 2025.

3.3.2 Regulatory Framework

Federal

The federal Clean Air Act (CAA) was enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990 (USC 1970). The CAA is the comprehensive federal law that regulates air emissions in order to protect public health and welfare (USEPA 2025g). The USEPA is responsible for the implementation and enforcement of the CAA, which establishes federal NAAQS, specifies future dates for achieving compliance, and requires USEPA to designate areas as attainment, nonattainment, or maintenance. The CAA also mandates that each state submit and implement a State Implementation Plan (SIP) for each criteria pollutant for which the state has not achieved the applicable NAAQS. The SIP includes pollution control measures that demonstrate how the standards for those pollutants will be met. The sections of the CAA most applicable to the project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions) (USEPA 2025h).[1]

Title I requirements are implemented for the purpose of attaining NAAQS for criteria air pollutants. The NAAQS were amended in July 1997 to include an 8-hour standard for ozone and to adopt a NAAQS for PM2.5. The NAAQS were also amended in September 2006 to include an established methodology for calculating PM2.5, as well to revoke the annual PM10 threshold. **Table 3.3-3** shows the NAAQS currently in effect for each criteria pollutant. The NAAQS and the CAAQS for the California criteria air pollutants (discussed below) have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including against decreased visibility and damage to animals, crops, vegetation, and buildings (USEPA 2024b). In addition to criteria pollutants, Title I also includes air toxics provisions which require USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112, USEPA establishes National Emission Standards for Hazardous Air Pollutants. The list of hazardous air pollutants (HAPs), or air toxics, includes specific compounds that are known or suspected to cause cancer or other serious health effects.

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

[1] Mobile sources include on-road vehicles (e.g., cars, buses, motorcycles) and non-road vehicles (e.g., aircraft, trains, construction equipment). Stationary sources are comprised of both point and area sources. Point sources are stationary facilities that emit large amount of pollutants (e.g., municipal waste incinerators, power plants). Area sources are smaller stationary sources that alone are not large emitters but combined can account for large amounts of pollutants (e.g., consumer products, residential heating, dry cleaners).

TABLE 3.3-3
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
O_3[h]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
NO_2[i]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	None	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
CO	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m^3)		9 ppm (10 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
SO_2[j]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)j	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) j	—	
PM10[k]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
PM2.5[k]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3 k	15 µg/m^3	
Lead[l,m]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)m	Same as Primary Standard	
	Rolling 3-Month Average[m]	--		0.15 µg/m^3		

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
Visibility Reducing Particles[n]	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of 10 miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates (SO_4)	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[l]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

a. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
b. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms/per cubic meter (µg/m^3) is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
c. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
d. Any equivalent procedure which can be shown to the satisfaction of the California Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.
e. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
f. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
g. Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.
h. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
i. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
j. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
k. In 2024, the EPA revised the national annual average standard for PM2.5. This was prompted by evidence within new literature that showed continued risk of premature mortality and other health effects at lower PM2.5 concentrations than the previous annual average standard. The annual PM2.5 standard was revised on February 7, 2024, effective May 6, 2024, from 12 to 9.0 µg/m^3. The timeline for initial area designations begins with promulgation of the revised primary annual PM2.5 NAAQS, as stated in the CAA section 107(d)(1)(B)(i). Through this process, which provides for input from States and others at various stages, USEPA identifies areas of the country that either meet or do not meet the revised primary annual PM2.5 NAAQS, along with the nearby areas contributing to NAAQS violations. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. Attainment deadline for the 2006 24-Hour PM2.5 NAAQS (designation effective December 14, 2009) is December 31, 2019 (end of the 10th calendar year after effective date of designations for Serious nonattainment areas). The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
l. The California Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
m. The national standard for lead was revised on October 15, 2008, to a rolling three-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
n. In 1989, the California Air Resources Board converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

SOURCE: CARB, 2024c.

The USEPA is responsible for implementing federal policy to address GHG emissions. The United States Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that carbon dioxide (CO_2) and other GHGs are pollutants under the Federal Clean Air Act (CAA), which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. In December 2009, USEPA issued an endangerment finding for GHGs under the CAA, concluding that GHG emissions endanger public health and welfare and serving as the legal and scientific foundation for federal standards on GHG emissions from power plants, vehicles, and industry. In February 2026, the USEPA finalized a rule to rescind this finding and roll back all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines established under CAA Section 202(a). This action eliminates the USEPA's primary basis for regulating climate pollution and represents a shift in federal climate policy.

The Federal Government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, CH_4 and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

State

California Air Resources Board

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of California to achieve and maintain the CAAQS. 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. In this capacity, CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts. The SIP is required for the state to take over implementation of the federal CAA from USEPA.

California Clean Air Act

The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS are established to protect the health of the most sensitive groups and apply to the same criteria pollutants as the federal Clean Air Act and also includes State-identified criteria pollutants, which are sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride (CARB 2024a). CARB has primary responsibility for ensuring the implementation of the California Clean Air Act (responding to the federal Clean Air Act planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state.

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. The Air Basin is designated as attainment for the California standards for sulfates and unclassified for hydrogen sulfide and visibility-reducing particles. The Air Basin is currently in non-attainment for ozone, PM10, and PM2.5 under the CAAQS. Since vinyl chloride is a carcinogenic toxic air contaminant, CARB does not classify attainment status for this pollutant.

California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in Title 13 of the CCR states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location. In addition, Section 93115 in Title 17 of the CCR states that operations of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emissions standards.

California Air Resources Board

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. In this capacity, CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the federal CAA from USEPA.

On-Road and Off-Road Vehicle Rules

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In 2008 CARB approved the Truck and Bus regulation to reduce NO_X, PM10, and PM2.5 emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The requirements were amended to apply to nearly all diesel-fueled trucks and busses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. For the largest trucks in the fleet, those with a GVWR greater than 26,000 pounds, there are two methods to comply with the requirements. The first method is for the fleet owner to retrofit or replace engines, starting with the oldest engine model year, to meet 2010 engine standards, or better. This is phased over 8 years, starting in 2015 and would be fully implemented by 2023, meaning that all trucks operating in the State subject to this option would meet or exceed the 2010 engine emission standards for NO_X and PM by 2023. The second method, if chosen, required fleet owners, starting in 2012, to retrofit a portion of their fleet with diesel particulate filters achieving at least 85 percent removal efficiency, with installation of diesel particulate filters (DPFs) for their entire fleet by January 1, 2016.

However, DPFs do not typically lower NO_X emissions. Thus, fleet owners choosing the second option had until 2020 to comply with the 2010 engine emission standards for their trucks and buses.

In addition to limiting exhaust from idling trucks, CARB promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR, Section 2449). Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with the largest fleets to begin compliance in 2014, medium fleets in 2017, and small fleets in 2019. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turnovers or retrofits (VDECS installation) be fully implemented by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was adopted by CARB in 2012 and is closely associated with other state-led emissions standards for passenger vehicles and light-duty trucks (CARB 2025i).

Executive Order No. N-79-20 (adopted in September 2020) phases out the sales of new gasoline-fueled passenger cars by 2035 in California with an additional 10-year transition period for heavy vehicles. The State would not restrict used car sales, nor forbid residents from owning gas-powered vehicles.

The primary mechanism for achieving the ZEV target for passenger cars and light trucks is CARB's Advanced Clean Cars II (ACC II) Program. (CARB 2024d). The ACC II regulations will rapidly scale down light-duty passenger car, pickup truck and SUV emissions starting with the 2026 model year through 2035. The ACC II regulation amends the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles, and relies on currently available advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric-vehicles, to meet air quality and climate change emissions standards which supports Executive Order N-79-20 that requires all new passenger vehicles sold in California to be zero emissions by 2035. Additionally, the ACC II regulation amends the Low-emission Vehicle Regulations to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions.

The rescission of the federal GHG endangerment finding removes the legal basis for the USEPA's GHG vehicle emission standards. Because California's Clean Air Act waiver for vehicle emission standards have historically relied on the federal standards, this action introduces uncertainty for the policy framework that supports California's Advanced Clean Cars Program. California may seek to continue implementing its own vehicle emission standards, yet the extent to how the programs will be affected remains uncertain.

Advanced Clean Trucks Program

The Advanced Clean Trucks regulations were approved on June 25, 2020, and require that manufacturers sell zero-emissions or near-zero-emissions trucks as an increasing percentage of their annual California sales beginning in 2024. The goal of this proposed strategy is to achieve nitrogen oxide (NOx) and GHG emission reductions through advanced clean technology, and to increase the penetration of the first wave of zero-emissions heavy-duty technology into applications that are well suited to its use. According to CARB, "Promoting the development and use of advanced clean trucks will help CARB achieve its emission reduction strategies as outlined in the SIP, Sustainable Freight Action Plan, SB 350, and AB 32" (CARB 2024e). The percentage of zero-emissions truck sales is required to increase every year until 2035 when sales would need to be 55 percent of Classes 2b–3 (light/medium- and medium-duty trucks) truck sales, 75 percent of Classes 4–8 (medium- to heavy-duty trucks) straight truck sales, and 40 percent of truck tractor (heavy-duty trucks weighing 33,001 pounds or greater) sales. Additionally, large fleet operators (of 50 or more trucks) would be required to report information about shipments and services and their existing fleet operations.

Additionally, the rescission of the federal GHG endangerment finding removes the legal basis for the USEPA's GHG vehicle emission standards that the Advanced Clean Trucks Program relies on. This action introduces uncertainty for the policy framework that supports California's this Program. California may seek to continue implementing its own vehicle emission standards, yet the extent to how the programs will be affected remains uncertain.

Toxic Air Contaminants

The California Air Toxics Program was established in 1983, when the California Legislature adopted Assembly Bill (AB) 1807 to establish a two-step process of risk identification and risk management to address potential health effects from exposure to toxic substances in the air. In the risk identification step, CARB and OEHHA determine if a substance should be formally identified, or "listed," as a TAC in California. Since the inception of the program, a number of such substances have been listed. In 1993, the California Legislature amended the program to identify the 189 federal HAPs as TACs. The SCAQMD has not adopted guidance applicable to land use projects that requires a quantitative health risk assessment be performed for construction exposures to TAC emissions (SCAQMD 2016b).

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on the results of that review, CARB has promulgated a number of ATCMs, both for mobile and stationary sources. As discussed above, in 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In addition to limiting exhaust from idling trucks, as discussed above, CARB promulgated emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by CARB on July 26, 2007, aims to reduce emissions by the installation of diesel particulate filters and encouraging the

replacement of older, dirtier engines with newer emission-controlled models. Implementation is staggered based on fleet size, with the largest operators beginning compliance in 2014.

The AB 1807 program is supplemented by the AB 2588 Air Toxics "Hot Spots" program, which was established by the California Legislature in 1987. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. In 1992, the AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community to reduce their risk through implementation of a risk management plan.

Greenhouse Gas Reduction via AB 32

In 2006, the California Legislature adopted Assembly Bill (AB) 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. AB 32 defines GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under AB 32, CARB has the primary responsibility for reducing GHG emissions. AB 32 required CARB to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

In 2016, the California Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown to update AB 32 and include an emissions reduction goal for the year 2030. SB 32 and AB 197 amend AB 32, and establish a new climate pollution reduction target of 40 percent below 1990 levels by 2030, and include provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Assembly Bill 1279 and 2022 Scoping Plan

The Legislature enacted AB 1279, The California Climate Crisis Act, on September 16, 2022. AB 1279 establishes the policy of the State of California to achieve net zero GHG emissions as soon as possible but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. Additionally, AB 1279 mandates that by 2045, statewide anthropogenic GHG emissions are to be reduced at least 85 percent below 1990 levels. AB 1279 also requires CARB to ensure that the Scoping Plan identifies and recommends measures to achieve carbon neutrality, and to identify and implement policies and strategies for CO_2 removal solutions and carbon capture, utilization, and storage technologies. It also requires CARB to submit an annual report on progress in achieving the Scoping Plan's goals.

In December 2022, CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan), which expands on prior scoping plans to include technologically feasible, cost-effective, and equity-focused pathways to achieve the State's climate target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, while also assessing the progress California is making toward the

40 percent below 1990 levels by 2030, and achieving carbon neutrality[2] by 2045 or earlier (CARB 2022a). The 2030 target is an interim but important steppingstone along the critical path to the broader goal of deep decarbonization by 2045. The 2022 Scoping Plan outlines the strategies the State will implement to achieve carbon neutrality by reducing GHG emissions to meet the anthropogenic target, and by expanding actions to capture and store carbon through the State's natural and working lands and using a variety of mechanical approaches

Executive Order S-3-05

Governor Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; (CARB, 2022) and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In accordance with Executive Order S-3-05, the Secretary of California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. These agencies include CARB, the Secretary of the Business, Transportation and Housing Agency, Department of Food and Agriculture, the Resources Agency, the California Energy Commission, and the Public Utilities Commission. The CAT provides periodic reports to the Governor and Legislature on the state of GHG reductions in the state as well as strategies for mitigating and adapting to climate change. The first CAT Report to the Governor and the Legislature, in 2006, contained recommendations and strategies to help meet the targets in Executive Order S-3-05. The 2010 CAT Report, finalized in December 2010, expands on the policies in the 2006 assessment (CalEPA 2010).

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15, which involved the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all State agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-55-18

Executive Order B-55-18 was signed by Governor Brown on September 10, 2018. The order establishes an additional statewide policy to achieve carbon neutrality, which CARB defines as meaning "… that all

[2] *Carbon neutrality* means "net zero" emissions of GHGs. In other words, it means that GHG emissions generated by sources such as transportation, power plants, and industrial processes must be less than or equal to the amount of CO_2 that is stored, both in natural sinks and through mechanical sequestration. AB 1279 uses the terminology "net zero" and the 2022 Scoping Plan uses the terminology "carbon neutrality" or "carbon neutral." For purposes of this PEIR, these terms mean the same thing and are used interchangeably.

GHG emissions emitted into the atmosphere are balanced in equal measure by GHGs that are removed from the atmosphere, either through carbon sinks or carbon capture and storage," (E3, 2020) by 2045 and maintain net negative emissions thereafter. As per Executive Order B-55-18, CARB is directed to work with relevant State agencies to develop a framework for implementation and accounting that tracks progress toward this goal and to ensure that future climate change scoping plans identify and recommend measures to achieve the carbon neutrality goal. California is making progress towards the 2045 goal, however the pathway to carbon neutrality is still under development. According to CARB, the framework will include a strong reliance on energy efficiency, electrification, low carbon fuels (including low-carbon electricity), and CO_2 removal in future policies and strategies for reaching the ambitious goal (E3, 2020). The path to carbon neutrality lies in striving for zero emissions from all new sources and maximum sequestration to offset existing sources.

Executive Order N-79-20

Executive Order N-79-20 was signed by Governor Newsom on September 23, 2020. The order directs CARB to develop and propose regulations that would require a ramp up to 100 percent in-state sales of new zero-emissions passenger vehicles (cars and trucks) and drayage trucks by 2035. The Executive Order further directs CARB to promulgate regulations that would require a ramp up to 100 percent in-state sales of medium- and heavy-duty trucks by 2045 "for all operations where feasible." The Executive Order also instructs CARB to develop and propose "strategies" (as opposed to regulations) to achieve zero emissions from off-road vehicles and equipment operations in the state by 2035. The order also directs State agencies to take a number of actions focused on the oil and gas industry, including but not limited to a direction to CARB to strengthen and extend the Low Carbon Fuel Standard program beyond 2030.

California Building Energy Efficiency Standards and CALGreen Code

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and non-residential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods.

In September 2024, the CEC approved the 2025 California Building Energy Efficiency Standards, which would go into effect on January 1, 2026. The 2025 standards build on the 2022 standards by aiming to decarbonize buildings by encouraging energy efficiency, solar and battery storage, and shifting times of energy use. by expanding heat pump requirements for space and water heating in more building types, including low-rise multifamily units. It also introduces stronger electric-ready mandates to ease future transitions to electric appliances. Updates to solar and battery storage standards now align with revised net billing policies for high-rise multifamily and nonresidential buildings. Additionally, nonresidential buildings face new space conditioning controls, while multifamily buildings must meet stricter ventilation requirements for better indoor air quality. These updates enhance energy efficiency, reduce emissions, and save Californians an estimated $4.8 billion in energy costs over 30 years (CEC 2025).

The California Green Building Standards Code (CCR, Title 24, Part 11), commonly referred to as the CALGreen Code, with the most current version being the 2025 version which became effective January 1, 2026. The purpose of the CALGreen Code is to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices. The CALGreen Building Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality (CBSC 2010).

The 2025 CALGreen Code standards aim to decarbonize buildings by encouraging energy efficiency, solar and battery storage, and shifting times of energy use. Further, the standards expand heat pump requirements for space and water heating in more building types, including low-rise multifamily units. It also introduces stronger electric-ready mandates to ease future transitions to electric appliances. Updates to solar and battery storage standards now align with revised net billing policies for high-rise multifamily and nonresidential buildings. Additionally, nonresidential buildings face new space conditioning controls, while multifamily buildings must meet stricter ventilation requirements for better indoor air quality. These updates enhance energy efficiency, reduce emissions, and save Californians an estimated $4.8 billion in energy costs over 30 years (CEC 2025).

Regional

South Coast Air Quality Management District (SCAQMD)

The SCAQMD is primarily responsible for planning, implementing, and enforcing air quality standards for the Air Basin which includes all of Orange County, Los Angeles County (excluding the Antelope Valley portion), the western, non-desert portion of San Bernardino County, and the western Coachella Valley and San Gorgonio Pass portions of Riverside County. The Air Basin is an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Air Basin is a subregion within the western portion of the SCAQMD jurisdiction. While air quality in the Air Basin has improved, the Air Basin requires continued diligence to meet the air quality standards.

Air Quality Management Plan

The SCAQMD Governing Board adopted the *2022 Air Quality Management Plan* (AQMP) on December 2, 2022 (SCAQMD 2022). On January 26, 2023, CARB adopted Resolution 23-4, which directs the CARB Executive Officer to submit the 2022 AQMP to USEPA for inclusion in the California SIP to be effective, for purposes of federal law, after notice and public hearing as required by Section 110(l) of the Clean Air Act and 40 Code of Federal Regulations Section 51.102 and approval by USEPA. USEPA approval has not yet occurred.

The 2022 AQMP includes strategies to ensure that approaching attainment deadlines[3] for O_3 and PM2.5 are met, and that public health is protected to the maximum extent feasible. The 2022 AQMP is composed of stationary and mobile source emission reductions from traditional regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile source strategies, and reductions

[3] The South Coast Air Basin was reclassified as extreme non-attainment and must attain the standard by August 2038. The 2022 AQMP shows attainment of the 2015 8-hour ozone standard by 2037.

from federal sources, which include aircraft, locomotives and oceangoing vessels. These strategies are to be implemented in partnership with CARB and USEPA.

The 2022 AQMP incorporates the transportation strategy and transportation control measures from Southern California Association of Government (SCAG)'s 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal 2020) Plan (SCAG 2020). SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and State air quality requirements. Pursuant to California Health and Safety Code Section 40460, SCAG has the responsibility of preparing and approving the portions of the AQMP relating to the regional demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and State air quality plans to attain the NAAQS. The Connect SoCal 2020 includes transportation programs, measures, and strategies generally designed to reduce vehicle miles traveled (VMT), which are contained in the AQMP.

The SCAQMD combines its portion of the AQMP with those prepared by SCAG. The RTP/SCS and Transportation Control Measures, included as Appendix IV-C of the 2022 AQMP for the Air Basin, are based on SCAG's Connect SoCal 2020. The 2022 AQMP forecasts future emissions inventories "with growth" based on Connect SoCal 2020. The region is projected to see a 12 percent growth in population, 17 percent growth in housing units, 11 percent growth in employment, and an 8 percent growth in VMT between 2018 and 2037. Despite regional growth in the past, air quality has improved substantially over the years, primarily due to the effects of air quality control programs at the local, State and federal levels (SCAG 2022).

Noteworthy control strategies for mobile sources in the AQMP with potential applicability to reducing short-term emissions from construction activities associated with the Proposed Project include strategies denoted in the 2022 AQMP as MOB-06, MOB-11, and MOB-15, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment (SCAG 2022). Descriptions of measures MOB-06, MOB-11, and MOB-15 are provided below:

- **MOB-06 – Accelerated Retirement of Older On-Road Heavy-Duty Vehicles:** This measure seeks additional emission reductions from existing heavy-duty vehicles with GVWR greater than 8,500 lbs through an accelerated vehicle replacement program with zero or low NO_X emission vehicles.
- **MOB-11 – Emission Reductions from Incentive Programs:** This control measure seeks to quantify and take credit for the emission reductions achieved through the implementation of SCAQMD administered incentive programs for SIP purposes. The South Coast AQMD has been implementing a variety of incentive programs including but not limited to Carl Moyer Memorial Air Quality Standards Attainment Program, Proposition 1B, Lower Emission School Bus, Community Air Protection Program, and Volkswagen Environmental Mitigation Trust. Examples of projects funded by these programs include heavy-duty vehicle/equipment replacements, installation of retrofit units, and engine repowers. These incentive programs result in substantial emission reductions that are

typically not eligible for credit in plans to attain ozone standards because they are not required by regulation. However, actual emission reductions that are realized and quantified may qualify for credit.

- **MOB-15 – Zero Emission Infrastructure for Mobile Sources:** This control measure is intended to support and accelerate the deployment of zero emission infrastructure needed for the widespread adoption of zero emission vehicles and equipment. AB 2127 estimated that the State will need 157,000 electric vehicle charging stations for medium and heavy-duty vehicles by 2030. AB 8 assessed the fueling needs for hydrogen fuel cell vehicles and found that 1,700 hydrogen stations will be needed to support 1.8 million fuel cell electric vehicles (FCEVs) statewide by 2035. The proposed measure seeks to address these concerns and identify the unique challenges and opportunities for zero emission infrastructure development in the South Coast Air Basin, particularly as it relates to zero emission medium and heavy vehicle deployments.

SCAQMD Air Quality Guidance Documents

The SCAQMD published the *CEQA Air Quality Handbook* to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts (SCAQMD 1993). The *CEQA Air Quality Handbook* provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the *CEQA Air Quality Handbook* with the *Air Quality Analysis Guidance Handbook*. While this process is underway, the SCAQMD recommends that lead agencies avoid using the screening tables in Chapter 6 (Determining the Air Quality Significance of a project) and the on-road mobile source emission factors in Table A9-5-J1 through A9-5 of the *CEQA Air Quality Handbook* as they are outdated.

The SCAQMD instead recommends using other approved models to calculate emissions from land use projects, such as the California Emissions Estimator Model (CalEEMod) software, which is a model developed for California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts, which is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions from a variety of land use projects.

The SCAQMD has also adopted land use planning guidelines in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which considers impacts to sensitive receptors from facilities that emit TAC emissions (SCAQMD 2005). SCAQMD's general land use siting distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses proposed in proximity to freeways and high-traffic roads, a 1,000-foot siting distance for sensitive land uses proposed in proximity to a major service and maintenance rail yard, and the same siting criteria for distribution centers and dry cleaning facilities). The SCAQMD's document introduces land use-related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMDs guidelines are voluntary initiatives recommended for consideration by local planning agencies.

The SCAQMD has published a guidance document called the *Final Localized Significance Threshold Methodology* for CEQA Evaluations that is intended to provide guidance when evaluating the localized effects from mass emissions during construction (SCAQMD 2008). The SCAQMD adopted additional guidance regarding PM2.5 emissions in a document called *Final Methodology to Calculate Particulate Matter (PM)2.5 and PM2.5 Significance Thresholds* (SCAQMD 2006). This latter document has been

incorporated by the SCAQMD into its CEQA significance thresholds and *Final Localized Significance Threshold Methodology*.

SCAQMD has adopted two rules to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401 (New Source Review of Toxic Air Contaminants) regulates new or modified facilities, and Rule 1402 (Control of Toxic Air Contaminants from Existing Sources) regulates facilities that are already operating. Rule 1402 incorporates the requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities.

SCAQMD Rules and Regulations

The SCAQMD has adopted many rules and regulations to regulate sources of air pollution in the Air Basin and to help achieve air quality standards. The project may be subject to the following SCAQMD rules and regulations:

Regulation II – Permits: This regulation establishes the List and Criteria for determining whether applications for future projects are complete. This List and Criteria identifies information required of applicants seeking permits to construct air pollution sources and requires submission of such information before an application can be determined to be complete.

Rule 201 – Permit to Construct: This rule states a person shall not build, erect, install, alter or replace any equipment or agricultural permit unit, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. A permit to construct shall remain in effect until the permit to operate the equipment or agricultural permit unit for which the application was filed is granted or denied, or the application is canceled.

Rule 203 – Permit to Operate: This rule states that a person shall not operate or use any equipment or agricultural permit unit, the use of which may cause the issuance of air contaminants, or the use of which may reduce or control the issuance of air contaminants, without first obtaining a written permit to operate from the Executive Officer or except as provided in Rule 202.

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

Rule 401 – Visible Emissions: This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view.

Rule 402 – Nuisance: This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 – Fugitive Dust: This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts

the net PM10 emissions to less than 50 micrograms per cubic meter ($\mu g/m^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Control measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering or using non-toxic chemical stabilizers to prevent the generation of visible dust plumes, limiting vehicle speeds to 15 miles per hour on unpaved surfaces, and/or ceasing all activities. Finally, a contingency plan may be required if so determined by USEPA.

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

Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines: This rule requires stationary engines over 50 horsepower to meet emission restrictions standards and maintenance requirements in order to reduce emissions from these engines.

Rule 1113 – Architectural Coatings: This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Rule 1179 – Publicly owned Treatment Works Operations: This rule requires boilers, turbines, and engines at publicly owned wastewater treatment facilities to meet emission restriction standards and adhere to the monitoring and reporting requirements from this equipment.

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

Regulation XIII – New Source Review: This regulation sets requirements and best practices that must be applied to new emission sources.

Rule 1303 – Requirements: This rule establishes that all new or modified emission sources must apply the Best Available Control Technology (BACT) in order to be permitted.

Regulation XIV – Toxics and Other Non-Criteria Pollutants: Regulation XIV sets requirements for new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants or other non-criteria pollutants.

Rule 1401 – New Source Review of Toxic Air Contaminants: This rule specifies the limits for maximum cancer risk and hazard index from new, modified, or relocated emissions sources. In order to quantify the health and hazard risk of these emissions sources, a health risk assessment must be conducted.

Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities: This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of asbestos-containing materials, any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants: This rule establishes requirements for owner or operators conducting earth moving activities of soils

with applicable toxic air contaminates from designated sites. These requirements include monitoring, implementing fugitive dust control methods, notifying requirements prior to earthmoving activities, signage requirements, and recordkeeping requirements.

Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines: This rule applies to stationary compression ignition (CI) engines greater than 50 brake horsepower, such as emergency generators, and sets limits on emissions and operating hours. In general, new stationary emergency standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing.

Southern California Association of Governments (SCAG)

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the Southern California region and is the largest MPO in the nation.

Pursuant to Health & Safety Code Section 40460, SCAG is responsible for preparing and approving the portions of the AQMP relating to regional demographic projections and integrated regional land use, housing, employment and transportation programs, measures and strategies. On April 4, 2024, the SCAG's Regional Council formally adopted 2024–2050 RTP/SCS (Connect SoCal 2024), which is an update to the previous Connect SoCal 2020 (SCAG 2024). Using growth forecasts and economic trends, both the Connect SoCal 2020 and Connect SoCal 2024 provide a vision for transportation throughout the region for the next several decades by considering the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future and identifying regional transportation strategies to address mobility needs. Connect SoCal 2024 describe how the region can attain the GHG emission-reduction targets set by CARB by achieving reductions in per-capita transportation GHG emissions of 8 percent by 2020 and 19 percent by 2035, compared to the 2005 level (SCAG 2024). Compliance with and implementation of Connect SoCal 2024 policies and strategies would have the co-benefit of reducing per capita criteria air pollutant emissions (e.g., nitrogen dioxide, carbon monoxide, etc.) associated with reduced per capita VMT.

Connect SoCal 2024 states that the SCAG region was home to approximately 19 million people in 2019 and included approximately 6.2 million homes and approximately 9 million jobs (SCAG 2024). By 2050, the integrated growth forecast projects that these figures will increase by 2 million people, with approximately 1.6 million more homes and 1.3 million more jobs (SCAG 2024). Connect SoCal 2024 will add 181,200 new miles of transit service, 4,000 new miles of bike lanes and 869 new miles to the Regional Express Lane Network (SCAG 2024).

Connect SoCal 2024's GHG emissions reduction target is more dependent on policies and programs than on capital projects, but it is projected to meet the 2035 target of 19 percent below 2005 levels (SCAG 2024). SCAG achieved the 8 percent GHG emissions reduction from 2005 levels by 2020; however, the decreased travel during the COVID-19 shutdown most likely helped achievement of the 2020 target.

Local

County of Riverside General Plan

The Riverside County Air Quality Element (Chapter 9 of the County's General Plan) was formally adopted on July 17, 2018. It outlines baseline air quality conditions, covers pollutant standards, emissions inventories, and key emission sources. In addition, it establishes policies to reduce criteria pollutants and greenhouse gases through strategies like transit promotion, land-use planning, dust control, and energy/water conservation.

Policy AQ 1.1 Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.

Policy AQ 1.2 Support Southern California Association of Government's Regional Growth Management Plan by developing intergovernmental agreements with appropriate governmental entities such as the Western Riverside Council of Governments (WRCOG), the Coachella Valley Association of Governments (CVAG), sanitation districts, water districts, and those subregional entities identified in the Regional Growth Management Plan.

Policy AQ 1.4 Coordinate with the SCAQMD and MDAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced. Policy AQ 2.1 The County land use planning efforts shall assure that sensitive receptors are separated and protected from polluting point sources to the greatest extent possible.

Policy AQ 2.2 Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible.

Policy AQ 2.3 Encourage the use of pollution control measures such as landscaping, vegetation and other materials, which trap particulate matter or control pollution.

Policy AQ 4.1 Require the use of all feasible building materials/methods which reduce emissions.

Policy AQ 4.7 To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD, SCAB, the Environmental Protection Agency and the California Air Resources Board where feasible.

Policy AQ 4.9 Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.

Policy AQ 4.10 Coordinate with the SCAQMD and MDAQMD to create a communications plan to alert those conducting grading operations in the County of first, second, and third stage smog alerts, and when wind speeds exceed 25 miles per hour. During these instances all grading operations should be suspended.

Policy AQ 5.1 Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

Policy AQ 5.4 Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

Policy AQ 17.1 Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles to the extent possible.

Policy AQ 20.10 Reduce energy consumption of the new developments (residential, commercial and industrial) through efficient site design that takes into consideration solar orientation and shading, as well as passive solar design.

Policy AQ 20.11 Increase energy efficiency of the new developments through efficient use of utilities (water, electricity, natural gas) and infrastructure design. Also, increase energy efficiency through use of energy efficient mechanical systems and equipment.

Policy AQ 20.13 Reduce water use and wastewater generation in both new and existing housing, commercial and industrial uses. Encourage increased efficiency of water use for agricultural activities.

Policy AQ 20.28 Increase the energy efficiency of all existing and new County buildings and infrastructure operation (roads, water, waste disposal and treatment, buildings, etc.). Also, decrease energy use through incorporating renewable energy facilities (such as, solar array installations, individual wind energy generators, geothermal heat sources) on County facilities where feasible and appropriate.

County of Riverside Climate Action Plan Update, November 2019

The 2019 CAP Update refines the County's efforts to meet greenhouse gas (GHG) reduction strategies, specifically for the years 2035 and 2050. The 2019 CAP Update builds upon the GHG reduction strategies in the 2015 Climate Action Plan. The CAP Update summarizes various State and local policies that will contribute to reduced GHG emissions in Riverside County by the year 2020 and beyond. Some of these policies include updated building codes for energy efficiency, the low carbon fuel standard, Pavley (California Assembly Bill) vehicle emissions standards, and the Renewable Portfolio Standards for utility companies.

City of Riverside General Plan

The City of Riverside's Air Quality Element was adopted as part of the broader General Plan 2025 which was formally adopted by the City Council in November 2007. As a planning tool, it establishes policies and implementation measures to protect public health by addressing local pollutants, aerial emissions, and greenhouse gases through air quality monitoring, establishing emissions inventories, and coordination with regional and state agencies. The City's Air Quality Element lays out goals focused on land-use planning, transportation strategies, industrial controls, and community engagement to reduce criteria pollutants and greenhouse gases. The following policies would be applicable to the Project:

Policy AQ-1.1: Ensure that all land use decisions, including enforcement actions, are made in an equitable fashion to protect residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status or geographic location, from the health effects of air pollution.

Policy AQ-1.3: Separate, buffer and protect sensitive receptors from significant sources of pollution to the greatest extent possible.

Policy AQ-1.11: Locate public facilities and services so that they further enhance job creation opportunities

Policy AQ-1.21: Cooperate and participate in regional air quality management plans, programs and enforcement measures

Policy AQ-2.24: Support full compliance with the SCAQMD's Clean Fleet Rules

Policy AQ-3.4: Require projects to mitigate, to the extent feasible, anticipated emissions which exceed AQMP Guidelines.

Policy AQ-3.6: Support "green" building codes that require air conditioning/filtration installation, upgrades or improvements for all buildings, but particularly for those associated with sensitive receptors.

Policy AQ-3.7: Require use of pollution control measures for stationary and area sources through the use of best available control activities, fuel/material substitution, cleaner fuel alternatives, product reformulation, change in work practices and of control measures identified in the latest AQMP.

Policy AQ-4.2: Reduce particulate matter from agriculture (e.g., require use of clean non-diesel equipment and particulate traps), construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way and off-road vehicles to the extent possible, as provided in SCAQMD Rule 403.

Policy AQ-4.5: Require the suspension of all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

Policy AQ-5.1: Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

City of Riverside Economic Prosperity Action Plan and Climate Action Plan, January 2016

The Riverside Restorative Growthprint (RRG) is the combination of two plans: the Economic Prosperity Action Plan (EPAP) and the Climate Action Plan (CAP), which work together to promote entrepreneurship and smart growth while advancing the City of Riverside's GHG emission reduction goals. The adoption of the Plan will result in actions to reduce GHG emissions that align with the City's planning priorities and its vision of a future "green" economy based on sustainable businesses. This plan implements different design elements that increase energy efficiency.

The document contains GHG reduction measures organized into four primary sectors to meet these targets:

- Energy: Promote energy efficiency and renewable energy for municipal operations and the community Crestview Apartments 12585-05 GHG Report 39
- Transportation and Land Use: Measures to reduce single-occupancy travel, increase nonmotorized travel, improve transit access, encourage alternative fuels, and promote sustainable growth patterns.
- Water: Measures to reduce water demand by community and municipal operations and to conserve potable water.
- Solid Waste: Measures to reduce solid waste during construction and operational activities.

3.3.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

Air Quality

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance for air quality and GHG emissions to determine the impacts of the proposed project.

The proposed project would have a significant impact related to air quality 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.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
5. Result in cumulatively considerable impacts to air quality.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. The Air Basin is currently in non-attainment for ozone, PM10, and PM2.5. SCAQMD methodology recommends that significance thresholds be used to determine the potential cumulative impacts to regional air quality along with a project's consistency with the current AQMP.

The SCAQMD has established numerical significance thresholds for construction and operational activities. The numerical thresholds are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health (SCAQMD 2023). Given that construction impacts are temporary and limited to the construction phase, the SCAQMD has established numerical significance thresholds specific to construction activity. For determining the significance of operational emissions, the SCAQMD has established numerical indicators as significance thresholds based, in part, on Section 182(e) of the CAA, which sets 10 tons per year of VOC as a significance level for stationary source emissions in extreme non-attainment areas for ozone (SCAQMD 1993). As shown in Table 3.3-1, the Air Basin is designated as extreme non-attainment for ozone. The SCAQMD converted this significance level to pounds per day for ozone precursor emissions (10 tons per year × 2,000 pounds per ton ÷ 365 days per year = 55 pounds per day). The numeric indicators for other pollutants are also based on federal stationary source significance levels. Based on the thresholds in the SCAQMD CEQA Air Quality Handbook (SCAQMD 2019), the proposed project would potentially result in a significant impact of a federal or state non-attainment pollutant if emissions of ozone precursors (VOC and NO_X), PM10, or PM2.5 would exceed the values shown in **Table 3.3-4**.

TABLE 3.3-4
SCAQMD REGIONAL EMISSIONS THRESHOLDS (POUNDS PER DAY)

Activity	VOC	NO_X	CO	SO_2	PM10	PM2.5
Construction	75	100	550	150	150	55
Operation	55	55	550	150	150	55

SOURCE: South Coast Air Quality Management District, Air Quality Significance Thresholds, 2023.

Greenhouse Gas Emissions

The proposed project would have a significant impact related to greenhouse gas emissions if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
3. Result in cumulatively considerable impacts to GHG emissions.

In December 2008, the SCAQMD adopted a 10,000 $MTCO_2e$ per year significance threshold for industrial facilities for projects in which the SCAQMD is the lead agency. Although SCAQMD has not formally adopted a significance threshold for GHG emissions generated by a project for which SCAQMD is not the lead agency, or a uniform methodology for analyzing impacts related to GHG emissions on global climate change, in the absence of any industry-wide accepted standards applicable to this project, the SCAQMD's significance threshold of 10,000 $MTCO_2e$ per year for industrial projects is the most relevant GHG significance threshold and is used as a benchmark for the proposed project. It should be noted that the SCAQMD's significance threshold of 10,000 $MTCO_2e$ per year for industrial projects is intended for long-term operational GHG emissions. The SCAQMD has developed guidance for the determination of the significance of GHG construction emissions that recommends that total emissions from construction be amortized over an assumed project lifetime of 30 years and added to operational emissions and then compared to the threshold (SCAQMD 2008).

Methodology

The Riverside FMP includes water, recycled water, and wastewater projects. Priority facility upgrade projects and near-term projects would be implemented by 2030 are analyzed at the project-level. Future projects would be implemented from 2030 to 2050 and are analyzed programmatically. The analysis below is organized by project- and program-level phases and is structured by facility type: pipeline, pump/lift station, storage tank, and treatment facility expansion.

Construction Emissions

Construction of the proposed project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as cranes and excavators, and through vehicle trips generated from worker trips, haul trucks, and vendor/material supply trucks traveling to and from the project areas. In addition, fugitive dust emissions would result from demolition, excavation, and various soil-handling activities. Evaporative emissions of VOCs result from the application of asphalt and

architectural/industrial coatings and vary depending on the amount of asphalt and coatings applied on a daily basis. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. In addition, construction of the various projects may overlap. The assessment of construction air quality impacts considers each of these potential sources of emissions.

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities and applying the mobile source and fugitive dust emissions factors. The emissions are estimated using the California Emissions Estimator Model (CalEEMod) software, an emissions inventory software program recommended by SCAQMD. CalEEMod is based on outputs from OFFROAD and EMFAC, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on- and off-road vehicles. The input values used in the CalEEMod analysis were adjusted to be project-specific based on construction information provided by the WMWD based on representative conservative project parameters for each type of project (pipeline, lift/pump station upgrade, lift/pump station construction, storage tank construction and upgrade). These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in **Appendix AQ/GHG** of this Draft PEIR.

The proposed project is divided and analyzed in two phases: (1) priority and near-term and (2) future phases. Priority and near-term project components are estimated to begin construction before 2030 with future phases to be implemented after 2030.

Priority Facility Upgrade and Near-Term Projects (Project Level)

Priority Projects

The priority projects address existing water and wastewater system deficiencies that critically affect the ability of WMWD to provide reliable service. Construction of the priority projects is anticipated to occur prior to 2030. For analysis purposes, a conservative approach was assumed and all priority projects would have 2024 equipment emission factors.[4] Construction may commence on a later date or construction could occur over a longer period of time than that analyzed in this air quality impact analysis, which would result in construction impacts being less than those analyzed. This is because a more energy-efficient and cleaner burning construction equipment fleet mix would be expected in the future, pursuant to State regulations that require construction equipment fleet operators to phase-in less polluting heavy-duty equipment.

The priority projects consist of upsizing potable water pipelines to address velocity issues, increase fire flow capacity, and improve reliability to the area. Projects include W-1 Moonridge Drive Pipeline Upsizing, W-2 Blackburn Road Pipeline Upsizing, and W-3 Cedar Street and Avenue D Pipeline Upsizing. The priority projects also include wastewater pipeline McKinley Truck Sewer 1 Pipeline

[4] The modeling conducted for the near-term project components included in Appendix AQ/GHG assumes emission factors for year 2024, which is a more conservative approach that starting the project at a later date as stated in this section. This is due to the fact that construction contractors are required by State regulations to phase in construction equipment that meet more stringent emissions standards over time; therefore, the analysis assumes more emissive equipment will be used for the project when in reality a less emitting fleet may be used during future construction timeframes. Therefore, the analysis contained herein and in Appendix AQ/GHG provides a more conservative emissions analysis.

Upsizing. Construction of pipeline upsizing would install 50 to 100 linear feet per day. On a per 1,000 linear foot basis, 50 to 100 linear feet per day results in 10 to 20 days of pipeline construction activity. As a conservative assumption for modeling air pollutant and GHG emissions, a rate of 50 linear feet per day is used for pipeline construction activity with an upper range of 20 days per 1,000 linear feet of installation. Additionally, the modeling is conservatively based on the excavation and fill requirements for a 24-inch diameter pipeline installation. The pipeline upsizing projects would include site preparation, pipeline installation (trenching/placement/backfill) and surface restoration (paving). It was assumed that 590 cubic yards of soil per 1,000 linear feet of pipeline would be hauled offsite for disposal and approximately 440 cubic yards of imported material (rock) would be require, based on estimates for a 24-inch diameter pipeline installation, excavation and fill material for smaller diameter pipelines would be less and emissions and construction estimates would be conservative. A maximum of eight workers per day would be required.

Wastewater lift stations will be upgraded to achieve better performance of the wastewater collection system (projects WW-2 Markham Lift Station Upgrade and WW-2 Beazer Lift Station Upgrade). The construction phases for a minor lift station upgrade include interior construction. Excavated soils would be reused onsite to the extent feasible and otherwise disposed offsite. The construction duration for a minor lift station would be approximately 6 months to complete with a maximum of five workers per day. Much of the work for lift station upgrade projects would be electrical and mechanical upgrades completed within the existing lift/pump station and would not involve as extensive work as compared to the construction of new lift station facilities.

As previously noted, construction of projects may overlap. The construction assumptions for the priority projects are based on conservative yet reasonably foreseeable implementation scenario. Based on the identified project list, the anticipated planning horizon for completion of near-term projects, and Western's expected engineer, funding, and construction management capacity, it was conservatively assumed that construction of two pipeline projects and one minor wastewater lift station would occur simultaneously, with their respective construction phases overlapping. This scenario represents simultaneous construction of 3 infrastructure projects, or approximately 50% of the 6 identified priority projects.

Construction of a greater number of projects at the same time is not reasonably foreseeable because project implementation is constrained by funding availability, staffing resources, design and permitting schedules, contractor availability, utility coordination requirements, right-of-way acquisition, and procurement lead times. In addition, the identified projects are expected to be implemented over multiple years and are not programmed for concurrent construction. Accordingly, assuming a greater degree of overlap would require unsupported assumptions regarding future project delivery schedules and would not be supported by substantial evidence.

Near-term Projects

The Near-term projects include water, recycled water, and wastewater infrastructure improvements. Construction of the near-term projects is anticipated to occur before 2030. However, for analysis purposes, a conservative approach was assumed and all near-term projects would have 2024 equipment emission factors. Construction may commence on a later date or construction could occur over a longer period of time than that analyzed in this air quality impact analysis, which would result in construction

impacts being less than those analyzed. This is because a more energy-efficient and cleaner burning construction equipment fleet mix would be expected in the future, pursuant to State regulations that require construction equipment fleet operators to phase-in less polluting heavy-duty equipment.

These near-term projects involve either the construction of new facilities to accommodate planned development or the improvement of existing facilities that require replacement or upgrades due to system deficiencies. Projects related to storage tanks includes construction of Project W-5 New 3 MG Hidden Valley Tank, Project W-6 New 1.5 MG El Nido Tank, Project W-7 New 7 MG Markham Tank, Project W-9 New Orangecrest Tank, Project RW-1 Orangecrest Recycled Water Tank, and Project RW-1 Lurin Irrigation Tank Improvements. Projects related to pump/lift stations include Project W-4 Hillside 2320 PZ Booster Pump Station and Pipeline, Project RW-1 Cemetery PS Expansion, Project RW-1 El Sobrante PS Expansion (150 HP), Project WW-4 MARB 1269 Lift Station and Forcemain Upgrade (WWRF), and Project WW-5 Meridian Lift Station Upgrades (WWRF). Projects related to pipeline construction include Project W-11 Cole Ave/Cedar Street Upsize, Project W-12 Mariposa Ave/Lurin Avenue Upsize, W-13 Highland Grove Pipeline, Project W-14 Highland Grove II and III 12-inch Pipeline, Project W-15 Juniper Road Pipeline Upsizing, Project RW-1 Orangecrest Supply Pipelines, Project RW-1 Bergamont Park Conversion to RW, Project RW-1 Meridian West Pipelines, Project RW-1 Idaleona Drive Upsize, Project RW-1 Lake Ranch Pipelines. Other improvements include Project W-10 Highland Grove PRV and Project WW-6 WWRF Expansion Study.

The construction phases for construction of a new tank include site preparation, excavation/grading, foundation, tank erection, coating, paving, and cathodic protection. For construction of a representative 5 MG tank, it was assumed that 700 cubic yards of soil would be hauled offsite for disposal and approximately 720 cubic yards of concrete would be required and a maximum of 8 workers per day would be required at any given time during tank construction. Construction of larger tanks would require proportionately greater cubic yards of soil and concrete, and proportionately more days of construction activity to accommodate the increased soil and concrete work. The total emissions accounting for larger tanks and greater number of construction days are estimated by multiplying the values for a 5 MG tank by a proportional scalar factor based on the tank size.

Tank upgrades involves increasing the wall heights to increase tank capacity. The construction phases for a tank upgrade include tank erection, coating, and cathodic protection. It was assumed that no soil export would be required for upgrades to existing tanks. A maximum of 8 workers per day would be required at any given time during tank construction.

The pipeline upsizing projects would include site preparation, pipeline installation (trenching/placement/backfill) and surface restoration (paving). As explained above for Priority projects, it is also conservatively assumed for modeling purposes for Near-term projects that pipeline construction would occur at a rate of 50 linear feet per day with an upper range of 20 days per 1,000 linear feet of installation. It was assumed that 590 cubic yards of soil per 1,000 linear feet of pipeline would be hauled offsite for disposal and approximately 440 cubic yards of imported material (rock) would be require, based on estimates for a 24-inch diameter pipeline installation, excavation and fill material for smaller diameter pipelines would be less and emissions and construction estimates would be conservative. A maximum of eight workers per day would be required.

The construction phases for a major lift station upgrade would include interior construction and paving. Excavated soils would be reused onsite to the extent feasible and otherwise disposed offsite. The construction duration for a major lift station would be approximately 12 months with a maximum of five workers per day. Much of the work for lift station upgrade projects would be electrical and mechanical upgrades completed within the existing lift/pump station and would not involve as extensive work as compared to the construction of new lift station facilities.

Construction of the project may result in the need for blasting to remove bedrock. Emissions from blasting were calculated following the methodology in EPA's AP-42 for fugitive dust from blasting and criteria pollutant emissions from explosive use. It is assumed that the project could have up to 10 blasts in one day.

The construction assumptions for the near-term projects are based on conservative yet reasonably foreseeable implementation scenario. Based on the identified project list, the anticipated planning horizon for completion of near-term projects, and Western's expected engineer, funding, and construction management capacity, it was conservatively assumed that construction of two pipeline projects, two storage tank build projects, one storage tank upgrade, and two major wastewater lift stations upgrades would occur simultaneously, with their respective construction phases overlapping. This scenario represents simultaneous construction of 7 major infrastructure projects, or approximately 30% of the 23 identified near-term projects.

Construction of a greater number of projects at the same time is not reasonably foreseeable because project implementation is constrained by funding availability, staffing resources, design and permitting schedules, contractor availability, utility coordination requirements, right-of-way acquisition, and procurement lead times. In addition, the identified projects are expected to be implemented over multiple years and are not programmed for concurrent construction. Accordingly, assuming a greater degree of overlap would require unsupported assumptions regarding future project delivery schedules and would not be supported by substantial evidence.

Future Projects (Program Level)

The future projects include those projects needed to meet future buildout service demands. The construction of these projects would start after 2030. For analysis purposes, the future projects were conservatively assumed to occur in the earliest year of 2031. The future projects would include the construction of new facilities or improvements to existing facilities, and would consist of six new storage tanks, nine lift/pump station upgrades, and upsizing of approximately 66,400 linear feet of pipeline. The actual timing of future facilities will be dependent upon the actual rate of growth and the timing of new developments expected in the Riverside Retail Service Area. Additionally, the exact location of infrastructure and sizing could change depending on buildout scenarios.

Aside from proposed construction years, all future project construction assumptions for construction equipment types, pipeline construction and installation days and material export and import per 1,000 linear feet, tank soil excavation and concrete volume rates, and haul trucks and number of workers would be similar to the near-term and priority projects described above.

Construction of the future projects may result in the need for blasting to remove bedrock. Emissions from blasting were calculated using the same methodology for the near-term and priority projects described above.

The construction assumptions for the long-term projects are based on conservative yet reasonably foreseeable implementation scenario. For long-term projects, the timing and sequencing of implementation are inherently less certain due to the extended planning horizon, evolving infrastructure needs, funding availability, and future regulatory requirements. Accordingly, assumptions regarding construction of long-term projects are necessarily more generalized and are intended to represent a reasonable planning-level scenario rather than a specific construction schedule.

Based on the project list and the timeframe for the completion of future projects, it was conservatively assumed that construction of two pipeline projects, one storage tank build projects, and two minor wastewater lift stations would occur at the same time and their respective construction phases would occur simultaneously, with their respective construction phases overlapping. This scenario represents simultaneous construction of 7 major infrastructure projects, or approximately 20% of the 25 identified long-term projects.

Operation Emissions

Operational activities would consist of the operation of the lift/pump stations, storage tanks, pipelines, and treatment plant expansion. Emissions produced from operation of the proposed project would be analyzed. There are no known or expected new sources of stationary emission sources (like emergency generators). During operation of the priority, near-term, and future projects, the projects do not create a need for new or substantially increased inspections or maintenance activities beyond those already performed. Therefore, no additional emissions would be generated from vehicle trips by worker staff for periodic inspections or maintenance purposes.

In addition to regional pollutant emissions, potential localized air quality impacts on sensitive receptors must also be addressed from operational activities. Localized impacts are analyzed on-site or around the immediate vicinity of the project site. Proposed project operational activities consist strictly of off-site emission sources (mobile sources and indirect sources) of criteria pollutants and would not include substantial on-site sources of criteria pollutant emissions. Because localized impacts are associated with on-site operational emission sources in close proximity to sensitive receptors, the proposed project would not be expected to generate substantial localized operational impacts. Therefore, this analysis includes a qualitative discussion of associated localized impacts.

Sensitive Receptor Exposure to Pollutants

Land uses, such as schools, hospitals, and convalescent homes are considered to be sensitive to poor air quality conditions because infants, children, the elderly, and people with health afflictions (especially respiratory ailments), are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution, even though exposure periods during exercise are generally short.

The proposed project area includes mostly primarily rural areas as well as more populated areas within the City of Riverside. Residences, schools, hospitals, and daycare centers are located near or immediately adjacent to proposed projects. In this analysis, it was assumed the nearest receptor would be a residence located adjacent to a project site.[5]

CO Hotspots

Localized areas where ambient concentrations exceed state and/or federal standards are termed CO hotspots. Emissions of CO are produced in greatest quantities from motor vehicle combustion and are usually concentrated at or near ground level because they do not readily disperse into the atmosphere, particularly under cool, stable (i.e., low or no wind) atmospheric conditions. Carbon monoxide decreased dramatically in the Air Basin with the introduction of the catalytic converter in 1975. No exceedances of CO have been recorded at monitoring stations in the Air Basin in recent years and the Air Basin is currently designated as a CO attainment area for both the CAAQS and NAAQS. The SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the South Coast Air Basin. These include (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; and (d) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP, the SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in Table 4-10 of Appendix V of the 2003 AQMP shows that the peak modeled CO concentration due to vehicle emissions at these four intersections was 4.6 ppm (1-hour average) and 3.2 ppm (8-hour average) at Wilshire Boulevard and Veteran Avenue. When added to the existing background CO concentrations, the screening values would be 8.7 ppm (1-hour average) and 5.6 ppm (8-hour average). Based on the data, more than 400,000 vehicles per day would need to pass through an intersection in order for the thresholds to be exceeded. As the proposed project would add at a nominal amount of trips through any intersection within the MWWD service area, CO impacts are discussed qualitatively in this analysis.

TAC Emissions

The greatest potential for TAC emissions during construction would be related to DPM emissions associated with heavy-duty equipment during demolition, excavation and grading activities. Construction activities associated with the proposed project would be sporadic, transitory, and short term in nature. The OEHHA is responsible for developing and revising guidelines for performing health risk assessments (HRAs) under the State's Air Toxics Hot Spots Program Risk Assessment (AB 2588) regulation. In March 2015, OEHHA adopted revised guidelines that update the previous guidance by incorporating advances in risk assessment with consideration of infants and children using Age Sensitivity Factors (ASF). The analysis of potential construction TAC impacts considers the OEHHA revised guidelines as well as the duration of construction, level of construction activity, scale of the proposed project, and compliance with regulations that would minimize construction TAC emissions.

[5] SCAQMD's Localized Significance Threshold Methodology (refer to page 3-3) states for project boundaries located closer than 25 meters (82 feet) to the nearest receptor, such as the proposed project where the nearest receptors are assumed to be located adjacent to the project site, should use the LSTs for receptors located at 25 meters.

A qualitative analysis of TAC emissions from operational activities will also be included since the proposed project is not expected to include stationary sources of TACs, such as emergency generators that would operate the pumps during power outages. Some types of stationary sources would be subject to SCAQMD's rules, regulations and permitting. Thus, during the permitting process SCAQMD would analyze such sources (e.g., health risk assessment) based on their potential to emit TACs. If it is determined that the sources would emit TACs in excess of SCAQMD's applicable significance threshold, the SCAQMD would deny the operating permit.

Odors

Potential odor impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis as necessary. The screening-level analysis consists of reviewing the proposed project's site plan and project description to identify new or modified odor sources. If it is determined that the proposed project would introduce a potentially significant new odor source, or modify an existing odor source, then downwind sensitive receptor locations are identified and a site-specific analysis is conducted to determine impacts.

Greenhouse Gas Emissions

As noted above, the increased concentration of GHGs in the atmosphere has been linked to global warming, which can lead to climate change. Construction and operation of the proposed project would incrementally contribute to GHG emissions along with past, present and future activities. As such, impacts of GHG emissions are analyzed here on a cumulative basis.

Similar to the air quality analysis, GHG emissions are estimated using the California Emissions Estimator Model (CalEEMod). CalEEMod is based on outputs from OFFROAD and EMFAC, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on- and off-road vehicles. The input values used in the CalEEMod analysis were adjusted to be project-specific based on construction information provided by the WMWD based on representative conservative project parameters for each type of project (pipeline, lift/pump station upgrade, lift/pump station construction, storage tank construction and upgrade). These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate GHG emissions values for each construction activity. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in Appendix AQ/GHG of this Draft PEIR.

Consistency with Greenhouse Gas Reduction Plans, Policies, and Regulations

The proposed project's GHG emissions are also evaluated by assessing consistency with applicable GHG reduction strategies. As discussed previously, the GHG regulations have been adopted primarily at the federal and state levels to reduce emissions of GHGs from project sources, such as trucks and energy, under the Clean Air Act and the State's GHG regulatory framework under HSC Division 25.5. Impacts are evaluated based on consistency with these applicable regulations.

Impact Analysis

Conflict with or Obstruct Air Quality Plans

Impact 3.3-1: The proposed project could conflict with or obstruct implementation of the applicable air quality plan.

Priority, Near-Term, and Future Projects

All Facilities

To evaluate consistency with the AQMP, the SCAQMD recommends that lead agencies evaluate whether a project is consistent with the land use assumptions upon which the AQMP is based. The proposed project is within WMWD's service area, which is located in western Riverside County, approximately 50 miles east of Los Angeles and operation of most proposed facilities, such as storage tanks, pump stations, pipelines, and treatment facilities would not require daily staffing but rather require only periodic maintenance. No new staff would be added to support operation and maintenance of the upgraded/new facilities; existing staff would be rotated to serve maintenance needs. Therefore, the project would not require substantially more workers and would not conflict with the long-term employment projections upon which the AQMP is based. Emissions control strategies for construction activities outlined in the current 2022 AQMP, include MOB-06 and MOB-11, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating the replacement of older, emissions-prone engines with newer engines that meet more stringent emission standards. Implementation of the Riverside FMP projects would be subject to CARB requirements for construction activities to minimize short-term emissions from on-road and off-road diesel equipment. Construction activities would also be subject to SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403, such as the requirement to apply water spray/mists or similar suppressant (e.g., SoilSeal) at least 3 times per day on active areas of disturbance and unpaved roads, and limit truck speed to 15 miles per hour or less on unpaved roads to minimize dust on unpaved roads at the construction site. Compliance with these regulations would ensure that Riverside FMP project emissions are consistent with the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. Because the project would be subject to regulations requiring control strategies intended to reduce emissions from construction equipment, the project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

As discussed in the *Methodology* section above, a project is deemed to not conflict with the applicable air quality plan if it is consistent with the existing land use plan that was used to generate the growth forecast and does not increase dwelling unit density, vehicle trips, and vehicle miles traveled due to zoning changes, specific plans and general plan amendments. The priority, near-term and future components of the Riverside FMP do not include residential or commercial development. Implementation of the Riverside FMP projects would not induce any additional growth within the service area, but rather would accommodate planned growth within the Riverside Retail Service Area. The Riverside FMP projects would not induce unplanned population or employment growth. Therefore, implementation of the project would not conflict with growth projections in the SCAQMD AQMP. As such, the proposed project would not conflict with, or obstruct, implementation of the AQMP, and this impact would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Net Increase of Criteria Pollutants

Impact 3.3-2: The proposed project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

Priority Projects – Construction

All Facilities

Construction of the priority projects is anticipated to prior to 2030. For analysis purposes, the priority projects were conservatively assumed to be constructed using 2024 emissions factors. Construction impacts would be short-term and limited to the period of time when construction activities are taking place. The analysis below assumes that two pipeline projects and one minor lift station upgrade would occur at the same time and their respective construction phases would occur concurrently. The maximum daily emissions from the potentially overlapping projects were combined and compared against SCAQMD's air quality significance thresholds. See Appendix AQ/GHG for the estimated construction schedule and equipment list. The maximum daily emissions generated by the priority projects are shown below in **Table 3.3-5**, which demonstrates that construction of the projects would not exceed any SCAQMD air quality significance thresholds and therefore would not violate a regional air quality standard. Impacts related to an increase in criteria pollutants for priority projects would be less than significant.

TABLE 3.3-5
PRIORITY PROJECT MAXIMUM DAILY CONSTRUCTION EMISSIONS

	Maximum Daily Emissions (lbs/day)[a]					
Project Component/Phase[b]	**VOC**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
Pipeline (2)						
Maximum Daily Emissions	3.6	32.3	30.0	0.1	7.0	4.0
Lift/Pump Stations (Upgrade) (1)						
Maximum Daily Emissions	1.1	8.2	10.4	0.0	0.6	0.4
Total (Without Blasting)	**4.7**	**40.5**	**40.4**	**0.1**	**7.6**	**4.4**
Blasting (up to 10 blasts/day)						
Maximum Daily Emissions	0.0	1.2	4.7	0.1	3.7	0.2
Total (With Blasting)	**4.7**	**41.7**	**45.1**	**0.2**	**11.3**	**4.6**
SCAQMD Significance Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

a. Totals may not add up exactly due to rounding in the modeling calculations.
b. It was conservatively assumed that construction of two pipeline projects and one minor lift station upgrade would occur at the same time and their respective construction phases would occur concurrently.

SOURCE: ESA 2026.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Near-Term Projects – Construction

All Facilities

Although construction of the near-term projects is anticipated to start in various years prior to 2030, the analysis conservatively assumed all near-term projects would be constructed using 2024 emissions factors (as off-road and on-road vehicles get cleaner over time).[6] Although it is unlikely that multiple projects would be occurring at the same time, the analysis for the near-term projects conservatively assumes that construction of two pipeline projects, two storage tank build projects, one storage tank upgrade, and two major wastewater lift stations would occur at the same time and their respective construction phases would occur concurrently.

The maximum daily emissions from the overlapping projects were combined and compared against SCAQMD's air quality significance thresholds. See Appendix AQ/GHG for the estimated construction schedule and equipment list. The maximum daily emissions generated by near-term project components and their sum are shown below in **Table 3.3-6**, which demonstrates that construction of the near-term projects would not exceed any SCAQMD air quality significance thresholds and therefore would not violate a regional air quality standard. Impacts related to an increase in criteria pollutants for near-term projects would be less than significant.

While the emissions shown in Table 3.3-6 are below the numeric SCAQMD significance thresholds, the combined VOC emissions are less than 1 pound per day of the threshold. Given that the combined VOC emissions would be very close to the threshold value with a less than 1 pound per day difference, the impact is considered potentially significant and **Mitigation Measure AQ-1** is required. With implementation of Mitigation Measure AQ-1, impacts would be reduced to a less-than-significant level.

[6] The modeling conducted for the near-term project components included in Appendix AQ/GHG assumes a project start of 2024, which is a more conservative approach that starting the project at a later date as stated in this section. This is due to the fact that construction contractors are required by State regulations to phase in construction equipment that meet more stringent emissions standards over time; therefore, the analysis assumes more emissive equipment will be used for the project when in reality a less emitting fleet may be used during later construction timeframes. Therefore, the analysis contained herein and in Appendix AQ/GHG provides a more conservative emissions analysis.

TABLE 3.3-6
NEAR-TERM PROJECT DAILY CONSTRUCTION EMISSIONS

	Maximum Daily Emissions (lbs/day)[a]					
Project Component/Phase[b]	**VOC**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
Pipelines (2)						
Maximum Daily Emissions	3.6	32.3	30.0	0.1	7.0	4.0
Storage Tank (New) (2)						
Maximum Daily Emissions	45.7	31.3	24.8	0.1	6.9	3.9
Storage Tank (Upgrade) (1)						
Maximum Daily Emissions	22.8	9.3	12.4	0.0	0.6	0.4
Lift/Pump Stations (Upgrade) (2)						
Maximum Daily Emissions	2.1	16.3	20.8	0.0	1.1	0.8
Total (Without Blasting)	**74.2**	**89.3**	**88.0**	**0.2**	**15.5**	**9.1**
Blasting (up to 10 blasts/day)						
Maximum Daily Emissions	0.0	1.2	4.7	0.1	3.7	0.2
Total (With Blasting)	**74.2**	**90.5**	**92.7**	**0.3**	**19.2**	**9.3**
SCAQMD Significance Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	**Potentially**	**No**	**No**	**No**	**No**	**No**

a. Totals may not add up exactly due to rounding in the modeling calculations.
b. It was conservatively assumed that construction of two pipeline projects, two storage tank build projects, one storage tank upgrade, and two major lift station upgrades would occur at the same time and their respective construction phases would occur concurrently.

SOURCE: ESA 2026.

Mitigation Measures

AQ-1: WMWD shall track the construction schedules for projects implemented for the Riverside Facility Master Plan. If multiple projects would have construction activities occurring at the same time, WMWD shall limit the number of concurrent project types with construction activities to the following or fewer: two pipeline projects; two new storage tank projects; one storage tank upgrade project; two major wastewater lift station projects; and up to 10 blasts on one day.

If the number of concurrent projects with construction activities exceeds the list above (either based on the total number of concurrent projects or the number of each project type), WMWD shall incorporate and implement all feasible mitigation measures necessary to reduce emissions below the applicable threshold. Such measures may include, but are not limited to the use of equipment that meet the Tier 4 interim or final off-road emission standards, use of alternative-fueled or zero emission equipment in place of fossil-fueled equipment, use of cleaner fuels, and other measures identified through an air quality analysis. WMWD shall verify implementation of all required mitigation measures prior to and during construction.

Significance Determination

Less than Significant with Mitigation

Future Projects – Construction

Pipelines, Pump/Lift Stations, Storage Tanks

The construction of the future projects is anticipated to start after 2030. The actual timing and location of future facilities will be dependent upon the actual rate of growth and the timing of new developments expected in the Riverside Retail Service Area. For analysis purposes, emissions from all future projects were conservatively assumed to be constructed using the earliest year of 2031 emission factors (off-road and on-road equipment gets cleaner over time). The analysis for the future projects assumes that two pipeline projects, one storage tank build project, and two minor wastewater lift stations would occur at the same time and their respective construction phases would occur concurrently. The maximum daily emissions from the potentially overlapping projects were combined and compared against SCAQMD's air quality significance thresholds. See Appendix AQ/GHG for the estimated construction schedule and equipment list. The maximum daily emissions generated by each representative future project and their sum are shown below in **Table 3.3-7**, which demonstrates that future projects would not exceed any SCAQMD air quality significance thresholds and therefore would not violate a regional air quality standard. Impacts related to an increase in criteria pollutants for near-term projects would be less than significant.

TABLE 3.3-7
FUTURE DAILY CONSTRUCTION EMISSIONS

	Maximum Daily Emissions (lbs/day)[a]					
Project Component/Phase[b]	**VOC**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Pipelines (2)						
Maximum Daily Emissions	3.4	17.5	27.7	0.1	6.1	3.2
Storage Tanks (New) (1)						
Maximum Daily Emissions	22.7	6.9	12.2	0.0	3.0	1.6
Lift/Pump Stations (Upgraded) (2)						
Maximum Daily Emissions	1.6	11.4	20.3	0.0	0.7	0.3
Total (Without Blasting)	**27.7**	**35.9**	**60.3**	**0.2**	**9.8**	**5.2**
Blasting (up to 10 blasts/day)						
Maximum Daily Emissions	0.0	1.2	4.7	0.1	3.7	0.2
Total (With Blasting)	**27.7**	**37.1**	**65.0**	**0.3**	**13.5**	**5.4**
SCAQMD Significance Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

a. Totals may not add up exactly due to rounding in the modeling calculations.
b. It was conservatively assumed that construction of two pipeline projects, one storage tank build projects, and two minor lift station upgrade would occur at the same time and their respective construction phases would occur concurrently.

SOURCE: ESA 2026.

WWRF Expansion

Construction of a potential expansion of the WWRF would happen after the year 2030 and depends on the actual rate of growth and the timing of new developments expected in the Riverside Retail Service Area. The exact construction activities required to expand the WWRF are unknown at this time, but may include construction of new pipelines, pump stations, storage tanks, and other treatment facilities to increase capacity at the existing WWRF site from 3 MGD to 5 MGD. Because sufficient project-specific

information is not currently available to quantify construction emissions, **Mitigation Measure AQ-2** would require preparation of a project-specific air quality analysis prior to construction of the WWRF expansion. The analysis must quantify construction and operational emissions and evaluate compliance with applicable air quality significance thresholds. If emissions are projected to exceed applicable thresholds, feasible mitigation measures must be incorporated and implemented to reduce emissions below the applicable thresholds or, if that is not feasible, to the maximum extent feasible.

Mitigation Measures

None required (Pipelines, Pump/Lift Stations, Storage Tanks)

Implement Mitigation Measure AQ-2 (WWRF Expansion)

AQ-2: Prior to approval of final design and commencement of construction for the WWRF Expansion, WMWD shall prepare a project-specific air quality emissions analysis for all proposed facilities and improvements associated with the WWRF. The analysis shall quantify construction and operational emissions and evaluate compliance with applicable regional and localized significance thresholds established by the applicable air quality management district. If the analysis identifies emissions that would exceed one or more significance thresholds, WMWD shall incorporate and implement all feasible mitigation measures necessary to reduce emissions below the applicable threshold. Such measures may include, but are not limited to the use of equipment that meet the Tier 4 interim or final off-road emission standards, use of alternative-fueled or zero emission equipment in place of fossil-fueled equipment, use of cleaner fuels, and other measures identified through the project-specific air quality analysis. WMWD shall verify implementation of all required mitigation measures prior to and during construction and operation, as applicable.

Significance Determination

Less-than-Significant Impact (Pipelines, Pump/Lift Stations, Storage Tanks)

Less than Significant with Mitigation (WWRF Expansion)

Priority, Near-Term and Future Projects – Operation

Pipelines, Pump/Lift Stations, Storage Tanks

Implementation of both the priority and near-term projects would result in long-term regional emissions of criteria air pollutants and ozone precursors associated with energy consumption from the of additional pumps at pump stations and increases of capacity at the lift stations. Electrical energy associated with the operation of the pipelines and reservoir tanks would not result in direct emissions of criteria pollutants. Although the pipelines, storage tanks, and lift/pump stations would involve the transportation or storage of water, the projects do not directly use water or generate wastewater; therefore, no water usage was modeled for this analysis. The proposed project is not a land use project which typically would have emissions associated with mobile sources from periodic vehicle trips by workers for inspection and maintenance purposes. Therefore, additional vehicle trips for inspections and maintenance purposes were not modeled for this analysis. Also, the project would not result in any new combustion sources directly related to the long-term project operations. So, the projects would be a source of indirect emissions rather than direct emissions.

The energy usage as a result of implementation of the project was used to conservatively calculate and model operational emissions. Detailed modeling assumptions are included in Appendix AQ/GHG. Modeled operations emissions are presented in **Table 3.3-8**, which shows that the emissions from operation of the project components for the priority, near-term, and future projects would not result in long-term regional emissions of VOC, NOx, CO, SOx, PM_{10} or $PM_{2.5}$ that exceed regulatory thresholds. Therefore, the operational emissions from the priority, near-term, and future projects would not result in pollutant concentrations that would violate an air quality standard, and this impact would be less than significant.

TABLE 3.3-8
PROJECT REGIONAL DAILY OPERATIONAL EMISSIONS

	Maximum Daily Emissions (lb/day)					
	NOx	**CO**	**VOC**	**PM10**	**PM2.5**	**SO_2**
Project Emissions						
Priority Projects	0.16	0.07	0.00	0.01	0.00	0.01
Near-Term Projects (prior to 2030)	7.09	3.06	0.21	0.48	0.19	0.66
Future Projects (after 2030)	3.90	1.68	0.12	0.26	0.11	0.36
Total	**11.14**	**4.80**	**0.34**	**0.75**	**0.30**	**1.03**
SCAQMD Significance Threshold (lb/day)	*55*	*550*	*55*	*150*	*55*	*n/a*
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES:
All projects were conservatively assumed to overlap once the Future Projects are operational.
Riverside is severe NAA for ozone, serious NAA for PM10, attainment or unclassified for other pollutants.
SOURCE: ESA 2026.

WWRF Expansion

Expansion of the WWRF from a 3 MGD treatment plant to a 5 MGD treatment plant is anticipated to require a proportional increase in energy sources, which was used to estimate indirect operational emissions, included in Table 3.3-8, above, and as provided in Appendix AQ/GHG. However, it is unknown at this time if any additional emergency generators will be required.

Because sufficient project-specific information is not currently available to quantify operational emissions, Mitigation Measure AQ-2 would require preparation of a project-specific air quality analysis prior to construction of the WWRF expansion. The analysis must quantify construction and operational emissions and evaluate compliance with applicable air quality significance thresholds. If emissions are projected to exceed applicable thresholds, feasible mitigation measures must be incorporated and implemented to reduce emissions below the applicable thresholds or, if that is not feasible, to the maximum extent feasible. With implementation of MM AQ-2, potential air quality impacts associated with operation of the WWRF expansion would be reduced to less than significant.

Mitigation Measures

None required (Pipelines, Pump/Lift Stations, Storage Tanks)

Implement Mitigation Measure AQ-2 (WWRF Expansion)

Significance Determination

Less-than-Significant Impact (Pipelines, Pump/Lift Stations, Storage Tanks)

Less than Significant with Mitigation (WWRF Expansion)

Sensitive Receptors

Impact 3.3-3: The proposed project could expose sensitive receptors to substantial pollutant concentrations.

CO Hotspots

Priority, Near-Term and Future Projects

Pipelines, Pump/Lift Stations, Storage Tanks

A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. Projects may worsen air quality if they increase the percentage of vehicles in cold start modes by 2 percent or more; significantly increase traffic volumes (by 5 percent or more) over existing volumes; or worsen traffic flow, defined for signalized intersections as increasing average delay at intersections operating at Level of Service (LOS) E or F or causing an intersection that would operate at LOS D or better without the proposed project, to operate at LOS E or F.

While construction-related traffic on the local roadways would occur during construction of each project, the net increase of construction worker vehicle trips to the existing daily traffic volumes on the local roadways would be relatively small and would not result in CO hotspots. Additionally, the construction-related vehicle trips would only occur in the short-term, and would cease once construction activities for a project has been completed. Since construction-related traffic would not substantially increase CO concentrations in the project area, CO hotspot impacts to sensitive receptors would be less than significant.

During operation of the priority, near-term, and future projects, no additional inspections or maintenance activities would be required. Therefore, no additional emissions would be generated from vehicle trips by worker staff for periodic inspections or maintenance purposes.

WWRF Expansion

Since construction-related traffic would not substantially increase CO concentrations in the project area, CO hotspot impacts to sensitive receptors would be less than significant.

An existing WMWD workforce operates the WWRF. As discussed in Chapter 2, *Project Description*, no new workers would be added to support operation and maintenance of the upgraded/new facilities; existing staff would be rotated to serve maintenance needs. Therefore, operation-related traffic would not substantially increase CO concentrations at the WWRF.

Localized Emissions and Toxic Air Contaminants

Priority and Near-Term Projects – Construction

All Facilities

A localized construction air quality analysis was conducted using the methodology prescribed in the SCAQMD *Final Localized Significance Threshold Methodology*.[7] For analysis purposes, it was assumed projects would be located adjacent to sensitive receptors. The maximum daily localized emissions for each of the construction phases and the localized significance thresholds are presented in **Table 3.3-9**. The same phasing, equipment assumptions, and compliance with SCAQMD Rule 403 and Rule 1113, were used as for the regional emissions calculations discussed above. As shown in Table 3.3-9, maximum localized construction emissions for sensitive receptors would be below the localized screening indicators for NO_X, CO, PM10, and PM2.5. While the emissions shown in Table 3.3-9 are below the numeric SCAQMD significance thresholds, the combined PM10 localized emissions are less than 1 pound per day of the threshold. Given that the combined PM10 emissions would be very close to the threshold value with a less than 1 pound per day difference, the impact is considered potentially significant and Mitigation Measure AQ-1 is required. With implementation of mitigation, the impact would be reduced to a less-than-significant level.

TABLE 3.3-9
PRIORITY AND NEAR-TERM ESTIMATED MAXIMUM UNMITIGATED LOCALIZED CONSTRUCTION EMISSIONS (POUNDS PER DAY)

Construction Phases	NOx	CO	PM10	PM2.5
Pipelines				
Maximum Daily Emissions	15.3	14.3	3.2	1.9
Storage Tank (New)				
Maximum Daily Emissions	14.4	11.8	3.1	1.8
Storage Tank (Upgrade)				
Maximum Daily Emissions	9.1	11.8	0.4	0.4
Lift/Pump Stations (Upgrade)				
Maximum Daily Emissions	7.5	9.9	0.3	0.3
Blasting (up to 10 blasts per day)				
Maximum Daily Emissions	1.2	4.7	3.7	0.2
SCAQMD Localized Significance Threshold[a]	*118*	*602*	*4*	*3*
Exceeds Threshold?[b]	**No**	**No**	**Potentially**	**No**

NOTES: Totals may not add up exactly due to rounding in the modeling calculations.

a. SCAQMD Localized Significance Threshold for projects located in Source Receptor Area 23, on a 1-acre site, with sensitive receptors located 25 meters or less from the site.
b. Multiple projects would not be located near the same sensitive receptors therefore the individual project maximums were not added together but rather compared to the localized significance threshold separately.

SOURCE: ESA 2026

Intermittent construction activities associated with the priority and near-term projects would result in short-term emissions of DPM, which is a TAC. During construction, the exhaust of off-road heavy-duty diesel equipment would emit DPM during general construction activities, such as site preparation, excavation/ grading, pipe installation, and paving. DPM poses a carcinogenic health risk that is generally measured

[7] SCAQMD, Final Localized Significance Threshold Methodology. July 2008.

using an exposure period of 30 years for sensitive residential receptors, according to the OEHHA Guidance. Sensitive receptors could be located adjacent to proposed priority and near-term facilities but, given the large extent of the Riverside Retail Service Area and the geographical spread-out nature of projects, it is expected that that construction of two or more projects would not overlap in the same geographical area with the same maximum impacted sensitive receptors. Given the short-term nature of construction activities, the relatively small amount of individual project localized emissions, and the spread-out nature of the individual projects, it expected that individual health risk impacts would be less than significant.

Future Projects – Construction

Pipelines, Pump/Lift Stations, Storage Tanks

As previously stated, the actual timing and location of future facilities will be dependent upon the actual rate of growth and the timing of new developments expected in the Riverside Retail Service Area. Some of the various future project components consisting of pipelines, lift/pump stations, and storage tanks would likely be located in proximity to sensitive land uses such as residences, schools, hospitals and daycare centers as well. For analysis purposes, it was assumed future projects would be located adjacent to sensitive receptors. The localized construction air quality analysis was conducted using the same methodology as the priority and near-term projects described above. The maximum daily localized emissions for each of the future projects and the localized significance thresholds are presented in **Table 3.3-10**. The same phasing, equipment assumptions, and compliance with SCAQMD Rule 403 and Rule 1113, were used as for the regional emissions calculations discussed above. As shown in Table 3.3-10, maximum localized construction emissions for sensitive receptors would be below the localized screening indicators for NO_X, CO, PM10, and PM2.5. While the emissions shown in Table 3.3-10 are below the numeric SCAQMD significance thresholds, the combined PM10 localized emissions are less than 1 pound per day of the threshold. Given that the combined PM10 emissions would be very close to the threshold value with a less than 1 pound per day difference, the impact is considered potentially significant and Mitigation Measure AQ-1 is required. With implementation of mitigation, the impact would be reduced to a less-than-significant level.

WWRF Expansion

The proposed WWRF Expansion would be located within an existing industrial area of unincorporated Riverside County adjacent to Interstate 215. The nearest sensitive residential receptor would be located approximately 3,700 feet west of the treatment plant. While it is not anticipated that expansion of the WWRF would result in localized or TAC emissions in exceedance of thresholds, Mitigation Measure AQ-2 would be required to ensure impacts to sensitive receptors remain at a less-than-significant level.

Priority, Near-Term and Future Projects – Operation

Pipelines, Pump/Lift Stations, Storage Tanks

The priority, near-term, and future projects would not introduce any new on-site stationary sources of localized emissions or TACs, such as diesel-fueled pumps or generators. Pumps would be added to existing lift/pump stations that already have emergency generators as part of the baseline condition. The operation of the new pumps would be powered by electricity, and thus would not emit localized or TAC emissions. Therefore, the project would not expose surrounding sensitive receptors to localized or TAC emissions in excess of significance thresholds and impacts would be less than significant.

TABLE 3.3-10
FUTURE ESTIMATED MAXIMUM UNMITIGATED LOCALIZED CONSTRUCTION EMISSIONS (POUNDS PER DAY)

Construction Phases	NOx	CO	PM10	PM2.5
Pipelines				
Maximum Daily Emissions	8.3	13.4	2.8	1.6
Storage Tank (New)				
Maximum Daily Emissions	6.1	11.8	2.7	1.5
Lift/Pump Stations (Upgrade)				
Maximum Daily Emissions	5.1	9.7	0.1	0.1
Blasting (up to 10 blasts per day)				
Maximum Daily Emissions	1.2	4.7	3.7	0.2
SCAQMD Localized Significance Threshold[a]	*118*	*602*	*4*	*3*
Exceeds Threshold?[b]	**No**	**No**	**Potentially**	**No**

NOTES: Totals may not add up exactly due to rounding in the modeling calculations.

a. SCAQMD Localized Significance Threshold for projects located in Source Receptor Area 23, on a 1-acre site, with sensitive receptors located 25 meters or less from the site.
b. Multiple projects would not be located near the same sensitive receptors therefore the individual project maximums were not added together but rather compared to the localized significance threshold separately.

SOURCE: ESA 2026

WWRF Expansion

The WWRF Expansion could introduce new on-site stationary sources of TACs, such as diesel-fueled generators, or other stationary equipment associated with wastewater treatment processes that emit TACs. Operations at the WWRF could result in emissions of TAC from the maintenance and testing of emergency generators. However, any new emergency generators would be required to comply with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines) and require SCAQMD air permits; therefore, any new stationary sources would be regulated, controlled, and would not be expected to exceed the SCAQMD numerical indicator of significance. However, because the exact type of operational equipment that will be required at the WWRF are unknown at this time, Mitigation Measure AQ-2 would be required to calculate emissions based on operational increases and/or equipment to be used onsite, verify emissions do not exceed applicable thresholds, and implement feasible mitigation measures if emissions exceed thresholds to reduce emissions below thresholds, or if that is not feasible, to the maximum extent feasible.

Mitigation Measures

Implement Mitigation Measure AQ-1 (Pipelines, Pump/Lift Stations, Storage Tanks)

Implement Mitigation Measure AQ-2 (WWRF Expansion)

Significance Determination

Less than Significant with Mitigation (Pipelines, Pump/Lift Stations, Storage Tanks)

Less than Significant with Mitigation (WWRF Expansion)

Other Emissions

Impact 3.3-4: The proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Priority, Near-Term, and Future Projects

Pipelines, Pump/Lift Stations, Storage Tanks

During the construction phase of the proposed priority, near-term and future projects, exhaust from construction equipment may produce discernible odors typical of most construction sites; however, such odors would be temporary. The proposed project would comply with the applicable provisions of the CARB ATCM regarding idling limitations for diesel trucks. Through mandatory compliance with SCAQMD Rules, no construction activities or materials are expected to create objectionable odors affecting a substantial number of people. While blasting activities have the potential to result in transient odors in the immediate vicinity of the blast, the minimal length of blasting activities, wind direction, and the dispersion and dissipation of blast pollutants would limit the exposure of off-site sensitive receptors. While off-site receptors may experience an occasional and transient odor from the activities it would not be potent enough to adversely affect a substantial number of people. Therefore, construction odors would be considered less than significant.

According to the SCAQMD's CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Operation of the pipelines, storage tanks, and lift/pump stations would involve the storage and conveyance of water and would not generate odors. Therefore, objectionable odor impacts affecting a substantial number of people from the priority and near-term projects would not occur from the operation of these facilities, and impacts would be considered less than significant.

WWRF Expansion

The wastewater system improvements include potential expansion of the existing WWRF. The nearest existing sensitive receptors are located approximately 0.7 miles to the west of the existing WWRF site. The existing WWRF includes odor control to capture and treat foul air produced by raw wastewater before it is exhausted from storage ponds and tanks. Influent of untreated wastewater and waste activated solids release a variety of gases including hydrogen sulfide and ammonia. The proposed WWRF expansion would also include dedicated odor control systems for the equalization tanks and fine screening structure. As such, odors association with future expansion of the WWRF are expected to be principally the same as existing conditions. Therefore, with the odor controls incorporated into the facility design, operation of the WWRF expansion is not expected to generate significant odors from existing conditions and impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Greenhouse Gas Emissions

Impact 3.3-5: The proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Priority and Near-Term Projects – Construction

All Facilities

Priority and near-term projects would generate GHG emissions from a variety of construction activities. As with the Air Quality analysis discussed above, CalEEMod was used to prepare estimates of annual GHG emissions for the proposed project using the same construction assumptions and the types of projects that would occur in a year. **Table 3.3-11** summarizes the modeled worst-case annual GHG emissions that are estimated to occur for the proposed project.

TABLE 3.3-11
PRIORITY AND NEAR-TERM ESTIMATED CONSTRUCTION-RELATED GREENHOUSE GAS EMISSIONS

Emission Source	CO_2e Emissions (MT/year)
Pipelines	3,040
Storage Tank (New)	1,354
Storage Tank (Upgrade)	342
Lift/Pump Stations (Minor Upgrade)	364
Lift/Pump Stations (Major Upgrade)	1,439
Blasting	<1
Total Construction Emissions	**6,538**
Amortized Construction Emissions (30 years)	**218**

NOTES:
CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year.
Due to the unknown timelines of each project, this analysis conservatively assumes that all projects would occur in the same year.
SOURCE: ESA 2026.

As shown in Table 3.3-11, construction of the priority and near-term projects would produce approximately 6,538 $MTCO_2e$, or 218 $MTCO_2e$ per year amortized over a 30-year period. As the SCAQMD has not adopted a GHG threshold for construction, the amortized GHG emissions would be added to the operational total. Therefore, construction of the priority and near-term proposed projects would result in a less-than-significant impact related to GHG emissions.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Future Projects – Construction

Pipelines, Pump/Lift Stations, Storage Tanks

As with the priority and near-term projects, the future projects would generate GHG emissions from construction activities. CalEEMod was used to prepare estimates of annual GHG emissions for the future projects. **Table 3.3-12** summarizes the modeled worst-case annual GHG emissions that are estimated to occur using the same construction assumptions and the types of future projects that would occur in a year.

TABLE 3.3-12
FUTURE ESTIMATED CONSTRUCTION-RELATED GREENHOUSE GAS EMISSIONS

Emission Source	CO_2e Emissions (MT/yr)
Pipelines	3,179
Storage Tank (New)	1,565
Lift/Pump Stations (New)	0
Lift/Pump Stations (Upgrade)	1,090
Blasting	<1
Total Construction Emissions	**5,834**
Amortized Construction Emissions (30 years)	**194**

CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year.

Due to the unknown timelines of each project, this analysis conservatively assumes that all projects would occur in the same year.

SOURCE: ESA 2026.

As shown in Table 3.3-12, construction of the future projects would produce approximately 5,834 $MTCO_2e$, or 194 $MTCO_2e$ per year amortized over a 30-year period. As the SCAQMD has not adopted a GHG threshold for construction, the amortized GHG emissions would be added to the operational total. Therefore, construction of the future projects would result in a less-than-significant impact related to GHG emissions.

WWRF Expansion

The exact construction activities required to expand the WWRF are unknown at this time. Expansion of the WWRF is anticipated to require similar construction activities and produce similar GHG emissions as the other four representative future projects identified above. However, because the construction activities are unknown at this time, **Mitigation Measure GHG-1** would be required calculate emissions based on equipment to be used onsite, evaluate emissions against applicable thresholds, and implement feasible mitigation measures if emissions exceed thresholds to reduce emissions below thresholds. With implementation of mitigation measures, impacts would be reduced to a less-than-significant level.

Mitigation Measures

None required (Pipelines, Pump/Lift Stations, Storage Tanks)

GHG-1: Prior to approval of final design and commencement of construction for the WWRF Expansion, WMWD shall prepare a project-specific greenhouse gas (GHG) emissions analysis for all proposed facilities and improvements associated with the WWRF. The analysis shall quantify construction and operational GHG emissions and evaluate compliance with applicable significance thresholds. If the analysis identifies emissions that would exceed one or more

significance thresholds, WMWD shall incorporate and implement all feasible mitigation measures necessary to reduce GHG emissions below the applicable threshold. Such measures may include, but are not limited to the use of alternative-fueled or zero emission equipment in place of fossil-fueled equipment, use of cleaner fuels, and other measures (GHG offsets, etc.) identified through the project-specific GHG analysis. WMWD shall verify implementation of all required mitigation measures prior to and during construction and operation, as applicable.

Significance Determination

Less-than-Significant Impact (Pipelines, Pump/Lift Stations, Storage Tanks)

Less than Significant with Mitigation (WWRF Expansion)

Priority, Near-Term, and Future Projects – Operation

Pipelines, Pump/Lift Stations, Storage Tanks

Once fully operational, the operation of the priority, near-term and future projects would generate indirect GHG emissions from electrical consumption to power the lift/pump stations. Operation of additional pipelines would involve additional energy usage to transmit water in the project area; however, these activities are not expected to result in substantial GHG emissions. Similarly, addition of new or upgraded storage tanks would not require any additional equipment and would not require additional energy usage. Periodic maintenance would not increase due to the fact that the majority of projects would be installed at existing facilities already serviced by WMWD maintenance staff. No new generators are anticipated for operation of the lift/pump station. Therefore, no new vehicle trips or new generators were assumed in this analysis. Increased electrical consumption during operation of the facilities would generate minimal GHG emissions. **Table 3.3-13** presents the summary of the estimated total operational GHG emissions, including maximum amortized construction GHG emissions of the priority, near-term, and future facilities. As shown in Table 3.3-13, the annual GHG emissions would be below the GHG significance threshold. Impacts would be less than significant.

TABLE 3.3-13
FUTURE ESTIMATED PROJECT REGIONAL ANNUAL INDIRECT OPERATIONAL GREENHOUSE GAS EMISSIONS

	Maximum Annual Emissions (MT/yr)	
	Pre-2030 CO_2e	**2030 CO_2e**
Project Emissions		
Priority Projects	47	33
Near-Term Projects (prior to 2030)	1,935	1,377
Future Projects (after 2030)	1,064	757
Amortized Construction Emissions	401	401
Total	**3,458**	**2,579**
SCAQMD Threshold (MT/yr)	*10,000*	*10,000*
Exceed?	**No**	**No**

CO2e= carbon dioxide equivalent; MT/yr = metric tons per year.
SOURCE: ESA 2026.

WWRF Expansion

Once fully operational, the WWRF Expansion would generate indirect GHG emissions from electrical consumption to power the 5 MGD WWRF. Mitigation Measure GHG-1, which will be required upon expansion of the WWRF, would verify the total energy needs of the project, including potential generators, that are needed to operate the facility. Based on the conservative calculations included in Table 3.3-13, which includes the potential indirect GHG emissions from the WWRF Expansion, the project would result in approximately 2,579 $MTCO_2e$ in year 2030. This is a conservative assumption since the WWRF Expansion would likely occur later than 2030, at which time more efficient equipment would be in operation. Any additional generators that are needed to support the WWRF Expansion from 3 MGD to 5 MGD would increase emissions. As per Mitigation Measure GHG-1, the analysis must quantify construction and operational GHG emissions and evaluate compliance with applicable GHG significance thresholds. If emissions are projected to exceed applicable thresholds, feasible mitigation measures must be incorporated and implemented to reduce GHG emissions below the applicable thresholds. With implementation of MM GHG-1, potential GHG impacts associated with the WWRF expansion would be reduced to less than significant.

Mitigation Measures

None required (Pipelines, Pump/Lift Stations, Storage Tanks)

Implement Mitigation Measure GHG-1 (WWRF Expansion)

Significance Determination

Less-than-Significant Impact (Pipelines, Pump/Lift Stations, Storage Tanks)

Less than Significant with Mitigation (WWRF Expansion)

Greenhouse Gas Emissions Plans

Impact 3.3-6: The proposed project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Priority, Near-Term, and Future Projects

All Facilities

As discussed in Impact 3.3-5, the GHG emissions generated by the construction and operation of priority, near-term, and future projects would not exceed the SCAQMD's significance threshold of 10,000 MT CO_2e per year. The primary source of GHG emissions generated by project implementation would occur during construction, which would be temporary in nature. The proposed project would utilize contractors that would comply with regulations including the USEPA Heavy Duty Vehicle Greenhouse Gas Regulation, CARB ACTM that limits heavy-duty diesel motor vehicle idling, and the low carbon fuel standard. Compliance with these regulations would limit construction-related GHG emissions.

The objectives of the project, as described in Chapter 2, *Project Description*, include providing water, wastewater, and recycled water services that meet the quantity, system pressure, and reliability requirements of the Riverside Retail Service Area; and ensuring water, wastewater, and recycled water system infrastructure is sufficient to meet projected demands within the Riverside Retail Service Area.

The proposed project is not a land use project which typically would have GHG emissions associated with mobile sources from periodic vehicle trips by workers for inspection and maintenance purposes. Therefore, additional vehicle trips for inspections and maintenance purposes are not anticipated. The operation of the project itself would not increase water demand or wastewater generation. Rather, the project would provide systems and infrastructure sufficient to serve projected growth and demands within the Riverside Retail Service Area. Increased electrical consumption as a result of increased growth and demand within the Riverside Retail Service Area, operation of the facilities would generate minimal GHG emissions as presented in Table 3.3-13. The facilities would require an increase in electricity demand from the lift/pump stations and WWRF Expansion; however, the electric utility providers would be required to comply with the State's Renewables Portfolio Standard. Consequently, the implementation of the proposed project would not generate substantial amounts of GHG emissions that would impede the future statewide GHG emission reductions goals. CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels. These potential strategies include renewable resources for half of the State's electricity by 2030, reducing petroleum use in cars and trucks, and reducing the carbon content of transportation fuels. The proposed project would comply with these future regulations, as promulgated by the USEPA, CARB, CEC, or other agency. As a result, the proposed project would be expected to exhibit declining GHG emissions trajectory in-line with future State GHG reductions goals codified in HSC Division 25.5 for 2030. As a result, this impact would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Cumulative Impacts: Air Quality

Impact 3.3-7: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to air quality.

Future cumulative development within the Riverside Retail Service Area identified in Table 3-2 and on Figure 3-1 would involve construction and operation of large-scale residential and commercial projects, some of which are already in the planning stages. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. There are numerous potential individual projects in the Riverside FMP, which are expected to occur at various stages from the present to 2050, and would mostly be separated by large distances across the Riverside Retail Service Area. The proposed project's potential air quality impacts are below their corresponding significance thresholds based on reasonably foreseeable assumptions surrounding proximity and schedule; however, the combined VOC emissions are less than 1 pound per day of the threshold. Given that the combined VOC emissions would be very close to the threshold value with a less than 1 pound per day difference, Mitigation Measure AQ-1 is required to limit the number of concurrent project types with construction activities, and implement mitigation measures as applicable to ensure VOC thresholds are not exceeded. Additionally, Mitigation Measure AQ-2 would ensure that the future WWRF Expansion would be evaluated and mitigated to the maximum extent

feasible. Because implementation of the proposed project would not contribute to an exceedance of an air quality significance threshold and the components of the proposed project are located a considerable distance apart, the proposed project would be less than cumulatively considerable. As previously discussed, the proposed project is not expected to produce any new permanent vehicle trips or other sources of direct emissions. Therefore, there would not be the potential for the proposed project, in conjunction with other potential planned projects, to result in a cumulatively considerable impact. Impacts would be less than significant with implementation of mitigation measures.

Mitigation Measures

Implement Mitigation Measures AQ-1 and AQ-2

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts: Greenhouse Gas Emissions

Impact 3.3-8: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to greenhouse gas emissions.

Future cumulative development within the Riverside Retail Service Area identified in Table 3-2 and on Figure 3-1 would involve construction and operation of large-scale residential and commercial projects, some of which are already in the planning stages. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. Implementation of cumulative development could result in the generation of GHG emissions. Cumulative development could exceed the GHG thresholds and could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Because the priority and near-term projects would be consistent with all relevant GHG reduction plans and policies, the project's contribution to cumulative GHG reduction plans and policies impacts would be less than cumulatively considerable. Mitigation Measure GHG-1 would ensure that the future WWRF Expansion would be evaluated and mitigated to the maximum extent feasible. Therefore, the project's cumulative impacts would be less than significant with implementation of mitigation.

Mitigation Measures

Implement Mitigation Measure GHG-1

Significance Determination

Less than Significant with Mitigation

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3.4 Biological Resources

This section addresses the biological resources impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing biological resources conditions at the proposed project site; a summary of applicable regulations related to biological resources; and an evaluation of the potential impacts of the proposed project related to biological resources at the proposed project site and in the surrounding area, including cumulative impacts. The section is based on the Reconnaissance-Level Biological Resources Assessment for the Riverside Facilities Master Plan, which is included as **Appendix BIO** to this Draft PEIR.

3.4.1 Environmental Setting

Regional Setting

The project site is located in northwestern Riverside County with the San Jacinto Mountains to the east, the Box Spring Mountains to the north, Santa Ana Mountains to the west, and the Temescal Mountains to the south. Climate conditions in the region vary considerably, and are representative of the California Mediterranean climate. Average temperatures during the winter range from 39 to 71 degrees Fahrenheit. Average temperatures during the hottest summer months range from 54 to 94 degrees Fahrenheit. Average precipitation is 10.2 inches per year (Weatherbase 2022).

Biological Resources Reconnaissance

A reconnaissance-level biological resources assessment was conducted by Ryan Gilmore and Amanda French on May 9, 2022. Following the identification of several additional priority and near-term projects, a second reconnaissance-level biological resources assessment was conduct by Amanda French and Anna Weber on June 25, 26, and 30, 2025. Continued project identification led to a third reconnaissance-level biological resources assessment that was conducted by Amanda French and Anna Weber on February 24, 26 and March 5, 2026. For all priority and near-term projects, ESA defined biological study areas (BSAs) as each project footprint plus a 500-foot buffer. The combined acreage of these BSAs is approximately 2,900 acres. Future projects were evaluated qualitatively and were not assigned BSAs.

The assessment consisted of walking throughout the BSAs of all priority and near-term project areas to characterize and map vegetation and habitats, and to determine the potential for special-status plants and wildlife to occur. All incidental, visual observations of flora and fauna, including sign (i.e., presence of scat) as well as any audible detections, were noted during the assessment. Potential jurisdictional features within the BSAs were identified during the assessment and described below; however, a formal jurisdictional delineation was not conducted. The existing conditions of the BSAs, including all native and non-native natural communities, were characterized and delineated on aerial photographs during the field assessment, and subsequently digitized using ArcGIS. Most descriptions of vegetation were characterized in accordance with A Manual of California Vegetation, Second Edition (Sawyer et al. 2009); however, some communities not recognized in this publication were characterized based on species dominance. A detailed description of each natural community and land use within the BSAs is provided below. Biological reconnaissance surveys were not conducted for future project locations. Future project site locations were analyzed for biological resources via desktop aerial review.

Focused rare plant surveys and focused wildlife surveys were not conducted during the biological reconnaissance survey.

Soils

The soils that occur within the BSAs include 231 types, the majority of which are characterized as well-drained, sandy loam. These soil types are listed in Appendix BIO – Attachment A.

Natural Communities and Land Uses

The natural communities and land uses located within the priority and near-term BSAs were characterized and mapped during the field reconnaissance and are depicted in Figures 4-A through 4-O of Appendix BIO. Each natural community and land use is described in detail below. A summary of acreages within each of the priority and near-term BSAs are presented in Tables 4, 5, and 6 of Appendix BIO.

Aquatic/Riparian Communities

Cattail Marshes

Cattail marshes is an herbaceous community that is dominated by cattails (*Typha* spp.) accompanied by other herbaceous vegetation such as rushes (*Juncus* spp.) and sedges (*Cyperus* spp.)

Fan Palm – Tamarisk Woodland

Fan palm – tamarisk woodland is a non-native woodland that is typically found within riparian areas and is co-dominated by Mexican fan palm (*Washingtonia robusta*) and tamarisk (*Tamarix* spp.).

Goodding's Willow - Arroyo Willow Riparian Woodland

Goodding's willow – arroyo willow riparian woodland is a form of riparian woodland, which are typically characterizes by a moderately dense woodland dominated by small trees or shrubs, with scattered taller riparian trees and is dependent on the presence of water. It is co-dominated by Goodding's willow (*Salix gooddingii*) and arroyo willow (*Salix lasiolepis*).

Goodding's Willow - Red Willow Riparian Woodland

Goodding's willow – red willow riparian woodland is a form of riparian woodland, which are typically characterizes by a moderately dense woodland dominated by small trees or shrubs, with scattered taller riparian trees and is dependent on the presence of water. It is co-dominated by Goodding's willow and red willow (*Salix laevigata*).

Goodding's Willow Riparian Woodland

Goodding's willow riparian woodland is a form of riparian woodland, which is typically characterized by a moderately dense woodland dominated by small trees or shrubs, with scattered taller riparian trees. This community is dominated by Goodding's willow and contains other riparian shrubs and herbaceous species.

Open Water

This land cover type is characterized by an area of open water associated with basins and canals.

Willow Riparian Woodland

Willow riparian woodland is a natural community dominated by willows (*Salix* spp.) in the tree canopy and includes other riparian shrubs and herbaceous species. These natural communities were not accessible during the biological surveys and thus the willows could not be identified to a species level.

Terrestrial Communities

Annual Yellow Sweetclover – Stinknet Fields

Annual yellow sweetclover – stinknet fields is a vegetation community that is co-dominated by yellow sweetclover (*Melilotus officinalis*) and stinknet (*Oncosiphon pilulifer*). These areas were previously disturbed and contained a variety of other non-native herbaceous species.

Blue Elderberry Patches

Blue elderberry patches are typically characterized by a moderately dense shrub layer dominated by broad-leaved deciduous species dominated by blue elderberry (*Sambucus mexicana*).

Brittle Bush - California Brittle Bush Scrub – Fourwing Saltbush

Brittle bush – California brittle bush scrub is a form of coastal sage scrub cover that is co-dominated by brittle bush (*Encelia farinosa*), California brittle bush (*Encelia californica*), and fourwing saltbush (*Atriplex canescens*).

Brittle Bush - California Brittle Bush Scrub

Brittle bush – California brittle bush scrub is a form of coastal sage scrub cover that is co-dominated by brittle bush and California brittle bush.

Brittle Bush Scrub

Brittle bush scrub is a form of shrub cover that is dominated by brittle bush. This vegetation community is generally associated with alluvial fans, bajadas, colluvium, rocky hillsides, slopes of small washes and rills.

California Buckwheat Scrub

California buckwheat scrub is a form of shrub cover that is dominated by California buckwheat (*Eriogonum fasciculatum*). This vegetation community is generally associated with upland slopes, intermittently flooded arroyos, channels and washes. It is rarely flooded and has low-gradient deposits.

California Brittle Bush Scrub

California brittle bush scrub is characterized by an open to moderately dense shrubland dominated by drought-deciduous shrubs. This community was dominated by California brittle bush, accompanied by herbaceous species.

California Juniper Woodland

California juniper woodland is a form of woodland which is characterized by a dominance of California juniper (*Juniperus californica*) within the shrub and/or tree layers. Other associated species include chaparral yucca (*Hesperoyucca whipplei*).

California Sagebrush – Brittle Bush Scrub

California sagebrush – brittle bush scrub is a form of coastal sage scrub, which is typically characterized by a moderately open shrubland dominated by drought-deciduous and aromatic shrubs. This community was co-dominated by California sagebrush (*Artemisia californica*) and brittle bush.

California Sagebrush – California Brittle Bush Scrub

California sagebrush – California brittle bush scrub is a form of coastal sage scrub, which is typically characterized by a moderately open shrubland dominated by drought-deciduous and aromatic shrubs. This community was co-dominated by California sagebrush and California brittle bush.

California Sagebrush – California Buckwheat Scrub

California sagebrush – California buckwheat scrub is a form of coastal sage scrub, which is typically characterized by a moderately open shrubland dominated by drought-deciduous and aromatic shrubs. This community was co-dominated by California sagebrush and California buckwheat.

California Sagebrush Scrub

California sagebush scrub is a form of coastal sage scrub, which is typically characterized by a moderately open shrubland dominated by drought-deciduous and aromatic shrubs. This community was dominated by California sagebrush.

Castor Bean Patches

Castor bean patches are a form of disturbed ruderal vegetation, typically characterized by dense stands of tall, fast growing weedy herbaceous species. These patches are generally associated with highly disturbed areas such as road edges and graded sites.

Chamise Chaparral

Chamise chaparral is characterized by a dense, evergreen shrubland dominated by sclerophyllous drought adapted species. Chaparral communities are associated with well-drained, often rocky spoils in foothill and montane environments. This community was dominated by chamise (*Adenostoma fasciculatum*).

Chamise – Sage Chaparral Shrubland

Chamise – sage chaparral shrubland is a form of chaparral which is characterized by a dense, evergreen shrubland dominated by sclerophyllous drought adapted species. This community was dominated by chamise and sage species (*Salvia* spp.).

Eucalyptus Groves

Eucalyptus groves are a form of non-native woodland that is characterized by dense stands of tall, evergreen trees. These groves are generally associated with previously disturbed or developed areas where eucalyptus has been intentionally planted or has naturalized, often occurring in upland and occasionally near riparian settings. This community was dominated by eucalyptus species (*Eucalyptus* spp.).

Fourwing Saltbush – California Buckwheat Scrub

Fourwing saltbush – California buckwheat scrub is a natural community co-dominated by fourwing saltbush and California buckwheat scrub.

Fourwing Saltbush Scrub

Fourwing saltbush scrub is a natural community dominated by fourwing saltbush.

Fiddleneck Fields

Fiddleneck fields are a form of annual grassland or ruderal herbaceous vegetation that is characterized by open areas dominated by seasonal wildflowers and grasses. These communities are generally associated with disturbed or previously cleared soils where seasonal precipitation supports the rapid growth of annual forbs and grasses. This community was dominated by fiddleneck (*Amsinckia* spp.).

Needle Goldfields Fields

Needle goldfields fields are a form of annual herbaceous vegetation characterized by open areas dominated by seasonal wildflowers and sparse grasses. These communities are generally associated with well-drained, often sandy or rocky soils in disturbed or open upland areas. This community was dominated by needle goldfields (*Lasthenia californica*).

Pepper Tree Woodland

Pepper tree groves are a form of non-native woodland that is characterized by dense stands of medium to large evergreen trees with a relatively open or sparse understory. This community is generally associated with disturbed or landscaped areas, often near roads and developed sites, where this species has been intentionally planted or have naturalized. This community was dominated by Peruvian pepper tree (*Schinus molle*).

Pinebush – Brittle Bush – California Brittle Bush Scrub

Pinebush – brittle bush – California brittle bush scrub is a natural community co-dominated by pinebush (*Ericameria pinifolia*), brittle bush, and California brittle bush scrub.

Pinebush Scrub

Pinebush scrub is a natural community dominated by pinebush.

Stinknet – Fiddleneck Fields

Stinket – fiddleneck fields is a vegetation community co-dominated by stinket and fiddleneck fields, accompanied by non-native herbaceous vegetation.

Stinknet Fields

Stinket fields is a vegetation community dominated by stinket and other non-native vegetation.

Tree Tobacco – Peruvian Pepper Tree Woodland

Tree tobacco woodland is a vegetation community co-dominated by tree tobacco (*Nicotiana glauca*) and Peruvian pepper tree in its tree layer with accompanying non-native herbaceous vegetation such as bromes (*Bromus* spp.).

Tree Tobacco Woodland

Tree tobacco woodland is a vegetation community dominated by tree tobacco in its tree layer with accompanying non-native herbaceous vegetation such as bromes (*Bromus* spp.).

Upland Mustard Fields

Upland mustard fields is a vegetation community dominated by either shortpod mustard (*Hirschfeldia incana*) or black mustard (*Brassica nigra*), accompanied by non-native bromes and grasses.

Wild Oats and Annual Brome Grasslands

Wild oats and annual brome grassland consists of primarily non-native grasses and ruderal (weedy) forbs such as red brome (*Bromus madritensis* ssp. *rubens*) occurring in areas that have been significantly disturbed from previous grading and urban development, as well as in areas where weed abatement and fuel modification have occurred. This community occurs throughout the BSA in areas that are undeveloped and adjacent to developed land.

Land Cover Types

Agriculture

Agriculture is a land cover that is characterized by horticultural crops.

Developed

The majority of the BSA occurs within developed lands associated with existing public rights-of-way and private property. Developed lands consist of areas that have been built over with permanent infrastructure, landscaped areas, and generally include areas devoid of native plant cover. Vegetation within the BSA includes landscaped trees, ornamental shrubs, and grass sod associated with residences, parks, and other infrastructure developments.

Disturbed

Disturbed land cover includes areas regularly disturbed by human activities and include large portions of bare ground and/or ruderal vegetation, often non-native species.

Grazed Land

Grazed land cover includes areas that are currently grazed by livestock and are mostly devoid of all vegetation.

Orchard

Orchard is a land cover type that primarily consists of horticultural trees. These areas within the BSA are highly maintained and kept mostly devoid of all other vegetation except for orange (*Citrus* × *sinensis*).

Ornamental

Ornamental land cover consists of non-native horticultural plants surrounding the existing facilities and occur elsewhere in the BSA. Ornamental tree species identified include eucalyptus (*Eucalyptus* spp.), Afghan pine (*Pinus eldarica*), stone pine (*Pinus pinea*), Peruvian pepper (*Schinus molle*), and Mexican fan palms. Although the vegetation is not native to the region, it still provides value as foraging and nesting habitat to some avian species. This vegetation was primarily associated with developed areas.

Sensitive Biological Resources

Special-status species identified in the database review were assessed for their potential to occur within the BSA. A list of each special-status species assessed for potential to occur within the BSA is included in Appendix D – Special-Status Plant Species and Appendix E – Special-Status Wildlife Species of

Appendix BIO, and sensitive biological resources observed during reconnaissance surveys or known to be present based on biological surveys are shown in Figures 5-A through 5-O of Appendix BIO. Varying levels of potential to occur were assigned based on the following criteria:

- **Not Expected/Low:** Species known to occur in the region but deemed absent because the BSA is outside their known range or elevation and/or suitable habitat is lacking or marginal within the BSA.
- **Moderate/High:** Species identified in the literature search and/or known to occur in the region and suitable habitat is present within the BSA. There may be nearby known occurrences near the BSA.
- **Present:** The species was observed within the BSA during the habitat assessment.

Special-Status Plant Species

Special-status plants are defined as those plants that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status plants are defined as follows:

- Plants that are listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the FESA or the CESA.
- Plants that meet the definitions of rare or endangered under CEQA Guidelines Section 15380.
- Plants covered under an adopted Natural Community Conservation Plan (NCCP)/HCP.
- Plants considered by the CNPS to be rare, threatened, or endangered (Rank 1A, 1B, 2A and 2B plants) in California.
- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code 1900 et seq.).

A review of the CDFW CNDDB, CNPS RPI, and USFWS IPaC databases revealed that 64 special-status plant species have previously been recorded within the USGS 18-quadrangle search (CDFW 2026a, CNPS 2026, USFWS 2026c). The potential for special-status plant species to occur is based on an assessment of on-site vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, geographic ranges, and visual observations made during the site visit.

Of the numerous special-status plant species identified during the database review, 60 plant species are not expected to occur or have low potential to occur within the BSA due to lack of suitable habitat and/or the BSA being outside of the species' range. These species are not analyzed further in this report, but are included in Appendix D of Appendix BIO.

Species determined to have a moderate to high potential to occur within the BSA include chaparral sand-verbena (*Abronia villosa* var. *aurita*), San Diego ambrosia (*Ambrosia pumila*), Yucaipa onion (*Allium marvinii*), Munz's onion (*Allium munzii*), intermediate mariposa lily (*Calochortus weedii* var. *intermedius*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), long-spined spineflower (*Chorizanthe*

polygonoides var. *longispina*), many-stemmed dudleya (*Dudleya multicaulis*), and rigid fringepod (*Thysanocarpus rigidus*).

Paniculate tarplant (*Deinandra paniculata*; CNPR 4.2) was observed within the RW-1: Cemetery PS Expansion BSA (Figure 5-I of Appendix BIO) and the W-15: Juniper Road Pipeline Upsizing BSA (Figure 5-M of Appendix BIO).

Federally and/or State-Listed Plant Species

Munz's Onion

Munz's onion is federally listed as endangered and state listed as threatened. This perennial bulb-forming species occurs in coastal sage scrub, chaparral, and grassland habitats and is strongly associated with fine-textured soils, including clay and clay loam substrates. It is typically found in areas with localized soil moisture, such as swales or other low-lying areas, but is not restricted to vernal pool habitats. The species generally occurs in open areas or within gaps in shrub-dominated communities. Within the BSAs, suitable habitat includes coastal sage scrub and chaparral communities, as well as grasslands where appropriate soil conditions are present.

San Diego Ambrosia

San Diego ambrosia is federally listed as endangered. This perennial herb occurs within coastal sage scrub and, less commonly, chaparral landscapes, where it is typically associated with disturbed or degraded areas that provide open conditions with reduced vegetative cover. The species is often found in grasslands, ruderal habitats, and other disturbance-associated areas within the coastal sage scrub matrix, including roadsides, graded areas, and previously disturbed sites. It most frequently occurs on fine-textured soils, such as clay or loam, but is not restricted to a specific soil type. Within the BSAs, suitable habitat includes coastal sage scrub–adjacent grasslands, wild oats and annual brome grasslands, upland mustard fields, and other disturbed or ruderal habitats that provide appropriate soil conditions and open vegetation structure.

Non-Listed Special-Status Plant Species

Chaparral sand-verbena, intermediate mariposa lily, long-spined spineflower, many-stemmed dudleya, Parry's spineflower, paniculate tarplant, rigid fringepod, and Yucaipa onion are generally associated with coastal sage scrub, chaparral, grassland, and disturbance-associated habitats that provide open conditions and suitable soil characteristics. Within the BSAs, suitable habitat for these species includes California buckwheat scrub, California sagebrush scrub, California sagebrush–California buckwheat scrub, brittle bush scrub, pinebush scrub, chamise chaparral, chamise–sage chaparral, wild oats and annual brome grasslands, upland mustard fields, fiddleneck fields, needle goldfields fields, annual yellow sweetclover–stinknet fields, stinknet fields, as well as disturbed, grazed, and agricultural lands where appropriate soil conditions and vegetation structure are present.

Special-Status Wildlife

Special-status wildlife consists of those animals that because of their recognized rarity or vulnerability to habitat loss or population decline are considered by federal, state, or other agencies to be under threat from human-associated development. Some of these species receive specific protection that is defined by federal or state endangered species legislation and others have been designated as special-status on the

basis of adopted local policies (i.e., city and county) or the educated opinion of respected resource interest groups. Special-status wildlife is defined as follows:

- Wildlife listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the FESA or the CESA.
- Wildlife that meet the definitions of rare or endangered under California Environmental Quality Act (CEQA) Guidelines Section 15380.
- Wildlife covered under an adopted NCCP/HCP.
- Wildlife designated by CDFW as species of special concern (SSC) or watch list (WL).
- Wildlife "fully protected" in California (FGC Sections 3511, 4700, and 5050).
- Bird species protected by the MBTA.

A review of the CDFW CNDDB and USFWS IPaC databases revealed that 69 special-status wildlife species were recorded within the USGS 18-quadrangle search (CDFW 2026a, USFWS 2026c). The determination of potential for special-status wildlife species to occur is based on on-site vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, geographic ranges, and visual observations made during the site visit.

Of the special-status wildlife identified during the database review, 37 wildlife species are not expected to occur or have a low potential to occur within the BSA due to lack of suitable habitat and/or the BSA being outside of the species' range. These species are not analyzed further in this report, but are included in Appendix E of Appendix BIO.

A total of 31 special-status wildlife species have moderate to high potential to occur in the BSA, or were observed during reconnaissance surveys, including Cooper's hawk (*Astur cooperi*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), southern California legless lizard (*Anniella stebbinsi*), California glossy snake (*Arizona elegans occidentalis*), Bell's sage sparrow (*Artemisiospiza belli belli*), orange-throated whiptail (*Aspidoscelis tigris stejnegeri*), western burrowing owl (*Athene cunicularia hypugaea*), Crotch's bumble bee (*Bombus crotchii*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), northern harrier (*Circus hudsonius*), red-diamond rattlesnake (*Crotalus ruber*), San Bernardino ringneck snake (*Diadophis punctatus modestus*), Stephens' kangaroo rat (*Dipodomys stephensi*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), merlin (*Falco columbarius*), yellow-breasted chat (*Icteria virens*), loggerheaded shrike (*Lanius ludovicianus*), San Diego black-tailed jackrabbit (*Lepus californicus bennetii*), western yellow bat (*Lasiurus xanthinus*), Yuma myotis (*Myotis yumanensis*), San Diego desert woodrat (*Neotoma lepida intermedia*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), coast horned lizard (*Phrynosoma blainvillii*), white-faced ibis (*Plegadis chihi*), coastal California gnatcatcher (*Polioptila californica californica*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), northern yellow warbler (*Setophaga aestiva*), western spadefoot (*Spea hammondii*), American badger (*Taxidea taxus*), and least Bell's vireo (*Vireo belli pusillus*).

Least Bell's vireo was observed or known to be present within the W-13: Highland Grove Pipeline BSA, W-14: Highland Grove II and III 12-inch Pipeline BSA, RW-1: Lake Ranch Pipeline BSA (Figure 5-C of Appendix BIO), and the WW-3: Markham Lift Station Upgrade BSA (Figure 5-J of Appendix BIO).

California horned lark was observed in the RW-1: Lurin Irrigation Tank Improvements BSA (Figure 5-E of Appendix BIO).

San Diego black-tailed jackrabbit was observed within the RW-1: Meridian West BSA (Figure 5-F of Appendix BIO).

Coastal California gnatcatcher was observed within the W-15: Juniper Road Pipeline Upsizing BSA (Figure 5-M of Appendix BIO). This species was also observed adjacent to the north of the W-4: Hillside 2320 PZ Booster Pump Station and Pipeline BSA near the Cajalco Intake Plant (Figure 5-K of Appendix BIO). Although coastal California gnatcatcher was not observed within the W-13: Highland Grove Pipeline BSA, the species has been observed in this area during biological surveys for nearby projects (Figure 5-C of Appendix BIO).

Least Bell's vireo and San Diego black-tailed jackrabbit were observed over 500 feet southwest of the WW-5: Meridian West Upgrades (WWRF) BSA during a reconnaissance survey conducted in 2025 (Figure 5-G of Appendix BIO).

Federally and/or State-Listed Wildlife Species

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally threatened and state species of special concern utilizes brittle bush – California buckwheat scrub, brittle bush scrub, California buckwheat scrub, California brittle bush scrub, California sagebrush – brittle bush scrub, California sagebrush – California brittle bush scrub, California sagebrush – California buckwheat scrub, California sagebrush scrub, and pinebush – brittle bush – California brittle bush scrub. The species was observed within the BSAs of W-4: Hillside 2320 PZ Booster Pump Station and Pipeline and W-15: Juniper Road Pipeline Upsizing.

Crotch's Bumble Bee

Crotch's bumble bee is a state candidate for endangered listing and is expected to utilize a range of open upland habitats within the BSAs that support abundant flowering resources. Suitable habitats include coastal sage scrub communities such as California buckwheat scrub, California sagebrush scrub, California sagebrush–California buckwheat scrub, California sagebrush–brittle bush scrub, pinebush scrub, and pinebush–brittle bush scrub, as well as other shrub-dominated communities like brittle bush scrub, California brittle bush scrub, and fourwing saltbush scrub. The species is also likely to occur in herbaceous and ruderal habitats with high floral diversity, including fiddleneck fields, needle goldfields fields, upland mustard fields, wild oats and annual brome grasslands, and annual yellow sweetclover–stinknet fields. Disturbed and grazed lands may provide suitable nesting and foraging opportunities where flowering plants are present, and more managed or edge habitats such as blue elderberry patches, orchards, and ornamental areas may be used opportunistically where nectar sources occur.

Least Bell's Vireo

Least Bell's vireo is federally and state listed as endangered. Least Bell's vireo is an obligate riparian breeder that typically inhabits structurally diverse woodlands along watercourses (USFWS 1998). Commonly associated vegetation includes cottonwood-willow woodlands, oak woodlands, and mule fat scrub (USFWS 1998). This species is expected to utilize Goodding's willow – arroyo willow riparian woodland, Goodding's willow – red willow riparian woodland, Goodding's willow riparian woodland, and willow riparian woodland habitat within the BSAs. The species was detected within the BSAs for

W-13: Highland Grove Pipeline III 18-inch Pipeline, RW-1: Lake Ranch Pipeline, WW-3: Markham Lift Station Upgrade (WWRF), and W-14: Highland Grove II and III 120-inch Pipeline.

Stephens' Kangaroo Rat

Stephens' kangaroo rat is federally and state-listed as a threatened species. This species inhabits annual and perennial grassland habitats but may occur in coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas. It is known to occur in sparse perennial vegetation with firm soil, "neither hard nor sandy." Stephens' kangaroo rat is expected to utilize open upland habitats within the BSAs that provide sparse vegetation and suitable soils. Suitable habitats include wild oats and annual brome grasslands, upland mustard fields, fiddleneck fields, needle goldfields fields, and annual yellow sweetclover–stinknet fields, as well as more open scrub communities such as California buckwheat scrub, California sagebrush scrub, California sagebrush–California buckwheat scrub, and fourwing saltbush scrub (including fourwing saltbush–California buckwheat scrub). Disturbed and grazed lands may also provide suitable habitat where vegetation remains relatively sparse and soils are firm, supporting burrowing and foraging opportunities.

Western Burrowing Owl

Western burrowing owl is a state candidate for endangered listing and is currently a species of special concern. It is expected to utilize open upland habitats within the BSAs that support low vegetation structure and suitable burrowing conditions. Suitable habitats include wild oats and annual brome grasslands, upland mustard fields, fiddleneck fields, needle goldfields fields, and annual yellow sweetclover–stinknet fields, as well as disturbed, grazed, and agricultural lands where vegetation remains sparse. These habitats provide appropriate conditions for burrowing mammals and support foraging opportunities for the species.

Western Spadefoot

Western spadefoot is a state species of special concern that is also proposed to be federally threatened. It utilizes grasslands and other open habitats for foraging and breeds in seasonal pools. It may utilize areas such as vernal pools, but also roadside ditches—if they hold water for long enough. Western spadefoot is expected to utilize open upland habitats within the BSAs that provide suitable soils for burrowing, particularly grasslands and disturbance-associated habitats such as wild oats and annual brome grasslands, fiddleneck fields, needle goldfields fields, annual yellow sweetclover–stinknet fields, and disturbed or grazed lands. These habitats may support the species where seasonal aquatic features, such as ephemeral pools or ponded depressions, are present to provide breeding habitat.

White-tailed Kite

White-tailed kite is a fully protected species in California. It is expected to utilize open habitats within the BSAs for foraging and adjacent woodland or riparian habitats for nesting. Suitable foraging habitats include wild oats and annual brome grasslands, upland mustard fields, fiddleneck fields, needle goldfields fields, and other open or disturbed areas that support small mammal prey. Nesting habitat is typically associated with trees located within riparian woodland, eucalyptus groves, pepper tree woodland, or other woodland features adjacent to open foraging areas. These habitat types provide suitable conditions for both hunting and nesting activities.

Non-Listed Special-Status Wildlife Species

Coastal sage scrub and chaparral habitats within the BSAs may support a variety of non-listed special-status wildlife species, including Bell's sage sparrow, California glossy snake, coast horned lizard, coast patch-nosed snake, Los Angeles pocket mouse, northwestern San Diego pocket mouse, orange-throated whiptail, red-diamond rattlesnake, San Bernardino ringneck snake, San Diego desert woodrat, southern California legless lizard, and southern California rufous-crowned sparrow. These habitats provide suitable conditions for foraging, shelter, and reproduction due to their relatively open structure and diversity of native vegetation.

Open and semi-open habitats, including grasslands, disturbed areas, and agricultural lands, may support additional species, such as American badger, California horned lark, ferruginous hawk, loggerhead shrike, northern harrier, San Diego black-tailed jackrabbit, and white-tailed kite, as well as small mammals, including Los Angeles pocket mouse and northwestern San Diego pocket mouse. These habitats provide suitable foraging opportunities, support small mammal prey populations, and in some cases, provide nesting or denning habitat.

Riparian communities within the BSAs may support species associated with surface water and dense vegetation, including northern yellow warbler, white-faced ibis, yellow-breasted chat, and Yuma myotis. These habitats provide important resources such as water, cover, and nesting opportunities.

Open woodlands and scattered tree habitats (e.g., blue elderberry patches and juniper woodlands) may support species such as Cooper's hawk, merlin, and western yellow bat, which utilize trees for nesting and perching while foraging in adjacent open habitats.

Sensitive Natural Communities

"Sensitive" natural communities and habitats are defined by CDFW as those natural communities that have a reduced range and/or are imperiled because of various forms of development and other anthropogenic stressors, including residential and commercial expansion, various forms of agriculture, energy production, mining, etc. These communities are evaluated using NatureServe's Heritage Methodology (NatureServe 2022), which is based on the knowledge of range and distribution of a specific vegetation type and the proportion of occurrences that are of good ecological integrity. Evaluation is done at both a global level (natural range within and outside of California [G]) and subnational level (State level for California [S]), with each ranked from 1 ("critically imperiled" or very rare and threatened) to 5 (demonstrably secure). A community or habitat with a State rank of S1 through S3 are considered "sensitive" natural communities and may require review when evaluating environmental impacts (CDFW 2025).

The following natural communities are ranked S3 by the State and are considered sensitive natural communities: Goodding's willow riparian woodland, Goodding's willow – mulefat riparian woodland, Goodding's willow – arroyo willow riparian woodland, and willow riparian woodland. The following project BSAs contain at least one of these sensitive natural communities: WW-2: Beazer Lift Station and Forcemain Upgrade, WW-3: Markham Lift Station Upgrade, W-1: Moonridge Drive Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, WW-5: Meridian Lift Station Upgrades (WWRF), RW-1: Meridian West Pipelines, W-14: Highland Grove II and III 12-inch Pipeline, W-13: Highland

Grove Pipeline, RW-1: Lake Ranch Pipelines, W-11: Cole Ave/Cedar Street Upsize, and W-12: Mariposa Ave/Lurin Ave Upsize.

Critical Habitat

Under FESA, the USFWS and National Marine Fisheries Service (NMFS) are required to designate Critical Habitat for endangered and threatened species. Critical Habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated Critical Habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated Critical Habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical Habitat delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

The closest USFWS-designated critical habitat is for coastal California gnatcatcher is located approximately 1.7 miles west of the RW-1: Idaleona Drive Upsizing (USFWS 2026a).

Wildlife Movement

Wildlife movement occurs through areas of habitat linkages and movement corridors. Habitat linkages are contiguous areas of open space that connect two larger habitat areas. Linkages provide for both diffusion and dispersal for a variety of species within the landscape. In addition, linkages can serve as primary habitat for some smaller species. Corridors are linear linkages between two or more habitat patches. Corridors provide for movement and dispersal, but do not necessarily include habitat capable of supporting all life history requirements of a species.

Wildlife movement corridors and habitat linkages are critical for the survivorship of ecological systems for several reasons. Corridors and linkages can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor use and wildlife movement patterns varies among species.

Although WMWD is not a permittee under the Western Riverside County MSHCP, the MSHCP provides a regional framework for identifying important habitat areas that support wildlife movement and connectivity. Based on a review of MSHCP mapping, portions of the W-2: Blackburn Road Pipeline Upsizing, RW-1: Meridian West Pipeline, WW-5: Meridian Lift Station Upgrades (WWRF), W-4: Hillside 2320 PZ Booster Pump Station and Pipeline, and W-15: Juniper Road Pipeline Upsizing project sites are located within or adjacent to designated core areas and wildlife linkages. Core areas are intended to support large, contiguous blocks of habitat that provide for long-term conservation of species, while linkages are areas that facilitate wildlife movement between habitat blocks and allow for dispersal and genetic exchange.

Additionally, the Riverside Retail Service Area is not located within a missing linkage identified by South Coast Wildlands (South Coast Wildlands 2008). However, the Riverside Retail Service Area intersects

with areas identified within the California Essential Habitat Connectivity (CEHC) database (CDFW 2026b), which are areas of wildlands that support ecological connectivity between natural habitat blocks.

Aquatic Resources

Wetlands and permanent and intermittent drainages, creeks, and streams may be subject to the jurisdiction of the USACE, RWQCB under Federal Clean Water Act Section 404, Porter-Cologne Water Quality Control Act Section 401, and California Fish and Game Code Section 1602.

A formal aquatic resources delineation was not conducted as part of the biological field reconnaissance; however, a number of potentially jurisdictional aquatic resource features were identified within the BSAs and are shown in Figures 6-A through 6-O, Hydrology and National Wetlands Inventory, of Appendix BIO. Specifically, NWI mapped features cross the priority and near-term project locations for the W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, RW-1: Lake Ranch Pipelines, W-2: Blackburn Road Pipeline Upsizing, RW-1: Orangecrest Supply Pipeline, RW-1: Meridan West, RW-1: Bergamont Park Conversion to RW, W-7: New 7 MG Markham Tank, RW-1: Idaleona Drive Upsizing, and W-15: Juniper Road Pipeline Upsizing.

3.4.2 Regulatory Framework

This section provides a summary of the federal, state, and local environmental regulations that govern the biological resources applicable to the Project site.

Federal

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Protection Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] Section 17.3). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR Section 17.3). Actions that result in take can result in civil or criminal penalties.

All references to federally protected species in this report include the most current published status or candidate category to which each species has been assigned by USFWS. For purposes of this report, the following acronyms are used for federal status species, as applicable:

- **FE** Federally-listed as Endangered
- **FT** Federally-listed as Threatened
- **FPE** Federally proposed for listing as Endangered
- **FPT** Federally proposed for listing as Threatened

- **FPD** Federally proposed for delisting
- **FC** Federal candidate species (former C1 species)

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects individuals, as well as any part, nest, or eggs, of any bird listed as migratory. The MBTA prohibits the take of native birds "by any means or manner to pursue, hunt, take, capture (or) kill" any migratory birds except as permitted by regulations issued by the USFWS. The term "take" is defined by USFWS regulation to mean to "pursue, hunt, shoot, wound, kill, trap, capture or collect" any migratory bird or any part, nest, or egg of any migratory bird covered by the conventions, or to attempt those activities.

In practice, federal permits issued for activities that potentially impact migratory birds typically have conditions that require pre-disturbance surveys for nesting birds. In the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest, or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., presence of busy roads, intervening topography, etc.) and is based on the professional judgment of a monitoring biologist. A list of migratory bird species protected under the MBTA is published by USFWS.

Federal Clean Water Act (CWA)

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the law was significantly reorganized and expanded in 1972. "Clean Water Act" became the law's common name with amendments in 1972.

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and mining projects. Section 404 requires that a permit be issued before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from regulation under Section 404 (e.g., certain farming and forestry activities).

"Wetlands" are defined by USACE as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328.3[c][1]; 40 CFR 120.2[c][1]). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by site investigation, must be present at a site for USACE to classify the site as a wetland (Environmental Laboratory 1987).

Section 401 of the CWA gives the state authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the United States. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The regional water quality control

board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the state is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the state or appropriate interstate water pollution control agency in/where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of CWA Sections 301, 302, 303, 306, and 307.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act was originally enacted in 1940 as the Bald Eagle Protection Act to protect bald eagles and was later amended to include golden eagles. The Act prohibits the taking, possession, or commerce of bald and golden eagles, parts, feathers, nests, or eggs with limited exceptions. Take is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb", and includes both direct taking of individuals and take due to disturbance. "Disturb" is defined as:

> *to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to any eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*[1]

The definition of "disturb" is further defined by USFWS as follows:

> *In addition to immediate impacts, this definition also covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering.* (USFWS 2007)

Bald eagles may not be taken for any purpose unless a permit is issued prior to the taking. Activities which can be authorized by permit include scientific collection/research, exhibition, tribal religious, depredation, falconry, and the taking of inactive golden eagle nests, which interfere with resource development or recovery operations. Currently, USFWS has a permitting process proposed for other activities that would allow disturbance to bald eagles or take of an eagle nest where their location poses a risk to human or eagle safety.

State

California Fish and Game Code

The California Fish and Game Code (CFGC) regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the state. These sections are described in detail below.

CFGC Sections 1600–1616 (Aquatic Resources)

Pursuant to Section 1600 et seq. of the CFGC, the CDFW regulates activities of an applicant's project that would substantially alter the flow, bed, channel, or banks of streams or lakes, unless certain conditions outlined by CDFW are met by the applicant. The limits of CDFW jurisdiction are defined in CFGC

[1] 50 CFR 22.3.

Section 1600 et seq. as the "bed, channel, or bank of any river, stream,[2] or lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit."[3] However, in practice, CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider.

CFGC Sections 1900–1913 (Native Plants)

The California Native Plant Protection Act of 1977 (CFGC Sections 1900–1913) directs state agencies to exercise their authorities in a manner that supports the conservation of endangered, rare, and otherwise sensitive native plant species. The Act restricts the removal of protected native plants from their natural locations and requires that the CDFW be notified at least 10 days prior to a non-agricultural land use change. This notification provides CDFW the opportunity to rescue or relocate listed plant species that could otherwise be lost as a result of project activities.

CFGC Section 2050 et seq (California Endangered Species Act [CESA])

CESA defines an endangered species as:

> *... a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.*

The State defines a threatened species as:

> *... a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985, is a threatened species.*

Candidate species are defined as:

> *... a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.*

Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Wildlife Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species.

[2] Title 14 California Code of Regulations (CCR) 1.72 defines a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

[3] This also includes the habitat upon which they depend for continued viability (CFGC Division 5, Chapter 1, Section 45, and Division 2, Chapter 1, Section 711.2[a]).

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species by stating:

> *... no person shall import into this State, export out of this State, or take, possess, purchase, or sell within this State, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.*

Under the CESA, "take" is defined as, "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Additionally, some special-status birds, mammals, reptiles and amphibians, and fish are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the CFGC Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). Senate Bill (SB) 147, which became effective on July 10, 2023, revised CFGC Sections 395, 3511, 4700, 5050, and 5515, and added Section 2081.15. Under the CFGC, fully protected species are generally prohibited from being taken or possessed, and take authorizations are not issued unless a project qualifies for a take authorization pursuant to Section 2081.35. Limited exceptions are allowed for scientific research or for relocation necessary to protect livestock. The take authorization provisions established under SB 147 are applicable to the proposed Project because it falls within an eligible project category, specifically a solar photovoltaic development.

California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. Informally listed species are not protected per se but warrant consideration in the preparation of biological assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest areas.

For the purposes of this report, the following acronyms are used for State status species, as applicable:

- **SE** State-listed as Endangered
- **ST** State-listed as Threatened
- **SR** State-listed as Rare
- **SCE** State candidate for listing as Endangered
- **SCT** State candidate for listing as Threatened
- **FP** State Fully Protected
- **SSC** California Species of Special Concern

CFGC Sections 2080 and 2081

Section 2080 of the CFGC states that "No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act." Pursuant to Section 2081, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed

endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through Incidental Take permits or Memoranda of Understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

CFGC Sections 3503, 3503.5, and 3513 (Birds)

Under these sections of the CFGC, the project operator is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey; the taking or possessing of any migratory nongame bird; the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or nongame birds; or the taking of any nongame bird pursuant to CFGC Section 3800. CFGC Section 3513 adopts the federal migratory bird take provisions under the MBTA that prohibit the intentional take or possession of birds designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations pursuant to the MBTA. CFGC Section 3513 does not prohibit the incidental take of birds if the underlying purpose of the activity is not to take birds.

CFGC Section 4150 (Mammals)

CFGC Section 4150 classifies nongame mammals as all mammal species native to California that are not designated as game mammals, fully protected mammals, or fur-bearing mammals. In general, nongame mammals and their parts may not be taken or possessed unless such take is specifically authorized by the CFGC or by regulations adopted by the California Fish and Game Commission. Species for which take is allowed are typically those identified as causing agricultural or crop-related damage.

California Environmental Quality Act Guidelines, Section 15380

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

California Water Quality Control Act (Porter-Cologne California Water Code Section 13260)

The State Water Resources Control Board (SWRCB) and the RWQCB (together "Boards") are the principal State agencies with primary responsibility for the coordination and control of water quality. The Boards regulate activities pursuant to Section 401(a)(1) of the federal CWA as well as the Porter-Cologne Water Quality Control Act (Porter-Cologne) (Water Code Section 13260). Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable water at the point where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.

In Porter-Cologne, the Legislature declared that the "State must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the State from degradation …" (California Water Code Section 13000). Porter-Cologne grants the Boards the authority to implement and enforce the water quality laws, regulations, policies and plans to protect the groundwater and surface waters of the State. It is important to note that enforcement of the State's water quality requirements is not solely the purview of the Boards and their staff. Other agencies (e.g., CDFW) have the ability to enforce certain water quality provisions in state law.

Regional or Local

The proposed project sites are located within unincorporated county land (County of Riverside) and one incorporated city (City of Riverside), which have ordinances governing the protection of biological resources, as described below.

Western Riverside County Multiple Species Habitat Conservation Plan

Per CFGC Sections 2800–2840, the Natural Community Conservation Plan (NCCP) Act (the Act), authorized the preparation of NCCPs to protect natural communities and species while allowing a reasonable amount of economic development.

The MSHCP, adopted by the County of Riverside on June 17, 2003, serves as a Habitat Conservation Plan (HCP) pursuant to the Act and pursuant to Section 10 (a)(1)(B) of the FESA. The Implementation Agreement (IA) sets forth the implementation requirements for the MSHCP as well as procedures and minimization measures related to take of habitats and species considered for conservation. Implementation of the MSHCP authorizes participating jurisdictions to "take" specified plant and wildlife species within the MSHCP Plan Area. In addition, the wildlife agencies, namely USFWS and CDFW, allow take of habitat or individual species outside of the MSHCP Conservation Area in exchange for the assembly and management of a coordinated MSHCP Conservation Area. The assembly and long-term management of the MSHCP Conservation Area is the responsibility of the Riverside County, Federal, and State governments; cities within the western portion of Riverside County; and private and public entities that conduct activities which would potentially impact the habitats and species considered for conservation under the MSHCP (RCA 2003).

The Riverside FMP is located with the MSHCP plan area. However, WMWD is not a signatory of the MSHCP; thus, although the MSHCP is discussed within this report as a regional NCCP/HCP, the project is not required to demonstrate consistency with the MSHCP.

Stephen's Kangaroo Rat Habitat Conservation Plan

The Stephen's Kangaroo Rat HCP (SKRHCP) is a comprehensive, multi-jurisdictional HCP focusing on conservation of the Stephens' kangaroo rat (SKR) (*Dipodomys stephensi*) and its associated habitats in western Riverside County. Approximately 41,221 acres of occupied and potentially suitable SKR habitat within the HCP plan area were organized into seven core reserves deemed most important for the preservation of the species, which would be preserved in perpetuity. The Riverside FMP is located with the SKRHCP Plan Area and several projects are situated within SKR core reserves (RCHCA 1996).

The SKRHCP and the County of Riverside – Ordinance No. 663 – requires development proposed outside of a core reserve but within the Plan Area be reviewed to determine the most appropriate course of action to ensure the survival of the species and provide a method to mitigate for impacts resulting from said development. The Riverside County Habitat Conservation Agency (RCHCA) has obtained a Section 10A permit granted by the USFWS that allows for the incidental "take" of SKR.

County of Riverside – Ordinance No. 559: Regulating the Removal of Trees

The County of Riverside (County) Ordinance No. 559 regulates native trees that occur on parcels or properties greater than 0.5 acres in size, located in areas above 5,000 feet in elevation and within unincorporated areas. All portions of the BSAs are located below 5,000 feet in elevation. Therefore, the County Ordinance No. 559 does not apply to the project.

County of Riverside – Oak Tree Management Guidelines

The County of Riverside passed the Riverside County Oak Tree Management Guidelines on March 2, 1993, to address oak woodlands preservation within zoning and general plan density restrictions. The management guidelines require biological studies consisting of an inventory of all individual oak trees that are at least 2 inches in diameter at breast height (DBH) and an assessment of impacts by proposed development (RCPD 2026).

City of Riverside – Chapter 13.25 – Tree and Shrub Supervision

The City of Riverside (City) Tree and Shrub Supervision ordinance (Municipal Code Chapter 13.25) prohibits the trimming or removal of City managed trees located within the public right-of-way. The care, supervision, and selection of trees are to be approved by the City Council and Park, Recreation and Community Services Commission. The City Council has the authority to remove any tree it deems necessary for removal.

City of Riverside - Urban Forestry Policy

The Urban Forestry Policy Manual was revised by the City of Riverside's Public Works Department in 2007 and provides best management practices regarding urban forestry and tree care. This includes guidance for watering, pest control, maintenance, preservation, removal, and planting. The removal of any street tree must be authorized by the Public Works Department and fall within specific removal criteria outlined in the manual (CRPW 2024).

3.4.3 Impact Analysis and Mitigation Measures

An analysis of potential impacts to biological resources and corresponding recommendations for avoidance, minimization, and mitigation are discussed in this section. It should be noted that because the overall proposed project footprint is conceptual at this time, project impacts may need to be confirmed upon completion of a more finalized project design, particularly for future projects.

Approach to Analysis

Generally, impacts may be defined as direct or indirect, permanent or temporary. Definitions of these impact types are provided below.

- **Direct Impacts:** Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Examples include loss of individual species and/or their associated plant communities, diversion of surface water flows, and encroachment into wetlands. Under the FESA, direct impacts are defined as the immediate impacts of a project on a species or its habitat, including construction noise disturbance, sedimentation, or habitat loss.
- **Indirect Impacts:** As a result of project-related activities, biological resources may also be affected in an indirect manner. Under the FESA, indirect impacts are defined as those impacts that are caused by, or would result from, a proposed project but occur later in time and are reasonably certain to occur [50 C.F.R. Section 402-02]. An example of indirect impacts may include irrigation runoff from a developed area into surrounding natural vegetation. Indirect impacts could also include increased wildfire frequency as a result of power line failures.
- **Temporary Impacts:** Any impacts to biological resources that are considered reversible can be viewed as temporary. Examples include the generation of fugitive dust during construction activities and temporary access or staging areas that will be returned to pre-project conditions.
- **Permanent Impacts:** All impacts that result in the irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area with native vegetation, such that the native vegetation is permanently removed and replaced with a developed structure.

Thresholds of Significance

The following criteria from 2026 CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to biological resources. The proposed project would have a significant impact if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

3. Have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
7. Result in cumulatively considerable impacts to biological resources.

Impacts and Mitigation Measures

Special-Status Species

Impact 3.4 1: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Potential impacts to special-status species that have moderate to high potential to occur within the BSA, and/or species that were documented during the reconnaissance surveys, are evaluated below.

Priority and Near-Term Projects

Pipelines, Pump/Lift Stations, Storage Tanks, and WWRF Expansion

Special-Status Plants

Munz's Onion

Implementation of the Riverside FMP could result in impacts to Munz's onion. Suitable habitat for Munz's onion is present within multiple Priority and Near-Term project BSAs: W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing. It should be noted that the W-5: New 3 MG Hidden Valley Tank and W-6: New 1.5 MG El Nido Tank project sites would remain entirely within the existing developed footprints, thereby avoiding disturbance of suitable habitat and resulting in no impacts to Munz's onion.

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in the removal or degradation of suitable habitat. Direct impacts could include the loss of individuals through ground-disturbing activities, particularly where bulbs are present below the soil surface and may not be visible during construction. **Table 3.4-1** outlines potential permanent and temporary impacts to suitable habitat for Munz's onion resulting from implementation of the Riverside FMP. Because Munz's onion is a perennial bulb-forming species, individuals may be especially vulnerable to soil disturbance that disrupts underground structures essential for survival and reproduction.

TABLE 3.4-1
POTENTIAL IMPACTS TO SUITABLE HABITAT FOR SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR WITHIN PRIORITY AND NEAR-TERM PROJECT SITES

Project	Chaparral Sand-verbena	Intermediate Mariposa Lily	Long-spined Spineflower	Many-stemmed Dudleya	Munz's Onion	Paniculate Tarplant	Parry's Spineflower	Rigid Fringepod	San Diego Ambrosia	Yucaipa Onion
Priority										
W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank	Temporary: 1.49 acres				Temporary: 1.49 acres					
W-3: Cedar Street and Avenue D Pipeline Upsizing						Temporary: 0.18 acres				
Near-Term										
W-4: Hillside 2320 PZ Booster PS and Pipeline	Temporary: 1.11 acres		Temporary: 1.11 acres	Temporary: 1.11 acres	Temporary: 1.11 acres	Temporary: 1.11 acres	Temporary: 1.11 acres		Temporary: 1.11 acres	
W-7: New 7 MG Markham Tank	Permanent: 0.18 acres			Permanent: 0.18 acres		Permanent: 0.18 acres				
W-11: Cole Ave/Cedar Street Upsize						Temporary: 0.01 acres				
W-15: Juniper Road Pipeline Upsizing	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres
RW-1: Idaleona Drive Upsizing	Temporary: 0.42 acres		Temporary: 0.42 acres	Temporary: 0.42 acres	Temporary: 0.42 acres	Temporary: 0.42 acres	Temporary: 0.42 acres		Temporary: 0.42 acres	

Indirect impacts may include soil compaction, alteration of surface and subsurface hydrology, and the introduction or spread of invasive plant species that could modify habitat conditions and reduce habitat suitability over time. Dust generated during construction activities could settle on vegetation, potentially reducing photosynthetic capacity and plant vigor for aboveground portions during the growing season. Maintenance activities such as vegetation management could also affect individuals if present.

Implementation of **Mitigation Measure BIO-1 (Special-Status Plant Surveys)** would require surveys to be conducted during the appropriate blooming period to determine if special-status plant species are present/absent within the project site for W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing. If surveys verify absence of the species, no further action would be required. If Munz's onion is identified and impacts can be avoided through project redesign or other avoidance measures, impacts to the species would be less than significant. If impacts to Munz's onion cannot be avoided, the project applicant shall obtain all applicable permits and implement a species-specific mitigation plan in accordance with Mitigation Measure BIO-1, which may include salvage and transplantation of bulbs, seed collection, restoration, and long-term monitoring. Additionally, implementation of **Mitigation Measure BIO-2 (General Best Management Practices [BMPs] and Worker Environmental Awareness Program [WEAP])** and **Mitigation Measure BIO-3 (Invasive Plant Species Control Measures)**, would further reduce direct and/or indirect impacts to special-status plants by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of **Mitigation Measure BIO-4 (Revegetation Plan)** would reduce impacts to species habitat in the proposed project sites by requiring the restoration of temporarily impacted areas to pre-construction conditions. Together with the avoidance, permitting, and species-specific mitigation requirements of Mitigation Measure BIO-1, impacts to Munz's onion would be reduced to less than significant with mitigation incorporated.

San Diego Ambrosia

Implementation of the Riverside FMP could result in impacts to San Diego ambrosia. Suitable habitat for the species is present within multiple Priority and Near-Term project BSAs: W-4: Hillside 2320 PZ Booster PS and Pipeline, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing. It should be noted that the W-5: New 3 MG Hidden Valley Tank and W-6: New 1.5 MG El Nido Tank project sites remain entirely within the existing developed footprints, thereby avoiding disturbance of suitable habitat and resulting in no impacts to San Diego ambrosia.

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in the removal or degradation of suitable habitat. Direct impacts could include the loss of individuals through ground-disturbing activities, particularly where the species occurs in open or previously disturbed areas that may be targeted for construction or staging. Because San Diego ambrosia can spread clonally and may occur in patches that are not readily identifiable outside of the growing season, individuals could be inadvertently impacted if present within the disturbance footprint. Table 3.4-1 outlines potential temporary impacts to suitable habitat for San Diego ambrosia resulting from implementation of the Riverside FMP.

Indirect impacts may include soil compaction, changes in hydrology, and the introduction or spread of invasive plant species that could alter habitat conditions and reduce habitat suitability over time. Dust generated during construction activities could settle on vegetation, potentially reducing photosynthetic capacity and plant vigor, particularly for individuals located adjacent to active construction areas.

Implementation of Mitigation Measure BIO-1 (Special-Status Plant Surveys) would require surveys to be conducted during the appropriate blooming period to determine if special-status plant species are present within the project site at-4: Hillside 2320 PZ Booster PS and Pipeline, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing. If surveys verify absence of the species, no further action would be required. If San Diego ambrosia is identified and impacts can be avoided through project redesign or other avoidance measures, impacts to the species would be less than significant. If impacts to San Diego ambrosia cannot be avoided, the project applicant shall obtain all applicable permits and implement a species-specific mitigation plan in accordance with Mitigation Measure BIO-1, which may include salvage and transplantation of bulbs, seed collection, restoration, and long-term monitoring. Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status plants by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project sites by requiring the restoration of temporarily impacted areas to pre-construction conditions. Together with the avoidance, permitting, and species-specific mitigation requirements of Mitigation Measure BIO-1, impacts to San Diego ambrosia would be reduced to less than significant with mitigation incorporated.

Non-Listed Special-Status Plants

Implementation of the Riverside FMP could result in impacts to other special-status plant species, including chaparral sand-verbena, intermediate mariposa lily, long-spined spineflower, many-stemmed dudleya, Parry's spineflower, paniculate tarplant, rigid fringepod, and Yucaipa onion. Suitable habitat for these species is present within multiple Priority and Near-Term project BSAs, particularly within coastal sage scrub, chaparral, grassland, and disturbance-associated habitats that provide open conditions and appropriate soil characteristics. Priority and Near-Term project BSAs where special-status plants could be impacted could include: W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, W-11: Cole Ave/Cedar Street Upsize, W-15: Juniper Road Pipeline Upsizing, RW-1: Idaleona Drive Upsizing, and RW-1: Cemetery PS Expansion. It should be noted that the W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, and RW-1: Cemetery PS would remain entirely within existing developed footprints, thereby avoiding disturbance of suitable habitat and resulting in no impacts to special-status plant species.

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in the removal or degradation of suitable habitat. Direct impacts could include the loss of individuals through ground-disturbing activities, particularly for annual or short-lived perennial species that may be present only during certain times of year and may not be readily identifiable outside of the blooming period. For species with belowground structures (e.g., bulbs or taproots), individuals may be impacted through soil disturbance even when not visible at the surface. Table 3.4-1

outlines potential permanent and temporary impacts to suitable habitat for non-listed special-status plant species resulting from implementation of the Riverside FMP.

Indirect impacts may include soil compaction, alteration of drainage patterns, and the introduction or spread of invasive plant species that could outcompete native vegetation and reduce habitat suitability over time. Dust generated during construction activities could settle on vegetation, potentially reducing photosynthetic capacity and plant vigor, particularly for individuals located adjacent to active construction areas. Maintenance activities such as vegetation management could also result in localized impacts to individuals if present.

Implementation of Mitigation Measure BIO-1 (Special-Status Plant Surveys) would require surveys to be conducted during the appropriate blooming period to determine if special-status plant species are present/absent within the project site at W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-7: New 7 MG Markham Tank, WW-11: Cole Ave/Cedar Street Upsize, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing. If surveys verify absence of the species, no further action would be required. If special-status plant species are identified and impacts can be avoided through project redesign or other avoidance measures, impacts to the species would be less than significant. If impacts to special-status plant species cannot be avoided, the project applicant shall implement a species-specific mitigation plan in accordance with Mitigation Measure BIO-1, which may include salvage and transplantation of bulbs, seed collection, restoration, and long-term monitoring. Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status plants by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project site by requiring the restoration of temporarily impacted areas to pre-construction conditions. Together with the avoidance, permitting, and species-specific mitigation requirements of Mitigation Measure BIO-1, impacts to special-status plants would be reduced to less than significant with mitigation incorporated.

Special-Status Wildlife

Coastal California Gnatcatcher

Implementation of the Riverside FMP could result in impacts to coastal California gnatcatcher. Suitable habitat for coastal California gnatcatcher is present within multiple Priority and Near-Term project BSAs: W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, WW-2: Beazer 1 Lift Station and Forcemain Upgrade, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, W-9: New 12.5 MG Orangecrest Tank, W-10: Highland Grove Pressure Reducing Valve, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, RW-1: New Orangecrest Tank, RW-1: Idaleona Drive Upsizing, and RW-1: Lake Ranch Pipelines.

For projects that remain entirely within existing developed footprints, avoid disturbance of suitable coastal sage scrub habitat, and avoid construction activities within 500 feet of suitable habitat during the

coastal California gnatcatcher breeding season (March 1 through August 15), no direct or indirect impacts to coastal California gnatcatcher would occur. The projects that are expected to remain within existing developed footprints include WW-2: Beazer 1 Lift Station and Forcemain Upgrade, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, W-9: New 12.5 MG Orangecrest Tank, W-10: Highland Grove Pressure Reducing Valve, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, RW-1: New Orangecrest Tank, and RW-1: Lake Ranch Pipelines. Therefore, protocol surveys and species-specific mitigation measures would not be required for those project sites if the above conditions are met.

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in direct impacts to coastal California gnatcatcher through the removal of suitable coastal sage scrub habitat and potential injury or mortality if individuals or active nests are present within the impact area during ground-disturbing activities. **Table 3.4-2** outlines potential temporary impacts to suitable habitat for coastal California gnatcatcher resulting from implementation of the Riverside FMP. Indirect impacts could occur from construction-related noise, vibration, lighting, human activity, and equipment use near occupied habitat, particularly during the breeding season (generally March 1 through August 15). These disturbances could disrupt normal breeding behavior, resulting in nest abandonment or reduced reproductive success. Additional indirect impacts may include habitat degradation from dust, erosion, and the introduction or spread of invasive plant species that reduce habitat quality over time.

However, for projects that would disturb suitable coastal sage scrub habitat, including W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing, or conduct construction activities within 500 feet of suitable habitat during the breeding season, implementation of the Riverside FMP could result in the direct and indirect impacts described above. Therefore, impacts to coastal California gnatcatcher would be potentially significant.

Implementation of **Mitigation Measure BIO-5 (Coastal California Gnatcatcher)** would require protocol surveys to determine presence/absence within 500 feet of the project sites if a project cannot be confined entirely to existing developed footprints, would result in disturbance of suitable coastal sage scrub habitat, or would involve construction activities within 500 feet of suitable habitat during the coastal California gnatcatcher breeding season (March 1 through August 15). If a project remains entirely within existing developed footprints, avoids disturbance of suitable coastal sage scrub habitat, and all construction within 500 feet of suitable habitat occurs outside the breeding season, protocol surveys would not be required. If surveys verify absence of the species, no further action would be required. If protocol surveys confirm occupancy but project activities would avoid direct impacts to occupied habitat, a minimum 500-foot avoidance buffer would be established around occupied habitat during the breeding season, or if construction must occur within the avoidance buffer, additional avoidance measures, such as noise attenuation and biological monitoring, would be implemented to minimize disturbance and any potential indirect impacts. If direct impacts to occupied habitat or indirect impacts may occur, which may result in take of coastal California gnatcatcher, then the project proponent would obtain the appropriate federal take authorization under the FESA, which may include participation as a Participating Special Entity under the Western Riverside County MSHCP, where applicable.

TABLE 3.4-2
POTENTIAL IMPACTS TO SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR WITHIN PRIORITY AND NEAR-TERM PROJECT SITES

Project	Coastal California Gnatcatcher	Crotch's Bumble Bee	Least Bell's Vireo	Stephens' Kangaroo Rat	Western Burrowing Owl	Western Spadefoot	White-Tailed Kite	Non-listed Bats
Priority								
W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank	Temporary: 0.11 acres	Temporary: 1.52 acres		Temporary: 1.52 acres	Temporary: 1.60 acres		Temporary: 1.60 acres	Temporary: 1.60 acres
W-3: Cedar Street and Avenue D Pipeline Upsizing	Temporary: 0.01 acre	Temporary: 0.18 acres		Temporary: 0.18 acres	Temporary: 0.19 acres	Temporary: 0.19 acres		
Near-Term								
W-4: Hillside 2320 PZ Booster PS and Pipeline	Temporary: 0.74 acres	Temporary: 1.11 acres	Temporary: <0.01 acre	Temporary: 1.11 acres	Temporary: 1.11 acres	Temporary: 1.11 acres	Temporary: 1.11 acres	Temporary: 1.19 acres
W-7: New 7 MG Markham Tank		Permanent: 0.19 acres			Permanent: 0.19 acres		Permanent: 0.19 acres	
W-11: Cole Ave/Cedar Street Upsize		Temporary: 0.01 acre		Temporary: 0.01 acre		Temporary: 0.01 acre		Temporary: 0.01 acre
W-12: Mariposa Ave/Lurin Avenue Upsize					Temporary: 0.13 acres			
W-13: Highland Grove Pipeline		Temporary: 0.39 acres		Temporary: 0.39 acres			Temporary: 0.39 acres	Temporary: 0.39 acres
W-14: Highland Grove II and III 12-inch Pipeline		Temporary: 2.99 acres	Temporary: 0.49 acres	Temporary: 2.50 acres			Temporary: 2.50 acres	Temporary: 2.99 acres
W-15: Juniper Road Pipeline Upsizing	Temporary: 0.40 acres	Temporary: 0.59 acres		Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres	Temporary: 0.59 acres
RW-1: Idaleona Drive Upsizing	Temporary: 0.04 acres	Temporary: 0.42 acres		Temporary: 0.45 acres	Temporary: 0.49 acres	Temporary: 0.49 acres	Temporary: 0.49 acres	Temporary: 0.49 acres

Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status wildlife by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project site by requiring the restoration of temporarily impacted areas to pre-construction conditions. With implementation of these mitigation measures, impacts to coastal California gnatcatcher would be reduced to less than significant with mitigation incorporated.

Crotch's Bumble Bee

Implementation of the Riverside FMP could result in impacts to Crotch's bumble bee. Suitable habitat for the species is present within multiple Priority and Near-Term project BSAs: W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, WW-2: Beazer 1 Lift Station and Forcemain Upgrade, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, W-9: New 12.5 MG Orangecrest Tank, W-10: Highland Grove Pressure Reducing Valve, W-11: Cole Ave/Cedar Street Upsize, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, RW-1: New Orangecrest Tank, RW-1: Orangecrest Tank Supply Pipelines, RW-1: Meridian West Pipelines, RW-1: Idaleona Drive Upsizing, RW-1: Cemetery PS Expansion, and RW-1: Lake Ranch Pipelines. For projects that remain entirely within existing developed footprints and avoid disturbance of suitable habitat, no direct or indirect impacts to Crotch's bumble bee would occur. These projects include WW-2: Beazer 1 Lift Station and Forcemain Upgrade, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, W-9: New 12.5 MG Orangecrest Tank, W-10: Highland Grove Pressure Reducing Valve, RW-1: New Orangecrest Tank, RW-1: Orangecrest Tank Supply Pipelines, RW-1: Meridian West Pipelines, and RW-1: Cemetery PS Expansion.

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in direct impacts to Crotch's bumble bee through the removal of suitable foraging habitat and potential impacts to nesting sites that may occur in small mammal burrows or other underground cavities. Direct impacts, including injury or mortality, could occur if individuals are present within the impact area during construction activities. Table 3.4-2 outlines potential permanent and temporary impacts to suitable habitat for Crotch's bumble bee resulting from implementation of the Riverside FMP.

Indirect impacts to flowering plant species that provide nectar and pollen resources could result from vegetation clearing, grading, soil compaction, dust generated during construction, temporary staging or equipment access, and the introduction or spread of invasive plant species following ground disturbance.

However, for projects that would disturb suitable habitat, including W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-7: New 7 MG Markham Tank, W-11: Cole Ave/Cedar Street Upsize, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing, implementation of the Riverside FMP could result in the direct and indirect impacts described above. Therefore, impacts to Crotch's bumble bee would be potentially significant.

Implementation of **Mitigation Measure BIO-6 (Crotch's Bumble Bee)** would be required for these projects listed above that cannot be confined entirely to existing developed footprints or would result in disturbance of suitable habitat for Crotch's bumble bee. If surveys verify absence of the species, no further action would be required. If protocol surveys confirm the presence of Crotch's bumble bee but project activities would avoid direct impacts to suitable foraging and nesting habitat, avoidance buffers and other avoidance measures, as determined by the qualified biologist based on site-specific conditions, would be established around occupied habitat. If construction must occur within the avoidance area, additional avoidance measures, such as biological monitoring, minimization of vegetation disturbance, and restoration of temporarily impacted habitat, would be implemented to minimize disturbance and any potential indirect impacts. If direct impacts to occupied habitat or indirect impacts may occur, which may result in take of Crotch's bumble bee, then the project proponent would obtain the appropriate state authorizations, as required, and implement species-specific mitigation in accordance with Mitigation Measure BIO-6.

Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status wildlife by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project site by requiring the restoration of temporarily impacted areas to pre-construction conditions. With implementation of these mitigation measures, impacts to Crotch's bumble bee would be reduced to less than significant with mitigation incorporated.

Least Bell's Vireo

Implementation of the Riverside FMP could result in impacts to least Bell's vireo. Suitable habitat for the species is present within a limited number of Priority and Near-Term project BSAs, primarily in areas that support riparian vegetation. These habitats are present in the following project BSA: W-1: Moonridge Drive Pipeline Upsizing, WW-2: Beazer 1 Lift Station and Forcemain Upgrade, WW-3: Markham Lift Station Upgrade, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-10: Highland Grove Pressure Reducing Valve, W-11: Cole Ave/Cedar Street Upsize, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, RW-1: Lake Ranch Pipelines, and WW-5: Meridian Lift Station Upgrade (WWRF).

For projects that remain entirely within existing developed footprints, are located more than 500 feet from suitable riparian habitat, and avoid construction activities within 500 feet of suitable riparian habitat during the least Bell's vireo breeding season (March 15 through September 15), no direct or indirect impacts to least Bell's vireo would occur. These projects include W-1: Moonridge Drive Pipeline Upsizing, WW-2: Beazer 1 Lift Station and Forcemain Upgrade, WW-3: Markham Lift Station Upgrade, W-10: Highland Grove Pressure Reducing Valve, W-11: Cole Ave/Cedar Street Upsize, W-13: Highland Grove Pipeline, RW-1: Lake Ranch Pipelines, and WW-5: Meridian Lift Station Upgrade (WWRF).

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in direct impacts to least Bell's vireo through the removal of riparian habitat used for nesting and foraging. Direct impacts, including injury or mortality, could occur if individuals or active nests are present within the impact area during vegetation removal or other ground-

disturbing activities. Vegetation trimming or removal adjacent to work areas may also reduce nesting cover and foraging opportunities. Table 3.4-2 outlines potential temporary impacts to suitable habitat for least Bell's vireo resulting from implementation of the Riverside FMP.

Indirect impacts could occur from construction-related noise, vibration, lighting, human activity, and equipment use near occupied habitat, particularly during the breeding season (generally February 15 through September 15). These disturbances could disrupt normal breeding behavior, including courtship, nest building, incubation, and feeding of nestlings, potentially resulting in nest abandonment or reduced reproductive success. Repeated disturbance near occupied habitat could also reduce habitat suitability by discouraging continued use of otherwise suitable nesting areas. Additional indirect impacts may include degradation of riparian habitat quality from dust, erosion, vegetation trimming adjacent to work areas, and the introduction or spread of invasive plant species over time.

However, for projects that would disturb suitable riparian habitat, including W-4: Hillside 2320 PZ Booster PS and Pipeline and W-14: Highland Grove II and III 12-inch Pipeline, or that would involve construction activities within 500 feet of suitable riparian habitat during the breeding season (February 15 through September 15), implementation of the Riverside FMP could result in the direct and indirect impacts described above. Therefore, impacts to least Bell's vireo would be potentially significant. Implementation of **Mitigation Measure BIO-7 (Least Bell's Vireo)** would apply to projects listed above that cannot be confined entirely to existing developed footprints, would result in disturbance of suitable riparian habitat, or would involve construction activities within 500 feet of suitable riparian habitat during the least Bell's vireo breeding season (February 15 through September 15). If surveys verify absence of the species, no further action would be required. If protocol surveys confirm occupancy but project activities would avoid direct impacts to occupied habitat, a minimum 500-foot avoidance buffer would be established around occupied habitat during the breeding season, or if construction must occur within the avoidance buffer, additional avoidance measures, such as noise attenuation and biological monitoring, would be implemented to minimize disturbance and any potential indirect impacts. If direct impacts to occupied habitat or indirect impacts may occur, which may result in take of least Bell's vireo, then the project proponent would obtain the appropriate federal take authorization under the FESA, which may include participation as a Participating Special Entity under the Western Riverside County MSHCP, where applicable.

Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status wildlife by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project site by requiring the restoration of temporarily impacted areas to pre-construction conditions. With implementation of these mitigation measures, impacts to least Bell's vireo would be reduced to less than significant with mitigation incorporated.

Stephens' Kangaroo Rat

Implementation of the Riverside FMP could result in impacts to Stephens' kangaroo rat. Suitable habitat for the species is present within multiple Priority and Near-Term project BSAs, particularly in areas that support open grassland and sparse coastal sage scrub habitats with suitable soils. These habitat types are

present in the following project BSAs: W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, WW-2: Beazer 1 Lift Station and Forcemain Upgrade, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, New 12.5 MG Orangecrest Tank, W-10: Highland Grove Pressure Reducing Valve, W-11: Cole Ave/Cedar Street Upsize, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, RW-1: New Orangecrest Tank, RW-1: Orangecrest Tank Supply Pipelines, RW-1: Meridian West Pipelines, RW-1: Idaleona Drive Upsizing, RW-1: Cemetery PS Expansion, RW-1: Lake Ranch Pipelines, WW-4: MARB 1269 Lift Station, and WW-5: Meridian Lift Station Upgrade (WWRF). For projects that remain entirely within existing developed footprints and avoid disturbance of suitable Stephens' kangaroo rat habitat, no direct or indirect impacts to Stephens' kangaroo rat would occur. These projects include: WW-2: Beazer 1 Lift Station and Forcemain Upgrade, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, New 12.5 MG Orangecrest Tank, W-10: Highland Grove Pressure Reducing Valve, RW-1: New Orangecrest Tank, RW-1: Orangecrest Tank Supply Pipelines, RW-1: Meridian West Pipelines, RW-1: Cemetery PS Expansion, RW-1: Lake Ranch Pipelines, WW-4: MARB 1269 Lift Station, and WW-5: Meridian Lift Station Upgrade (WWRF).

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in direct impacts to Stephens’ kangaroo rat through the removal or degradation of suitable habitat and the collapse or destruction of burrows used for shelter and reproduction. Direct impacts, including injury or mortality, could occur if individuals are present within the impact area during construction activities. Table 3.4-2 outlines potential temporary impacts to suitable habitat for Stephen’s kangaroo rat resulting from implementation of the Riverside FMP.

Indirect impacts could occur from repeated vehicle access, construction-related noise and disturbance, soil compaction, and habitat fragmentation, which could reduce habitat suitability over time. Additional indirect impacts may include the introduction or spread of invasive plant species that alter vegetation structure and reduce the quality of suitable habitat.

However, for projects that would disturb suitable Stephens' kangaroo rat habitat, including W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-11: Cole Ave/Cedar Street Upsize, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, RW-1: Idaleona Drive Upsizing, implementation of the Riverside FMP could result in the direct and indirect impacts described above. Therefore, impacts to Stephens' kangaroo rat would be potentially significant. Implementation of **Mitigation Measure BIO-8 (Stephens’ Kangaroo Rat)** would apply to the projects listed above that cannot be confined entirely to existing developed footprints or would result in disturbance of suitable Stephens' kangaroo rat habitat. If trapping surveys verify absence of the species, no further action would be required. If trapping surveys confirm the presence of Stephens' kangaroo rat but project activities would avoid direct impacts to occupied habitat, occupied areas would be protected through establishment of avoidance buffers, installation of exclusion fencing, and biological monitoring during construction. If direct impacts to occupied habitat or indirect impacts that could result in take of Stephens' kangaroo rat cannot be avoided, the project proponent shall obtain all applicable state

authorizations prior to construction. Where applicable, take coverage may be obtained through the Stephens' Kangaroo Rat Habitat Conservation Plan or other applicable regulatory mechanism.

Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status wildlife by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project site by requiring the restoration of temporarily impacted areas to pre-construction conditions. With implementation of these mitigation measures, impacts to Stephens' kangaroo rat would be reduced to less than significant with mitigation incorporated.

Western Burrowing Owl

Implementation of the Riverside FMP could result in impacts to western burrowing owl. Suitable habitat for the species is present within multiple Priority and Near-Term project BSAs, particularly in areas that support open grasslands, agricultural lands, and other habitats with low vegetation structure. These habitat types are present in the following BSAs: W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, W-12: Mariposa Ave/Lurin Avenue Upsize, W-15: Juniper Road Pipeline Upsizing, RW-1: Lurin Irrigation Tank Improvements, RW-1: Idaleona Drive Upsizing, and RW-1: Cemetery PS Expansion. For projects that remain entirely within existing developed footprints and avoid disturbance of suitable western burrowing owl habitat, no direct or indirect impacts to western burrowing owl would occur. These projects include W-5: New 3 MG Hidden Valley Tank, W-6: New 1.5 MG El Nido Tank, RW-1: Lurin Irrigation Tank Improvements, and RW-1: Cemetery PS Expansion.

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in direct impacts to western burrowing owl through the removal or degradation of suitable habitat and the collapse or destruction of burrows used for nesting, shelter, and reproduction. Direct impacts, including injury or mortality, could occur if individuals or active burrows are present within the impact area during construction activities. Table 3.4-2 outlines potential permanent and temporary impacts to suitable habitat for western burrowing owl resulting from implementation of the Riverside FMP.

Indirect impacts could occur from construction-related noise, vibration, lighting, human activity, and equipment use near occupied habitat, particularly during the breeding season (generally February 1 through August 31). These disturbances could disrupt normal behavior and potentially result in burrow abandonment or reduced reproductive success. Additional indirect impacts may include habitat degradation from dust, increased human disturbance, and the introduction or spread of invasive plant species that reduce habitat suitability over time.

However, for projects that would disturb suitable western burrowing owl habitat, including W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-7: New 7 MG Markham Tank, W-12: Mariposa Ave/Lurin Avenue Upsize, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing, implementation of the Riverside FMP could result in the direct and indirect impacts described

above. Therefore, impacts to western burrowing owl would be potentially significant. Implementation of **Mitigation Measure BIO-9 (Western Burrowing Owl)** would apply to the projects listed above that cannot be confined entirely to existing developed footprints or would result in disturbance of suitable western burrowing owl habitat. If surveys verify absence of western burrowing owl, no further action would be required. If occupied burrows are identified but project activities would avoid direct impacts, an appropriate avoidance buffer, as determined by the qualified biologist based on site-specific conditions, would be established around occupied burrows. If construction activities must occur within the avoidance buffer, additional avoidance measures, including biological monitoring, construction timing restrictions, and other measures recommended by the qualified biologist, would be implemented to minimize indirect disturbance. If direct impacts to occupied burrows or indirect impacts that could result in take of western burrowing owl cannot be avoided, the project proponent shall obtain all applicable state authorizations prior to construction and implement species-specific mitigation in accordance with Mitigation Measure BIO-9.

Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status wildlife by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project site by requiring the restoration of temporarily impacted areas to pre-construction conditions. With implementation of these mitigation measures, impacts to western burrowing owl would be reduced to less than significant with mitigation incorporated.

Western Spadefoot

Implementation of the Riverside FMP could result in impacts to western spadefoot. Suitable habitat for the species is present within multiple Priority and Near-Term project BSAs, particularly in areas that support open upland habitats with suitable soils for burrowing and the potential for seasonal ponding that provides breeding habitat. These habitat types are present in the following BSAs: W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, New 12.5 MG Orangecrest Tank, W-11: Cole Ave/Cedar Street Upsize, W-15: Juniper Road Pipeline Upsizing, RW-1: New Orangecrest Tank, RW-1: Meridian West Pipelines, RW-1: Idaleona Drive Upsizing, RW-1: Cemetery PS Expansion, WW-4: MARB 1269 Lift Station, and WW-5: Meridian Lift Station Upgrade (WWRF). For projects that remain entirely within existing developed footprints and avoid disturbance of suitable western spadefoot habitat, including suitable upland habitat and potential breeding habitat, no direct or indirect impacts to western spadefoot would occur. These projects include W-6: New 1.5 MG El Nido Tank, W-7: New 7 MG Markham Tank, New 12.5 MG Orangecrest Tank, RW-1: New Orangecrest Tank, RW-1: Meridian West Pipelines, RW-1: Cemetery PS Expansion, WW-4: MARB 1269 Lift Station, and WW-5: Meridian Lift Station Upgrade (WWRF).

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in direct impacts to western spadefoot through the removal or degradation of suitable upland habitat and the collapse or destruction of burrows used for shelter during non-breeding periods. Direct impacts, including injury or mortality, could occur if individuals are present within the impact area during ground-disturbing activities, particularly during or following rainfall events when individuals may be moving between upland and breeding habitats. Table 3.4-2 outlines potential temporary impacts to suitable habitat for western spadefoot resulting from implementation of the Riverside FMP.

Indirect impacts could occur from alterations to surface hydrology, soil compaction, and increased erosion or sedimentation, which could reduce the suitability of ephemeral pools or depressions used for breeding. Additional indirect impacts may include disruption of movement between upland and breeding habitats, habitat fragmentation, and the introduction or spread of invasive plant species that degrade habitat quality over time.

However, for projects that would disturb suitable western spadefoot habitat, including W-3: Cedar Street and Avenue D Pipeline Upsizing, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-11: Cole Ave/Cedar Street Upsize, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing, implementation of the Riverside FMP could result in the direct and indirect impacts described above. Therefore, impacts to western spadefoot would be potentially significant. Implementation of **Mitigation Measure BIO-10 (Western Spadefoot)** would apply to the projects listed above that cannot be confined entirely to existing developed footprints or would result in disturbance of suitable western spadefoot habitat, including suitable upland habitat and potential breeding habitat. If habitat assessments determine that suitable western spadefoot habitat is absent, no further action would be required. If suitable habitat is present, focused surveys shall be conducted in accordance with Mitigation Measure BIO-10. If surveys verify absence of western spadefoot, no further action would be required. If western spadefoot is detected but project activities would avoid direct impacts to individuals and suitable habitat, occupied habitat shall be protected through establishment of avoidance buffers, biological monitoring, and other avoidance measures recommended by the qualified biologist. If direct impacts to western spadefoot or occupied habitat cannot be avoided, the project proponent shall comply with all applicable state and federal regulations in effect at the time of project implementation and implement species-specific mitigation in accordance with Mitigation Measure BIO-10. Should western spadefoot become listed under CESA or FESA prior to project implementation, all applicable consultations, permits, and take authorizations shall be obtained before construction activities that could result in take.

Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status wildlife by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project site by requiring the restoration of temporarily impacted areas to pre-construction conditions. With implementation of these mitigation measures, impacts to western spadefoot would be reduced to less than significant with mitigation incorporated.

White-tailed Kite

Implementation of the Riverside FMP could result in impacts to white-tailed kite. suitable habitat for the species is present within multiple Priority and Near-Term project BSAs, including open upland habitats used for foraging and adjacent woodland or riparian areas that provide nesting opportunities. These habitat types are present within the following BSAs: W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-7: New 7 MG Markham Tank, W-10: Highland Grove Pressure Reducing Valve, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, RW-1: Idaleona Drive Upsizing, RW-1: Cemetery PS Expansion, and RW-1: Lake Ranch Pipelines. For projects that remain entirely within existing developed footprints, avoid disturbance of suitable nesting habitat, and avoid

construction activities within 500 feet of suitable nesting habitat during the white-tailed kite breeding season (generally February 1 through August 31), no direct or indirect impacts to white-tailed kite would occur. The projects include W-10: Highland Grove Pressure Reducing Valve, RW-1: Cemetery PS Expansion, and RW-1: Lake Ranch Pipelines.

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in direct impacts to white-tailed kite through the removal of suitable foraging habitat and potential nesting sites. Direct impacts, including injury or mortality, could occur if individuals or active nests are present within the impact area during ground-disturbing activities or vegetation removal. Table 3.4-2 outlines potential permanent and temporary impacts to suitable habitat for white-tailed kite resulting from implementation of the Riverside FMP.

Indirect impacts could occur from construction-related noise, vibration, human activity, and equipment use near occupied habitat, particularly during the breeding season (generally February 1 through August 31). These disturbances could disrupt normal breeding behavior and potentially result in nest abandonment or reduced reproductive success. Additional indirect impacts may include temporary reductions in prey availability, increased human disturbance, and degradation of habitat quality from dust or the introduction or spread of invasive plant species over time.

However, for projects that would disturb suitable nesting habitat, including W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-7: New 7 MG Markham Tank, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, and RW-1: Idaleona Drive Upsizing, or that would involve construction activities within 500 feet of suitable nesting habitat during the breeding season, implementation of the Riverside FMP could result in the direct and indirect impacts described above. Because white-tailed kite is designated as a California Fully Protected species, disturbance that results in take of individuals is prohibited under the California Fish and Game Code. Therefore, impacts to the species would be potentially significant. Implementation of **Mitigation Measure BIO-11 (Nesting Birds)** would require preconstruction surveys to determine if white-tailed kite is nesting within or near the project site. If surveys verify absence of white-tailed kite, no further action would be required. If active white-tailed kite nests are identified, species-specific avoidance buffers and construction restrictions would be implemented, and project activities would be modified or rescheduled, as necessary, to avoid take of this California Fully Protected Species.

Other Migratory Birds and Raptors

In addition to the special-status bird species discussed previously, all of the priority and near-term project BSAs support a diversity of other migratory birds, including special-status non-listed bird species, protected under the federal Migratory Bird Treaty Act of 1918 and Sections 3503.5, 3505, and 3511 of the California Fish and Game Code. Special-status non-listed birds with potential to nest on site include Bell's sparrow, California horned lark, Cooper's hawk, ferruginous hawk, loggerhead shrike, merlin northern yellow warbler, southern California rufous-crowned sparrow, white-faced ibis, and yellow-breasted chat. Nesting migratory birds and raptors have the potential to nest on bridges, structures, power poles, and vegetation (i.e., trees, shrubs, and on the ground) throughout the proposed project BSAs. Potential impacts to nesting birds may occur if project activities are conducted during the active nesting season (February 15 through August 31 for songbirds, and as early as January 15 for raptors).

Construction activities associated with the proposed projects could result in direct impacts to migratory birds and raptors through injury or mortality of adults, eggs, or young if active nests are present within the impact area during vegetation removal or other ground-disturbing activities. Construction activities could also result in nest abandonment or reproductive failure. Indirect impacts could occur from increased noise, vibration, lighting, human presence, and equipment use near occupied habitat during the nesting season. In addition, construction activities could temporarily reduce habitat quality through vegetation disturbance, dust, or the introduction or spread of invasive plant species within or adjacent to the project site. Therefore, impacts to nesting migratory birds and raptors from construction of the proposed projects would be potentially significant.

Implementation of Mitigation Measure BIO-11 (Nesting Birds) would require preconstruction nesting bird surveys at all of the Priority and Near-Term projects to determine if migratory birds or raptors are nesting within or near the project site. If active nests are found, they would be avoided by establishing buffers and restricting construction activities near nesting areas until nesting is complete. Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP), would further reduce direct and/or indirect impacts to migratory birds and raptors by requiring environmental training for all personnel and using best management practices to manage trash and dust. With implementation of these mitigation measures, impacts to other migratory birds and raptors would be reduced to less than significant with mitigation incorporated.

Non-Listed Special-Status Ground-Dwelling Wildlife

Implementation of the Riverside FMP could result in impacts to special-status ground-dwelling wildlife, including reptiles such as California glossy snake, coast horned lizard, coast patch-nosed snake, red-diamond rattlesnake, San Bernardino ringneck snake, southern California legless lizard, and orange-throated whiptail, as well as small mammals including Los Angeles pocket mouse, northwestern San Diego pocket mouse, and San Diego desert woodrat), and American badger.

These species are associated with a broad range of upland and disturbance-associated habitats that provide suitable soils, cover, and refuge opportunities. Within the BSAs, these habitat types include coastal sage scrub communities (e.g., California buckwheat scrub, California sagebrush scrub, California sagebrush–California buckwheat scrub, California sagebrush–brittle bush scrub, brittle bush scrub, and pinebush scrub), chaparral communities (e.g., chamise chaparral and chamise–sage chaparral), grasslands (e.g., wild oats and annual brome grasslands), herbaceous and ruderal habitats (e.g., upland mustard fields, fiddleneck fields, needle goldfields fields, annual yellow sweetclover–stinknet fields, and stinknet fields), as well as disturbed, grazed, and agricultural lands. In some cases, these species may also occur in edge habitats associated with open woodlands (e.g., blue elderberry patches, juniper woodlands, and eucalyptus groves) where suitable ground cover and soils are present.

Project activities such as pipeline installation, grading, vegetation clearing, and construction of aboveground facilities could result in direct impacts to non-listed special-status ground-dwelling wildlife through the removal or degradation of suitable habitat, including loss of vegetative cover and soil conditions necessary for shelter, foraging, and reproduction. Ground-disturbing activities could also result in the collapse or destruction of burrows, dens, nests, or other refugia (e.g., small mammal burrows, loose soils, and cover objects such as rocks and woody debris) used by these species. Direct impacts, including injury or mortality, could occur if individuals are present within the impact area during construction activities.

Indirect impacts could occur from construction-related noise, vibration, human activity, repeated vehicle access, and habitat fragmentation, which could disrupt normal movement, sheltering, and foraging behavior. Additional indirect impacts may include dust, soil compaction, and the introduction or spread of invasive plant species that alter vegetation structure and reduce habitat suitability over time. For American badger, which requires larger home ranges and utilizes extensive burrow systems, indirect impacts could also include disruption of foraging behavior and reduced connectivity between suitable habitat areas.

Because the proposed Riverside FMP includes projects located in areas that support suitable habitat for special-status ground-dwelling wildlife, and because implementation could result in habitat loss, disturbance, and potential direct impacts to individuals and burrows or dens, impacts to these species would be potentially significant. Implementation of **Mitigation Measure BIO-12 (Non-Listed Special-Status Ground-Dwelling Wildlife)** would require preconstruction surveys at all of the Priority and Near-Term projects to determine if ground-dwelling species are present within the project site. If found, individuals would be avoided where feasible by allowing them to move out of the area on their own or by implementing exclusion fencing or other measures to prevent them from entering active work areas. With implementation of these mitigation measures, impacts to non-listed special-status ground-dwelling wildlife would be reduced to less than significant with mitigation incorporated.

Non-Listed Special-Status Bats

Implementation of the Riverside FMP could result in impacts to special-status bat species, including western yellow bat and Yuma myotis. Foraging habitat includes a wide range of open and semi-open habitat types present within the BSAs, including coastal sage scrub communities (e.g., California buckwheat scrub, California sagebrush scrub, California sagebrush–California buckwheat scrub, California sagebrush–brittle bush scrub, brittle bush scrub, and pinebush scrub), chaparral communities (e.g., chamise chaparral and chamise–sage chaparral), grasslands (e.g., wild oats and annual brome grasslands), and herbaceous or ruderal habitats (e.g., upland mustard fields, fiddleneck fields, needle goldfields fields, annual yellow sweetclover–stinknet fields, and stinknet fields), as well as disturbed, grazed, and agricultural lands. Aquatic and riparian-associated features, including open water, drainage features, Goodding's willow riparian woodland, Goodding's willow–arroyo willow riparian woodland, Goodding's willow–red willow riparian woodland, and willow riparian woodland, provide important foraging habitat, particularly for Yuma myotis, which forages over water where insect prey is abundant. These habitat types are present in the following BSAs: W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, WW-2: Beazer 1 Lift Station and Forcemain Upgrade, WW-3: Markham Lift Station Upgrade, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-11: Cole Ave/Cedar Street Upsize, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, RW-1: Idaleona Drive Upsizing, RW-1: El Sobrante PS Expansion (150 HP), and WW-5: Meridian Lift Station Upgrade (WWRF).

Project activities such as vegetation clearing, grading, and construction of aboveground facilities could result in the removal or disturbance of roosting habitat, including trees and anthropogenic structures that may support day or night roosts. Direct impacts, including injury or mortality, could occur if roosting individuals are present during tree removal or structure modification. Table 3.4-2 outlines potential temporary impacts to suitable habitat for non-listed bats resulting from implementation of the Riverside FMP. In addition, construction-related noise, vibration, and human activity could disturb roosting bats

and result in temporary displacement. Indirect impacts may include degradation of foraging habitat through vegetation removal, reduction in insect prey availability, and disturbance of water sources used for foraging, particularly for species such as Yuma myotis that forage over open water.

Because the proposed Riverside FMP includes multiple projects located in areas that support suitable roosting and foraging habitat for special-status bats, and because implementation could result in roost disturbance, habitat loss, and potential direct impacts to individuals, impacts to these species would be potentially significant. Implementation of **Mitigation Measure BIO-13 (Special-Status Bats)** would require preconstruction surveys at W-2: Blackburn Road Pipeline Upsizing & Lockwood Tank, WW-2: Beazer 1 Lift Station and Forcemain Upgrade, WW-3: Markham Lift Station Upgrade, W-4: Hillside 2320 PZ Booster PS and Pipeline, W-11: Cole Ave/Cedar Street Upsize, W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, W-15: Juniper Road Pipeline Upsizing, RW-1: Idaleona Drive Upsizing, RW-1: El Sobrante PS Expansion (150 HP), and WW-5: Meridian Lift Station Upgrade (WWRF) to identify potential roosting habitat within or near the project site. If active roosts are identified, they would be avoided where feasible through establishment of buffers or seasonal restrictions on construction activities, particularly during the maternity roost season (generally April 1 through August 31). Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) would further reduce direct and/or indirect impacts to bats by requiring environmental training for all personnel and using best management practices to manage trash and dust. With implementation of these mitigation measures, impacts to special-status bats would be reduced to less than significant with mitigation incorporated.

Mitigation Measures

BIO-1: Special-Status Plant Surveys. If suitable habitat for special-status plant species is identified to be present within work areas and/or a 500-foot buffer, a special-status plant survey of the work area and 500-foot buffer, focusing on the special-status plant species with a moderate to high potential to occur within the project site BSAs, shall be conducted by a qualified biologist(s) prior to construction. The surveys shall take place during the appropriate blooming period for each species in accordance with CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (2018).

Target species include but are not limited to San Diego ambrosia, Munz's onion, chaparral sand-verbena, Yucaipa onion, paniculate tarplant, rigid fringepod, intermediate mariposa lily, long-spined spineflower, Parry's spineflower, and many-stemmed dudleya.

Appropriate survey timing generally includes:

- March–May: rigid fringepod
- April–June: chaparral sand-verbena, Parry's spineflower, Yucaipa onion
- April–July: long-spined spineflower
- May–July: intermediate mariposa lily, many-stemmed dudleya
- May–June: Munz's onion
- May–November: paniculate tarplant
- May–October: San Diego ambrosia

If any special-status plant species are observed during the focused surveys, the qualified biologist(s) shall map all occurrences and establish avoidance buffers. Buffers of shall be a minimum of 50 feet unless a larger buffer is determined by a qualified botanist based on species sensitivity, topography, hydrology, construction methods, or other site-specific conditions. Buffer areas shall be clearly delineated in the field prior to construction and shall remain in place for the duration of construction. No vegetation clearing, grading, staging, equipment operation, or other ground-disturbing activities shall occur within the buffer areas.

Avoidance of special-status plant populations shall be the preferred mitigation approach. If avoidance is not feasible for non-listed special-status plant species, the applicant shall prepare and implement a Special-Status Plant Mitigation Plan (SSPMP). The SSPMP shall be prepared by a qualified botanist and shall identify species-specific avoidance, minimization, and compensatory mitigation measures commensurate with the conservation status of the affected species and the extent of impacts. The SSPMP may include seed collection, salvage, transplantation, restoration, habitat enhancement, monitoring, adaptive management, or other measures, as appropriate to reduce impacts to a less-than-significant level. If avoidance is not feasible for Munz's onion and/or San Diego ambrosia, the applicant shall obtain all applicable state and federal authorizations prior to construction, as required. Where applicable, a SSPMP shall also be prepared to satisfy permit requirements and shall include species-specific mitigation measures sufficient to offset project impacts. The SSPMP shall demonstrate that impacts to special-status species will be reduced to a less-than-significant level and shall include, at a minimum:

- A description and quantification of direct and indirect impacts to special-status plant species and occupied habitat;
- Documentation demonstrating why complete avoidance is infeasible;
- Mitigation measures sufficient to achieve no net loss of occupied habitat, population viability, or ecological function, which may include preservation, restoration, enhancement, establishment, seed collection, transplantation, and/or other measures, as appropriate to the affected species;
- Mitigation at a minimum ratio of 1:1 for permanent impacts to special-status plant populations (e.g., based on area, number of individuals, or as determined appropriate by a qualified restoration ecologist based on species-specific ecology);
- Permanent protection of mitigation lands through conservation easements, deed restrictions, dedications to a resource agency, or another long-term protection mechanism;
- Success criteria, including target survival, cover, density, recruitment, and habitat function metrics appropriate for the affected species;
- A monitoring and reporting program to document progress towards meeting clearly defined biological performance standards;
- A minimum monitoring period of five years to demonstrate achievement of performance standards; and
- Adaptive management and contingency measures, which may include supplemental planting, reseeding, weed control, irrigation, erosion control, habitat enhancement, or additional mitigation acreage if performance standards are not achieved.

If performance standards are not met at any monitoring milestone, the applicant shall implement the contingency measures identified in the approved SSPMP and continue monitoring until the performance standards have been achieved.

If construction activities have the potential to result in take of a species protected under FESA and/or CESA, all required consultations, permits, consistency determinations, biological opinions, incidental take authorizations, and associated mitigation measures shall be obtained and implemented prior to commencement of activities that could result in take.

BIO-2: General BMPs and WEAP. The following measures shall be incorporated into construction contracts and implemented during all ground-disturbing activities to avoid and minimize impacts to sensitive biological resources, including special-status species and sensitive habitats. The objective of this measure is to avoid direct mortality, injury, harassment, and habitat degradation and to reduce impacts to biological resources to the maximum extent feasible.

- Prior to the start of construction, a qualified biologist shall prepare and conduct a Worker Environmental Awareness Program (WEAP) for all construction personnel. The WEAP shall describe sensitive biological resources known or with the potential to occur in the project area, applicable avoidance and minimization measures, reporting requirements, and procedures to be followed if biological resources are encountered. All personnel shall complete the WEAP before performing work on the project, and records of attendance shall be maintained by WMWD.
- To minimize the risk of vehicle collisions with wildlife and minimize dust, construction vehicles shall not exceed 10 miles per hour within the unpaved limits of construction.
- All open trenches or excavations shall be fenced and/or sloped to prevent entrapment of wildlife species or have wildlife ramps available to allow for escape.
- All food-related trash items such as wrappers, cans, bottles, and food scraps generated during construction activities shall be disposed of in closed containers only and removed daily from the work area.
- No deliberate feeding of wildlife shall occur.
- No pets shall be allowed within work areas.
- No firearms shall be allowed within work areas.
- Storage and staging areas shall be located outside of sensitive habitat and sensitive biological resources areas. All vehicle and equipment maintenance shall be performed in designated staging areas.
- Access to the construction area shall be limited to established work hours.
- Construction activities shall not be conducted at night (i.e., between dusk and dawn) within 500 feet of sensitive biological resources. Any nighttime lighting needed (e.g., security lighting) shall be shielded and directed downwards to minimize light spillover and/or glare.
- All construction equipment used within work areas shall be properly maintained to avoid leaks of oil, fuel, or residues.
- Construction contractors shall equip construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards to reduce construction equipment noise to the maximum extent possible. The construction contractor will place all stationary construction equipment so that noise emitted is directed away from sensitive biological resources, and stage equipment in areas that will create the greatest distance between construction-related noise sources and sensitive biological resources.
- Provisions shall be in place to remediate accidental spills from construction equipment or other construction activities. All vehicle maintenance/fueling/staging shall occur a minimum

of 100 feet away from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies.

- No equipment shall be permitted to enter wetted portions of any affected drainage channel unless authorized by a permit from USACE, RWQCB, and/or CDFW.
- If the construction has the potential to degrade water quality, water sampling shall be implemented to identify the pre-construction baseline, and to monitor during construction for comparison to the baseline.
- Any worker who inadvertently injures or kills a special-status species or finds one dead, injured, or entrapped shall immediately report the incident to the construction foreman or biological monitor. The construction foreman or biological monitor shall immediately notify Western, who then shall immediately inform CDFW.
- The qualified biologist or biological monitor shall have authority to stop or redirect construction activities if necessary to prevent unauthorized impacts to special-status species or sensitive habitats and shall verify implementation of all applicable biological resource protection measures throughout construction.

BIO-3: Invasive Plant Species Control Measures. WMWD shall require construction contractors to implement measures to prevent the introduction, transfer, and spread of invasive plant species during construction activities. Prevention best practices and guidelines for controlling the spread of invasive plants can be found on the California Invasive Plant Council's website (https://www.cal-ipc.org/). The objective of this measure is to avoid the transport of invasive plant propagules between work areas and prevent the expansion of invasive plant infestations within or adjacent to sensitive habitats.

WMWD shall require construction contractors to ensure that equipment is free of invasive plant seeds, propagules, and any material which may contain them (e.g., soil). For purposes of this mitigation measure, invasive plant species shall include all species with a Cal-IPC rating of moderate or high. Prior to entering the work areas, equipment shall be inspected to confirm it is free of mud, dirt, and debris. For larger work areas that would be accessed via non-paved roads, tire track stations shall be installed at the work area entrances and exits, where appropriate. Staging areas and access routes shall avoid weed infestations, and infestations within the work area(s) shall be flagged and avoided to the maximum extent feasible. Only certified weed-free materials (e.g., fiber rolls, straw, and fill) shall be used during construction of future solar energy facilities. If invasive plant infestations are introduced or expanded as a result of project construction activities, WMWD shall implement appropriate control measures, which may include manual removal, targeted treatment, revegetation, monitoring, or other measures recommended by a qualified biologist. Following completion of construction, WMWD shall prepare a compliance report documenting implementation of the invasive plant species control measures and any corrective actions undertaken. The memorandum shall be maintained in the project file and provided to the County upon request.

BIO-4: Revegetation Plan. Prior to commencement of ground-disturbing activities, for areas subject to temporary impacts on natural communities, a qualified biologist shall prepare a Revegetation Plan. The plan shall identify measures necessary to restore temporarily disturbed areas to pre-project conditions or equivalent biological function and habitat value. The plan shall

be implemented following completion of construction and shall include, at a minimum, the following:

- A description and map of all temporary disturbance areas requiring restoration.
- Baseline documentation of existing vegetation communities, habitat conditions, and dominant plant species within areas to be restored.
- A native planting palette appropriate for each vegetation community being restored and suitable for local conditions, including information regarding seed sources, plant materials, and installation methods.
- Performance standards and success criteria, such as vegetation cover, species richness, native species establishment, survival rates, and invasive species control targets, sufficient to demonstrate successful restoration of habitat functions and values.
- A monitoring program conducted by a qualified biologist for a minimum of three years, or longer if necessary, to demonstrate achievement of performance standards.
- Adaptive management and contingency measures to be implemented if performance standards are not achieved, including supplemental planting, reseeding, weed control, erosion repair, irrigation adjustments, or extension of the monitoring period.
- Annual monitoring reports documenting restoration progress, compliance with performance standards, corrective actions taken, and recommendations for additional measures if necessary.

Temporary impact areas shall be considered successfully restored only upon written determination by a qualified biologist that the approved performance standards have been achieved.

BIO-5: Coastal California Gnatcatcher. Prior to commencement of ground-disturbing habitat, a qualified biologist shall determine whether suitable coastal California gnatcatcher habitat (e.g., coastal sage scrub and/or chaparral habitat) is present within the project site or within 500 feet of the project site. If suitable habitat is present, coastal California gnatcatcher protocol surveys shall be conducted in accordance with the most current USFWS guidance, including *Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol* (USFWS 1997), or any successor guidance.

If surveys verify the absence of Coastal California Gnatcatchers, no further species-specific avoidance or mitigation measures shall be required.

If California gnatcatcher or occupied habitat are detected within 500 feet or adjacent to the project site, a qualified biologist shall establish avoidance buffers sufficient to avoid direct or indirect impacts to the species and occupied habitat. Buffers shall be based on site-specific conditions, including habitat quality, topography, construction methods, noise levels, and location of occupied habitat. Buffer areas shall be clearly delineated in the field prior to construction, and no construction activities, staging, parking, or other disturbances shall occur within the buffer areas.

Avoidance of occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to California gnatcatcher and/or occupied habitats, the applicant shall consult with USFWS prior to project approval and commencement of construction activities and shall obtain all required authorizations under the Federal Endangered Species Act (FESA). Such authorization may include but are not limited to a Biological Opinion issued pursuant to FESA Section 7 if there is a federal nexus (e.g.,

federal permits are being obtained), a Habitat Conservation Plan issued pursuant to FESA Section 10, or other applicable authorization. Alternatively, WMWD may seek coverage as a Participating Special Entity (PSE) of the Western Riverside County MSHCP, subject to all applicable requirements. If MSHCP take coverage is obtained, it would provide for regional conservation of the species, and no further mitigation is required. However, if project-specific take permits are obtained, mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by USFWS, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in the loss or degradation of occupied habitat, WMWD shall prepare and implement a USFWS-approved Coastal California Gnatcatcher Habitat Mitigation Plan. The Mitigation Plan shall identify measures necessary to necessary to minimize, avoid, and compensate for impacts and shall include, at a minimum:

- A description and quantification of direct and indirect impacts to California coastal Gnatcatchers and occupied habitat;
- Documentation demonstrating why complete avoidance is infeasible;
- Measures to avoid and minimize impacts during construction;
- Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, or establishment measures sufficient to achieve no net loss of occupied habitat functions and values;
- Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms;
- A monitoring and reporting program with clearly defined biological performance standards and success criteria;
- Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and
- Adaptive management and contingency measures to be implemented if performance standards are not achieved.

BIO-6: Crotch's Bumble Bee. Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable Crotch's bumble bee habitat is present within the project site or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, protocol surveys shall be conducted in accordance with the most current CDFW guidance, including the *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW 2023), or any successor guidance. Surveys shall be conducted during the appropriate survey period and under suitable environmental conditions to maximize detectability. At a minimum three surveys shall be conducted during the species' peak activity period (generally April through August), unless otherwise approved by CDFW.

If surveys verify absence of Crotch's bumble bee within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation shall be required.

If Crotch's bumble bees, occupied habitat, nesting habitat, or other important habitat features are identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts to species and its habitat. Buffer distances shall be based on site-specific conditions, including the location nests, foraging habitat,

construction methods, topography, and nature of the anticipated disturbance. Unless otherwise approved by CDFW, a minimum 15-meter (approximately 50-foot) no disturbance buffer shall be established around occupied habitat or active nest locations. Buffer areas shall be clearly marked in the field prior to construction, and no ground disturbance, staging, parking, equipment operation, or other construction activities shall occur within the designated buffer areas.

Avoidance of occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to Crotch's bumble bees and/or occupied habitats, the applicant shall consult with CDFW prior to commencement of construction and obtain any required authorizations pursuant to the California Endangered Species Act, which may include obtaining a "take" permit (e.g., CESA Section 2081 Incidental Take Permit from CDFW). Mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by CDFW, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in direct or indirect impacts to Crotch's bumble bee or occupied habitat, WMWD shall prepare and implement a CDFW-approved Crotch's Bumble Bee Mitigation Plan that includes, at a minimum:

- A description and quantification of direct and indirect impacts to Crotch's bumble bee and occupied habitat;
- Documentation demonstrating why complete avoidance is infeasible;
- Measures to avoid and minimize impacts during construction;
- Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values;
- Permanent protection of mitigation lands through conservation easements, deed restrictions, or other approved long-term protection mechanisms;
- A monitoring and reporting program with clearly defined biological performance standards and success criteria;
- Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and
- Adaptive management and contingency measures to be implemented if performance standards are not achieved.

BIO-7: Least Bell's Vireo. Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable riparian habitat for the least Bell's vireo is present within the project area or within 500 feet of the project site. If suitable habitat is present, protocol-level surveys shall be conducted during the appropriate survey window (generally April 10 through July 31) in accordance with the most current USFWS guidance, including *Least Bell's Vireo Survey Guidelines* (USFWS 2001), or any successor guidance.

If protocol surveys verify absence of Least Bell's Vireo within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation is required.

If Least Bell's Vireo, occupied habitat, or nesting territories are identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts to the species and occupied habitat. Buffer distances shall be based on site-specific conditions, including habitat quality, topography, construction methods, anticipated noise levels, and location of occupied habitat. Buffer areas shall be clearly marked in the field prior to construction, and no grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the buffer areas.

Avoidance of occupied habitat and active nesting territories shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to least Bell's vireo and/or occupied habitats, WMWD shall consult with USFWS and CDFW prior to commencement of construction and obtain all required authorizations under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA). Such authorizations may include but are not limited to a Biological Opinion issued pursuant to FESA Section 7, a Habitat Conservation Plan issued pursuant to FESA Section 10, a CESA Section 2081 Incidental Take Permit, or CESA Section 2020.1 Consistency Determination. Alternatively, WMWD may seek coverage as a Participating Special Entity (PSE) under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), subject to all applicable MSHCP requirements including the preparation of a Determination of Biologically Equivalent or Superior Preservation, if required. If MSHCP take coverage is obtained, it would provide for regional conservation of the species, and no further mitigation is required. However, if project-specific take permits are obtained, mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by USFWS and CDFW, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in direct or indirect impacts to Least Bell's Vireo or occupied habitat, WMWD shall prepare and implement a USFWS- and/or CDFW-approved Least Bell's Vireo Mitigation Plan that includes, at a minimum:

- A description and quantification of direct and indirect impacts to Least Bell's Vireo and occupied habitat;
- Documentation demonstrating why complete avoidance is infeasible;
- Measures to avoid and minimize impacts during construction;
- Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values;
- Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms;
- A monitoring and reporting program with clearly defined biological performance standards and success criteria;
- Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and
- Adaptive management and contingency measures to be implemented if performance standards are not achieved.

BIO-8: Stephens' Kangaroo Rat. Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable Stephens' kangaroo rat habitat is present within the project impact area or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, focused surveys and protocol trapping shall be conducted by a qualified biologist. Surveys shall be conducted in accordance with the most current USFWS and CDFW guidelines. Trapping shall be conducted during appropriate seasonal and weather conditions.

If surveys verify the absence of Stephens' kangaroo rat within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation shall be required.

If Stephens' kangaroo rat, occupied habitat, active burrows, or other evidence of occupancy are detected within or adjacent to the project site, a qualified biologist shall establish avoidance buffer sufficient to avoid direct and indirect impacts to the species and occupied habitat. Buffer distances shall be based on site-specific conditions, including habitat quality, topography, construction methods, and location of occupied habitat. Buffer areas shall be clearly marked in the field prior to construction, and no grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the designated buffer areas.

Avoidance of occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to Stephens' kangaroo rat and/or occupied habitats, WMWD shall consult with USFWS and CDFW prior to commencement of construction and obtain all required authorizations under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA). Such authorizations may include but are not limited to a Biological Opinion issued pursuant to FESA Section 7, a Habitat Conservation Plan issued pursuant to FESA Section 10, CESA Section 2081 Incidental Take Permit, or CESA Section 2020.1 Consistency Determination. Alternatively, WMWD may seek coverage under the Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP), or as a Participating Special Entity (PSE) of the Western Riverside County Multiple Species Habitat Conservation Plan, subject to all applicable requirements. If SKR HCP or MSHCP take coverage is obtained, it would provide for regional conservation of the species, and no further mitigation is required. However, if project-specific take permits are obtained, mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by USFWS and CDFW, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in direct or indirect impacts to Stephens' kangaroo rat or occupied habitat, WMWD shall prepare and implement a USFWS- and/or CDFW-approved Stephens' Kangaroo Rat Mitigation Plan that includes, at a minimum:

- A description and quantification of direct and indirect impacts to Stephens' kangaroo rat and occupied habitat;
- Documentation demonstrating why complete avoidance is infeasible;
- Measures to avoid and minimize impacts during construction;
- Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values;

- Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms;
- A monitoring and reporting program with clearly defined biological performance standards and success criteria;
- Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and
- Adaptive management and contingency measures to be implemented if performance standards are not achieved.

BIO-9: Western Burrowing Owl. Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable burrowing owl habitat is present within the project site or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, protocol-level surveys shall be conducted in accordance with the most current California Department of Fish and Wildlife guidance, *Staff Report on Burrowing Owl Mitigation* (CDFW 2012), or successor guidance. Surveys shall be conducted during the appropriate survey periods and shall include a pre-construction survey no more than 14 days prior to initiation of ground-disturbing activities, or within the timeframe specified by current CDFW guidance.

If surveys verify absence of burrowing owls and occupied burrows within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation is required.

If burrowing owls or occupied burrows are identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts to the species and occupied habitat. Buffer distances shall be based on site-specific conditions, including habitat quality, topography, construction methods, and location of occupied habitat. Unless otherwise approved by CDFW, occupied burrows shall be protected by the buffer distances recommended in the current CDFW Burrowing Owl Staff Report. Buffer areas shall be clearly marked in the field prior to construction, and no grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the designated buffer areas.

Avoidance of occupied burrows and occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to burrowing owl and/or occupied habitats, WMWD shall consult with CDFW prior to commencement of construction and obtain any required authorizations. Such authorizations may include but are not limited to a CESA Section 2081 Incidental Take Permit. Alternatively, WMWD may seek coverage as a Participating Special Entity (PSE) under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), subject to all applicable requirements, including preparation of a Determination of Biologically Equivalent or Superior Preservation, if required. If MSHCP take coverage is obtained, it would provide for regional conservation of the species, and no further mitigation is required. However, if project-specific take permits are obtained, mitigation for permanent impacts to occupied habitat would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by CDFW, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then prior to any activity that could result in direct or indirect impacts to burrowing owls, occupied burrows, or occupied habitat, WMWD shall prepare and implement a CDFW-approved Burrowing Owl Mitigation Plan. The plan may include passive relocation,

habitat preservation, habitat restoration, habitat enhancement, conservation banking, or other measures approved by CDFW, as appropriate to the nature and extent of impacts. The Burrowing Owl Mitigation Plan shall include, at a minimum:

- A description and quantification of direct and indirect impacts to burrowing owls, occupied burrows and habitat;
- Documentation demonstrating why complete avoidance is infeasible;
- Measures to avoid and minimize impacts during construction;
- Procedures for passive relocation, if approved by CDFW and determined necessary;
- Mitigation at a minimum of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values;
- Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms;
- A monitoring and reporting program with clearly defined biological performance standards and success criteria;
- Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and
- Adaptive management and contingency measures to be implemented if performance standards are not achieved.

BIO-10: Western Spadefoot. Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable western spadefoot breeding habitat (e.g., seasonal ponds, vernal pools, ephemeral drainages, or other seasonal ponding features) and associated upland habitat occur within the project site or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, focused surveys shall be conducted in accordance with accepted survey methodologies for western spadefoot.

If surveys verify absence of the western spadefoot and occupied habitat within the project area and adjacent habitat that could be affected by construction activities, no further species-specific mitigation is required.

If western spadefoot, breeding habitat, or occupied habitat is identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers to avoid direct and indirect impacts to the species and occupied habitat. Buffer distances shall be based on site-specific conditions, including habitat quality, breeding status, hydrological conditions, topography, and construction methods. Buffer areas shall be clearly marked in the field prior to construction, and no grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the designated buffer areas.

Avoidance of occupied habitat shall be the preferred mitigation approach. If impacts cannot be feasibly avoided and construction could result in potential direct or indirect impacts to western spadefoot and/or occupied habitats, WMWD shall prepare and implement a Western Spadefoot Mitigation Plan approved by the appropriate regulatory agencies, as applicable, prior to commencement of construction activities that could affect the species or its habitat. Alternatively, WMWD may seek coverage as a Participating Special Entity under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), subject to all applicable requirements.

The Western Spadefoot Mitigation Plan shall include, at a minimum:

- A description and quantification of direct and indirect impacts to western spadefoot and occupied habitat;
- Documentation demonstrating why complete avoidance is infeasible;
- Measures to avoid and minimize impacts during construction;
- Mitigation at a minimum ratio of 2:1 for permanent impacts to occupied habitat, which may include habitat preservation, restoration, enhancement, and/or establishment measures sufficient to achieve no net loss of occupied habitat functions and values;
- Permanent protection of mitigation lands through conservation easements, deed restrictions, or other long-term protection mechanisms;
- If egg masses, tadpoles, or individuals require relocation, a relocation plan shall be prepared and implemented by a qualified biologist and approved by the appropriate regulatory agencies;
- A monitoring and reporting program with clearly defined biological performance standards and success criteria;
- Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and
- Adaptive management and contingency measures to be implemented if performance standards are not achieved.

BIO-11: Nesting Birds. To avoid impacts to nesting birds protected under the Migratory Bird Treaty Act, California Fish and Game Code Sections 3503, 3503.5, and 3513, and other applicable regulations, a qualified biologist shall conduct a pre-construction nesting bird surveys if vegetation removal, grading, ground disturbance, or other construction activities are scheduled to occur during the nesting season (generally February 1 through August 31).

The pre-construction surveys shall be conducted no more than 7 days prior the start of construction activities within suitable nesting habitat located within the project impact area and a minimum 300-foot buffer surrounding the construction limits. Surveys shall identify active nests, nesting territories, and other evidence of breeding activity that could be affected by project construction.

If no active nests are identified, no further species-specific mitigation measures shall be required.

If any active nests are identified, a qualified biologist shall establish species-specific avoidance buffer to avoid direct and indirect impacts to nesting birds, eggs, and young. Buffer distances shall be based on the nesting species, nesting status, habitat conditions, topography, construction methods, and anticipated disturbance levels. Unless otherwise approved by a qualified biologist based on site-specific conditions:

- A minimum 300-foot buffer shall be established around active nests of passerine birds; and
- A minimum 500-foot buffer shall be established around active nests of raptors, special-status bird species, and federally or state-listed bird species.

Buffer areas shall be clearly marked in the field. No grading, vegetation removal, equipment operation, staging, parking, or other construction activities shall occur within the established buffer areas unless a qualified biologist determines that a reduced buffer would avoid nest

abandonment, reproductive failure, or other adverse impacts based on species-specific behavior and site conditions.

If an active white-tailed kite nest is identified, project activities shall avoid direct and indirect impacts to the occupied nest and nesting territory. Because white-tailed kite is designated as a California Fully Protected Species pursuant to Fish and Game Code Section 3511, project activities shall be modified, relocated, rescheduled, or otherwise redesigned, as necessary, to avoid take of the species. Construction activities shall not proceed in a manner that could result in take of white-tailed kite or abandonment of an active nest.

If construction activities occur in close proximity to active nests, the qualified biologist shall monitor the nest site as necessary to verify that project activities are not causing behavioral disturbance, nest abandonment, reduced reproductive success, or other adverse effects. If adverse effects are observed, construction activities shall be modified, suspended, or relocated as necessary to avoid impacts.

Established buffers shall remain in place until the qualified biologist determines that the nest is no longer active and the young have fledged and are no longer dependent on the nest for survival.

The qualified biologist shall have the authority to temporarily halt or redirect construction activities if necessary to prevent unauthorized impacts to active nests, nesting birds, eggs, or dependent young.

BIO-12: Non-Listed Special-Status Ground-Dwelling Wildlife. Prior to commencement of ground-disturbing activities, a qualified biologist shall determine whether suitable habitat for non-listed special-status ground-dwelling wildlife species is present within the project impact area or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, the following measures shall be implemented to avoid and minimize impacts to special-status wildlife:

- A qualified biologist(s) shall conduct pre-construction clearance surveys no more than 7 days prior to the start of construction (including staging and mobilization). The surveys shall cover the entire work area plus a minimum 200-foot buffer, if feasible, and shall identify all special-status wildlife species, occupied habitat features, burrows, dens, refugia, movement corridors, and other sensitive biological resources that could be affected by project activities.
- Prior to commencement of construction, all construction workers shall receive a WEAP training consistent with Mitigation Measure BIO-2. The training shall include information regarding special-status wildlife species that may occur within the project area, applicable avoidance measures, reporting requirements, and procedures to follow if wildlife is encountered.
- If any special-status wildlife species, occupied habitat, active burrows, nests, refugia, or other sensitive habitat features are identified within or adjacent to work areas, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts. Buffer distances shall be based on species-specific sensitivity, habitat conditions, construction methods, and the nature of the anticipated disturbance. Buffer areas shall be clearly marked in the field prior to construction, and no construction activities shall occur within the designated buffer areas unless authorized by the qualified biologist.
- A qualified biologist(s) shall monitor all ground-disturbing activities, including vegetation removal, grading, trenching, and excavation, in areas supporting suitable habitat for special-status wildlife species.

- All trenches, pipes, culverts or similar structures shall be inspected by a qualified biologist or designated monitor at the beginning of each workday and prior to backfilling, covering, capping relocation, or abandonment. Any wildlife found within these features shall be allowed to leave voluntarily or shall be relocated by a qualified biologist in accordance with applicable permits and regulatory requirements.
- Open trenches and excavations left unattended shall be covered, fenced, or equipped with escape ramps to prevent wildlife entrapment. These protection measures shall remain in place until the excavation is backfilled or otherwise secured.
- Any non-listed special-status species observed by the qualified biologist(s) or construction crew shall be allowed to move out of harm's way or shall be relocated from the work area either through direct capture or through passive exclusion by a qualified biologist(s) with appropriate permits.

The qualified biologist shall have the authority to temporarily halt or redirect construction activities if necessary to prevent unauthorized impacts to special-status wildlife species or occupied habitat features.

BIO-13: Special-Status Bats. Prior to commencement of ground-disturbing activities, vegetation removal, or demolition of structures that may support bat roosts, a qualified biologist shall determine whether suitable roosting habitat for special-status bat species is present within the project impact area or within 500 feet of the project site. If suitable habitat is present and may be affected by project activities, focused bat surveys shall be conducted to identify the presence, type, and status of roosts that could be affected by construction.

Surveys shall be conducted during appropriate seasons and favorable weather conditions to evaluate potential daytime roosts, maternity roosts, night roasts, and hibernacula. Surveys shall include, as appropriate:

- Daytime visual inspections of trees, structures, rock outcrops, bridges, culverts, and other potential roost features;
- Evaluation of evidence of bat use, including guano, urine staining, staining around entry points, feeding remains, vocalizations, and direct observations of bats;
- Dusk emergence surveys and/or dawn re-entry surveys to determine roost occupancy and status; and
- Acoustic monitoring using bat detectors and call analysis, as appropriate.

If active bat roosts are identified within or adjacent to the project area, a qualified biologist shall establish avoidance buffers sufficient to avoid direct and indirect impacts to roosting bats. Buffer distances shall be based on species sensitivity, roost type, colony size, construction methods, topography, and anticipate disturbance levels. Active maternity roosts and active hibernacula shall be avoided and protected during construction. Construction activities within established buffers shall be prohibited unless a qualified biologist determines that the activities would not affect the roost. Buffers shall remain in place until the qualified biologist determines that the roost is no longer active or no longer susceptible to project-related disturbance.

Avoidance of active roosts shall be the preferred mitigation approach. Maternity roosts and active hibernacula shall not be removed, excluded, disturbed, or destroyed.

If avoidance of a non-maternity roost is determined to be infeasible, WMWD shall consult with CDFW prior to implementation of exclusion activities and shall prepare a Bat Roost Management Plan. The plan shall identify measures necessary to avoid, minimize, and compensate for impacts to special-status bat species and shall include, at a minimum:

- Documentation demonstrating why complete avoidance is infeasible;
- Species identification, roost characterization, and estimated colony size;
- Procedures for exclusion, if approved by CDFW;
- Measures to ensure bats are not trapped, injured, or killed during exclusion activities;
- Monitoring requirements before, during, and after exclusion activities;
- Installation of alternative roost structures, such as bat boxes, where appropriate;
- Long-term monitoring and reporting requirements;
- Performance standards and success criteria; and
- Adaptive management and contingency measures if performance standards are not achieved.

If exclusion is approved, exclusion devices shall:

- Be designed to allow bats to exist but prevent re-entry;
- Not utilize netting or other materials that could entangle bats;
- Be installed only during periods approved by the qualified biologist and CDFW when maternity colonies and hibernating bats are not present;
- Be monitored by a qualified biologist during installation and operation; and
- Be inspected regularly to ensure effectiveness and prevent bat entrapment.

If bat boxes or other replacement roost structures are required, they shall be installed prior to roost exclusion and maintained for a period specified in the approved Bat Roost Management Plan.

Significance Determination

Less than Significant with Mitigation

Future Projects

Pipelines, Pump/Lift Stations, Storage Tanks, and WWRF

Future proposed project locations are based on growth that occurs within the Riverside Retail Service Area and could change during the 20-year future project implementation from 2030 to 2050. As currently proposed, these sites are located adjacent to areas where habitat could support special-status wildlife species similar to priority and near-term projects. Prior the start of construction, **Mitigation Measure BIO-14 (Future Project Habitat Assessment)** would require that habitat assessments be conducted to identify any potential special-status species within or adjacent proposed future project sites. Depending on the special-status species found through implementation of Mitigation Measure BIO-14, avoidance measures may need to be implemented to reduce impacts to a less-than-significant level, including Mitigation Measure BIO-1 for special-status plants, Mitigation Measure BIO-5 for coastal California gnatcatcher, Mitigation Measure BIO-6 for Crotch's bumble bee, Mitigation Measure BIO-7 for least Bell's vireo, Mitigation Measure BIO-8 for Stephens' Kangaroo Rat, Mitigation Measure BIO-9 for

western burrowing owl, Mitigation Measure BIO-10 for western spadefoot, Mitigation Measure BIO-11 for nesting birds, Mitigation Measure BIO-12 for non-listed special-status ground-dwelling wildlife, and Mitigation Measure BIO-13 for special-status bats. Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to special-status plants by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. The implementation of Mitigation Measure BIO-4 (Revegetation Plan) would reduce impacts to species habitat in the proposed project site by requiring the restoration of temporarily impacted areas to pre-construction conditions. With implementation of these mitigation measures, impacts to special-status plants and wildlife would be reduced to less than significant with mitigation incorporated.

Mitigation Measures

BIO-14: Future Project Habitat Assessments. Prior to approval, final design, or commencement of ground-disturbing activities for any future project not evaluated at the project level in this DPEIR, WMWD shall retain a qualified biologist to prepare a site-specific biological resources assessment. The assessment shall evaluate the presence or potential presence of special-status plant species, special-status wildlife species, sensitive natural communities, jurisdictional waters and wetlands, wildlife movement corridors, nesting habitat, roosting habitat, and other sensitive biological resources within the project impact area and an appropriate surrounding buffer. The biological resources assessment shall include, at a minimum:

- A records search of available biological resources databases, including the California Natural Diversity Database;
- Review of applicable conservation plans, recovery plans, habitat conservation plans, and regulatory constraints;
- Site reconnaissance and habitat evaluation sufficient to determine the potential for special-status species and sensitive habitats to occur;
- Identification of all sensitive biological resources that could be directly or indirectly affected by project construction or operation;
- Recommendations regarding the need for focused species surveys, jurisdictional delineation, agency consultation, avoidance measures, monitoring, and compensatory mitigation.

If the assessment determines that special-status species or other sensitive biological resources may occur within the project area or may be affected by project implementation, focused surveys shall be conducted in accordance with applicable agency protocols and current regulatory guidance prior to commencement of construction.

If sensitive biological resources are identified, WMWD shall first avoid impacts to the maximum extent feasible through project siting, design modifications, seasonal restrictions, construction timing limitations, establishment of biological buffers, exclusion fencing, worker education, biological monitoring, lighting controls, noise controls, and other avoidance and minimization measures.

Where sensitive biological resources occur outside the construction footprint but within an area that could be affected by project activities, the qualified biologist shall establish species- and resource-specific avoidance buffers and other protective measures sufficient to avoid direct and

indirect impacts. Buffer distances shall be based on the resource present, site-specific conditions, construction methods, and applicable agency guidance.

If, after implementation of avoidance and minimization measures, the qualified biologist determines that significant impacts to sensitive biological resources could still occur, WMWD shall implement the applicable mitigation measures identified in this DPEIR and any additional resource-specific mitigation necessary to avoid, minimize, compensate for, or otherwise address identified impacts. Such measures shall be developed in consultation with appropriate resource agencies, as applicable, and shall be implemented prior to or concurrent with project construction.

The biological resource assessment and any required focused surveys shall be completed sufficiently in advance of construction to allow incorporation of all avoidance, minimization, monitoring, and mitigation measures into project plans and construction specifications.

Implement Mitigation Measures BIO-1 through BIO-13, as applicable.

Significance Determination

Less than Significant with Mitigation

Operations and Maintenance

Operation and maintenance (O&M) of water, wastewater, and recycled water infrastructure would involve periodic inspection, repair, vegetation management limited to immediately adjacent to infrastructure, and access by maintenance personnel and vehicles. These activities would occur within previously disturbed and maintained areas of the project site and would not substantially affect natural habitats.

Because these areas are or will become regularly maintained, special-status wildlife species are unlikely to occur within areas subject to routine O&M activities. As a result, the potential for disturbance to birds, reptiles, amphibians, mammals, and invertebrates would be low.

If O&M activities occur near suitable habitat, minor and temporary disturbance could occur, such as noise or human presence. However, these activities would be infrequent, localized, and short-term. O&M activities would not result in the removal of vegetation, roosting habitat for bats, substantial disturbance to burrows or refugia, or long-term reduction in foraging habitat. Additionally, these activities would not result in substantial habitat loss or degradation. Therefore, impacts associated with operation and maintenance of the proposed facilities would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Sensitive Natural Communities

Impact 3.4-2: The proposed project could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Pipelines, Pump/Lift Stations, Storage Tanks, and WWRF Expansion

The following projects contain at least one sensitive natural community within their BSAs: W-4: Hillside 2320 PZ Booster PS and Pipeline, WW-5: Meridian Lift Station Upgrades (WWRF), RW-1: Meridian West Pipelines, W-14: Highland Grove II and III 12-inch Pipeline, W-13: Highland Grove Pipeline III 18-inch Pipeline, RW-1: Idaleona Drive Upsizing, RW-1: Lake Ranch Pipelines, W-11: Cole Ave/Cedar Street Upsize, and W-12: Mariposa Ave/Lurin Ave Upsize.

Of these, W-14: Highland Grove II and III 12-inch Pipeline is the only project where construction is expected to directly impact approximately 0.49 acres of Goodding's willow – red willow riparian woodland and forest. Activities such as trenching, grading, and clearing vegetation could damage or remove these habitats.

For the other projects listed above, sensitive natural communities are present within the BSA but are not located within the planned construction areas. Although construction activities adjacent to sensitive natural communities could result in localized dust generation, increased human activity, or the inadvertent spread of invasive species, these effects would be temporary, localized, and minimized through implementation of standard construction BMPs and project design features. Construction would generally occur within existing disturbed roadways or previously developed areas, and no long-term degradation of adjacent sensitive natural communities is anticipated. Therefore, indirect impacts to sensitive natural communities would be less than significant.

Because sensitive natural communities are present within the W-14: Highland Grove II and III 12-inch Pipeline project site, and construction activities could result in damage or loss of these habitats, impacts would be potentially significant. Implementation of **Mitigation Measure BIO-15 (Sensitive Natural Communities)** would require delineation and protection of sensitive natural communities within or adjacent to work area and compensatory mitigation for permanent impact if avoidance is infeasible. Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to sensitive natural communities by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. With implementation of these mitigation measures, impacts to sensitive natural communities would be reduced to less than significant with mitigation incorporated.

Mitigation Measures

> **BIO-15: Sensitive Natural Communities.** Prior to commencement of ground-disturbing activities, a qualified biologist shall identify, delineate, and map all sensitive natural communities within or adjacent to the project impact area. Sensitive natural communities shall include but are not limited to vegetation communities recognized by CDFW as sensitive, rare, or declining; communities identified in local or regional conservation plans; and other communities meeting the significance criteria used in the DEIR.

The qualified biologist shall establish environmentally sensitive area (ESA) boundaries around sensitive natural communities that will be avoided. The boundaries of these areas shall be clearly marked in the field using high-visibility fencing, flagging, or staking prior to construction and shall remain in place throughout construction. No construction activities, equipment staging, or vehicle access shall occur within these areas.

Avoidance of sensitive natural communities shall be the preferred mitigation approach. If temporary impacts to sensitive natural communities cannot be avoided, WMWD shall prepare and implement a Habitat Restoration Plan prior to the commencement of construction. The plan shall include, at a minimum:

- Mapping and quantification of all temporarily impacted areas;
- Baseline documentation of existing habitat conditions;
- Site preparation, erosion control, weed management, and restoration procedures;
- Native species seed mixes and planting palettes appropriate to the affected habitat type;
- Quantitative performance standards and success criteria;
- A monitoring and reporting program for a minimum of three years and up to five years, or longer if performance standards have not been achieved;
- Adaptive management and contingency measures, including supplemental planting, reseeding, invasive species control, erosion repair, and extension of monitoring, if performance standards are not met.

If permanent impacts to sensitive natural communities cannot be avoided, WMWD shall implement compensatory mitigation sufficient to achieve no net loss of the acreage, functions, and values of the affected community. Compensatory mitigation may be provided through on-site restoration, off-site restoration, habitat preservation, approved conservation banks, approved mitigation banks, or a combination thereof, as appropriate. Final mitigation requirements shall be developed and implemented prior to or concurrent with project impacts.

If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank), then prior to commencement of construction, WMWD shall prepare a Sensitive Natural Community Mitigation Plan that includes, at a minimum:

- A description and quantification of direct and indirect impacts to sensitive natural communities;
- Documentation demonstrating why complete avoidance is infeasible;
- Compensatory mitigation at a minimum ratio of 1:1 for permanent impacts, habitat preservation, restoration, enhancement, establishment, and/or a combination thereof sufficient to offset project impacts;
- Permanent protection of mitigation lands through conservation easements, deed restrictions, conservation banks, or other long-term protection mechanisms;
- Monitoring and reporting requirements with clearly defined biological performance standards and success criteria;
- Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and
- Adaptive management and contingency measures if performance standards are not achieved.

Implement Mitigation Measure BIO-2 and BIO-3.

Significance Determination

Less than Significant with Mitigation

Future Projects

Pipelines, Pump/Lift Stations, and Storage Tanks

Vegetation mapping (Mitigation Measure BIO-14) shall occur within future project BSAs to determine whether sensitive natural communities are present and may be significantly impacted. Because sensitive natural communities may be present within multiple project areas, and construction activities could result in damage or loss of these habitats, impacts would be potentially significant. Implementation of Mitigation Measure BIO-15 (Sensitive Natural Communities) would require delineation and protection of sensitive natural communities within or adjacent to work area and compensatory mitigation for permanent impact if avoidance is infeasible. Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to sensitive natural communities by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. With implementation of these mitigation measures, impacts to sensitive natural communities would be reduced to less than significant with mitigation incorporated.

Operations and Maintenance

Operation and maintenance of the proposed facilities could result in minor impacts to sensitive natural communities. These activities may include access by maintenance vehicles and minor repair work. These actions could cause temporary disturbance to vegetation or soils and may increase the spread of invasive plant species in localized areas.

However, operation and maintenance activities would be infrequent, limited in area, and would not result in the removal or long-term loss of sensitive natural communities. With implementation of standard best management practices, including avoiding sensitive areas and minimizing disturbance, impacts would be less than significant and no mitigation would be warranted for operation and maintenance activities.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Wetlands

Impact 3.4-3: The proposed project could have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Priority and Near-Term Projects

Pipelines, Pump/Lift Stations, Storage Tanks, and WWRF Expansion

A formal aquatic resources delineation was not conducted as part of the biological field reconnaissance. However, several potentially jurisdictional aquatic resource features were identified within BSAs based on a review of NWI. These features may include wetlands and other waters that could be subject to federal and state jurisdiction and are shown on Figure 7 of Appendix BIO.

Project activities such as pipeline installation, grading, trenching, and construction of aboveground facilities could result in direct and indirect impacts to these features. Direct impacts may include removal or filling of wetlands or other waters. Indirect impacts could include changes in drainage patterns, increased erosion, sedimentation, and reduced water quality. Construction activities could also interrupt surface flows or alter hydrology in areas where aquatic features are present.

Potentially jurisdictional features occur within or cross several project site BSAs, including W-13: Highland Grove Pipeline, W-14: Highland Grove II and III 12-inch Pipeline, RW-1: Lake Ranch Pipelines, W-2: Blackburn Road Pipeline Upsizing, RW-1: Orangecrest Supply Pipeline, RW-1: Meridian West, RW-1: Bergamont Park Conversion, W-7: New 7 MG Markham Tank, RW-1: Idaleona Drive Upsizing, and W-15: Juniper Road Pipeline Upsizing.

Because wetlands and other jurisdictional waters may be present within project sites, and because construction activities could result in removal, filling, or changes to hydrology, impacts to these project sites would be potentially significant. Implementation of **Mitigation Measure BIO-16 (Aquatic Resources)** requiring impact avoidance and minimization and compensatory mitigation if avoidance is infeasible. Additionally, implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to wetlands by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. With implementation of these mitigation measures, impacts to aquatic resources would be reduced to less than significant with mitigation incorporated.

Mitigation Measures

> **BIO-16: Aquatic Resources.** Prior to commencement of ground-disturbing activities, a qualified biologist and/or aquatic resources specialist shall identify, delineate, and map aquatic resources within and adjacent to the project impact area, including wetlands, streams, drainages, riparian habitat, and other potentially jurisdictional waters. Where required by the applicable regulatory agencies, formal jurisdictional delineation shall be prepared and verified.
>
> Avoidance of aquatic resources shall be the preferred mitigation approach. To the maximum extent feasible, project facilities, staging areas, access routes, stockpiles, and other construction-related activities shall be located outside aquatic resources and associated buffer areas.

Where aquatic resources occur within or adjacent to construction work areas, the following measures shall be implemented.

- Aquatic resources and avoidance buffers shall be clearly marked in the field using high-visibility fencing, flagging, staking or other approved methods prior to commencement of construction. Buffer distances shall be established by a qualified biologist based on site-specific conditions, resource sensitivity, and construction methods. Unless otherwise approved by the qualified biologist, a minimum 50-foot buffer shall be established around aquatic resources where feasible.
- Construction staging areas, including laydown areas, and all materials and spoils shall be located outside aquatic resources and established buffer areas. Temporary sediment and erosion control measures (e.g., berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers) shall be installed as appropriate to prevent stormwater runoff from entering aquatic habitats.
- Materials shall be stored on impervious surfaces or plastic ground covers and, to the extent feasible, at least 50 feet away from aquatic resources to prevent contamination from spills or leaks.
- In the event of a spill, work shall stop if it is safe to do so. The affected area shall be contained, cleaned, and any contaminated materials properly disposed of. The project foreman or designated environmental representative shall be notified immediately.
- No equipment, vehicles, materials, or personnel shall enter wetted portions of streams, wetlands, or other jurisdictional waters except as authorized by applicable permits and approvals.

Prior to any activity that could result in direct or indirect impact to jurisdictional waters wetlands, or other regulated aquatic resources, WMWD shall coordinate with the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife, and any other applicable agencies as appropriate to determine permitting requirements. Such authorizations may include but are not limited to the Clean Water Act (CWA) Section 404 Nationwide Permit, CWA Section 401 Water Quality Certification, Porter-Cologne Act Waste Discharge Requirement, Fish and Game Code (FGC) Section 1602 Streambed Alteration Agreement. All required permits, authorizations, certifications, and approvals shall be obtained prior to commencement of the activity.

If impacts to aquatic resources cannot be avoided, mitigation for permanent impacts to regulated aquatic resources would be proposed at a minimum mitigation-to-impact ratio of 2:1, or as approved by the appropriate regulatory agencies, and may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program. If mitigation is to occur on-site and/or off-site (i.e., not at a mitigation bank or in-lieu fee program), then WMWD shall prepare and implement an Aquatic Resources Mitigation Plan prior to commencement of construction activities. The plan shall include, at a minimum:

- A description and quantification of temporary and permanent impacts to aquatic resources, including direct and indirect impacts;
- Documentation demonstrating why complete avoidance is infeasible;
- Measures to avoid and minimize impacts during construction;
- Restoration procedures for temporarily disturbed areas, including restoration of pre-project contours, hydrologic function, substrate conditions, and native vegetation communities;

- Compensatory mitigation at a minimum ratio of 2:1 for permanent impacts, unless a higher ratio is required by the permitting agencies or resource-specific permit conditions sufficient to replace lost aquatic resource acreage, functions, and values;
- Permanent protection of mitigation sites through conservation easements, deed restrictions, or other long-term protection mechanisms;
- Monitoring and reporting requirements with clearly defined biological and functional performance standards;
- Annual monitoring reports documenting compliance with mitigation requirements and progress toward achievement of performance standards; and
- Adaptive management and contingency measures if performance standards are not achieved.

Implement Mitigation Measures BIO-2 and BIO-3.

Significance Determination

Less than Significant with Mitigation

Operations and Maintenance

Operation and maintenance of the proposed facilities could result in minor, indirect impacts to wetlands and other jurisdictional waters. These activities may include periodic inspections and minor repair work near aquatic features. Such activities could cause localized disturbance, including soil compaction, minor vegetation removal, or small amounts of sediment or runoff entering nearby wetlands.

However, these activities would be infrequent, short-term, and limited in area. Operation and maintenance would not result in the filling of wetlands or long-term changes to hydrology. As a result, impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Wildlife Corridors

Impact 3.4-4: The proposed project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Priority, Near-Term, and Future Projects

Pipelines, Pump/Lift Stations, Storage Tanks, and WWRF Expansion

The Riverside Retail Service Area includes areas identified in the CEHC database, which support wildlife movement and ecological connectivity. However, the project sites are primarily located within developed, disturbed, or fragmented areas and do not represent key regional wildlife corridors or habitat linkages.

Construction activities associated with the proposed Riverside FMP could temporarily interfere with local wildlife movement at project sites. Activities such as trenching, grading, and equipment use may temporarily restrict movement or create short-term barriers for wildlife locally. Open trenches may also pose a temporary hazard to small animals. In addition, construction noise and human activity could temporarily disturb wildlife and reduce use of nearby areas.

However, these effects would be temporary and limited to the construction period. Pipelines would be installed underground and would not create permanent barriers to movement. Aboveground facilities, such as pump stations and tanks, would mostly be located in developed or previously disturbed areas and would not substantially interfere with wildlife movement or connectivity. The project would not remove or block any known regional wildlife corridors or habitat linkages. Although the project sites may provide movement opportunities for common wildlife species, they are not expected to function as important movement corridors at a regional scale. Nursery sites may be temporarily disturbed during construction; however, these effects would be short-term and would not result in long-term loss of habitat function.

Because construction activities could temporarily interfere with wildlife movement and use of habitat, impacts would be potentially significant. Implementation of Mitigation Measure BIO-2 (General BMPs and WEAP) and Mitigation Measure BIO-3 (Invasive Plant Species Control Measures), would further reduce direct and/or indirect impacts to wildlife corridors by requiring environmental training for all personnel, implementing invasive plant species control measures, and using best management practices to manage trash and dust. With implementation of these mitigation measures, impacts to wildlife corridors would be reduced to less than significant with mitigation incorporated.

Mitigation Measures

Implement Mitigation Measures BIO-2 and BIO-3

Significance Determination

Less than Significant with Mitigation

Operations and Maintenance

Operations and maintenance of the proposed facilities could result in minor, temporary disturbance to wildlife movement within project sites. Activities such as periodic inspections, maintenance vehicle access, and vegetation trimming may temporarily disrupt wildlife movement or cause animals to avoid the area for short periods of time. However, these activities would be infrequent, short-term, and limited in area. Operations and maintenance would not introduce permanent barriers or block wildlife corridors. Existing movement patterns would continue once activities are complete. Therefore, impacts to wildlife movement and use of nursery sites from operation and maintenance would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Local Policies and Ordinances

Impact 3.4-5: The proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Priority, Near-Term, and Future Projects

Pipelines, Pump/Lift Stations, and Storage Tanks, and WWRF Expansion

The County of Riverside Ordinance No. 559 regulates native trees that occur on parcels greater than 0.5 acres in size located in areas above 5,000 feet in elevation. None of the project components would be located in areas above 5,000 feet in elevation.

The City of Riverside Tree and Shrub Supervision ordinance (Municipal Code Chapter 13.25) prohibits the trimming or removal of City managed trees located within the public right-or-way. At this time, the extent to which tree trimming or removal may be required for implementation of the proposed projects is unknown. If construction activities require trimming or removal of City-managed trees within the public right-of-way, the project could conflict with the requirements of Chapter 13.25. Projects located within the City of Riverside include W-9: New 12.5 MG Orangecrest Tank, RW-1: New Orangecrest Tank, RW-1: Orangecrest Supply Pipeline, RW-1: Meridian West, RW-1: Bergamont Park Conversion to RW, RW-1: Lurin Irrigation Tank Improvements, and W-12: Mariposa Ave/Lurin Ave Upsize. Because implementation of the proposed projects could require trimming or removal of City-managed trees within the public right-of-way, impacts related to local ordinances would be potentially significant. Implementation of **Mitigation Measure BIO-17 (Tree Protection)** would reduce impacts to a less-than-significant level.

The County of Riverside Ordinance No. 663 requires that all proposed development projects located within the Stephens' kangaroo rat fee area are reviewed to determine the most appropriate course of action to ensure the survival of the species. As individual projects are proposed and approved in the SKR Plan Area, public and private land developers are required to pay a SKR mitigation fee for land that is developed and removes habitat of SKR. Implementation of Mitigation Measure BIO-8 would require focused surveys for the species within suitable habitat and obtaining take coverage under the SKRHCP if occupied habitat is present.

Mitigation Measures

> **Mitigation Measure BIO-17: Tree Protection.** Prior to the commencement of construction, WMWD shall retain a qualified arborist or qualified biologist to identify and map all City-managed trees and other protected trees that could be affected by project activities. WMWD shall coordinate with the City of Riverside to determine applicable permit requirements and tree protection standards pursuant to Chapter 13.25 of the Riverside Municipal Code and any other applicable regulations.
>
> Avoidance of tree removal shall be the preferred mitigation approach. To the maximum extent feasible, project facilities, staging areas, access routes, trench alignments, and other construction activities shall be designed and located to avoid impacts to protected trees and their root protection zones.

Where trees are located adjacent to construction activities, the following measures shall be implemented:

- Prior to commencement of construction, protective fencing shall be installed around the dripline or root protection zone of trees designated for preservation, or at another distance approved by the qualified arborist or the City of Riverside.
- Any pruning required for construction shall be performed by a qualified arborist in accordance with accepted arboricultural standards and applicable City requirements.
- Construction activities occurring near preserved trees shall be monitored periodically by a qualified arborist to verify compliance with tree protection measures and identify any corrective actions necessary to avoid damage.

If tree removal cannot be avoided, WMWD shall obtain all required permits and approvals and shall provide replacement planting or other compensatory mitigation in accordance with City requirements. If City requirements do not specify replacement standards, removed trees shall be replaced at a minimum ratio of 1:1 based on canopy value, trunk diameter, or another method approved by the City. Replacement trees shall consist of species appropriate for the project area and shall be maintained until successfully established.

If construction activities result in damage to a protected tree designated for preservation, WMWD shall implement corrective actions recommended by a qualified arborist and the City, which may include remedial treatment, replacement planting, or other measures to compensate for loss of the tree resources.

Implement Mitigation Measure BIO-8

Significance Determination

Less than Significant with Mitigation

Habitat Conservation Plan

Impact 3.4-6: The proposed project could conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Priority, Near-Term, and Future Projects

Pipelines, Pump/Lift Stations, Storage Tanks, and WWRF Expansion

As previously discussed, the Western Riverside MSHCP and SKRHCP do not apply to the project because WMWD is not a signatory to the MSHCP or SKRHCP. Should WMWD apply for listed species take coverage under the SKR HCP, or to be a PSE of the MSHCP, then the applicable project(s) would be subject to the provisions and requirements of consistency with the SKR HCP or MSHCP. Therefore, the project would not conflict with these habitat conservation plans. No impact would occur.

Mitigation Measures

None required

Significance Determination

No Impact

Cumulative Impacts

Impact 3.4-7: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to biological resources.

The cumulative analysis for impacts to biological resources involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified would involve many large-scale development projects like the Lake Ranch Project (Tract 36730), Highland Grove Residential Projects 2-6, and the Tract 22102 (Mockingbird Canyon) that would be constructed within undeveloped areas particularly in the areas northeast and east of Lake Matthews. The projected growth through 2050 would result in rapid development of commercial, industrial, and residential land uses that could convert undeveloped areas that may be suitable habitat for special-status species or could support sensitive habitats. Because the potential impacts to biological resources associated with the implementation of the Riverside FMP projects would mostly be located in developed or disturbed areas and therefore would not result in loss of native habitat in the region, the project's contribution to cumulative biological resource impacts would be less than cumulatively considerable. Additionally, Mitigation Measures BIO-1 through BIO-17 would reduce project-related impacts to a less-than-significant level. The project's cumulative biological resource impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures BIO-1 through BIO-17

Significance Determination

Less than Significant with Mitigation

3.4.4 References

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3.5 Cultural Resources

This section addresses the cultural resources impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing cultural resources conditions at the proposed project site; a summary of applicable regulations related to cultural resources; and an evaluation of the potential impacts of the proposed project related to cultural resources at the proposed project site and in the surrounding area, including cumulative impacts. The section is based on the Riverside Facilities Master Plan Cultural Resources Assessment (Confidential) (**Appendix CUL** to this Draft PEIR).

3.5.1 Environmental Setting

Prehistoric Setting

The chronology of southern California is typically divided into three general time periods: the Early Holocene (11,000 to 8,000 Before Present [B.P.]), the Middle Holocene (8,000 to 4,000 B.P.), and the Late Holocene (4,000 B.P. to A.D. 1769). This chronology is manifested in the archaeological record by particular artifacts and burial practices that indicate specific technologies, economic systems, trade networks, and other aspects of culture.

Early Holocene (11,000 to 8,000 B.P.)

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 years B.P. (Byrd and Raab 2007). On the mainland, radiocarbon evidence confirms occupation of the Orange County and San Diego County coast by about 9,000 B.P., primarily in lagoon and river valley locations (Gallegos 2002). In western Riverside County, few Early Holocene sites are known to exist. One exception is site CA-RIV-2798, which contains deposits dating to as early as 8,580 cal. B.P. (Grenda 1997). During the Early Holocene, the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab 2007).

The primary Early Holocene cultural complex in coastal southern California was the San Dieguito Complex, occurring between approximately 10,000 and 8,000 B.P. The people of the San Dieguito Complex inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Warren 1967). Leaf-shaped and large-stemmed projectile points, scraping tools, and crescentics are typical of San Dieguito Complex material culture.

Middle Holocene (8,000 to 4,000 B.P.)

During the Middle Holocene, there is evidence for the processing of acorns for food and a shift toward a more generalized economy in coastal and inland southern California. The processing of plant foods, particularly acorns, increased, a wider variety of animals were hunted, and trade with neighboring regions intensified (Byrd and Raab 2007).

The Middle Holocene La Jolla (8,000–4,000 B.P.) Complex is essentially a continuation of the San Dieguito Complex. La Jolla groups lived in chaparral zones or along the coast, often migrating

between the two. Coastal settlement focused around the bays and estuaries of coastal Orange and San Diego Counties. La Jolla peoples produced large, coarse stone tools, but also produced well-made projectile points, and milling slabs. The La Jolla Complex represents a period of population growth and increasing social complexity, and it was also during this time period that the first evidence of the exploitation of marine resources and the grinding of seeds for flour appears, as indicated by the abundance of millingstones in the archaeological record (Byrd and Raab 2007).

Contemporary with the La Jolla Complex, the Pauma Complex has been defined at coastal and adjacent inland sites in San Diego and Orange Counties, as well as in inland Riverside County (True 1958). The Pauma Complex is similar in technology to the La Jolla Complex; however, evidence of coastal subsistence is absent from Pauma Complex sites (Moratto 1984). The Pauma and La Jolla Complexes may either be indicative of separate inland and coastal groups with similar subsistence and technological adaptations, or, alternatively, may represent inland and coastal phases of one group's seasonal rounds. The latter hypothesis is supported by the lack of hidden and deeply buried artifacts at Pauma sites, indicating that these sites may have been temporary camps for resource gathering and processing.

Late Holocene (4,000 B.P. to A.D. 1769)

During the Late Holocene, native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps (Byrd and Raab 2007). Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab 2007).

Around 1,000 B.P., there was an episode of sustained drought, known as the Medieval Climatic Anomaly (MCA). While the effects of this environmental change on prehistoric populations are still being debated, it did likely lead to changes in subsistence strategies in order to deal with the substantial stress on resources (Jones and Schwitalla 2008). In coastal southern California, beginning before the MCA but possibly accelerated by it, conditions became drier and many lagoons had been transformed into saltwater marshes. Because of this, populations abandoned coastal mesa and ridge tops to settle nearer to permanent freshwater resources (Gallegos 2002).

Trade intensity reached its zenith in the Late Holocene, with asphaltum (tar), seashells and steatite being traded from southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl (Byrd and Raab 2007). Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County), are all representative artifacts of the Late Holocene.

It has been postulated that as early as 3,500 B.P., a Takic-speaking people arrived in coastal Los Angeles and Orange Counties, having migrated west from inland desert regions (Kroeber 1925; Warren 1968; Sutton 2009). By around 1,500 to 1,000 B.P., Takic language and cultures had spread to the south and inland to the east. These new arrivals, linguistically and culturally different from earlier coastal populations, may have brought new settlement and subsistence systems with them, along with other new cultural elements. This migration has been postulated as being a factor in several of the significant changes in material culture seen in the Late Holocene (such as the use of smaller projectile points and pottery), as well as the introduction of cremation as a burial practice.

The San Luis Rey culture (divided into San Luis Rey I [A.D. 1400 to 1750] and San Luis Rey II [A.D. 1750 to 1850]) represented the Late Period in southwestern Riverside County, northern San Diego County, southern Los Angeles County, and the interior mountains of Orange County (Meighan 1954; Moratto 1984). San Luis Rey I village sites contain manos (hand stones), metates (grinding slabs), bedrock mortars, shell artifacts, and triangular arrow points. In addition to these features, San Luis Rey II sites are characterized by the presence of pottery, pictographs, and the cremation of the dead (Moratto 1984).

San Luis Rey settlement patterns in the upper San Luis Rey River drainage are typified by seasonally occupied lowland villages located in proximity to water sources, and highland villages occupied in the late summer and fall for acorn collection (True and Waugh 1982). However, settlement patterns within southwestern Riverside County are less well known. The available information, stemming primarily from survey data, indicates that four primary site types existed within the region during the Late Period: field camps, resource procurement locations, residential bases, and villages (Mason 1999). Resource procurement locations and field camps, the most common site types, contain a limited assemblage of artifacts and subsistence remains, primarily lithic debitage, some tools, fire affected rock, and small amounts of animal bones and charred seeds and nuts. This indicates that these types of sites were used primarily for focused activities and short-term occupancy.

Villages and residential bases, on the other hand, show evidence for long-term occupation by large groups of people. Villages were occupied year-round, while residential bases were occupied seasonally. Artifacts and features found at both village and residential bases, including large amounts of faunal and botanical remains, numerous high-quality tools, fire-affected rock, and anthrosols, indicate a wide range of activities (Mason 1999). Bedrock mortars point to the processing of seeds and acorns, and ceremonial activities are evidenced by the presence of pictographs, petroglyphs, and cupules within village sites.

Ethnographic Setting

Luiseño

The Luiseño were named after Mission San Luis Rey, to which many of them were relocated following its establishment in 1798. The language of the Luiseño people has been identified as belonging to the Cupan group of the Takic subfamily, which is part of the larger Uto-Aztecan language family (Bean and Shipek 1978). Luiseño territory includes portions of northern San Diego, southern Orange, and Riverside Counties, and would have encompassed a diverse environment including lagoons and marshes, coastal areas, inland river valleys, foothills, and mountains. The neighbors of the Luiseño to the north and northwest were the Juaneño, Gabrielino, and Serrano; to the east were the Cahuilla and Cupeño; and to the south were the Kumeyaay.

The Luiseño subsisted on small game, coastal marine resources, and a wide variety of plant foods such as grass seeds and acorns. Luiseño houses were conical thatched reed, brush, or bark structures. The Luiseño inhabited permanent villages centered around patrilineal clans, with each village headed by a chief, or *not* (Sparkman 1908). Seasonal camps associated with villages were also used. Each village or clan had an associated territory and hunting, collecting, and fishing areas. Villages were typically located in proximity to a food or water source, or in defensive locations, often near valley bottoms, streams, sheltered coves or canyons, or coastal strands (Bean and Shipek 1978). It is estimated that there may have been around 50

Luiseño villages with a population of about 200 each at the time of the first Spanish contact (Bean and Shipek 1978).

Today, there are six federally recognized tribes in California who share Luiseño tribal affiliation, language, and culture, including the La Jolla Band of Luiseño Indians (La Jolla), Rincon Band of Luiseño Indians (Rincon), Pauma Yuima Band of Mission Indians (Pauma), Pechanga Band of Indians (Pechanga), Pala Band of Mission Indians (Pala), and Soboba Band of Luiseño Indians (Soboba).

Cahuilla

The Cahuilla spoke a language belonging to the Cupan group of the Takic subfamily (Bean 1978). The Cahuilla are generally divided into three groups based on their geographic setting: the Pass Cahuilla of the Beaumont/Banning area; the Mountain Cahuilla of the San Jacinto and Santa Rosa Mountains; and the Desert Cahuilla from the Coachella Valley, as far south as the Salton Sea. The Cahuilla occupied territories that ranged from low or moderately low desert to the mountain regions of the Transverse and Peninsular ranges.

Villages were placed near canyons that received substantial precipitation or were adjacent to streams and springs (Bean 1978). House structures of the Cahuilla ranged from "brush shelters to dome-shaped or rectangular structures 15–20 feet long" (Bean 1978). The Cahuilla social structure revolved around clans and exogamous moieties (components connected through inter-marriage). Hunting, in conjunction with the exploitation of a variety of available resources, governed the Cahuilla subsistence strategy. The material culture of the Cahuilla was extensive and varied, and included pottery, ornamental items, and a number of knapped stone tools.

Prior to European contact, population estimates for the Cahuilla range from 3,600 to as high as 10,000 persons. Due to European diseases, such as smallpox, the Cahuilla population was decimated during the 19th century. However, unlike other Native American populations in southern California, the Cahuilla were able to retain their autonomy even after the arrival and increasing control of European explorers and the settling governments that followed. It was not until 1891 that the Cahuilla culture and its population began to succumb to the pressure of European and, later, United States governing bodies (Bean 1978).

Today, there are nine federally recognized tribes in California who share Cahuilla tribal affiliation, language, and culture, including the Agua Caliente Band of Cahuilla Indians (Agua Caliente), Augustine Band of Cahuilla Indians (Augustine), Cabazon Band of Mission Indians (Cabazon), Cahuilla Band of Mission Indians, Los Coyotes Band of Cahuilla and Cupeño Indians (Los Coyotes), Morongo Band of Mission Indians (Morongo), Ramona Band of Cahuilla Indians (Ramona), Santa Rosa Band of Cahuilla Indians (Santa Rosa), and Torres-Martinez Desert Cahuilla Indians (Torres-Martinez).

Gabrielino

According to Bean and Smith (1978), the Gabrielino, with the exception of the Chumash to the north, "were the wealthiest, most populous, and most powerful ethnic nationality in aboriginal Southern California." Named after the San Gabriel Mission, the Gabrielino occupied sections of Los Angeles, Orange, and San Bernardino counties, and the islands of San Nicolas, Santa Catalina, and San Clemente. The Gabrielino subsisted on a variety of resources in several ecological zones. Acorns, sage, and yucca were gathered throughout the inland areas whereas shellfish, fish, as well as a variety of plants and

animals were exploited within the marshes and along the coast. Deer and various kinds of small mammals were hunted on an opportunistic basis. Their material culture reflected the subsistence technology. Lithic tools such as arrow points and modified flakes were used to hunt and process animals. A variety of ground stone grinding implements, such as the mortar, pestle, mano, and metate, were used to process both plant and animal remains for food (Bean and Smith 1978).

The settlement patterns of the Gabrielino, and other nearby groups such as the Juaneño and Luiseño, were similar and they often interacted through marriage, trade and warfare. The seasonal availability of water and floral and faunal resources dictated seasonal migration rounds with more permanent villages and base camps being occupied primarily during winter and spring months. In the summer months, the village populations divided into smaller units that occupied seasonal food procurement areas. The more permanent settlements tended to be near major waterways and food sources and various secular and sacred activities, such as food production and storage and tool manufacturing, were conducted at these areas (Bean and Smith 1978).

Historic Setting

Spanish Period (1769-1821)

The first European presence in what is now southern California came in 1542, when Juan Rodriguez Cabrillo led an expedition along the coast. Europeans did not return until 1769, when the expedition of Gaspar de Portola traveled overland from San Diego to San Francisco. Juan Bautista de Anza was the first recorded European visitor to the area. He is credited with the discovery of an inland route from Sonora to the northern coast of California in 1774, bringing him through much of what is now known as Riverside County, via the San Jacinto Mountains (Rolle 2003). With de Anza, the colonization of Alta California began in earnest. With the opening of the overland route, Spanish pueblos were established, evolving into the Spanish system of governance.

In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples (Horne and McDougall 2003). The purpose of the missions was to encourage, by any means necessary, the assimilation of Native populations to adopt the Spanish custom, language, and religion. The mission strategy relied upon an agricultural economy and as such, locations selected for the construction of a mission depended upon three factors: arable soil for crops, an adequate supply of fresh water, and a large local Indian population for labor (Rolle 2003). Though no missions were built in the vicinity of the proposed project, Mission San Luis Rey, located in modern-day Oceanside approximately 31 miles south of the proposed project, established a cattle ranch in the San Jacinto Valley in 1820 (City of San Jacinto 2015). The ranch was named for Saint Hyacinth, San Jacinto in Spanish, from which the valley took its name.

Mexican Period (1821-1846)

In 1821 Mexico, which included much of present-day California, became independent from Spain, and during the 1820s and 1830s the California missions were secularized. Mission property was supposed to have been held in trust for the Native Californians, but instead was handed over to civil administrators and then into private ownership as land grants. The proposed project site is located within Rancho San Jacinto Sobrante, a 48,847-acre Mexican land grant awarded in 1846 to María del Rosario Estudillo de Aguirre by Governor Pío Pico. The grant was the surplus (*sobrante* in Spanish) of Jose Antonio

Estudillo's Rancho San Jacinto Viejo and Miguel Pedrorena's Rancho San Jacinto Nuevo y Potrero (Hoffman 1862). After secularization, many former Mission Indians were forced to leave the Missions and seek employment as laborers, ranch hands, or domestic servants (Horne and McDougall 2003).

American Period (1846-Present)

In 1846, the Mexican-American War broke out. Mexican forces were eventually defeated in 1847 and Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became one of the United States in 1850. While the treaty recognized the right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr 2007).

When the discovery of gold in northern California was announced in 1848, a huge influx of people from other parts of North America flooded into California. As a result of the discovery of gold and the mass migration of fortune hunters to both southern and northern California, the population of the region exploded and development of urban areas grew. The transcontinental railroad came to the region in 1869, bringing industry and settlers to the area; the city of Riverside became the first of these colonized areas in what is now Riverside County. Cattle ranches were slowly replaced by citrus farming and agriculture, industries of major importance to the populace of the area now known as Riverside County.

3.5.2 Regulatory Framework

Federal

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

National Register of Historic Places

The National Register was established by the National Historic Preservation Act (NHPA) of 1966, as "an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR 60.2) (U.S. Department of the Interior 2002). The National Register recognizes a broad range of cultural resources that are significant at the national, state, and local levels and can include districts, buildings, structures, objects, prehistoric archaeological sites, historic-period archaeological sites, traditional cultural properties, and cultural landscapes. As noted above, a resource that is listed in or eligible for listing in the National Register is considered "historic property" under NHPA Section 106.

To be eligible for listing in the National Register, a property must be significant in American history, architecture, archaeology, engineering, or culture. Properties of potential significance must meet one or more of the following four established criteria:

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

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

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

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

In addition to meeting one or more of the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance". The National Register recognizes seven qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

Ordinarily religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years are not considered eligible for the National Register unless they meet one of the Criteria Considerations (a–g) below, in addition to meeting at least one of the four significance criteria A–D above, and retaining integrity (U.S. Department of the Interior 2002):

a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or

b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.

d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

g) A property achieving significance within the past 50 years if it is of exceptional importance.

State

California Environmental Quality Act

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

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

If a lead agency determines that an archaeological site is a historical resource, the provisions of CEQA Section 21084.1 and CDEQA Guidelines Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in CEQA Section 21083.2 a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064.5(c)(4)).

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

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or

B. 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. Convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards) (Grimer 2017) is considered to have mitigated its impacts to historical resources to a less-than-significant level (CEQA Guidelines Section 15064.5(b)(3)).

California Register of Historical Resources

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

To be eligible for the CRHR, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

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

A resource eligible for the CRHR must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to

convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the NRHP, but it may still be eligible for listing in the CRHR.

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

- California properties listed on the NRHP and those formally determined eligible for the NRHP;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the CRHR.

Other resources that may be nominated to the CRHR include:

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

California Health and Safety Code Section 7050.5

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

California Public Resources Code Section 5097.98

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

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

Local

County of Riverside General Plan

The County of Riverside's General Plan, Multipurpose Open Space Element, contains the following cultural resources policies relevant to the proposed project:

> **Policy OS 19.1:** Cultural resources (both prehistoric and historic) are a valued part of the history of the County of Riverside.
>
> **Policy OS 19.2:** The County of Riverside shall establish a cultural resources program in consultation with Tribes and the professional cultural resources consulting community. Such a program shall, at a minimum, address each of the following: application processing requirements; information database(s); confidentiality of site locations; content and review of technical studies; professional consultant qualifications and requirements; site monitoring; examples of preservation and mitigation techniques and methods; and the descendant community consultation requirement of local state and federal law.
>
> **Policy OS 19.3:** Review proposed development for the possibility of cultural resources and for compliance with the cultural resources program.
>
> **Policy OS 19.4:** To the extent feasible, designate as open space and allocate resources and/or tax credits to prioritize the protection of cultural resources preserved in place or left in an undisturbed state.
>
> **Policy OS 19.5:** Exercise sensitivity and respect for human remains from the prehistoric and historic time period and comply with all applicable laws concerning such remains.

City of Riverside General Plan

The City of Riverside's General Plan (2025) has several objectives and policies geared towards the preservation of archaeological resources and these are provided below:

> **Objective HP-1:** To use historic preservation principles as an equal component in the planning and development process.
>
> > **Policy HP-1.3:** The City shall protect sites of archaeological and paleontological significance and ensure compliance with all applicable State and federal cultural resources protection and management laws in its planning and project review process.
>
> **Objective HP-2:** To continue an active program to identify, interpret and designate the City's cultural resources.
>
> > **Policy HP-2.1:** The City shall actively pursue a comprehensive program to document and preserve historic buildings, structures, districts, sites (including archaeological sites), objects, landscapes, and natural resources.
> >
> > **Policy HP-2.3:** The City shall provide information to citizens, and the building community about what to do upon the discovery of archaeological resources and burial sites, as well as, the treatment, preservation, and repatriation of such resources.

3.5.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

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

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

Methodology

Records Search

A records search for the Proposed Program was conducted on June 16, 2022, by staff at the California Historical Resources Information System (CHRIS) Eastern Information Center (EIC), housed at the University of California, Riverside. The records search included a review of all recorded cultural resources within a 0.5-mile radius of the Riverside Retail Service Area as well as a review of cultural resource reports on file. Due to COVID-19 and staffing issues at the EIC, no mapping of resources or studies were available. Due to the large amount of data that was provided by the EIC, previous studies were not digitized but the studies are on file with ESA and were reviewed to supplement this study as appropriate.

Previously Cultural Studies within the Riverside FMP Area

A total of 651 cultural resources studies has been conducted within a 0.5-mile radius of the Riverside Retail Service Area. Of the 651 studies, 505 have been conducted within the Riverside Retail Service Area, and 146 are within the 0.5-mile buffer around the service area.

Previously Recorded Cultural Resources within the Riverside FMP Area

A total of 1,754 cultural resources has been recorded within 0.5-mile radius of the Riverside Retail Service Area. Of the 1,754 resources, 1,474 are located within the Retail Service Area. Specific information regarding resources that are located within, immediately adjacent (within 50 to 100 feet), and within the 0.25-mile radius of the priority and near-term projects is provided below.

A total of 13 cultural resources have been previously recorded within the 0.25-mile radius of the priority projects. These include six prehistoric archaeological sites (P-33-326, 03851, 04487, 26658, 23019, and 28181); three historic-period archaeological sites (P-33-23020, -26653, and -28570); one historic-period structure (P-33-019929), and three historic-period isolates (P-33-28571, -28572, and -28573). No resources were found to be recorded within, or immediately adjacent to the priority projects.

Near-Term Projects

A total of 59 cultural resources has been recorded within a 0.25-mile radius of the near-term projects. These include 49 prehistoric archaeological sites (04393, 04392, 21038, 04417, 04418, 14005, 14004, 001778, 005419, 01775, 013836, 03290, 8041, 8051, 4735, 023017, 023018, 023019, 026654, 026655, 026658, 004426, 26663, 003854, 026660, 026661, 026663, 016939, 001775, 001778, 005419, 008047, 001779, 001780, 001787, 001788, 001790, 001794, 008042, 008052, 003859, 004740, 001786, 001785, 023902, 026660, 026661, 005429); five historic-period sites (P-33-23020, 026653, 026659, 004194,004193); two historic-period isolates (P-33-016980, 05563); one historic structure (P-33-016986) and three historic built-environment resources (P-33-007826, 007815, 024047). No resources have been previously recorded within the near-term project sites.

Future Projects

A total of 63 cultural resources has been recorded within a 0.25-mile radius of future projects. These include 55 prehistoric archaeological sites (P-33- 021038, 004417, 004418, 004392, 04393, 001794,008042, 008052, 001775,001778, 005419, 013492, 008047, 004068, 005420, 004067, 002706,002705, 005421, 028978, 005425, 005426, 028187, 028188, 028189, 007721, 002704, 012662, 28914, 28915, 003326, 005414, 05399, 05400, 05401, 05402, 05403, 05404, 05405, 005406, 05407, 005408, 05409, 054140, 05445, 007782, 03325,003326, 03327, 03329, 28024, 28025,026660, 003854, 005429); five historic-period archaeological sites (P-33-05456, 016227, 004193, 004194 and 017104); two historic-period isolates (P-33-005563, 024836); and one historic-period built environment (P-33-014227). No resources have been previously recorded within the future project sites.

Sacred Lands File Search

A Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC) on May 5, 2022. The SLF search results prepared by the NAHC on June 6, 2022, and they indicated that the SLF results were positive.

Survey

ESA archaeologists conducted cultural resources surveys for priority and near-term projects in 2022, 2025, and 2026. All accessible portions with visible ground surface were systematically surveyed using transect intervals of no more than 15 meters (approximately 50 feet), while portions within existing street rights-of-way received a reconnaissance-level, or windshield, survey. Three survey rotations were completed to address evolving project priorities. The first occurred on August 3–4, 2022; the second on June 26, 27, and 30, 2025; and the final rotation on February 24, 26, 27, and March 2, 2026.

Archaeological sites were defined as areas containing one or more cultural features or at least three artifacts—each 45 years old or older—within approximately 25 square meters; areas with fewer than three artifacts were classified as isolates. No subsurface investigation or artifact collection was conducted during pedestrian surveys. Historic resources were excluded because the projects primarily involve underground utilities and do not require modifications to historic properties. Above-ground changes are limited to existing infrastructure, with no anticipated impacts to historic properties. Most pump stations, lift stations, and tanks are modern structures, less than 45 years old, and therefore do not require historic evaluation. Archaeological sites were defined as consisting of one or more cultural features or three or more artifacts (45-years old or older) within an approximate 25-square-meter area. Fewer than three

artifacts within 25-square-meter area were considered isolate. No subsurface investigation was performed, and no artifacts were collected during the pedestrian survey. Historic resources were not included in the survey as the projects are mainly underground utilities that would not require demolition or changes to historic properties. The above ground facility changes are to existing infrastructure and would not cause a change or indirect impact to historic properties. Known dates of the existing pump stations, lift stations, and tanks indicate that the majority of these are modern and would not be over 45-years old in order to be considered historic in age and require evaluation.

Results

As a result of the surveys, a total of 42 resources were documented or updated, including five new archaeological resources (ESA-080422-01F, ESA-080422-02F, ESA-080422-03F, ESA-080422-01A, and ESA-030226-04F); 27 prehistoric sites (P-33-001778, 001780, 001794, 008047, 003326, 003327, 003859, 005429, 005399, 005425, 005433, 007782, 008042, 008052, 028187, 028188, 028189, 001794, 004735, 008041, 008051, 023019, 026654, 026658, 026663, 026660, 002661) six historic-period sites (004193, 004194, 005456, 028570, 023020, 026659); two historic-period isolates (P-33-028571, 028572); and two historic-period built environments (P-33-007826, 024047). The following paragraphs describe the results of the survey and the resources encountered during the survey. No artifacts were collected during the survey.

Impact Analysis

Historic Resources

Impact 3.5-1: The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

Priority, Near-Term, and Future Projects

All Facilities

Based on the results of the Cultural Resources Assessment and the records search conducted for the proposed priority, near-term, and future project sites, no historic resources have been mapped or recorded within a 0.25-mile buffer of, or immediately adjacent to, any of the currently identified project sites. In addition, the aboveground project components evaluated as part of the Riverside FMP generally consist of modern utility infrastructure, including pump stations, lift stations, tanks, and related appurtenances. Where upgrades or replacements are proposed, work would occur within existing disturbed utility footprints or would involve in-kind replacement of modern facilities; therefore, these improvements would not be expected to materially alter the physical characteristics, setting, feeling, or association of any known historical resource. Similarly, proposed pipeline improvements would be installed below ground and would not introduce new visible features that could change the visual setting of nearby historic-period properties. However, the locations of two future facilities, W-20 New 2 MG PZ2116 Tank and W-21 New 4 MG PZ1550 Tank, are currently unknown. Depending on where these facilities are ultimately sited, associated ground disturbance or aboveground construction could occur near structures or built-environment resources that are more than 45 years old or that may otherwise require evaluation as potential historical resources. If such resources were identified and could be directly or indirectly affected, the proposed project could result in a potentially significant impact. Implementation of **Mitigation Measure CR-1** would require future assessment by a qualified architectural historian for project components constructed within or adjacent to older structures or previously recorded historic

resources. This assessment would identify and evaluate any affected historical resources and recommend avoidance, minimization, or treatment measures as appropriate. With implementation of Mitigation Measure CR-1, impacts would be reduced to a less-than-significant level.

Mitigation Measures

CR-1: Future Study – Historic Resources. Should the District implement future projects whose locations are currently not known (i.e., W-20 New 2 MG PZ2116 Tank and W-21 New 4 MG PZ1550 Tank) that could have a potential direct or indirect impact to historic resources and are within or adjacent to (within 100 feet of) structures that are more than 45 years old, or have been recorded as historic resources, the District shall retain a qualified architectural historian, defined as meeting the Secretary of the Interior's Professional Qualification Standards for architectural history. The architectural historian will conduct a historic resources assessment including: a records search update if necessary, at the Eastern Information Center; a review of pertinent archives and sources; a pedestrian field survey; updates or full recordation of all identified historic resources on California Department of Parks and Recreation 523 forms; and preparation of a technical memo documenting the methods and results of the assessment. All identified historic resources shall be assessed for the project's potential to result in direct and/or indirect effects to those resources and any historic resource that may be affected shall be evaluated for its potential significance (i.e., listing in the CRHR) prior to the District's approval of project plans and publication of subsequent CEQA documents. The qualified architectural historian shall provide recommendations regarding avoidance or minimizing impacts, or treatment for historical resources (i.e., resources found eligible for listing in the CRHR) that will be affected by the project.

Significance Determination

Less than Significant with Mitigation

Archaeological Resources

Impact 3.5-2: The proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

Priority, Near-Term, and Future Projects

All Facilities

Review of previous investigations undertaken within the Riverside FMP, as well as review of the prehistoric context for the area, provides an understanding of the potential for encountering prehistoric archaeological resources in the project sites during construction. When completing analysis of subsurface archaeological sensitivity, important factors to consider include elevation, soil conditions, proximity to water, proximity to raw materials, and ethnographic and historic information. It is also necessary to evaluate the historic land use and past development and disturbances on the project site in determining the possibility for the preservation of subsurface prehistoric archaeological materials.

The archaeological site density of the service area in general is very high with 1,474 previously recorded sites within the boundaries of the service area, seventy percent of which are prehistoric archaeological sites. As a result of this study, three prehistoric bedrock milling site resources (P-33-016939, 003326 and P-33-005414) were previously recorded as located immediately adjacent to the APE for the RW-2 and W-15 projects.

In addition, five previously unrecorded resources were encountered during survey (ESA-080422-01F, ESA-080422-02F, ESA-080422-03F, ESA-080422-01A, and ESA-030226-04F). Two of these are historic-period isolates: (ESA-080422-01A) is an isolate historic brick and (ESA-030226-04F) is a single aluminum can, neither of which are significant resources.

The remaining three (ESA-080422-01F, ESA-080422-02F, ESA-080422-03F) are all prehistoric bedrock milling sites. Although these resources do not intersect or overlap with the APE for these projects, they are all indicative of prehistoric habitation and food preparation. They could be indicative of larger buried villages or camp sites that could extend with the project APE's and be encountered during ground disturbance for these projects. Due to the high sensitivity of the entire service area and the requirements of CEQA to determine potential impacts to significant sites that could be impacted by the projects, **Mitigation Measures CR-2, CR-3, CR-4, CR-6, and CR-7** would be required, which would involve retention of a qualified archaeologist; archaeological resources sensitivity training; archaeological monitoring; resource discovery; reporting; preparation of a CRIMP and monitoring of pre-construction excavation; and assessment of unanticipated archaeological resources. With implementation of mitigation, impacts to archaeological resources near the abovementioned projects would be reduced to a less than significant level.

Given the high archaeological sensitivity of the project area, all other projects not listed above that would result in ground-disturbance could result in a significant impact to an unknown archaeological resource. As a result, Mitigation Measures CR-2, CR-3, CR-4, and CR-7, would be required, which would involve retention of a qualified archaeologist; archaeological resources sensitivity training; archaeological monitoring; resource discovery; reporting; and assessment of unanticipated archaeological resources. With implementation of mitigation measures, impacts to archaeological resources near the abovementioned projects would be reduced to a less than significant level.

Mitigation Measures

CR-2: The District shall retain a Qualified Archaeologist under the Secretary of the Interior Standards to carry out all mitigation related to archaeological resources as required for each project. Prior to the start of ground-disturbing activities, the Qualified Archaeologist or their designee shall conduct construction worker archaeological resources sensitivity training for all construction personnel. Construction personnel shall be informed on how to identify the types of prehistoric and historic archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources, and safety precautions to be taken when working with archaeological monitors. The District shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance. In addition, a cultural resource impact mitigation program (CRIMP) shall be filed with the County prior to site grading. The CRIMP shall specify the steps to be taken to mitigate impacts to cultural resources and shall include all of the Master Plan projects and be amended if necessary at a project level basis.

CR-3: The qualified Archaeologist shall oversee an archaeological monitor who shall be present during construction activities on the priority, near term, and future projects deemed by the qualified Archaeologist to have the potential for encountering archaeological resources, such as demolition, clearing/grubbing, drilling/auguring, grading, trenching, excavation, or other ground disturbing activity associated with the project. The archaeological monitor shall have the authority to direct the pace of construction equipment activity in areas of higher sensitivity and to temporarily divert, redirect or halt ground disturbance activities to allow identification,

evaluation, and potential recovery of archaeological resources in coordination with the qualified Archaeologist. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined appropriate by the qualified Archaeologist.

In the event that historic-period (e.g., bottles, foundations, early infrastructure, refuse dumps/privies, railroads, etc.) or prehistoric (e.g., hearths, burials, stone tools, shell and faunal bone remains, etc.) archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A 50-foot buffer shall be established by the qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work may continue outside of the buffer area. All archaeological resources unearthed by project construction activities shall be evaluated by the qualified Archaeologist. If a resource is determined by the qualified Archaeologist to constitute a "historical resource" pursuant to CEQA Guidelines Section 15064.5(a) or a "unique archaeological resource" pursuant to Public Resources Code Section 21083.2(g), the Qualified Archaeologist shall coordinate with the district to develop a formal treatment plan that would serve to reduce impacts to the resources. If any prehistoric archaeological sites are encountered within the project area, consultation with consulting Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources.

The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Section 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment and shall be explored to see if project activities can avoid archaeological resources, such as: if the archaeological site can be deeded into a permanent conservation easement, if the resources can be capped with chemically stable soil or if the resource can be incorporated within open space.

If, in coordination with the district, it is determined that preservation in place is not feasible, and in order to mitigate potential impacts to significant resources pursuant to Section 15064.5 of CEQA, date recovery is feasible. Appropriate treatment of the resource shall be developed by the qualified Archaeologist in coordination with the district and a data recovery plan shall be implemented. A data recovery plan will make provision for adequately recovering the scientifically consequential information from and about the historical resources. and may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing, analysis, reporting, and commemoration in the form of signage or other public education and awareness. This process will be in accordance with and further outlined in the CRIMP.

Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

CR-4: At the conclusion of the archaeological monitoring, the qualified Archaeologist shall prepare a technical report that follows the format and content guidelines provided in California Office of Historic Preservation's Archaeological Resource Management Reports (ARMR). The technical report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. Appropriate California Department of Parks and Recreation Site Forms (Site Forms) shall also be prepared and provided

in an appendix to the report. The technical report shall be prepared under the supervision of the qualified Archaeologist and submitted to the district within 150 days of completion of the monitoring. The final draft of the report shall be submitted to the Eastern Information Center.

CR-5: Should the District implement any future projects whose locations are currently not known (i.e., W-20 New 2 MG PZ2116 Tank and W-21 New 4 MG PZ1550 Tank), or if any of the currently planned projects move location, the qualified archaeologist shall assess grading plans and geotechnical reports, as well as reviewing record search data (which should be updated every 2 to 3 years as applicable) and they or their designee shall survey the new project APE as well as a buffer, for the project to determine whether any archaeological sites could be impacted by the project, and to make recommendations for testing and/or monitoring. The archaeologist will amend the CRIMP as appropriate.

CR-6: The CRIMP will compile existing information, discuss the types of resources which may be encountered, and provide research themes and treatment approaches in order to avoid or mitigate significant impacts to potentially significant archaeological resources as determined to possibly within the project APE's. The CRIMP will also outline protocols to follow for unanticipated discoveries. Impacts to known archaeological resources that are within or directly adjacent to project APE's require under Section 106 and CEQA significance evaluation and mitigation for avoidance or when avoidance is not possible, controlled archaeological data recovery. Planned priority, near term, and future, projects, as well as any additional projects added within the service area as part of the Riverside FMP, that have been determined to be within close proximity to known archaeological sites will be subject to additional controlled testing requirements which will be outlined fully in the CRIMP.

In order to determine site significance in accordance with CEQA and Section 106, site boundaries, and the potential for resources within the project area, any potholing, geotechnical testing, and other excavation in advance of construction will be closely monitored and tested by an archaeologist under the direction of the qualified Archaeologist. This will include placement of additional postholes or excavation if needed, observation and screening of soils excavated as part of potholing or geotechnical work. If geotechnical samples are taken in such a way that screening is not possible, additional excavation may be required by the qualified Archaeologist in order to assess significance. The qualified Archaeologist will make recommendations for additional avoidance, data recovery, and mitigation as outlined in the CRIMP.

CR-7: If at some point archaeological monitoring has been discontinued or determined in the CRIMP to not be required, but archaeological resources are encountered, the archaeologist shall be notified immediately and shall assess the significance of the findings and recommendations in accordance with the CRIMP. The archaeologist shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. Appropriate California Department of Parks and Recreation Site Forms (Site Forms) shall also be prepared and provided in an appendix to the report. The technical report shall be prepared under the supervision of the qualified Archaeologist and submitted to the district within 150 days of completion of the monitoring. The final draft of the report shall be submitted to the Eastern Information Center. If any prehistoric archaeological sites are encountered within the project area, consultation with consulting Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to

accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

Significance Determination

Less than Significant with Mitigation

Human Remains

Impact 3.5-3: The proposed project could disturb any human remains, including those interred outside of dedicated cemeteries.

Priority, Near-Term, and Future Projects

All Facilities

The NAHC was contacted for a Sacred Lands File search of the service area which came back positive. Due to the high density of sites and data it is unknown how many projects have encountered human remains but the probability is high as the majority of sites are related to habitation.

One formal cemetery exists near Riverside FMP projects: The Riverside National Cemetery, which was established in 1976. Because the Riverside National Cemetery is a planned cemetery, it is unlikely that project activities would encounter remains outside of cemetery boundaries. Near-term projects RW-1 Riverside National Cemetery Pipeline and RW-1 Cemetery Pump Station, as well as future projects RW-2 Riverside National Cemetery Pipeline and WW-4 WWRP Expansion, are located within or adjacent to the cemetery boundaries. The pipeline within the cemetery is planned as occurring outside of marked grave areas. As the cemetery is a modern one, it is less likely that there is unmarked graves or graves outside of the fenced cemetery boundary. However, final design and drawing of the pipeline should be made to ensure no overlap with marked graves and should include a reasonable buffer of at least 50-feet from any areas of marked graves. No marked graves or human remains were identified during the pedestrian survey of the proposed priority or near-term projects. The overall sensitivity of the service area with respect to archaeological resources, including human remains, is high. Project-associated grading and excavation would extend into previously undisturbed subsurface areas or other locations where there is some possibility to encounter buried human remains. As a result, although unlikely, construction of all Riverside FMP projects may disturb human remains, including those interred outside of dedicated cemeteries, which would be a potentially significant impact. Implementation of **Mitigation Measure CR-8**, which would ensure that any discovery of human remains is adequately protected per State and local regulations, would reduce the impact to a less than significant level.

Construction of the proposed project could potentially disturb human remains. CEQA Guidelines section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, the lead agency shall consult with the appropriate Native Americans as identified by the Native American Heritage Commission and directs the lead agency, under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains. Implementation of Mitigation Measure CR-8 would ensure impacts related to the discovery of human remains would be reduced to a less than significant level.

Mitigation Measures

CR-8: Inadvertent Discovery of Human Remains. If human skeletal remains are uncovered during ground disturbance the district shall immediately halt work, contact the Riverside County coroner to determine whether the remains are human, and follow the procedures and protocols outlined in the CRMMP (see CUL-MM-1 through -4) and those set forth in CEQA Guidelines Section 15064.5(e)(1). If the County Coroner determines that the remains are Native American, they shall contact the Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5(c), and Public Resources Code (PRC) Section 5097.98 (as amended by AB 2641). The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD) of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. Per PRC Section 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC Section 5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.5-4: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to cultural resources.

The cumulative analysis for impacts to cultural resources involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve residential, commercial, and industrial development. Specifically, future cumulative projects would involve many large-scale development projects like the Lake Ranch Project (Tract 36730) and the Tract 22102 (Mockingbird Canyon) that would be constructed within undeveloped areas particularly in the areas northeast and east of Lake Matthews. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. Therefore, the addition of more development within the Riverside Retail Service Area could result in significant cumulative environmental effects due to significant adverse changes to cultural resources. The projected growth through 2050 would result in rapid development of commercial, industrial, and residential land uses that could convert undeveloped areas that may contain cultural resources. Because the potential impacts to cultural resources associated with the Riverside FMP are able to mitigated to a less than significant level with Mitigation Measures CR-1 to CR-8, the project's cumulative cultural resource impacts would be less than significant with implementation of mitigation measures. Therefore, the project's contribution to cumulative cultural resources impacts would be less than cumulatively considerable.

Mitigation Measures

Implement Mitigation Measures CR-1 through CR-8

Significance Determination

Less than Significant with Mitigation

3.5.4 References

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3.6 Energy

This section addresses the energy-related impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing energy resources conditions at the proposed project site; a summary of applicable regulations related to energy resources; and an evaluation of the potential impacts of the proposed project related to energy resources at the proposed project site and in the surrounding area, including cumulative impacts.

3.6.1 Environmental Setting

Electricity

Riverside Public Utilities (RPU) is the electricity provider for the City of Riverside. RPU provides electrical services to service area population of 316,690 people and 113,436 energy customers throughout its 81.5-square-mile service area in 2024 (RPU 2024).

In 2023, RPU's total electricity sales was estimated to be 2,175 gigawatt-hours (GWh) (RPU 2024). RPU produces and purchases its energy from a mix of conventional and renewable generating sources. **Table 3.6-1** displays the electric power mix that was delivered to retail customers for RPU from the most recent year for which data is available compared to the statewide power mix for 2023, the most recent year in which data is available. Total electricity sales/consumption for RPU is shown in Table 3.6-1 compared to the statewide electricity sales/usage (2023) from the most recent year for which data is available.

TABLE 3.6-1
RPU ELECTRIC POWER MIX DELIVERED TO RETAIL CUSTOMERS IN 2023

Energy Resource	2023 RPU	2023 Statewide Power Mix
Total Sales/Total Consumption (million kilowatt-hours)[a]	**2,175**	**276,213**
Eligible Renewables:	46.4%	36.9%
Biomass & bio-waste[b]	*0.0%*	*2.1%*
Geothermal	*35.4%*	*4.8%*
Small hydroelectric	*0.0%*	*1.8%*
Solar	*10.0%*	*17.0%*
Wind	*1.1%*	*11.2%*
Coal	16.3%	1.8%
Large Hydroelectric	1.1%	11.7%
Natural Gas	3.3%	36.6%
Nuclear	5.0%	9.3%
Other	0.0%	0.1%
Unspecified sources of power[c]	27.9%	3.7%
Total	**100%**	**100%**

a. Total electricity sales for RPU for year 2024 is available and was 2,065 million kilowatt-hours.
b. The Eligible Renewables category is further delineated into the specific sources: biomass & waste, geothermal, small hydroelectric, solar, and wind.
c. "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

Sources: RPU 2024; CEC 2024a

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs and delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the State's total energy requirements (U.S. Energy Information Administration 2019). Natural gas is measured in terms of both cubic feet (cf) or British thermal units (Btu).

Natural gas is used for cooking, space heating, water heating, electricity generation, and as an alternative transportation fuel. The Riverside Retail Service Area is within service area of Southern California Gas Company (SoCalGas), which is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas serves approximately 21.1 million customers in more than 500 communities encompassing approximately 24,000 square miles throughout central and southern California (SoCalGas 2024).

SoCalGas, along with five other California utility providers, released the *2024 California Gas Report*, presenting a forecast of natural gas supplies and requirements for California through the year 2040. This report predicts gas demand for all sectors (residential, commercial, industrial, energy generation and wholesale exports) and presents best estimates, as well as scenarios for hot and cold years. Overall, SoCalGas predicts a decrease in natural gas demand in future years due to a decrease in per capita usage, energy efficiency policies, and the State's transition to renewable energy displacing fossil fuels including natural gas (California Gas and Electric Utilities 2024).

Gas supply available to SoCalGas from California sources averaged approximately 2,428 million cubic feet per day or 2,520,264 million Btu (MMBtu) in 2023, the most recent year for which data are available. This equates to an annual average of 886,220 million cubic feet per year or 919,896,360 MMBtu per year (California Gas and Electric Utilities 2024).

Transportation Energy

The annual transportation fuel consumption of diesel and gasoline in 2023 in California (the most recent year for which statewide data is available) is approximately 3,083 million gallons and 11,685 million gallons, respectively. Transportation fuel consumption of diesel and gasoline for Riverside County in 2023 is 242 million gallons and 823 million gallons, respectively. The estimated Riverside County and Statewide transportation fuel consumption is based on retail sale data from the California Energy Commission (CEC) (CEC 2024b).

The State is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gas (GHG) emissions from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, diesel and gasoline consumption in California has declined. The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC 2018).

3.6.2 Regulatory Framework

Federal

Energy Policy Act of 2005

The Energy Policy Act of 2005 includes provisions for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy. The Renewable Fuel Standard (RFS) program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act, enacted by Congress in 2007, is designed to improve vehicle fuel economy and help reduce U.S. dependence on foreign oil. It expands the production of renewable fuels, reducing dependence on oil, and confronting global climate change. Specifically, it does the following:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard, requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels.
- Reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 (EPCA) is a United States Act of Congress that responded to the 1973 oil crisis by creating a comprehensive approach to federal energy policy. The primary goals of EPCA are to increase energy production and supply, reduce energy demand, provide energy efficiency, and give the executive branch additional powers to respond to disruptions in energy supply. Most notably, EPCA established the Strategic Petroleum Reserve, the Energy Conservation Program for Consumer Products, and Corporate Average Fuel Economy (CAFE) regulations.

United States Department of Transportation, United States Department of Energy, United States Environmental Protection Agency, and National Highway Traffic Safety Administration (NHTSA)

At the federal level, the United States Department of Transportation (USDOT), United States Department of Energy (USDOE), and United States Environmental Protection Agency (USEPA) are three agencies with substantial influence over national energy policies related to transportation fuels consumption. Generally, federal agencies influence transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding energy-related research and development projects, and through funding for transportation infrastructure projects.

Established by the U.S. Congress in 1975, the CAFE Standards (49 CFR Parts 531 and 533) reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway

Traffic Safety Administration (NHTSA) and USEPA jointly administer the CAFE standards. When these standards are raised, automakers respond by creating a more fuel-efficient fleet.

On June 7, 2024, the NHTSA announced the "Final Rule for CAFE Standards for Model Years 2027 through 2031 and Heavy-Duty Pickup Trucks and Vans (HDPUV) Fuel Efficiency Standards for Model Years 2030 through 2035." The final rule establishes standards that would require an industry-wide fleet average of approximately 50.4 mpg in model year 2031 for passenger cars and light trucks, and an industry fleet-wide average for HDPUVs of roughly 2.851 gallons per 100 miles in model year 2035 (NHTSA 2024). The final CAFE standards increase at a rate of 2 percent per year for passenger cars in model years 2027–2031 and 2 percent per year for light trucks in model years 2029–2031 (NHTSA 2024). The final HDPUV fuel efficiency standards increase at a rate of 10 percent per year for model years 2030–2032 and 8 percent per year for model years 2033–2035 (NHTSA 2024).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. Building on the first phase of standards, in August 2016, USEPA and NHTSA finalized Phase 2 standards for medium and heavy-duty vehicles through model year 2027 that will improve fuel efficiency, a 5 to 25 percent reduction over 2017 baseline, and cut carbon pollution. The Phase 2 standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons (USEPA 2016).

State

Senate Bill 1389

Senate Bill (SB) 1389 (Public Resources Code Sections 25300–25323) requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301[a]). The 2019 Integrated Energy Policy Report, the latest published report from CEC, provides the results of the CEC's assessments related to energy sector trends, building decarbonization and energy efficiency, zero-emission vehicles, energy equity, climate change adaptation, electricity reliability in Southern California, natural gas assessment, and electricity, natural gas, and transportation energy demand forecasts.

California's Renewables Portfolio Standard

The State of California has adopted standards to increase the percentage that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide from renewable sources. The standards are referred to as the Renewables Portfolio Standards (RPS) and require retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020.

On September 10, 2018, Governor Brown signed SB 100, which supersedes prior legislation and requires retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, and that the California Air Resources Board (CARB) should plan for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045. The California

Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include (1) determining annual procurement targets and enforcing compliance, (2) reviewing and approving each investor-owned utility's renewable energy procurement plan, (3) reviewing contracts for RPS-eligible energy, and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy (CPUC 2018).

RPU is required to commit to the use of renewable energy sources for compliance with the RPS. Eligible renewable resources are defined in the RPS to include biodiesel; biomass; hydroelectric and small hydro (30 megawatts [MW] or less); aqueduct hydro power plants; digester gas; fuel cells; geothermal; landfill gas; municipal solid waste; ocean thermal, ocean wave, and tidal current technologies; renewable derived biogas; multi-fuel facilities using renewable fuels; solar photovoltaic (PV); solar thermal electric; wind; and other renewables that may be defined later. RPU is required to meet the SB 100 (Chapter 312, Statutes of 2018) targets as defined above.

Refer to Section 3.3, *Air Quality and Greenhouse Gas Emissions*, of this Draft PEIR, for additional details regarding this regulation.

California Building Energy Efficiency Standards (Title 24, Part 6 and Part 11)

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations [CCR], Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality.

In September 2024, the CEC approved the 2025 California Building Energy Efficiency Standards, which would go into effect on January 1, 2026. The 2025 standards build on the 2022 standards by aiming to decarbonize buildings by encouraging energy efficiency, solar and battery storage, and shifting times of energy use by expanding heat pump requirements for space and water heating in more building types, including low-rise multifamily units. They also introduce stronger electric-ready mandates to ease future transitions to electric appliances. Updates to solar and battery storage standards now align with revised net billing policies for high-rise multifamily and nonresidential buildings. Additionally, nonresidential buildings face new space conditioning controls, while multifamily buildings must meet stricter ventilation requirements for better indoor air quality. These updates enhance energy efficiency, reduce emissions, and will save Californians an estimated $4.8 billion in energy costs over 30 years (CEC 2024c).

Refer to Section 3.3, *Air Quality and Greenhouse Gas Emissions*, of this Draft PEIR, for additional details regarding these standards.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector's large share of California's CO_2 emissions, Assembly Bill (AB) 1493 (commonly referred to as the Pavley regulations), enacted on July 22, 2002, requires CARB to set GHG emission standards for new passenger vehicles, light duty trucks, and other vehicles manufactured in and after 2009 whose primary use is non-commercial personal transportation. Phase I of the legislation established standards for model years 2009–2016 and Phase II established standards for model years 2017–2025. As discussed above, in September 2019, the USEPA published the SAFE Vehicles Rule in the federal register (Federal Register, Vol. 84, No. 188, Friday, September 27, 2019, Rules and

Regulations, 51310–51363) that maintains the vehicle miles per gallon standards applicable in model year 2020 for model years 2021–2026. California and 23 other states and environmental groups in November 2019 in U.S. District Court in Washington, filed a petition for the USEPA to reconsider the published rule. The Court has not yet ruled on these lawsuits.

California Health and Safety Code (HSC), Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. In 2016, the California State Legislature adopted SB 32 and its companion bill, AB 197, which amended HSC Division 25.5 and established a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and included provisions to ensure that the benefits of state climate policies reach into disadvantaged communities. The Legislature enacted Assembly Bill (AB) 1279, The California Climate Crisis Act, on September 16, 2022 (CLI 2022). AB 1279 establishes the policy of the State of California to achieve net zero GHG emissions as soon as possible but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. Additionally, AB 1279 mandates that by 2045, statewide anthropogenic GHG emissions are to be reduced at least 85 percent below 1990 levels. SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 established California's 2030 GHG reduction target of 40 percent below 1990 levels and requires the State to double statewide energy efficiency savings in electricity and natural gas end uses by 2030

While these legislative bills focus on reducing statewide GHG emissions, they have co-benefits of improving energy and transportation fuel efficiency and reducing energy and fuel demands. Refer to Section 3.3, *Air Quality and Greenhouse Gas Emissions*, of this Draft PEIR, for additional details regarding these regulations.

Senate Bill 350

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. The objectives of SB 350 are (1) to increase the procurement of electricity from renewable sources from 33 percent to 50 percent and (2) to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

California Air Resources Board

CARB's Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 (CARB 2024a). The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the zero-emission vehicle (ZEV) regulations to require manufacturers to produce an increasing number of pure ZEVs (meaning battery and fuel cell electric vehicles).

In addition, Governor Gavin Newsom signed an executive order (Executive Order No. N-79-20) on September 23, 2020, that would phase out sales of new gas-powered passenger cars by 2035 in California with an additional 10-year transition period for heavy vehicles.

The primary mechanism for achieving the ZEV target for passenger cars and light trucks is CARB's Advanced Clean Cars II (ACC II) Program. The ACC II regulations focus on post-2025 model year light-duty vehicles, as requirements are already in place for new vehicles through the 2025 model year. Implementation of the ZEV and PHEV regulations reduce transportation fuel consumption by increasing the number of vehicles that are partially or fully electric-powered.

CARB's Advanced Clean Trucks Program

The Advanced Clean Trucks (ACT) regulations were approved on June 25, 2020, and require that manufacturers sell zero-emissions or near-zero-emissions trucks as an increasing percentage of their annual California sales beginning in 2024. The goal of this proposed strategy is to achieve nitrogen oxide (NOx) and GHG emission reductions through advanced clean technology, and to increase the penetration of the first wave of zero-emissions heavy-duty technology into applications that are well suited to its use (CARB 2024b). The percentage of zero-emissions truck sales is required to increase every year until 2035 when sales would need to be 55 percent of Classes 2b–3 (light/medium- and medium-duty trucks) truck sales, 75 percent of Classes 4–8 (medium- to heavy-duty trucks) straight truck sales, and 40 percent of truck tractor (heavy-duty trucks weighing 33,001 pounds or greater) sales. Additionally, large fleet operators (of 50 or more trucks) would be required to report information about shipments and services and their existing fleet operations.

In-Use Off-Road Diesel-Fueled Fleets Regulation

In 2007, CARB approved the "In-Use Off-Road Diesel Fueled Fleets Regulation" to reduce emissions from existing (in-use) off-road diesel vehicles that are used in construction and other industries. Under this regulation, equipment fleets must demonstrate that it has either met the fleet average target for each compliance year or has completed the Best Available Control Technology requirements (BACT). Large fleets have compliance deadlines each year from 2014 through 2023, medium fleets each year from 2017 through 2023, and small fleets each year from 2019 through 2028. While the goal of this regulation is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from the use of more fuel-efficient engines.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485 and Title 17 CCR Section 93115). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

The goals of regulations to reduce emissions from in-use heavy duty diesel-fueled vehicles are primarily to reduce public health impacts from diesel emissions; however, compliance with such regulations has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

In 2008, CARB approved the Truck and Bus regulation to reduce nitrogen oxide (NO_X), respirable particulate matter (PM10), and fine particulate matter (PM2.5) emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing transportation fuel consumption due to improved engine efficiencies (CARB 2008).

CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

Sustainable Communities Strategy

SB 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG, was adopted by the State on September 30, 2008. Under SB 375, CARB is required, in consultation with the State's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. In February 2011, CARB adopted the GHG emissions reduction targets of 8 percent by 2020 and 13 percent by 2035 relative to 2005 GHG emissions for Southern California Association of Governments (SCAG), which is the Metropolitan Planning Organization for the region in which the County is located (SCAG 2024). The proposed reduction targets explicitly exclude emission reductions expected from the Pavley regulations and the LCFS regulations.

Under SB 375, the reduction target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS.

Regional

Southern California Association of Governments (SCAG)

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the Southern California region and is the largest MPO in the nation.

Pursuant to Health & Safety Code Section 40460, SCAG is responsible for preparing and approving the portions of the AQMP relating to regional demographic projections and integrated regional land use, housing, employment and transportation programs, measures and strategies. On April 4, 2024, the

SCAG's Regional Council formally adopted 2024–2050 RTP/SCS (Connect SoCal 2024), which is an update to the previous Connect SoCal 2020 (SCAG 2024). Using growth forecasts and economic trends, both the Connect SoCal 2020 and Connect SoCal 2024 provide a vision for transportation throughout the region for the next several decades by considering the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future and identifying regional transportation strategies to address mobility needs. Connect SoCal 2024 describe how the region can attain the GHG emission-reduction targets set by CARB by achieving reductions in per-capita transportation GHG emissions of 8 percent by 2020 and 19 percent by 2035, compared to the 2005 level (SCAG 2024). Compliance with and implementation of Connect SoCal 2024 policies and strategies would have the co-benefit of reducing per capita criteria air pollutant emissions (e.g., nitrogen dioxide, carbon monoxide, etc.) associated with reduced per capita VMT.

Connect SoCal 2024's GHG emissions reduction target is more dependent on policies and programs than on capital projects, but it is projected to meet the 2035 target of 19 percent below 2005 levels (SCAG 2024). Refer to Section 3.3, *Air Quality and Greenhouse Gas Emissions*, of this Draft PEIR, for additional details regarding these regulations.

Southern California Gas Company

SoCalGas, who is the natural gas retailer for the Riverside Retail Service Area, along with five other California utility providers released the *2024 California Gas Report*, presenting a forecast of natural gas supplies and requirements for California through the year 2040. This report predicts gas demand for all sectors (residential, commercial, industrial, energy generation and wholesale exports) and presents best estimates, as well as scenarios for hot and cold years. Overall, SoCalGas predicts a decrease in natural gas demand in future years due to a decrease in per capita usage, energy efficiency policies, and the State's transition to renewable energy displacing fossil fuels including natural gas (California Gas and Electric Utilities 2024).

Local

County of Riverside Climate Action Plan Update, November 2019

The 2019 CAP Update refines the County's efforts to meet GHG reduction strategies, specifically for the years 2035 and 2050. The 2019 CAP Update builds upon the GHG reduction strategies in the 2015 Climate Action Plan. The CAP Update summarizes various State and local policies that will contribute to reduced GHG emissions in Riverside County by the year 2020 and beyond. Some of these policies include updated building codes for energy efficiency, the low carbon fuel standard, Pavley (California Assembly Bill) vehicle emissions standards, and the Renewable Portfolio Standards for utility companies.

County of Riverside General Plan

The Riverside County Air Quality Element (Chapter 9 of the County's General Plan) was formally adopted on July 17, 2018. It outlines baseline air quality conditions, covers pollutant standards, emissions inventories, and key emission sources. In addition, it establishes policies to reduce criteria pollutants and greenhouse gases through strategies like transit promotion, land-use planning, dust control, and energy/water conservation. Applicable measures contained within the County's Air Quality Element relevant to Energy are specified below.

Policy AQ 5.1 Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

Policy AQ 5.4 Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

City of Riverside Economic Prosperity Action Plan and Climate Action Plan, January 2016

The Riverside Restorative Growthprint (RRG) is the combination of two plans: the Economic Prosperity Action Plan (EPAP) and the Climate Action Plan (CAP), which work together to promote entrepreneurship and smart growth while advancing the City of Riverside's GHG emission reduction goals. The adoption of the Plan will result in actions to reduce GHG emissions that align with the City's planning priorities and its vision of a future "green" economy based on sustainable businesses. This plan implements different design elements that increase energy efficiency.

City of Riverside General Plan

The City of Riverside's Air Quality Element was adopted as part of the broader General Plan 2025 which was formally adopted by the City Council in November 2007. As a planning tool, it establishes policies and implementation measures to protect public health by addressing local pollutants, aerial emissions, and greenhouse gases through air quality monitoring, establishing emissions inventories, and coordination with regional and state agencies. The City's Air Quality Element lays out goals focused on land-use planning, transportation strategies, industrial controls, and community engagement to reduce criteria pollutants and greenhouse gases. The City's Air Quality Element also includes an Energy Conservation subsection. Applicable measures contained within the City's Air Quality Element relevant to Energy are specified below.

Policy AQ-5.1 Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

Policy AQ-5.3 Continue and expand use of renewable energy resources such as wind, solar, water, landfill gas, and geothermal sources.

Policy AQ-5.6 Support the use of automated equipment for conditioned facilities to control heating and air conditioning.

3.6.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

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

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.
3. Result in cumulatively considerable impacts to energy.

Methodology

This section analyzes the proposed project's potential energy use to determine if it could have a significant impact. Fuel consumption related to worker, vendor, and haul truck trips for construction-related activities is the primary driver of energy consumption during proposed project construction. The energy consumption for each facility type was determined using project and program-related details and factors obtained from California Emissions Estimator Model (CalEEMod) and the 2021 version of the Emission Factor Model (EMFAC2021). CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) and other California air districts with the purpose to calculate construction and operational criteria pollutant emissions and greenhouse gas emissions from direct and indirect sources, as well as energy usage. EMFAC2021 is database developed and approved by the United States EPA to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources.

There will not be any new vehicle trips associated with operation of the proposed project, so the primary source of energy consumption will be from indirect power generation to provide electricity for routine building operations, rather than VMT. These factors for calculating proposed project operating energy consumption were developed based on changes for pump station and lift station capacities, as well as information provided by the WMWD. This information included pump curve data, pump station energy intensity data and lift station energy intensity data. Natural gas is unlikely to be combusted directly as part of the proposed project but assumed to be combusted at power plants to produce electricity consumed by the proposed project.

Impact Analysis

Energy Consumption

Impact 3.6-1: The proposed project could result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Priority, Near-Term, Future Projects – Construction

All Facilities

During construction of the proposed project, energy would be consumed in the form of electricity for powering the construction trailers (lights, electronic equipment, and heating and cooling) and exterior uses, such as lights, water conveyance for dust control, and other construction activities. Proposed project construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the proposed project sites, construction workers travel to and from the proposed project site and delivery and haul truck trips (e.g., hauling of demolition or excavation material to off-site reuse and disposal facilities). Natural gas would not be for construction purposes. **Table 3.6-2** provides a summary of the annual average electricity, gasoline fuel, and diesel fuel estimated to be consumed during construction of the project, which is further explained below.

Electricity

During construction of the proposed project, electricity would be consumed, on a limited basis, to power lighting, electric equipment, and supply and convey water for dust control. Electricity would be supplied

to the proposed project site by RPU and would be obtained from the existing electrical lines that are connected to each proposed project site. Project construction for each project type is assumed to be approximately one year, so each value presented is an assumed annual average. For the purposes of this analysis, priority and near-term projects were assumed to overlap while future projects were assumed not to overlap.

As explained in Section 3.3, *Air Quality and Greenhouse Gas Emissions*, the exact construction activities associated with the WWRF Expansion are unknown at this time, but may include construction of new pipelines, pump stations, storage tanks, and other treatment facilities to increase capacity at the existing sites. As explained in Section 3.3, Mitigation Measures AQ-2 and GHG-1 would quantify emissions for the WWRF and would verify that the electricity estimates are within the range established herein.

TABLE 3.6-2
PROJECT CONSTRUCTION ENERGY USAGE

	On-Site Construction Energy Off-Road Heavy-Duty Equipment	Construction Transportation (Worker, Vendor, Haul)		
	Diesel (gal)	Diesel (gal)	Gas (gal)	Electricity (kWh)
Priority and Near-Term Projects				
Pipeline Install (up to 24-inch diameter)	270,970	38,560	18,271	6,174
Tank Construction (5 MG)	120,327	10,130	11,067	3,739
Tank Improvement (5 MG capacity)	25,651	1,704	3,064	1,035
Lift/Pump Station Minor Upgrade (≤6 months)	20,561	1,610	2,128	719
Lift/Pump Station Major Upgrade (12 months)	79,945	4,684	8,352	2,822
Combined Priority and Near-Term Annual Average[a]	*129,364*	*14,172*	*10,721*	*3,623*
Future Projects				
Pipeline Install (up to 24-inch diameter)	254,219	32,409	14,589	11,201
Tank Construction (5 MG)	118,917	9,834	10,068	7,730
Lift/Pump Station Minor Upgrade (≤6 months)	61,682	4,371	5,434	4,172
Combined Future Project Annual Average[b]	*21,741*	*2,331*	*1,505*	*1,155*
Project Totals	**952,272**	**103,303**	**72,974**	**37,594**
Overall Annual Average[c]	**39,678**	**4,304**	**3,041**	**1,566**

a. The construction of priority and near-term projects are expected to occur prior 2030. To calculate an annual average, the combined total was divided by 4, representing the number of years until 2030.
b. Future project construction schedules are unknown but assumed to be constructed between 2030 and 2050 to develop an annual average energy consumption.
c. The overall annual average combines all project types among the full build-out schedule prior to 2050 in order to develop an annual average energy consumption. To calculate an annual average, the combined total was divided by 24, representing the number of years until 2050.

The proposed project electricity demand would be well within the supply and infrastructure capabilities of RPU (in 2023, RPU's total electricity sales was estimated to be 2,175 GWh). The electricity demand at any given time would vary throughout the construction period based on the construction activities being

performed and would cease upon completion of construction. Electricity use from construction would be short-term, limited to working hours, used for necessary construction-related activities, and small in comparison to overall RPU annual demand. Therefore, the proposed project would not result in a wasteful, inefficient, and unnecessary consumption of energy associated with electricity used for construction, and impacts would be less than significant.

Natural Gas

As previously stated above, construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support proposed project construction activities; thus, there would be no expected demand generated by construction of the proposed project. Therefore, the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy associated with natural gas used for construction, and impacts would be less than significant.

Transportation Energy

Table 3.6-2 reports the estimated amount of petroleum-based transportation energy that could potentially be consumed during proposed project construction based on the conservative set of assumptions provided in Appendix AQ/GHG of this Draft PEIR. As explained in Section 3.3, *Air Quality and Greenhouse Gas Emissions*, the exact construction activities associated with the WWRF Expansion are unknown at this time, but may include construction of new pipelines, pump stations, storage tanks, and other treatment facilities to increase capacity at the existing WWRF site from 3 MGD to 5 MGD. To conservatively estimate the WWRF Expansion's transportation energy use during construction, the total annual average for the combined priority and near-term projects is assumed.

As explained in Section 3.3, *Air Quality and Greenhouse Gas Emissions*, Mitigation Measures AQ-1 and GHG-1 would quantify emissions for the WWRF due to the current limited available information, and would verify that the transportation energy estimates are within the range established herein.

Construction of the proposed project would utilize fuel-efficient trucks and equipment consistent with federal and State regulations, such as fuel efficiency regulations in accordance with CARB's Pavley Phase I and II standards, the anti-idling regulation in accordance with CCR, Title 13, Section 2485, and fuel requirements in accordance with CCR, Title 17, Section 93115, as well as the In-Use Off-Road Diesel-Fueled Fleets regulation. As such, the proposed project would comply with State measures to reduce the inefficient, wasteful, and unnecessary consumption of energy, such as petroleum-based transportation fuels. While these regulations are intended to reduce construction emissions, compliance with the anti-idling and emissions regulations discussed above would also result in fuel savings from the use of more fuel-efficient engines. Diversion of mixed construction and demolition debris would reduce truck trips to landfills, which are typically located some distance away from population centers, and increase the amount of waste recovered (e.g., recycled, reused) at material recovery facilities, thereby further reducing transportation fuel consumption.

Based on the analysis above, construction would utilize transportation fuel energy only for necessary on-site activities and to transport construction materials, excavated fill, and demolition debris to and from the proposed project site. As discussed above, idling restrictions and the use of cleaner, energy-efficient equipment would result in less fuel combustion and energy consumption and, thus, reduce the proposed

project's construction-related energy use. Therefore, the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy, and impacts associated with transportation fuels for construction would be less than significant.

Priority, Near-Term, Future Projects – Operation

All Facilities

During operation of the proposed project, energy would be consumed for multiple purposes, including, but not limited to HVAC, lighting, and the use of electronics, equipment, and appliances. Energy would also be consumed during proposed project operations related to water usage, solid waste disposal, and vehicle trips. **Table 3.6-3** displays the proposed project's energy demand from electricity, propane, gasoline, and diesel for priority, near-term, and future projects.

TABLE 3.6-3
PROJECT OPERATIONAL ENERGY USAGE

Project Type	Project Daily Energy Consumption (kWh/day)	Project Annual Energy Consumption (MWh/year)
Priority Projects	1,125	411
Near-Term Projects	28,737	10,489
Future Projects	69,227	25,268
Total	**99,089**	**36,168**

Source: ESA 2026

Electricity

Proposed project operation will increase the demand for electricity resources including for water, recycled water, and wastewater conveyance and treatment. The proposed project's estimated operational electricity demand is provided in Table 3.6-3. As shown, the proposed project would result in a projected consumption of electricity totaling approximately 36,168 MWh per year when combining impacts from priority, near-term and future projects. Note that this electrical consumption was calculated using very conservative electricity demand factors (i.e., the highest observed per project type).

As discussed previously, the proposed project would comply with the applicable provisions of the Title 24 standards and the CALGreen Code in effect at the time of building permit issuance. The proposed project would be designed to include numerous energy-saving features that would allow the proposed project to comply with the 2025 Title 24 standards and achieve energy savings required by state regulations. The proposed project would also comply with the 2016 Riverside Economic Prosperity Action Plan and Climate Action Plan to reduce energy and water consumption as well as encourage renewable energy use and production. Operation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of electricity. Impacts would be less than significant.

In 2023, RPU's total electricity sales was estimated to be 2,175 GWh. The proposed project represents approximately 1.7 percent of the RPU sales for 2023. In addition, the RPU reported its peak demand occurred in 2023 and was 648 MW (RPU 2024). Under peak conditions, the proposed project would consume approximately 36,168 MWh on an annual basis, which is equivalent to a peak of approximately 8.3 MW (assuming a conservative 4,380 hours per year of active electricity demand). In comparison to

the RPU power grid base peak load of 648 MW for 2023, the proposed project would represent approximately 1.3 percent of the RPU base peak load conditions using very conservative assumptions. Thus, the impacts related to electrical supply and infrastructure capacity and the proposed project's effect on peak and base period demands would be less than significant.

As previously discussed in Section 3.3, *Air Quality and Greenhouse Gas Emissions*, there could potentially be emergency diesel backup generators included with the WWRF Expansion, which would be a source of electricity production. However, it is unknown at this time if any generators will be required. If they are, they will operate intermittently, only for limited testing and maintenance and in case of emergencies. Any electrical production from emergency generators are presumed to have a negligible change to the conservative energy usage calculations presented in Table 3.6-3.

Natural Gas

The proposed project would not increase the demand for direct uses of natural gas resources because no new sources are assumed in the project buildout. The new pumps and lift stations, for example, are expected to increase energy efficiency as newer technologies and as a result reduce demand on indirect natural gas usage. As such, the proposed project would minimize natural gas demand. Therefore, operation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of natural gas and impacts related to natural gas would be less than significant.

Transportation Energy

The proposed project will not result in additional operation-related vehicle trips, so operational transportation fuel demand is negligible. By not increasing vehicle trips, the proposed project supports statewide efforts to improve transportation energy efficiency and reduce transportation energy consumption with respect to private automobiles.

Based on the above, the proposed project would minimize operational transportation fuel demand in line with state, regional, and County goals. Therefore, operation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Energy Efficiency Plans

Impact 3.6-2: The proposed project could conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Priority, Near-Term, Future Projects – Construction

All Facilities

The proposed project would utilize construction contractors who must demonstrate compliance with applicable regulations. Construction equipment would be required to comply with federal, state, and

regional requirements, where applicable. With respect to truck fleet operators, USEPA and NHSTA have adopted fuel-efficiency standards for medium- and heavy-duty trucks that will be phased in over time. Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014–2018 and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type (USEPA 2011). USEPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021–2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (USEPA 2016). The energy modeling for trucks does not take into account specific fuel reductions from these regulations, since they would apply to fleets as they incorporate newer trucks meeting the regulatory standards. As a result, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

In addition, construction equipment and trucks are required to comply with CARB regulations regarding heavy-duty truck idling limits of 5 minutes per occurrence. Additionally, off-road emissions standards will increase equipment efficiencies as they are phased-in overtime and less-efficient equipment is phased out of construction fleets. These limitations would result in an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these requirements are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction-related energy. Thus, based on the information above, construction and operation of the Project would comply with existing energy standards.

The proposed project's construction equipment used would be consistent with the energy standards applicable to construction equipment including limiting idling fuel consumption and using contractors that comply with applicable CARB regulatory standards that affect energy efficiency. Furthermore, the proposed project would be consistent with the Advanced Clean Cars and Mobile Source Strategy, which is instituted to reduce mobile source emissions over time. This is expected to reduce energy consumption from future projects.[1] Therefore, the proposed project would comply with existing energy standards, and impacts would be less than significant.

Priority, Near-Term, Future Projects – Operation

All Facilities

The proposed project would be designed in a manner that is consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. The proposed project would comply with CALGreen, the 2025 Title 24 standards, 2019 County of Riverside Climate Action Plan Update and the 2016 Riverside Economic Prosperity Action Plan and Climate Action Plan, as applicable.

The proposed project would not result in an increase in operation-related vehicle trips; therefore, the proposed project would not result in unplanned growth in VMT and thus not result in adverse impacts to transportation energy consumption. The proposed project would also implement vehicle stands, like the CAFE fuel economy standards and the Pavley Standards, which are designed to result in more efficient use of transportation fuels. The facilities would require an increase in electricity demand from the

[1] Please note that the energy consumption quantitative analyses does not include reductions from future regulations not currently included in CalEEMod and EMFAC2021.

lift/pump stations and WWRF Expansion; however, the electric utility providers would be required to comply with the State's Renewables Portfolio Standard. CARB has outlined a number of potential strategies for achieving energy consumption reduction goals. These potential strategies include renewable resources for half of the State's electricity by 2030, reducing petroleum use in cars and trucks, and reducing the carbon content of transportation fuels. The proposed project would comply with these future regulations, as promulgated by the USEPA, CARB, CEC, or other agency. In fact, as discussed above, the proposed project's location and development comply with the recommendations in these documents and would meet their goals.

Overall, the proposed project's features would support and promote the use of renewable energy and energy efficiency through compliance with CALGreen, 2025 Title 24 requirements, and regional and local general plan policies and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the proposed project impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Cumulative Impacts

Impact 3.6-3: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to energy.

Electricity

The geographic context for the cumulative analysis of electricity is RPU's service area. Growth within this geography is anticipated to increase the demand for electricity and the need for infrastructure, such as new or expanded facilities. Future development under the proposed project would result in the increased use of electricity resources. However, the use of such resources would be minor compared to existing supply and infrastructure within the RPU service area and would be consistent with growth expectations (RPU 2024). Additionally, it is expected that RPU would continue to expand delivery capacity as necessary to meet demand increases within its service area. Furthermore, like the proposed project, other cumulative developments such as those identified in Table 3-2 and depicted on Figure 3-1, would be required to incorporate energy conservation features in order to comply with applicable mandatory regulations including the Title 24 standards, CALGreen Code, the 2019 County of Riverside Climate Action Plan Update (or future update as applicable), the 2016 Riverside Economic Prosperity Action Plan and Climate Action Plan (or future update as applicable), and incorporate mitigation measures, as necessary. As such, the proposed project's contribution to cumulative impacts due to wasteful, inefficient, and unnecessary consumption of energy would be less than cumulatively considerable.

Natural Gas and Propane

The geographic context for the cumulative analysis of natural gas is the SoCalGas service area. Growth within this service area is anticipated to increase the demand for natural gas and the need for infrastructure, such as new or expanded facilities. Cumulative development projects in the SoCalGas

service area could result in the use of natural gas resources, however the use of such resources would be consistent with regional and local growth expectations for the SoCalGas service area, as discussed above. Further, SoCalGas expects overall natural gas demand to decline through 2035, even accounting for population and economic growth, with efficiency improvements and the State's transition away from fossil fuel-generated electricity to increased renewable energy. Future development projects, such as those identified in Table 3-2 and depicted on Figure 3-1, would be required to incorporate energy conservation features in order to comply with applicable mandatory regulations including the Title 24 standards, CALGreen Code, the 2019 County of Riverside Climate Action Plan Update (or future update as applicable), the 2016 Riverside Economic Prosperity Action Plan and Climate Action Plan (or future update as applicable). As such, since the proposed project does not consume any natural gas and consumes minimal amounts of propane, its contribution to cumulative impacts due to wasteful, inefficient, and unnecessary consumption of energy would be less than cumulatively considerable.

Transportation Energy

The geographic context for the cumulative analysis of transportation energy is western Riverside County. Growth within this area is anticipated to increase the demand for transportation and the need for infrastructure, such as new or expanded facilities. Transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current petroleum production and consumption and future trends, oil production and consumption will grow through 2050 (USEIA 2022). Crude oil supply and utilization in the United States is expected to return to pre-pandemic levels starting in 2023 and stabilize in the long term and therefore would be sufficient to sustain the projected oil consumption through 2050 (USEIA 2022).

Buildout of cumulative projects in the SCAG region would be expected to increase overall VMT; however, the effect on transportation fuel demand would be reduced by future improvements to vehicle fuel economy pursuant to federal and state regulations. For instance, by 2026, vehicles are required to achieve 54.5 mpg (based on USEPA measurements), which is a 54 percent increase from the 35.5 mpg standard in the 2012–2016 standards. Buildout of the proposed project, as well as cumulative projects identified in Table 3-2 and depicted on Figure 3-1 would cumulatively increase the demand for transportation-related fuel in the state and region. However, as discussed above, the proposed project would not conflict with the energy efficiency policies emphasized by the 2020–2045 RTP/SCS. The proposed project would not result in any new operational vehicle trips. Since the proposed project would not conflict with the 2020–2045 RTP/SCS with respect to energy use, the proposed project's contribution to cumulative impacts with respect to potentially significant environmental impacts due to conflicts with or obstruction of a state or local plan for transportation energy efficiency would be less than cumulatively considerable.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

3.6.4 References

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3.7 Geology and Soils

This section addresses the geology and soils impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing geology and soil conditions at the proposed project site; a summary of applicable regulations related to geology and soils; and an evaluation of the potential impacts of the proposed project related to geology and soils at the proposed project site and in the surrounding area, including cumulative impacts. The section is based on the Paleontological Resources Assessment for the Riverside Facilities Master Plan Project (Confidential) (**Appendix PALEO** to this Draft PEIR).

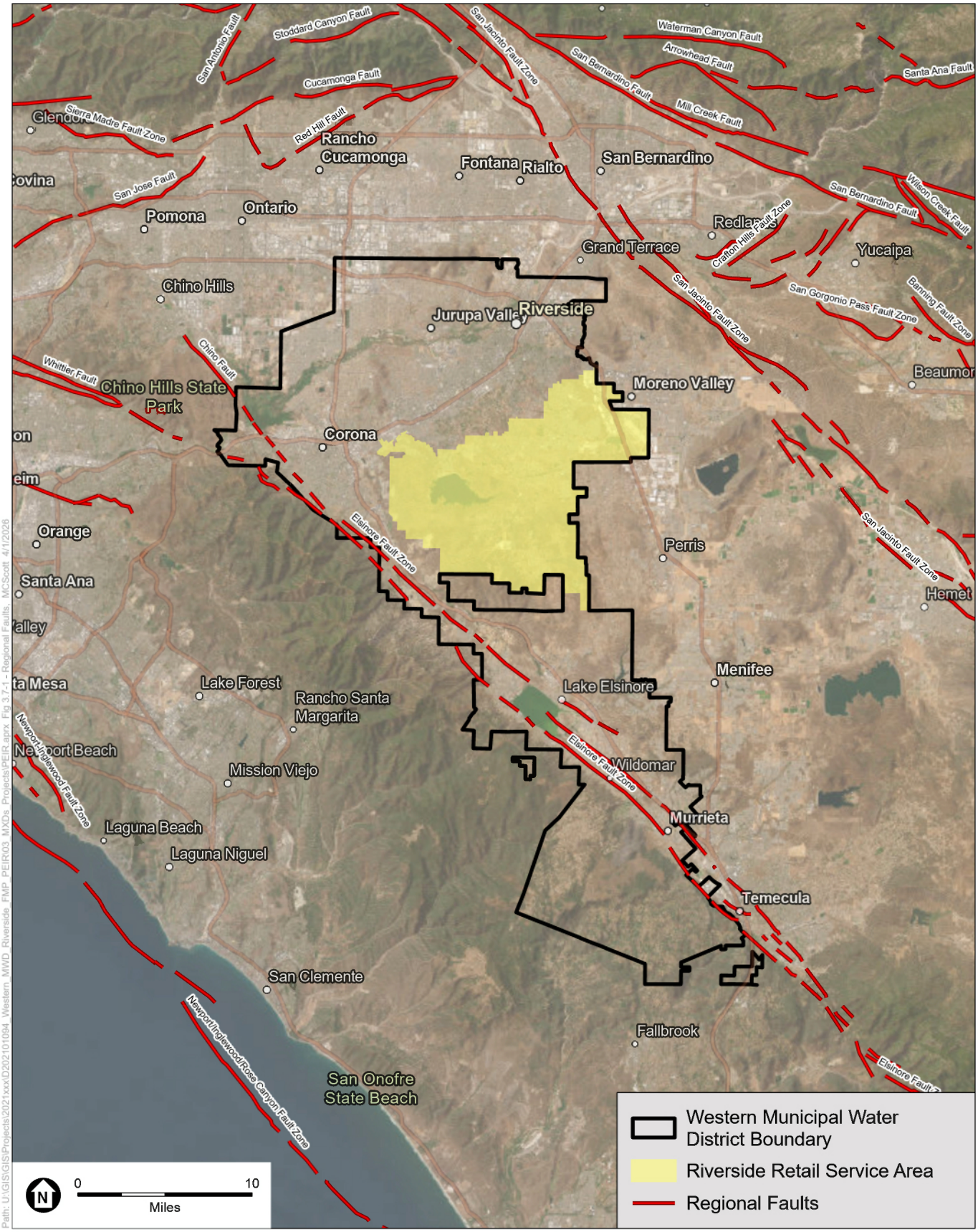
3.7.1 Environmental Setting

Regional and Local Geology

WMWD's Riverside Retail Service Area, which includes the project area, lies within the Peninsular Range province within the Perris structural block, approximately 12 miles south of the intersection with the Transverse Range Province. The Peninsular Ranges province extends southeast from the foot of the Santa Monica and San Gabriel Mountains to beyond the Mexican border and is generally characterized by a series of mountain ranges separated by northwest-trending valleys that run sub parallel[1] to faults branching from the San Andreas Fault. The Peninsular Ranges have geology comparable to the Sierra Nevada province, comprised of granitic rock intruding into older metamorphic rock (California Department of Conservation [DOC] 2002). The San Jacinto and Elsinore Mountains which bound the Perris structural block are part of the Peninsular Ranges and were built by right-lateral strike slip faulting in the San Jacinto and Elsinore Fault zones, shown in **Figure 3.7-1**.

The project area is underlain almost entirely by Cretaceous (66 to 145 million years ago) and older basement rocks of the composite Peninsular Ranges batholith, which includes a variety of rock compositions. The Cajalco and Val Verdes plutons account for most of the granitic rocks in the project area, and consist primarily of biotite monzogranite (Kcg), granodiorite (Kcgd), and biotite-hornblende tonalite (Kvt). In addition, the northwest part of the Gavilan ring complex located in the southeast corner of the project area is predominantly of tonalite (Kgt) composition, characterized by the presence of hypersthene, which is rarely found in Peninsular Ranges batholithic rocks of intermediate composition. Some exposed metamorphic rocks can be found in the project area, including granitic rocks to the northeast of Lake Mathews and siliceous rocks located between Temescal Wash and Lake Mathews. Extensive surface areas on south side of Lake Mathews are discontinuously covered by Quaternary alluvial deposits (Qya and Qov) of the Holocene (from the present to 11,700 years ago) to Pleistocene (11,700 to 1.6 million years ago) epochs, and older elevated alluvial soils (Tlm) of the Miocene (2.6 to 23 million years ago) in the Lake Mathews Formation (U.S. Geological Survey [USGS] 1976). The locations of the geologic units in the project area are identified in **Figure 3.7-2**.

[1] Almost parallel, but diverging or converging slightly.

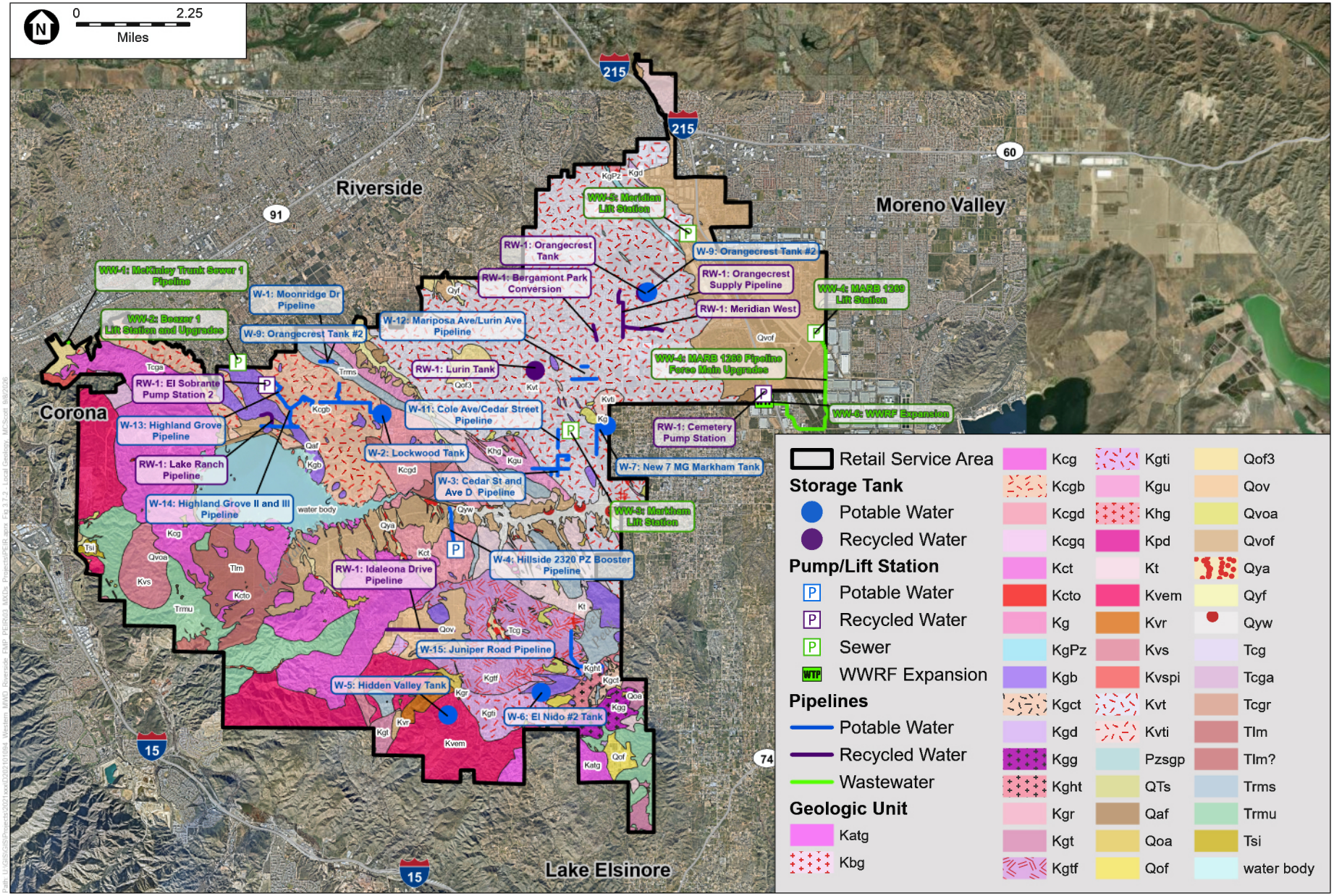


SOURCE: ESRI, 2022; WMWD, 2025; USGS, 2026; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.7-1
Regional Faults

ESA



SOURCE: Nearmap, 2022; WMWD, 2025; USGS, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.7-2
Local Geology

ESA

Topography

A series of hills and small mountains situated between the two dominant San Jacinto and Santa Ana Mountain Ranges surround the project area. The Gavilan Hills constitute an extensive

mountainous environment located along much of the southern portion of the project area. They extend beyond Lake Mathews into both the Temescal Canyon and Elsinore areas, and at their highest peak stand at approximately 2,500 feet above mean sea level (amsl). The highest point in the vicinity of Lake Mathews is Arlington Mountain, standing at 1,853 feet amsl approximately 1.5 miles northwest of Lake Matthews. Other mountains and hills in the vicinity of the project area include La Sierra/Norco Hills, Mount Rubidoux, Box Springs Mountains, and Sycamore Canyon, and many smaller mountain ranges (County of Riverside 2021; City of Riverside 2007).

Mountains and hills typically have slopes of 15 to 50 percent; valley and basin areas usually have slopes of less than 15 percent. Generally, most natural slopes in the project area are flat and range from 15 to 25 percent due of the presence of two prominent erosion surfaces. The lower surface (about 1,500 feet elevation) has low relief and dominates the physiography of the area north of Lake Mathews. A higher Gavilan Plateau surface (about 2,100 feet elevation) occurs in the southeastern part of the project area. However, some slopes along a substantial portion of the areas west and south of Lake Mathews exceed 30 percent (USGS 1976; City of Riverside 2007).

Seismic Hazards

People and structures in the project area are subject to risks from the hazards associated with earthquakes. Primary hazards include ground rupture, ground shaking, ground displacement, and subsidence and uplift from earth movement. Primary hazards can induce secondary hazards such as ground failure (lateral spreading and slope failure) or liquefaction. Potential seismic and geologic hazards that could affect the project are discussed below and evaluated for their potential to occur in the project area. It should be noted that the California Geological Survey (CGS) has not mapped the Riverside Retail Service area in seismic hazards maps, and thus, characterization of potential hazards in the project area will rely on City and County planning documents.

Three major fault zones have been the sites of about 90% of the earthquake epicenters that have occurred in Riverside County: San Andreas, San Jacinto, and Elsinore fault zones (County of Riverside 2000). The event with the greatest probability of occurrence in 30 years (43 percent) is a maximum magnitude (Mw) 6.9 rupture of the San Jacinto Valley segment of the San Jacinto fault. The San Jacinto event is considered the maximum probable event (MPE) for the County (County of Riverside 2002). Additionally, there are active or potentially active faults outside of Riverside County with an extensive history of causing significant ground shaking or secondary damage in the County, such as the 1812 Wrightwood earthquake (7.5 magnitude) to the 1999 Hector Mine earthquake (7.1 magnitude) (County of Riverside 2000).

Surface Fault Rupture and Seismic Ground-shaking

Seismically-induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults, or even along different strands of the same fault. Ground rupture is considered more likely along active faults. However, no active faults bisect the project area. The nearest Alquist-Priolo

fault zones to the project area are the Elsinore and San Jacinto fault zones, located approximately 3 miles southwest of the project area and 8 miles northeast of the project area, respectively (Alquist-Priolo fault zones are explained in more detail in Section 3.6.2, "*Regulatory Framework*, below).

Seismic shaking is the geological hazard that has the greatest potential to severely impact the proposed project due to the proximity of several significant faults that have the potential to cause moderate to large earthquakes. The location of WMWD's Riverside Retail Service Area in relation to faults in the vicinity is shown in Figure 3.7-2.

Liquefaction

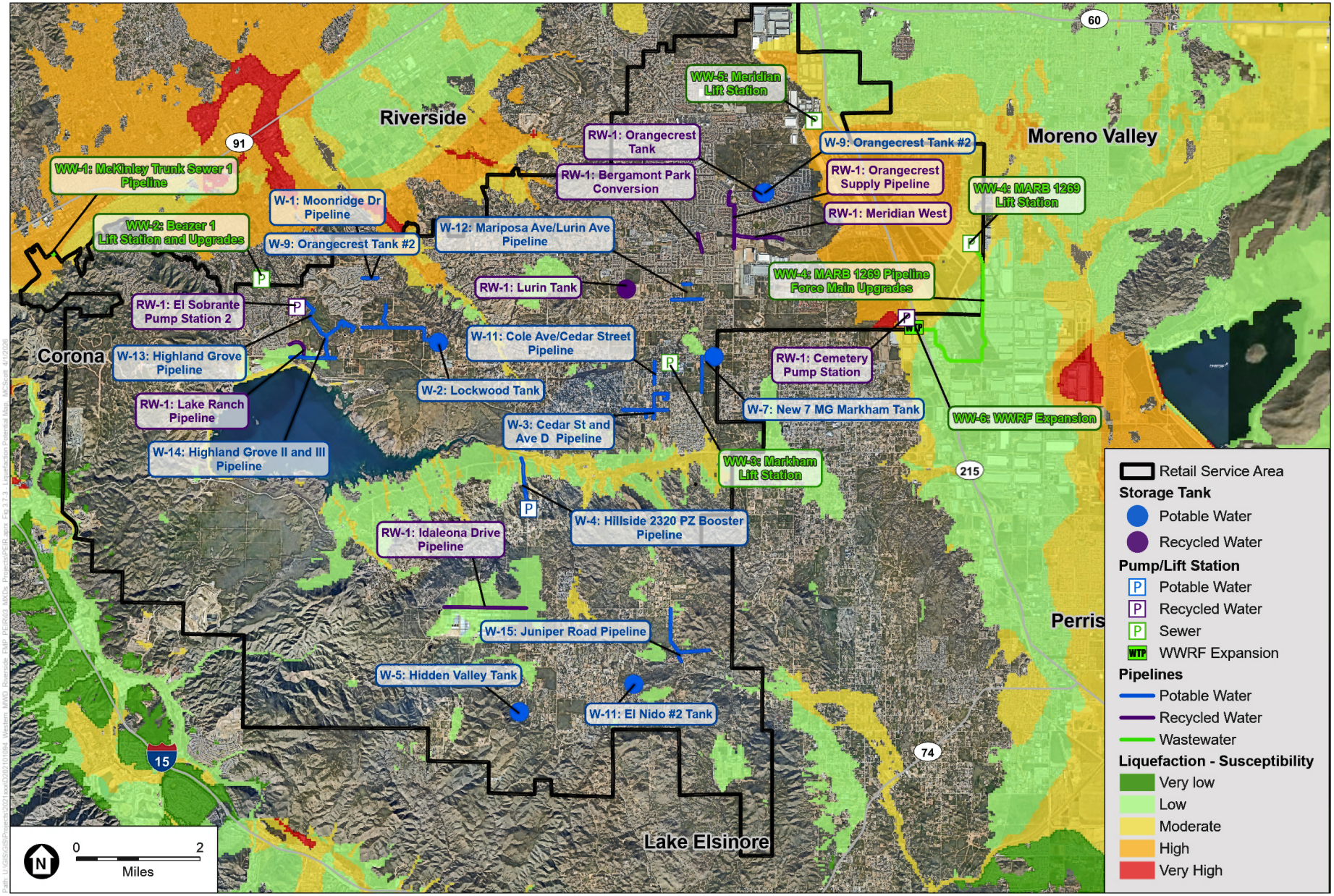
Soil liquefaction is a phenomenon whereby unconsolidated and/or near saturated soils lose cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in the temporary fluid-like behavior of the soil. During liquefaction, soils lose strength and ground failure may occur. Secondary ground failures associated with liquefaction include lateral spreading or flowing of stream banks or fills, sand boils, and subsidence. Areas characterized by water-saturated, cohesionless, and granular soils are most susceptible to liquefaction and usually at depths of less than 50 feet, especially in areas with a shallow water table. The groundwater table can fluctuate greatly in association with groundwater recharge activities, both natural and artificial. During years of high groundwater recharge, the groundwater table could potentially be shallow enough to present a liquefaction hazard in the areas of the existing recharge basins.

According to the liquefaction susceptibility maps contained in General Plans of the County of Riverside of the City of Riverside, the majority of the WMWD service area is designated as having " low" potential for liquefaction (see **Figure 3.7-3**). However, project sites that are proposed in the within the Riverside National Cemetery or the March Air Force Base (RW-1 Cemetery PS Expansion; RW-2 RNC Pipeline Upsize to 24″; WW-4 MARB 1269 Lift Station and Pipeline 1269 Expansion; and WW-6 WWRF Expansion Study) would be within "moderate" to "high" liquefaction zones, and thus may be subject to impacts from liquefiable soils.

Geologic Hazards

Landslides and Erosion

Landslides are the down-slope displacement of rock, soils and debris. The susceptibility of land (slope) failure is dependent on slope and geological formations and influenced by levels of rainfall, excavation, or seismic activities. Steep slopes and downslope creep of surface materials characterize landslide-susceptible areas. Since there are several faults in the region capable of producing ground accelerations in the project area, steep slopes (greater than 30 percent) are characterized as being susceptible to landslides and rockfalls. The general topography of the project area ranges from flat to hilly, and most areas would not be susceptible to landslide hazards. However, the proposed facilities that would be located on the foothills of Temescal Mountains (W-25 Via Barranca Pipeline Upsizing and W-4: Hillside 2320 PZ Booster Pump Station and Pipeline) are mapped as having areas with 15 to 30 percent slope and may be capable increasing landslide hazards (City of Riverside 2007).



SOURCE: Nearmap, 2022; WMWD, 2025; USGS, 226; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.7-3
Liquefaction Potential Map

ESA

Soil erosion is the process by which soil particles are removed from a land surface by wind, water, or gravity. Most natural erosion occurs at slow rates; however, the rate of erosion increases when land is cleared or altered and left in a disturbed condition. The primary factors that influence erosion include soil characteristics, vegetative cover, topography, and climate. Soil characteristics that determine the erosivity of a soil are particle size and gradation, organic content, soil structure, and soil permeability. Soils with a high proportion of silt and very fine clays are generally the most erodible. Additionally, areas with greater than 30 percent slopes are subject to a higher degree of erosion. Organic matter creates a favorable soil structure, improving soil stability and permeability, which increases the soil's capacity for the infiltration of water, delays the start of erosion, and reduces the amount of runoff. In addition, the less permeable the soil, the higher the likelihood for erosion. Vegetative cover assists in erosion control by shielding the soil surface from the impact of falling rain or blowing wind. Vegetation slows the velocity of runoff, permits greater infiltration, maintains the soil's capacity to absorb water, and holds soil particles in place (County of Riverside 2000).

Most soils in the project are well-drained with slow to moderate runoff and slow to moderate permeability. However, localized conditions of soils at each proposed project site would be susceptible to varying degrees of erosion, ranging from slight to very high. Further, although about 20 percent of the land area of the County is vulnerable to high and very high wind erosion susceptibility, the project area is mapped as having moderate risks (City of Riverside 2007; County of Riverside 2002).

Soil Types and Expansiveness

The City of Riverside includes a sphere of influence that encompasses lands where proposed project sites would be located. Thus, general characterizations of soil types in the project area rely previous geology and soils analysis prepared for the City of Riverside 2025 General Plan. Although soil characteristics may vary depending on localized conditions, the project area contains the following general soil associations: Cajalco-Temescal-Las Posas, Traver-Domino-Willows, Cieneba-Rock Land-Fallbrook, Monserate-Arlington-Exeter and Hanford-Tujunga-Greenfield associations. These soil associations generally consist of well-drained sandy loams that are moderately deep (City of Riverside 2007).

Expansive soils have a significant amount of clay particles that can give up water (shrink) or take on water (swell). The change in volume exerts stress on buildings and other loads placed on these soils. The occurrence of these soils is often associated with geologic units having marginal stability. The distribution of expansive soils can be widely dispersed, and they can occur in hillside areas as well as low-lying alluvial basins. Although expansive soils are now routinely alleviated by following the Riverside County Building Code, problems related to past inadequate codes constantly appear (County of Riverside 2000). However, the City of Riverside General Plan indicates that some of the proposed project sites, such as the W-2 Blackburn Rd. Pipeline Upsizing and W-12 Mariposa Ave/Lurin Avenue Upsize projects would be located on soils with high shrink-swell potential (City of Riverside 2007).

Subsidence

Subsidence of the ground surface can occur under static conditions (i.e., due to consolidation settlement from overlying load or long-term groundwater extraction) but can also be accelerated and accentuated by earthquakes and tectonic activity). Subsidence of loose, unconsolidated soils generally occurs slowly, but can cause significant structural damage.

In Riverside County, subsidence and fissuring have been caused by falling groundwater tables and by hydrocollapse when groundwater tables rise. In addition, many fissures have occurred along active faults that bound the San Jacinto Valley and Elsinore Trough. Areas of documented subsidence in western Riverside County include Elsinore Trough, including Temecula and Murrieta; the San Jacinto Valley from Hemet to Moreno Valley; and the southern Coachella Valley. These areas are all potentially sensitive to the withdrawal of groundwater. Subsidence has not been documented in WMWD's Riverside Retail Service area, although there are some areas mapped as possibly being susceptible to liquefaction, such as the younger alluvial deposits in the vicinity of Lake Mathews (County of Riverside 2000).

Collapse and Settlement

Collapsible soils are low density, fine-grained, granular soils containing minute pores and voids. When saturated, the grains of these soils rearrange and become cemented, causing collapse of the soil structure and differential settlement at the surface. Collapsible soils are extremely sensitive to increased moisture caused by irrigation or a rise in the groundwater table. Collapsible soils are found in areas where deposited materials have not had enough contact with moisture to form a compact soil. In the County of Riverside, collapsible soils occur predominantly at the base of mountains where Holocene-age alluvial fan and wash sediments have been deposited during rapid rain events. In addition, some windblown sands may be vulnerable to collapse and hydroconsolidation. Typically, differential settlement of structures occurs when lawns or plantings are heavily irrigated in proximity to structure foundations (County of Riverside 2000).

Paleontological and Unique Geologic Features

A Paleontological Resources Assessment was prepared for the project (Appendix PALEO). The assessment included geologic map review, literature review, a paleontological resources database search by the Natural History Museum of Los Angeles County (LACM), and a database search of the online records through the University of California Museum of Paleontology (UCMP), which is included below.

Geologic Map

The proposed project lies along the eastern front of the Santa Ana Mountains and encompasses the Lake Mathews and Estelle Mountain province, eastward to the boundary with Box Springs Mountains Reserve Park. Geologically, this region shows topography as a result of the northern migration of the San Andreas Fault Zone as older bedrock was uplifted in the Miocene Epoch, about 20 million years ago (Sylvester and O'Black Gans 2016). The bedrock of the broader Peninsular Ranges, including the Santa Ana Mountains is composed of Paleozoic and Mesozoic aged marine sediments and volcanics that were intruded by igneous plutons in the Cretaceous. While the younger uplift erased much of the overlying country rock, pockets of Cretaceous volcanic flows and sedimentary deposits, including marine sediments, exist in the region (Morton and Miller 2006). Flanking the mountains are early evidence of uplift and erosion as seen in Miocene to Pliocene (~20 to 3 million years old) alluvial fans and surrounding fluvial and lacustrine sediments. The broad valley floor itself is composed of modern alluvium deposited around eroded remnants of earlier, Pleistocene age alluvium. The region is still experiencing active faulting and uplift (Hull and Nicholson 2006).

The region encompassed by the priority, near-term, and future project boundaries are dominated by Cretaceous igneous plutons. These rocks, ranging in silica composition from tonalite to granite formed at

great depths, intruding through the older country rock. The country rock has been mapped as Paleozoic and Mesozoic sedimentary and volcanic units, now metamorphosed to high-grade schists and gneisses. Broadly concurrent with the igneous intrusions are volcanic flows and sediments of Cretaceous age preserved as the Estelle Mountain and Santiago Peak volcanics. Meanwhile, marine sedimentation continued adjacent to the volcanoes and remnants are preserved in the project as the Ladd Formation. As the region was uplifted in the Miocene, sediments shed to the east are preserved as the Lake Mathews Formation found exposed along the southwestern shore of present Lake Mathews. Additional sedimentary units of this age are primarily coarse conglomerates, laid down proximal to the mountain front. The final chapter of the project geology are the varied Pleistocene to recent alluvial and alluvial fan facies, as erosion of the Santa Ana Mountains continues to the present day.

Paleontological Literature Review

Based on the available information, fossils are most likely to be found in the Cretaceous marine units (Ladd Formation), Cretaceous volcanic sediments (e.g., associated with Santiago Peak Volcanics), Miocene Lake Mathews Formation, and Pleistocene fine-grained alluvium. The remainder of the geological units in the project area are mostly intrusive or extrusive igneous rocks or older metamorphosed rocks that are not likely to preserve fossils due to their geological context. Pleistocene alluvium fan deposits are of an age to preserve fossils but are unlikely to host resources because of their coarse nature and depositional setting. Therefore, the literature review was focused on the Ladd Formation, Cretaceous volcanics, Lake Mathews Formation, and Pleistocene alluvium.

The Ladd Formation is well-known for its locally rich concentrations of marine invertebrates (e.g., Gevedon et al. 2010). In particular, the gastropods and bivalves have been used for correlation of Pacific-margin faunas (Link and Bottjer 1982; Saul and Alderson 2001; Squires and Saul 2005), while the ammonites were used for age control. Other fossils, such as displaced corals and reef-building rudist clams (Filkorn 2007) demonstrate the diversity preserved. Although very rare, dinosaur remains have been recovered from the Ladd Formation as carcasses floated out into the ocean from land (Lander et al. 2003). In general, though, marine sedimentary rocks with invertebrates tend to host high abundance faunas.

An intensive search of the literature and museum records did not yield any fossil record from the Santiago Peak volcanics or the Estelle Mountain volcanics, which are part of the Cretaceous volcanics. Interestingly, there are fossils reported in the literature from the Santiago Peak Formation in San Diego (Jones and Miller 1982); however, subsequent research demonstrated that the strata in San Diego is not equivalent (Kimbrough et al. 2014).

In contrast, the Miocene Lake Mathews Formation has a rich and well-established published record of significant fossils (Proctor and Downs 1963; Woodburne 1987; Lander 2004). The diverse terrestrial mammals include camelids and oreodonts that limit the age to the Clarendonian North American Land Mammal Age. Other fossils include lagomorphs, felines, and rodents.

The Pleistocene fossil record of western Riverside County is also well-established in the literature. However, the lack of clear stratigraphic context and precise localities makes it difficult to relate directly to the project. By sorting localities to the general region and potential Pleistocene facies, it is clear that both a

large and small Ice Age fauna has been established in the alluvial units (Scott and Cox 1993; Pajak 1997; Springer et al. 2010; Dooley et al. 2017; Hohman and Dooley 2019).

Natural History Museum of Los Angeles County Records Search

A paleontological resources database search was conducted by the LACM on August 28, 2022 (Bell 2022). The search entailed an examination of current geologic maps and known fossil localities within the project area and vicinity. The purpose of the records search was to (1) determine whether any previously recorded fossil localities occur in the proposed project area, (2) assess the potential for disturbance of these localities during construction, and (3) assist in evaluating the paleontological sensitivity of the proposed project.

The paleontological resources database search results indicate that one fossil locality (LACM VP1541) is located within the Riverside Retail Service Area. Additional fossil localities (LACM VP CIT 572, LACM VP 6059, LACMVP 5168, LACM VP CIT 570-571, LACM VP 1207, LACM VP 4619, and LACM VP 7811) are also found nearby the Riverside Retail Service Area and within the same sedimentary deposits that occur within the proposed project.

University of California Museum of Paleontology

An additional search of the online holdings of the UCMP was carried out on September 13, 2022. Of critical note to this project were four mammalian fossils recorded from the Lake Mathews Formation. Three are linked to camelids (V314891-V314893) and the fourth was an oreodont, *Ustatochoerus californicus* (V315504). A search of the holdings for the Ladd Formation yielded gastropods indicative of a Late Cretaceous age.

Paleontological Sensitivity

The review of the geologic mapping, scientific literature, and database search results from the LACM and UCMP were used to assign paleontological sensitivity to the geologic units present at the surface and in the subsurface of the Riverside Retail Service Area, following the guidelines of the SVP (2010) and using the mapping of Morton and Miller (2006). **Figure 3.7-4** depicts the Riverside Retail Service Area and the geologic units within the Riverside Retail Service Area. A sensitivity assessment of each geologic unit is also listed below. Formations that are assigned none or low significance level may have underlying formations that have higher sensitivity and could be encountered during excavations that exceed approximately 10 feet in depth. Note that "Artificial Fill" is not considered in this discussion:

- **Older Alluvium (Qof$_{3a}$, Ovoa, Qvofa, Qov)** – *High Significance.* These units comprise the older, early to late Pleistocene alluvial fan sequences. While Qvoa, "very old axial-channel deposits" may be fine grained, in general these units are too coarse grained to host significant fossils. However, they are of a specific age and location to contain critical Ice Age fossils, so these are listed as "High Significance" pending detailed field observations.
- **Miocene Lake Mathews Formation (Tlm)** –*High Significance.* The Lake Mathews Formation has a well-established and important fossil record of diverse terrestrial mammals. In the project area, this is borne out by records from the LACM as well as published articles.

SOURCE: USGS Topographic Series (Alberhill, Corona North/South, Lake Elsinore, Lake Mathews, Riverside East/West, Steele Peak, Sunnymead,CA)

Retail Service Area

Facilities

- Potable Water Tanks
- Recycled Water Tanks
- Potable Water Pump Stations
- Recycled Water Pump Stations
- Wastewater Lift Stations
- WWRF Recycling Facility

Pipelines

- Potable Water
- Wastewater
- Recycled Water

N

0 2 Miles

ESA

Riverside Facilities Master Plan

Figure 3.7-4
Geology Map

Path: U:\GIS\GIS\Projects\2021xxx\D20210109 4 Western_MWD_Riverside_FMP_PEIR\R03_MXDs_Projects\PEIR.aprx Fig 3.7-4 - Geology_MCScott 5/14/2026

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- **Paleogene-Neogene Conglomerates (Tcgr, Toga)** – *Low Significance.* The conglomerate deposits of the Project of a correct age for fossils, but are unlikely to host significant resources. This is due to the very coarse and monolithic nature of the deposits. A thorough search of the literature and museum records did not yield any known fossils from these deposits.
- **Cretaceous Volcanics (Kvem, Kvr, Kvs)** – *Low Significance.* The Cretaceous volcanics associated with the Estelle Mountain sequence and, perhaps, the Santiago Peak volcanics have no known fossil record. Based on the geological setting, there is a potential for interbedded sediments to contain fossils, but none have been recorded.
- **Cretaceous Intrusive Sequence (Katg, Kcg, Kcgb, Kcgq, Kg, Kgb, Kgct, Kgd, Kght, Kgt, Kgtf, Kgti, Kgu, Khg, Kpd, Kt, Kvspi, Kvt, Kvti, Kcgd)** – *No Significance.* Intrusive rocks, comprising granite, tonalite, granodiorite, monzonite, and lesser gabbro, form at high temperatures and pressures and do not preserve contemporaneous fossils.
- **Cretaceous Ladd Formation (Kl)** – *Undetermined Significance.* The Ladd Formation is well-known for its diverse and rich marine invertebrate fauna. Marine invertebrates are not generally considered 'significant' as they tend to be plentiful within marine facies. However, the Ladd has yielded important vertebrates including dinosaurs. Therefore, the sensitivity is considered "undetermined" and warrants field observations to better determine the potential.
- **Mesozoic to Paleozoic metamorphic rocks (Pzsgp, Trms, Trmu, KgPz)** – *No Significance.* These units were metamorphosed from their original state under high temperatures and pressures as evidenced by their current lithological makeup (e.g., biotite schist and gneiss). It is highly unlikely any original fossils survived the metamorphic process.

3.7.2 Regulatory Framework

Federal

Clean Water Act

The federal Clean Water Act (CWA) and subsequent amendments, under the enforcement authority of the U.S. Environmental Protection Agency (USEPA), was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The purpose of the CWA is to protect and maintain the quality and integrity of the nation's waters by requiring states to develop and implement state water plans and policies. The CWA gave the USEPA the authority to implement pollution control programs such as setting wastewater standards for industry. In California, implementation and enforcement of the National Pollutant Discharge Elimination System (NPDES) program is conducted through the California State Water Resources Control Board (SWRCB) and the nine RWQCBs. The CWA also sets water quality standards for surface waters and established the NPDES program to protect water quality through various sections of the CWA, including Sections 401 through 404 and 303(d) that are implemented and regulated by the SWRCB and the nine RWQCBs. CWA Section 402 would apply to the proposed Project because the Project would be required to control discharges of pollutants from point sources, as discussed below.

American Water Works Association and American National Standards Institute Guidelines for Water Pipelines

The American Water Works Association (AWWA) provides requirements for design, installation, performance, and manufacturing of products used in the water industry, including pipe, chemicals, storage facilities, valves, meters, and other appurtenances. Pipe installation, disinfection of facilities, lining application, and utility management practices are also covered. For pipelines, AWWA provides minimum requirements for design, materials and dimensions, fabrication and manufacture, marking and delivery, installation, and verification, testing, and inspection. AWWA is an American National Standards Institute (ANSI)-approved standards developing organization for the water industry. WMWD requires that its contractors install pipelines in accordance with the AWWA/ANSI standards.

Antiquities Act of 1906

The Antiquities Act of 1906 (54 U.S.C. 320301–320303 and 18 U.S.C. 1866(b)) calls for protection of historic landmarks, historic and prehistoric structures, as well as other objects of historic or scientific interest on federally administered lands, the latter of which would include fossils. The Antiquities Act both establishes a permit system for the disturbance of any object of antiquity on federal land and also sets criminal sanctions for violation of these requirements. The Antiquities Act was extended to specifically apply to paleontological resources by the Federal-Aid Highways Act of 1958.

Federal Land Policy Management Act of 1976

The Federal Land Policy Management Act of 1976 (P.L. 94-579; 90 Stat. 2743, U.S.C. 1701–1782) requires that public lands be managed in a manner that will protect the quality of their scientific values, while Title 40 Code of Federal Regulations (C.F.R.) Section 1508.2 identifies paleontological resources as a subset of scientific resources. The Paleontological Resources Preservation Act (Title VI, Subtitle D of the Omnibus Land Management Act of 2009) furthers the protection of paleontological resources on federal lands by criminalizing the unauthorized removal of fossils.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act became law in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazard of fault rupture and to prohibit the location of most structures for human occupancy[2] across these traces. Cities and counties must regulate certain development projects within the zones, which includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement. Surface fault rupture is not necessarily restricted to an Alquist-Priolo Zone. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground surface rupture along any of the branches. Although the Elsinore fault zone encroaches into the western boundary of the WMWD's service area, the Riverside Retail Service areas is not bisected by Alquist-Priolo fault zones (DOC 2024).

[2] Title 14 of the California Code of Regulations (CCR), §3601(e), defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones, and cities, counties, and other local permitting agencies to regulate certain development projects within these zones. For projects that would locate structures for human occupancy within designated Zones of Required Investigation, the Seismic Hazards Mapping Act requires project applicants to perform a site-specific geotechnical investigation to identify the potential site-specific seismic hazards and corrective measures, as appropriate, prior to receiving building permits. The *CGS Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) provides guidance for evaluating and mitigating seismic hazards (CGS 2008).

California Building Code

The California Building Code (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. 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 2016 edition of the CBC is based on the 2015 International Building Code (IBC) published by the International Code Council, which replaced the Uniform Building Code. 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. The prescribed lateral forces are generally smaller than the actual peak forces that would be associated with a major earthquake. Consequently, 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. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

NPDES Construction General Permit

Construction associated with the proposed project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The proposed Project would, therefore, be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb 1 acre or more of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation;

construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to any of the following requirements:

- Effluent standards
- Good site management "housekeeping"
- Non-stormwater management
- Erosion and sediment controls
- Run-on and runoff controls
- Inspection, maintenance, and repair
- Monitoring and reporting requirements

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific BMPs designed to prevent sediment and pollutants from contacting stormwater from moving off site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The SWPPP must be prepared before the construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project site. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction

standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In the project area, the Construction General Permit is implemented and enforced by the Santa Ana RWQCB, which administers the stormwater permitting program. Dischargers must electronically submit a notice of intent and permit registration documents to obtain coverage under this Construction General Permit. Dischargers are to notify the RWQCB of violations or incidents of non-compliance, and submit annual reports identifying deficiencies in the BMPs and explaining how deficiencies were corrected. The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer, and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner. A legally responsible person, who is legally authorized to sign and certify permit registration documents, is responsible for obtaining coverage under the permit.

Public Resources Code Section 5097.5 and Section 30244

These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Local

County of Riverside Code and Development Regulations

The Riverside County Department of Building and Safety and the Riverside County Fire Department provide technical expertise in reviewing and enforcing the County Building and Fire Codes. These codes establish site specific investigation requirements, construction standards, and inspection procedures to ensure that development does not pose a threat to the health, safety, and welfare of the public. California's Building Standards Commission updates these codes on a regular cycle, generally every 3 years, based on the International Building Codes and State policies. The County adopts these codes along with any locally-appropriate amendments as needed. These codes contain baseline minimum standards to guard against unsafe development.

Through Ordinance 457 and Board of Supervisors Policy F-6, Riverside County prohibits grading without permits, levies penalties for illegal grading, and requires the restoration of illegally graded land to prevent off-site drainage and slope erosion.

The following policy addresses code conformance and would be applicable to the proposed project (County of Riverside 2024).

> **Policy S 1.1:** Mitigate hazard impacts through adoption and strict enforcement of current building codes, which will be amended as necessary when local deficiencies are identified.

County of Riverside General Plan

The County of Riverside General Plan addresses seismic and geologic hazards in the Safety Element. The following policies within the County of Riverside General Plan would be applicable to the proposed project (County of Riverside 2024).

Seismically Induced Liquefaction, Landslides, and Rock Falls

Policy S 2.2: Request geological and geotechnical investigations in areas with potential for earthquake-induced liquefaction, landslides, or settlement, for any building proposed for human occupancy and any structure whose damage would cause harm, except for accessory structures/buildings, as determined by County officials. Any studies or surveys should be prepared/completed by a state licensed professional.

Policy S 2.6: Request structures in liquefaction and slope instability hazard zones to mitigate the potential of seismically-induced differential settlement through appropriate techniques as determined by geotechnical studies, including a 100-percent maximum variation of fill depths as warranted

Landslides, Rockfalls, and Debris Flows

Policy S 2.8: Request the following in landslide potential hazard management zones, or when deemed necessary for compliance with the California Environmental Quality Act (CEQA), prior to the issuance of development permits or approval of project designs:

a. Preliminary geotechnical and geologic investigations, including certification regarding the stability of the site against adverse effects of earthquake and subsidence.
b. Evaluations of site stability, including any possible impact on adjacent properties.
c. Consultant reports, investigations, and design recommendations required for grading permits, building permits, and subdivision applications, shall be prepared by state-licensed professionals.

Policy S 2.9: Require new development in areas prone to geologic hazards (e.g., landslides, steep topography, slope instability) to be adequately mitigated against these hazards, as feasible. Any development in hillside areas should prepare drainage plans to direct runoff and drainage away from potentially unstable slopes. New developments should incorporate hillside design techniques and features to mitigate and support slope stability.

Policy S 2.11: Request grading plans, environmental assessments, engineering and geologic technical reports, irrigation and landscaping plans, including ecological restoration and revegetation plans, as appropriate, to ensure the adequate demonstration of a project's ability to mitigate the potential impacts of slope and erosion hazards and loss of native vegetation.

Policy S 2.12: Conduct mitigation on existing public property, and support mitigation activity on private property through any appropriate programs, located on unstable hillside areas, especially slopes with recurring failures where unincorporated Riverside County property or public right-of-way is threatened from slope instability, or where considered appropriate and urgent by the Riverside County Engineer, Fire Department, or Sheriff Department.

Subsidence and Expansive and Collapsible Soils

Policy S 2.15: Request geotechnical studies within documented subsidence zones, as well as zones that may be susceptible to subsidence, prior to the issuance of development permits. Within the documented subsidence zones of the Coachella, San Jacinto, and Elsinore Valleys, the studies should address the potential for reactivation of these zones, consider the potential impact on the project, and provide adequate and acceptable mitigation measures.

County of Riverside General Plan

Chapter 5, Multipurpose Open Space Element of the Riverside County General land includes the following policies to ensure that paleontological resources are appropriately considered:

> **Policy OS 19.6:** Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-8, a paleontological resource impact mitigation program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources.
>
> **Policy OS 19.7:** Whenever existing information indicates that a site proposed for development has low paleontological sensitivity as shown on Figure OS-8, no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the County Geologist shall be notified and a paleontologist shall be retained by the project proponent. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.
>
> **Policy OS 19.8:** Whenever existing information indicates that a site proposed for development has undetermined paleontological sensitivity as shown on Figure OS-8, a report shall be filed with the County Geologist documenting the extent and potential significance of the paleontological resources on site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources prior to approval of that department.
>
> **Policy OS 19.9:** Whenever paleontological resources are found, the County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center in the City of Hemet.

City of Riverside General Plan

The following objectives and policies within the City of Riverside 2025 General Plan Safety Element are relevant to seismic and geologic hazards.

> **Objective PS-1:** Minimize the potential damage to existing and new structures and loss of life that may result from geologic and seismic hazards.
>
> > **Policy PS-1.1:** Ensure that all new development in the City abides by the most recently adopted City and State seismic and geotechnical requirements.

The city of Riverside General Plan (Historic Preservation Element, adopted in 2003), includes the following policy for the preservation of paleontological resources:

> **Policy HP-1.3:** The City shall protect sites of archaeological and paleontological significance and ensure compliance with all applicable State and Federal cultural resources protection and management laws in its planning and project review process.

3.7.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to geology and soils. The proposed 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, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault.
   - Strong seismic ground shaking.
   - Seismic-related ground failure, including liquefaction.
   - Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
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.
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
7. Result in cumulatively considerable impacts to geology and soils.

Methodology

Impact Analysis

Rupture of an Earthquake Fault

Impact 3.7-1: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.

Priority, Near-Term, and Future Projects

All Facilities

The project area lies within a region that is seismically active and multiple “potentially active” and “active faults” are located near the project area, including the Elsinore and San Jacinto fault zones (Refer to Figure 3.7-1). However, none of the proposed project sites would be located within an Alquist-Priolo Fault Zone and thus, none of the proposed project facilities would be located adjacent to an active fault that would be susceptible to fault rupture. Construction and operation of the proposed project would not

include methods or activities that could exacerbate the risk of loss, injury, or death from rupture of a surface fault. No impacts would occur.

Mitigation Measures

None required

Significance Determination

No Impact

Seismic Ground Shaking

Impact 3.7-2: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

Priority, Near-Term, and Future Projects

All Facilities

The project area lies within a region that is seismically active. Multiple "potentially active" and "active faults" are located in the vicinity of the proposed project sites, including the those contained in the Elsinore and San Jacinto fault zones (Refer to Figure 3.7-1). Seismic ground shaking and liquefaction could affect the integrity of all proposed aboveground and belowground facilities included in the Riverside FMP (all lift stations and storage tanks included in Tables 2-1, 2-2, and 2-2 in Chapter 2, *Project Description*). Prior to construction, standard construction practices require the preparation of site-specific geotechnical investigations and incorporation of structural recommendations into facility designs to reduce potential for seismic ground shaking to affect integrity of the structures. The structural designs would be required to comply with the CBC, ensuring that seismic ground shaking would not result in loss, injury or death. The proposed project would not include habitable structures, nor would it include construction or operational activities that could increase the likelihood of earthquakes (e.g., injection or extraction of groundwater or oil). Compliance with design standards in existing building codes would reduce potential impacts related to seismic ground shaking to a less than significant level. Therefore, the proposed project would not exacerbate the risk of loss, injury, or death from seismic ground shaking).

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Liquefaction

Impact 3.7-3: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.

Priority, Near-Term, and Future Projects

All Facilities

According to the liquefaction susceptibility maps, the majority of the WMWD service area is designated as having a low potential for liquefaction. However, project sites that are proposed in the within the Riverside National Cemetery or the March Air Force Base (RW-1 Cemetery PS Expansion; RW-2RNC Pipeline Upsize to 24″; WW-13 MARB 1269 Lift Station Upgrade Study; and WW-6 WWRF Expansion Study) would be within "moderate" to "high" liquefaction zones, which is the designation given by the County and City of Riverside to areas where groundwater depths may be shallow and soils may be susceptible to liquefaction. Thus, in the event of an earthquake, the proposed facilities listed above could also contribute to other types of ground failure that commonly result from liquefaction, such as lateral spread, flow failure, ground oscillation, or loss of bearing strength. However, the majority of the proposed facilities would be located in areas that have undergone previous excavation/development, such as existing roadways or WMWD facility sites, and it is likely that many of the proposed facilities would be built on compacted soils, without loose or sandy soils susceptible to liquefaction. For the Riverside National Cemetery or the March Air Force Base (RW-1 Cemetery PS Expansion; RW-2RNC Pipeline Upsize to 24″; WW-13 MARB 1269 Lift Station Upgrade Study; and WW-6 WWRF Expansion Study, which are within areas with a moderate to high potential for liquefaction, each of the proposed projects would be required to comply with the existing CBC and County and City ordinances that require incorporation of site-specific geotechnical recommendations to address potential hazards such as liquefaction. As stated in the discussion for Impact 3.7-2, the structural elements of all proposed projects would undergo appropriate design-level geotechnical evaluations prior to final design and construction. Compliance of each proposed project with the applicable federal, state, and local regulations and engineering standards discussed in Section 3.7.2, *Regulatory Framework*, is required. The geotechnical evaluations would recommend measures to address liquefaction such as removal of liquefiable soils, for example mixing soil with cement or vibrocompaction to densify loose sands to prevent building pore pressure. Implementing the regulatory requirements in the CBC and County and City ordinances and ensuring that all buildings and structures are constructed in compliance with the law is the responsibility of the project engineers and building officials. Compliance with design standards in existing building codes would reduce potential impacts related to liquefaction to a less than significant level. Once operational, the proposed project would not include activities that would affect groundwater levels below the project area or otherwise contribute to potential liquefaction. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Landslides

Impact 3.7-4: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

Priority, Near-Term, and Future Projects

All Facilities

The general topography of the project area ranges from flat to hilly, and most areas would not be susceptible to landslide hazards. However, one of the near-term projects (W-4 Hillside 2320 PZ Booster Pump Station and Pipeline) and one of the proposed future projects (W-25 Via Barranca Pipeline Upsizing) would be located on the foothills of Temescal Mountains, and could result in landslide hazards to downhill areas as a result of soil/rock displacement during construction activities or in the event of a major earthquake in the project area. Additionally, the location of proposed future project W-22 New 3 MG Hidden Valley Tank is unknown and could be located in the foothills of the Temescal Mountains. Construction activities for the proposed pipeline, pump station, and storage tank would involve excavation, trenching, and similar ground disturbing activities. Projects with overall construction footprints exceeding one acre would require compliance with the NPDES Construction General Permit and its required preparation and implementation of a SWPPP (refer to Section 3.7.2, *Regulatory Framework*, *NPDES Construction General Permit*), for the purpose of preventing the off-site migration of eroded soils from the project site, thereby reducing the potential for construction-related landslides to occur. If the pump station and storage tank projects are larger than 1 acre, a SWPPP would be prepared to include specific BMPs related to erosion- and sedimentation-control BMPs designed to prevent stormwater-driven and wind-driven erosion and the movement of topsoil off site, such as fiber rolls, silt fences, or detention basins. If the projects are smaller than one acre, implementation of standard construction BMPs, such as bioswales, detention basins, retention basins, or infiltration galleries, would similarly reduce the potential for construction impacts to occur. As discussed previously, the structural elements of the proposed projects would undergo appropriate design-level geotechnical evaluations prior to final design and construction, which would ensure all projects in potential landslide zones would not directly or indirectly cause the risk of loss, injury or death involving landslides. Compliance with required measures would reduce potential impacts related to landslides to a less than significant level. Once operational, the proposed pipelines would be located underground and aboveground facilities would not involve ground disturbance that could result in landslides. Impacts are considered less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Soil Erosion

Impact 3.7-5: The proposed project could result in substantial soil erosion or the loss of topsoil.

Priority, Near-Term, and Future Projects

All Facilities

Construction activities would be required for implementation of the proposed facilities in the project area, including installation and upgrades to pipelines, pump stations, lift stations, storage tanks, and the potential future WWRF Expansion. The construction activities would involve site preparation and clearing, trenching, excavation, drilling, grading, and other ground-disturbing activities. Such activities would expose on-site soils and thus potentially result in erosion and/or topsoil loss. Projects with overall construction footprints exceeding one acre would be required to comply with the NPDES Construction General Permit and its required preparation and implementation of a SWPPP to comply with Section 402 of the federal CWA (refer to Section 3.7.2, *Regulatory Framework*, *NPDES Construction General Permit*). The SWPPP would include specific BMPs for each project site, including erosion- and sedimentation-control BMPs designed to prevent stormwater-driven and wind-driven erosion and the movement of topsoil off site. Therefore, erosion would be minimized during construction of the proposed facilities. Once operational, the proposed facilities would not require activities that would result in topsoil disturbance or erosion. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Unstable Geologic Soils

Impact 3.7-6: The proposed project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

Priority, Near-Term, and Future Projects

All Facilities

The impacts of the proposed projects to landslides, lateral spreading, and liquefaction have been analyzed above in the discussions for Impacts 3.7-3 and Impact 3.7-4, and resulted in a determination of less than significance.

As discussed in Section 3.7.1, *Environmental Setting*, soils throughout the project area generally consist of well-drained sandy loams that are moderately deep. However, the City of Riverside General Plan indicates that at least one priority project (W-2 Blackburn Rd. Pipeline Upsizing) and one near-term project (W-12 Mariposa Ave/Lurin Avenue Upsize) would be located on expansive soils with high shrink-swell potential. Further, collapsible soils would be anticipated where Holocene-age alluvial fan and wash sediments have been deposited during rapid rain events. Since the localized soil characteristics would vary greatly at each specific project site, it should be assumed that all of the proposed facilities could result in impacts to expansive and collapsible soils. Subsidence has not been documented in

WMWD's Riverside Retail Service area, but the proposed facilities may be susceptible to future subsidence drawdown of the underlying groundwater tables occurs.

Ground disturbing activities required for all facilities and possible dewatering activities during installation of pipeline projects would have the potential to impact stability of geologic units and soils underlying the proposed project sites. Prior to construction of all facilities, standard practices require the preparation of site-specific geotechnical investigations and incorporation of structural recommendations into facility designs to reduce the potential for unstable geological units and soil hazards to impact the proposed facilities. The proposed projects would be subject to compliance with the CBC and would implement construction BMPs to ensure significant impacts to expansive and collapsible soils would be reduced to a less than significant level. Operation of the proposed facilities would not include involve ground disturbance activities, and would not involve substantial irrigation, groundwater injection/extraction, or other activities that could result in geologic instability, increased moisture in soils, or a reduction of underlying groundwater levels. Therefore, impacts would be considered less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Expansive Soils

Impact 3.7-7: The proposed project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

Priority, Near-Term, and Future Projects

All Facilities

As described above in the discussion for Impact 3.7-6, there are limited portions of the project area that have been identified by Riverside County and City of Riverside as having high shrink-swell potential. However, localized soil characteristics would vary greatly at each specific project site and it is assumed that all of the proposed facilities could result in impacts to expansive soils, thereby creating risks to people or property in the vicinity. Prior to construction, standard practices require the preparation of site-specific geotechnical investigations and incorporation of structural recommendations into facility designs to reduce the potential for unstable geological units and soil hazards to impact the proposed facilities. The geotechnical investigation would recommend measures to address expansive soils such as removal (excavate expansive soils and replace with engineered fill), lime treatment (to reduce swell potential) or moisture control (drainage away from foundations, exclude irrigation next to slabs/foundations). All proposed projects included in the Riverside FMP would be subject to compliance with the CBC and would implement construction BMPs to ensure impacts are reduced to a less than significant level. Operation of the proposed facilities would not include involve activities that would result in substantial wetting of soils. Therefore, impacts would be considered less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Septic Tanks

Impact 3.7-8: The proposed project could 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.

Priority, Near-Term, and Future Projects

All Facilities

The proposed facilities would not require the use of septic tanks or alternative reclaimed water disposal systems. During construction of the project components, portable toilet facilities would be provided if necessary, and waste would be collected by a certified waste hauler and appropriately disposed of for treatment. The facilities would not require onsite employees that would generate wastewater, nor would the facilities themselves generate wastewater during operation—therefore, no waste disposal facilities are needed. There would be no impact related to soils being incapable of adequately supporting septic tanks or alternative reclaimed water disposal systems.

Mitigation Measures

None required

Significance Determination

No Impact

Paleontological Resources

Impact 3.7-9: The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Priority, Near-Term, and Future Projects

All Facilities

The desktop review conducted for the proposed project indicates that the project area has exposures of sensitive geological formation/units with potential for encountering significant fossils, which are discussed below relative to their proximity to proposed Riverside FMP projects. There are no unique geologic features identified within the project footprints.

Older Alluvium (Qof_{3a}, Qvoa, Qvofa, Qov) units comprise the older, early to late Pleistocene alluvial fan sequences. In general, these units are of a specific age and location to contain critical Ice Age fossils, so these are listed as “High Significance.” Proposed projects WW-1 McKinley Trunk Sewer, RW-1 Idaleona Drive Upsizing, RW-1 Cemetery PS Expansion, WW-4 MARB 1269 Lift Station and Pipeline Upgrade 1269 Expansion, WW-6 WWRF Expansion Study, WW-7 McKinley Trunk Sewer (WRCWRA), WW-8 La Sierra Trunk Sewer, WW-9 Meridian Trunk Sewer North (WWRF), WW-10 Arnold Heights Trunk Sewer (WWRF), WW-11 Meridian Trunk Sewer South at RNC (WWRF), WW-13 MARB 1269 Lift

Station Upgrade Study, and W-8 New 2 MG PZ1783 Tank are located within this formation. Given the sensitivity associated with the formation, construction and operation of these projects have the potential to directly or indirectly destroy a unique paleontological resource or site. With implementation of **Mitigation Measures PALEO-1 through PALEO-4**, which require retention of a qualified professional paleontologist, paleontological resources sensitivity training, paleontological monitoring, paleontological discovery, and paleontological reporting, impacts would be reduced to a less than significant level.

Several Riverside FMP projects are located in areas of low paleontological potential up to 10 feet bgs. However, these areas have underlying formations that have higher sensitivity and could be encountered during excavations that exceed approximately 10 feet in depth. Projects within these areas are expected to exceed 10 feet bgs in excavation, mainly for lift station upgrades and pipeline upsizes, both of which are assumed to extend deeper than existing infrastructure. These projects include WW-2 Beazer 1 Lift Station and Forcemain Upgrades (WRCWRA), WW-3 Markham Lift Station Upgrade (WWRF), W-5 New 3 MG Hidden Valley Tank, W-6 New 1.5 MG El Nido Tank, W-7 New 7 MG Markham Tank, W-9 New 12.5 MG Orangecrest Tank, RW-1 New Orangecrest Tank, RW-1 Lurin Irrigation Tank Improvements, WW-5 Meridian Lift Station Upgrades (WWRF), W-20 New 2 MG PZ2116 Tank, W-21 New 4 MG PZ1550 Tank, W-22 New 3 MG Hidden Valley Tank, W-23 New 13 MG Orangecrest Tank, and RW-2 Additional 7 MG Storage in PZ1815. Given the fact that projects could infringe on deeper formations with higher sensitivity, construction and operation of the above-listed projects have the potential to directly or indirectly destroy a unique paleontological resource or site. With implementation of **Mitigation Measure PALEO-5**, which requires investigation by a qualified paleontologist to determine whether the older Quaternary Alluvium, Miocene Lake Mathews Formation, or the Cretaceous Ladd Formation would be impacted by excavation, and implementation of measures as appropriate for identification and recovery of paleontological resources, impacts would be reduced to a less than significant level.

All remaining projects are located in areas of low paleontological potential. These include W-1 Moonridge Dr. Pipeline Upsizing, W-2 Blackburn Rd. Pipeline Upsizing, W-3 Cedar St and Avenue D Pipeline Upsizing, W-4 Hillside 2320 PZ Booster Pump Station and Pipeline, W-10 Highland Grove Pressure Reducing Valve, W-11 Cole Ave/Cedar Street Upsize, W-12 Mariposa Ave/Lurin Avenue Upsize, W-13 Highland Grove Pipeline III 18-Inch Pipeline, W-14 Highland Grove II and III 12-Inch Pipeline, W-15 Juniper Road Pipeline Upsizing, RW-1 Orangecrest Supply Pipelines, RW-1 Bergamont Park Conversion to RW, RW-1 Meridian West Pipelines, RW-1 Lake Ranch Pipelines, RW-1 El Sobrante PS Expansion (150 HP), W-16 CITP (Intake PS), W-17 Increase Capacity of Mockingbird PS, W-18 Bergamont PS, W-19 Rolling Meadows PS, W-24 PZ 2320 12-Inch Pipelines, W-25 Via Barranca Pipelines Upsizing, RW-1 Upper Plateau Development Pipelines, RW-2 RNC Pipeline Upsize to 24″, RW-2 RNC Pipeline Upsize to 18″, RW-2 Oleander PS Expansion (200 HP), RW-2 McAllister PS Expansion (200 HP), RW-2 El Sobrante PS Expansion (150 HP), and WW-12 Markham Lift Station Ultimate Upgrades. However, there still exists a potential that project-related excavation could encounter fossils during construction, which would have the potential to directly or indirectly destroy a unique paleontological resource or site. With implementation of **Mitigation Measure PALEO-6**, which requires notification of a paleontologist if fossils are unexpectedly found to assess the significance and make recommendations for recovery of fossils, impacts would be reduced to a less than significant level.

Mitigation Measures

Mitigation Measure PALEO-1: The District shall retain a paleontologist who meets the Society of Vertebrate Paleontology's (SVP, 2010) definition for Qualified Professional Paleontologist (Qualified Paleontologist) to carry out all mitigation related to paleontological resources as required for each project. Prior to the start of ground-disturbing activities, the Qualified Paleontologist or their designee shall conduct construction worker paleontological resources sensitivity training for all construction personnel. Construction personnel shall be informed on how to identify the types of paleontological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources, and safety precautions to be taken when working with paleontological monitors. The District shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance. In addition, and in accordance with the Riverside County General Plan, a paleontological resource impact mitigation program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall identify the project's paleontological sensitivity, establish monitoring requirements, define procedures for evaluation, documentation, recovery, and curation of significant paleontological resources, and specific notification and reporting requirements. The PRIMP shall apply to all Master Plan projects with the potential to affect paleontological resources and shall be updated, as necessary, to address project-specific conditions identified during subsequent design and environmental review.

Mitigation Measure PALEO-2: Paleontological monitoring shall be conducted during all ground-disturbing activities that produce visible spoils or cuts for project construction in Older Alluvium, Miocene Lake Mathews Formation, and Cretaceous Ladd Formation. Monitoring shall be conducted by a qualified paleontological monitor (SVP 2010) working under the direct supervision of the Qualified Paleontologist. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting sediment samples to wet or dry screen to test promising horizons for smaller fossil remains. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely.

Mitigation Measure PALEO-3: If a potential fossil is found, the paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation of the discovery. An appropriate buffer area shall be established around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the monitor's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If a fossil is determined to be significant, the Qualified Paleontologist shall implement a paleontological salvage program to remove the resources from their location, following the guidelines of the SVP (2010). Any fossils encountered and recovered shall be prepared to the point of identification, catalogued, and curated at an accredited repository.

If construction personnel discover any potential fossils during construction while the paleontological monitor is not present, regardless of the depth of work or location, work at the discovery location shall cease in a 25-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and recommended and implemented appropriate treatment as described in this measure.

Mitigation Measure PALEO-4: At the conclusion of paleontological monitoring, the Qualified Paleontologist shall prepare a report summarizing the results of the monitoring and any salvage

efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Qualified Paleontologist to the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the proposed project and required mitigation measures.

Mitigation Measure PALEO-5: Should any additional projects outside the current list of priority, near-term, and future projects be planned within the service area as part of the Riverside FMP, or if any of the currently planned projects move location, or if a project planned in artificial fill or younger alluvium exceeds 10 feet in depth, a qualified paleontologist shall be retained by the District to assess grading plans and geotechnical reports for the project to determine whether the older Quaternary Alluvium, Miocene Lake Mathews Formation, or the Cretaceous Ladd Formation would be impacted by excavation. If so, the paleontologist shall recommend implementation of Mitigation Measures PALEO-1 through PALEO-4 as appropriate for identification and recovery of paleontological resources. The paleontologist will amend the PRIMP as appropriate.

Mitigation Measure PALEO-6: If fossils are encountered at depths less than the anticipated depth of the older Quaternary Alluvium, Miocene Lake Mathews Formation, or the Cretaceous Ladd Formation, the paleontologist shall be notified immediately and shall assess the significance of those fossils and shall make recommendations for recovery of those and other potential fossils in the shallower horizons. If fossils are found on a project/formation that does not require monitoring, the qualified paleontologist will be contacted for evaluation and recommendations for salvage following the PRIMP or during monitoring. The paleontologist shall prepare a report summarizing the results of the monitoring program including methods of fossil recovery and curation, and a description of the fossils collected and their significance. A copy of the report shall be provided to the District. The fossils and a copy of the report shall be deposited in an accredited curation facility such as the Western Science Center.

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.7-10: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to geology and soils.

The cumulative analysis for impacts to geology and soils involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve residential, commercial, and industrial development. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. Therefore, the addition of more development within the Riverside Retail Service Area could result in significant cumulative environmental effects due to exposure of people and property in the project area to risks associated with seismic ground shaking, liquefaction, landslides, erosion, unstable geologic units, and expansive soils. It should be noted that the Riverside Retail Service Area does not include Alquist-Priolo Fault Zones, and impacts to fault rupture are not anticipated. The structural elements of the proposed projects would

undergo appropriate design-level geotechnical evaluations prior to final design and construction. Further, each proposed project would be required to comply with the applicable federal, state, and local regulations and engineering standards discussed in Section 3.7.2, *Regulatory Framework*. Operational activities required for the proposed projects would not include activities that could result in geology and soils impacts. For paleontological resources, future cumulative projects would involve many large-scale development projects like the Lake Ranch Project (Tract 36730) and the Tract 22102 (Mockingbird Canyon) that would be constructed within undeveloped areas particularly in the areas northeast and east of Lake Matthews, which is known to have a high paleontological sensitivity. The projected growth through 2050 would result in rapid development of commercial, industrial, and residential land uses that could convert undeveloped areas that may contain paleontological resources. Like the proposed project, the cumulative projects could be located in the sensitive formations identified in this study. The cumulative projects include subsurface development which could potentially result in the possibility that cumulative development would result in the demolition or destruction of significant paleontological resources. The potential loss of resources is considered a significant cumulative impact. The project could contribute to this impact if paleontological resources are located beneath the project sites and damaged or destroyed during the excavation process. In that event, the project contribution to the significant cumulative impact would be cumulatively considerable and impacts would be potentially significant. Like the cumulative projects, potential impacts to paleontological resources associated with the Riverside FMP are able to mitigated to a less than significant level with Mitigation Measures PALEO-1 through PALEO-6, the project's cumulative geologic resource impacts would be less than significant with implementation of mitigation measures. Therefore, the project's contribution to cumulative geology and soils impacts would be less than cumulatively considerable.

Mitigation Measures

Implement Mitigation Measures PALEO-1 through PALEO-6

Significance Determination

Less than Significant with Mitigation

3.7.4 References

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3.8 Hazards and Hazardous Materials

This section addresses the hazards and hazardous materials impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes a description of the existing hazards and hazardous materials in and around the proposed project site; a summary of applicable regulations related to hazards and hazardous materials; and an evaluation of the potential impacts of the proposed project related to hazards and hazardous materials at the proposed project site and in the surrounding area, including cumulative impacts.

Definition of Hazardous Materials and Hazardous Wastes. A "hazardous material" is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment (State of California Health and Safety Code Chapter 6.95, Section 25501(p)). The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases) (22 California Code of Regulations [CCR] Sections 66261.21 to 66261.24).

In some cases, past industrial or commercial activities on a site could have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Hazardous materials may also be present in building materials and released during building demolition activities. If improperly handled, hazardous materials can cause health hazards when released to the soil, groundwater, or air. Individuals are typically exposed to hazardous materials through inhalation or bodily contact. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials from previous spills or leaks.

3.8.1 Environmental Setting

The following sections describe the environmental setting for hazards and hazardous materials within the project area, which includes WMWD's Riverside Retail Service Area, located in the City of Riverside and portions of unincorporated Riverside County.

Hazardous Materials in Soil and Groundwater

The potential for contamination in soil and groundwater within the project area is based on an environmental database review conducted to identify environmental cases, permitted hazardous materials uses, and spill sites within the boundaries of the City of Riverside and the County of Riverside. Environmental cases are those sites that are suspected of releasing hazardous substances or have had cause for hazardous substances investigations and are identified on regulatory agency lists. Permitted hazardous material uses are facilities that use hazardous materials or handle hazardous wastes that operate under appropriate permits and comply with current hazardous materials and hazardous waste regulations. Spill sites are locations where a spill has been reported to the State or federal regulatory agencies. Such spills do not always involve a release of hazardous materials.

California Government Code Section 65962.5 requires state and local agencies to compile and update, at least annually, lists of hazardous waste sites and facilities. While Government Code Section 65962.5 makes reference to a "list," commonly referred to as the Cortese List, this information is currently available from the following online data resources (CalEPA 2026):

- SWRCB GeoTracker database, which identifies sites that impact groundwater or require groundwater cleanup, and
- DTSC EnviroStor database, which identifies sites with known hazardous material contamination or warrant further investigation as well as facilities that treat, store, transfer, or dispose of hazardous waste.

These databases have compiled information from various sources that list known hazardous waste and hazardous substances sites in California. A review of the SWRCB GeoTracker and DTSC EnviroStor databases was conducted to identify active hazardous waste sites and facilities in the vicinity of proposed priority projects and near-term projects. Future projects were considered as part of the database search but in less detail than priority and near-term projects, given that the location of future facilities may change.

Priority Facility Upgrade Projects

Project WW-1 McKinley Trunk Sewer 1 (WCWRA)

The project site is adjacent to an active voluntary agreement site to the northeast, located at 129 McKinley Street. The site was utilized by Park Avenue Cleaners, which conducted dry cleaning using tetrachloroethylene (PCE) from 1989 to 2018 and investigations identified releases of volatile organic compounds in soil and groundwater. Remediation activities consisted of a soil vapor extraction system (SVE) and soil excavation from 2014 to 2019. Soil vapor sampling in 2023 confirmed that PCE concentrations decreased across the site and contaminant distribution in soil vapor appeared to be stable. DTSC noted that the residual mass of PCE is not expected to intrude into the indoor air space and will not pose as unacceptable to onsite commercial workers.

Project WW-3 Markham Lift Station Upgrade (WWRF)

The project site is across the road from a former DTSC school investigation site, which occurred on a 58-acre property at the southeast corner of the Markham Street/Wood Road intersection. Prior to development of the existing Citrus High School, the site was utilized for agriculture purposes indicating the potential use of pesticides. However, following an investigation of the soils on the site, it was determined that there were no previous releases of hazardous materials or naturally occurring hazardous materials at the site, and DTSC issued a No Further Action letter on August 9, 2002. No other sites are located within 0.5 miles of the proposed project site.

Priority Projects Without Known Hazardous Materials

The following priority project sites are not listed on any federal or state agency regulatory databases and would not be located within 0.5 miles of a known hazardous materials site.

- Project W-1 Moonridge Drive Pipeline Upsizing
- Project W-2 Blackburn Road Pipeline Upsizing
- Project W-3 Cedar Street and Avenue D Pipeline Upsizing
- Project WW-2 Beazer Lift Station and Forcemain Upgrades (WRCWRA)

Near-Term Projects

Hillside 2320 PZ Booster Pump Station and Pipeline

The project site is located 0.26 miles south of a LUST cleanup site, the Western Municipal Water District Operations Center located at 16451 El Sobrante Road. A LUST was identified in 1994. The LUST was removed and the cavity extending 11 feet bgs to the bedrock was excavated and removed from the site. Groundwater monitoring began in 1994 and concluded that groundwater was impacted by petroleum leakage from the LUST, resulting in liquid petroleum hydrocarbons. Groundwater monitoring and extraction wells were installed to remediate the contaminated groundwater plume. In 2011, upon successful remediation, all but five of the monitoring wells were removed to allow WMWD the ability to continue groundwater monitoring at the site. Following remediation, the SWRCB has determined that the case was closed in 2011.

Projects W-9 Orangecrest Tank, RW-1 Orangecrest Supply Pipelines, and RW-1, and New Orangecrest Tank

There are two military cleanup sites listed at the March Air Reserve Base (MARB) property, formerly named the March Air Force Base (March AFB), located just north of proposed Orangecrest project sites. The sites are listed as having a case-closed status in DTSC EnviroStor.

Former March AFB Site 25 Munitions Residue Burial Site located at	Site 25 covers approximately 33 acres and is located south of Cactus Avenue. Site 25 was used in the past for open air detonation and burning of munitions. Three areas with shallow trenches were used to bury munitions residue after destruction. Some of the contaminants found in the soils at this site included nickel, l,3,5-trinitrobenzene, nitroglycerin, benzopyrene, and RDX, all of which are munition residues. The Air Force was concerned that the contaminants in soil would cause groundwater contamination. After discussions with the regulatory agencies and the public, a decision was made to clean up the site by removing the debris and contaminated soils. Approximately 3,000 cubic yards of non-hazardous waste from the trenches and contaminated soils were removed and disposed of in the engineered waste cells at Site 6. Excavated materials from Site 25 to be transported to and disposed of in the engineered waste cells at Site 6 were tested for organic and inorganic constituents. Testing was also performed as part of the remedial investigation. All materials from Site 25 placed in the Site 6 engineered waste cells met the requirements of CCR Title 23, Section 2523 (currently CCR Title 27, Section 20220) for a non-hazardous solid waste landfill. Focused groundwater monitoring was completed at the site and no contaminants of concern were detected in groundwater. Confirmation sampling conducted after the interim removal action confirmed that the site had been cleaned to levels protective of human health and the environment. No restriction on future use of the land is required. The case was closed in May 2004 (USAF 2004).
Former March AFB Site 3 Landfill No. 5	Installation Restoration Program (IRP) Site 3 was a former Landfill no. 5 located on West March. The landfill occupied an area of approximately 23 acres and was used from 1954 to 1974. The landfill received household and dumpster waste, construction debris, and military waste from the former base. The military waste included empty tanks, spent munitions, and miscellaneous wastes such as parachutes, medical waste, and fire hoses. Some contaminants found in the wastes included volatile organic compounds (VOCs), pesticides, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and munitions residues. An interim removal action was completed late 1995 and 1996. Approximately 223,200 cubic yards of landfilled materials and soil was removed. The footprint of landfill removed was approximately 12 acres. Excavated materials from Site 3 were transported to IRP Site 6 for disposal on site in a lined engineered waste cell as non-hazardous solid waste. Confirmation sampling conducted after the interim removal confirmed that the site had been cleaned up to levels protective of human health and the environment. No restrictions on land use were required. After the interim removal action, the site was restored by backfilling with clean soil and re-vegetating the site. The site closure report is dated February 1997. In the Record of Decision dated May 2004 State and Federal Agencies agreed to no further action at Site 3 (USAF 2004).

Project RW-1 Lurin Irrigation Tank Improvements

The project site is located 0.25 miles east of a former DTSC school investigation site, where the present day Frank Augustus Miller Middle School is located. DTSC investigated the 30-acre site for past agriculture uses, small stockpiles for chemicals of concern, a former residence for lead and pesticides. A

No Further Action Letter was issued for the site on October 16, 2007, indicating that no hazardous materials are present at the site which could pose a threat to people or the environment. No other sites are located within 0.5 miles of the proposed lift station upgrade site.

Project RW-1 Cemetery PS Expansion

The proposed pump station is located adjacent to the Western Water Recycling Facility (WWRF) property, which is located adjacent to two case-closed military cleanup sites listed on SWRCB GeoTracker and one certified State response site listed on DTSC EnviroStor, indicating that hazardous materials at the site have been remediated to levels that no longer pose a threat to the environment or human health. However, the former U.S. Army Camp Haan property located adjacent/west of the WWRF includes a military cleanup site listed with an open/site assessment status, and a Formerly Used Defense Sites (FUDS) listed as an inactive/needs evaluation State response site, indicating potential contaminants may be located in proximity to the WWRF and proposed projects.

Former March AFB Site 24 Landfill No. 1 located on the WWRF site	Site 24 is a former 3-acre landfill that was reportedly used between 1941 and 1965 to dispose of household waste and military waste, receiving approximately 12,000 cubic yards of waste ash from the Camp Haan solid waste incinerator between 1941 and 1965. Some of the contaminants found in the waste included. PAHs, PCBs, antimony, barium, and cadmium. The Air Force was concerned that the waste in the landfill could contaminate groundwater. After discussions with the regulatory agencies and the public, a decision was made to clean up the site by removing the landfilled waste. In December 1996, approximately 19,300 cubic yards of non-hazardous, landfilled waste was removed and placed in the engineered waste cells at Site 6 (USAF 2004). Confirmation sampling conducted after the interim removal action confirmed that the site had been cleaned to levels protective of human health and the environment. No restriction on future use of the land is required. The site is listed as having a case closed status in SWRCB GeoTracker as of May 12, 2004, and as having a certified status in DTSC EnviroStor as of May 1, 1986.
Former March AFB Site 19 West March Sludge Drying Beds located east of the WWRF	Site 19 was located on the southern end of former West March, east of the WWRF. The site was about 7 acres and contained four lined sludge drying beds and three unlined sludge drying beds. In the past, wastewater sludge was spread out into ten unlined beds for drying. When dry, the sludge was removed from the drying beds. Approximately 7,000 cubic yard of surface and near-surface soil contamination was estimated to exist over the site. No consistent pattern to the contamination throughout the site was shown. The contaminants of concern and ecological concern were: polynuclear aromatic hydrocarbons, polychlorinated biphenyls, hexavalent chromium, and thallium. Previous investigations indicated that further investigation was required to better define the extent of soil and groundwater contamination and off-base migration of the chlorinated solvent trichloroethene in groundwater. The case was closed on October 26, 2016.
Camp Haan/Former U.S. Army Camp Haan, Site Y located at the Riverside National Cemetery	The former Camp Haan is located southeast of Riverside and west of Moreno Valley, due west of the WWRF. It was developed in 11/1940 as a Coast Artillery Antiaircraft Replacement Training Center on property adjacent to March Army Air Field. Camp Haan was transferred to the United States Veterans Administration (USVA) to establish the Riverside National Cemetery in 1976. Site Y (the Site) encompasses approximately 76 acres, is located at the south end of the former Camp Haan. The Site consisted of a landfill at and near a former incinerator. The incinerator was used to burn waste generated during Camp Haan operations. Camp Haan was closed in 1946, the incinerator was demolished and buried under approximately 12 feet of soil. Site Y has received solid wastes including miscellaneous municipal wastes, ash from the incinerator, and construction debris. USVA has used the site for disposal of soil and vegetative wastes. The U.S. Army Corps of Engineers (USACE) has completed RI/FS for the Site and has submitted a RI/FS report. Chemicals of concern at Site Y include lead, cadmium, copper, and nickel. Because the hazardous wastes are buried deep, USACE concludes that the Site poses no health risks to human health. USACE proposes no further action (NFA) for Site Y (USACE 2017). However, DTSC and the Water Board have recently provided comments disagreeing with the proposed NFA. Coordination between USACE, DTSC, and Water Board is ongoing. Future activities at this site will depend on the resolution of comments. The case status is listed as Open – Site Assessment as of February 7, 2017 (SWRCB GeoTracker), and Inactive/Needs Evaluation as of August 6, 2020 (DTSC EnviroStor)

Project WW-5 Meridian Lift Station Upgrades (WWRF)

The project site is located 0.4 miles west of a LUST cleanup site, the Arco Station No. 6345 located at 2624 East Alessandro Boulevard. The listed site has been an active fueling facility since at least 1993 when the current station was constructed. Soil and groundwater testing was conducted in 1997 and concluded that groundwater and soils were impacted by petroleum leakage from the LUST. However, following excavation of the contaminated soils, groundwater modeling, and subsequent investigation into the extent of contamination, the SWRCB has determined that the site meets the criteria for the Low-Threat UST Case Closure Policy and issued a case closure order letter for the LUST in November 2021 (SWRCB 2021). The site is listed as eligible for closure pending destruction of monitoring wells and borings, and removal of other investigation and remediation materials.

Project RW-1 Meridian West Campus Pipelines

There are two closed military cleanup sites and one closed LUST site located less than 0.5 miles from the proposed pipeline along Van Buren Boulevard.

Former March AFB Site 40 Landfill No. 8 located north of Van Buren Boulevard	Site 40 covers approximately 49 acres on West March, north of Van Buren Boulevard and west of Plummer Road. The most prominent feature at the site is the abandoned quarry, containing a pond with riparian vegetation. Site 40 was used as a disposal location for drums, construction debris, battery casings, and motor vehicle parts. After discussions with the regulatory agencies, a decision was made to complete an expedited cleanup of the area exposed by the erosion and other debris at the site. The time-critical removal action completed in 1994 included removal of the drums, miscellaneous waste, and contaminated soil. Hazardous waste from the site was taken off the Base for proper disposal. Approximately 6,800 cubic, yards of non-hazardous materials were disposed of at AFB engineered waste cells. During a recent site visit and evaluation of available data for AFB sites, levels of mercury were identified in sediments of a pond located at Site 40 that may present a threat to ecological receptors. It was determined that any actions taken to prevent exposure to mercury in sediments would be more disruptive to the wetland habitat at Site 40 than leaving the sediments in place. The efficacy of leaving these sediments in place has been subject to review under CERCLA. Groundwater testing has shown there is no contamination of groundwater (USAF 2004). The site is listed as having a case-closed status as of May 12, 2004.
Former March AFB Water Tank 6601 located at Plummer Street and Van Buren Road	The site was an active 2.5 million-gallon water tank constructed circa 1942, with appurtenances that included valves, piping and electronic controls. A soil investigation was conducted from January 20 to 21, 2000. During the investigation 45 samples were collected around and under the concrete slab area to a maximum depth of 2 feet below ground surface. The sample results indicated that mercury concentrations in soil, ranging from 0.15 to 22,500 milligrams per kilogram (mg/kg). The Air Force requested the Omaha District of the Army Corps of Engineers to use the Rapid Response Program to execute the excavation and disposal of mercury contaminated soil. Following demolition activities, the soil excavations were started on September 18, 2000. During the course of excavation, visible mercury was encountered on and underneath the ring wall. A final screening using a portable x-ray fluorescence spectrometer (XRF) did not measure mercury concentrations exceeding the cleanup criteria. Clean soil was placed in excavation for backfill. The metal enclosure, valves, and flanges were sent to a Class III landfill for disposal. Concrete debris screened as below the detection limit by XRF was recycled. Concrete debris screened as containing mercury contamination was disposed of in a Class I landfill. Approximately 65 tons of mercury impacted soil were disposed as California-hazardous waste. Eight 55-gallon drums of soil and concrete were transported off-site as RCRA-hazardous waste (USAF 2004). The case was closed on April 10, 2001.
USA Station No. 833 located at 8902 Trautwein Road, Riverside	The LUST case was opened for the site in 2006 after hydrocarbons were detected in soils and groundwater beneath the fuel tanks. Subsequent soil samples and groundwater monitoring at the site indicated that the extent of contamination posed a low-threat to human health, safety, and the environment. SWRCB determined that the site was eligible for closure under SWRCB's Low-Threat Closure Policy (SWRCB 2014). The case was closed for the site on June 6, 2014.

Project WW-4 MARB 1269 Lift Station and Pipeline Upgrade 1269 Expansion

In November 1991, MARB was listed as a Superfund site due to the presence of contaminated groundwater. There are numerous active and closed military cleanup sites listed at the MARB property. Active cleanup programs are currently in place at MARB associated with past aviation uses that have resulted in contamination from lead, petroleum, PCBs, PAHs, and COVs. There are several closed cleanup sites located adjacent to the proposed pump station, which is located at the very eastern edge of the MARB property. They include Site 16 East March Sludge Drying Beds, which include remnants of a secondary treatment system for sanitary and industrial waste installed in 1938, Site 14 Liquid Fuel Pump Station Overflow, where 1,000 gallons of jet propulsion fuel spilled into the ground in 1973, and Site 34, Pritchard Aircraft Fueling System, which involved remediation of six 50,000-gallon USTs. All of the sites located in within 0.25 miles of the pump station are listed as having a case-closed status in SWRCB GeoTracker.

Project W-11 Cole Ave/Cedar Street Upsize

The project site is located 0.35 miles west from a former DTSC school investigation site, which occurred on a 58-acre property at the southeast corner of the Markham Street/Wood Road intersection. Prior to development of the existing Citrus High School, the site was utilized for agriculture purposes indicating the potential use of pesticides. However, following an investigation of the soils on the site, it was determined that there were no previous releases of hazardous materials or naturally occurring hazardous materials at the site, and DTSC issued a No Further Action letter on August 9, 2002.

Project W-13 Highland Grove Pipeline III 18-Inch Pipeline, W-14 Highland Grove II and III 12-inch Pipeline, and W-10 Highland Grove Pressure Reducing Valve

The projects are located 0.30 miles east from an open cleanup program site, Pulte Highland Ranch – Highland Grove (Former Kayano Farms & Former H&R Farms, located at 13100 El Sobrante Avenue). The site was historically used for agricultural purposes from approximately the 1930s through 2012 indicating the potential uses of pesticides in addition to petroleum on portions of the site that previously contained buildings and equipment associated with historic farming operations. On January 30, 2026, a Low-Threat Underground Storage Tank Closure Request was prepared for the site, which was informed by prior environmental investigations, risk assessments, and regulatory determinations including Phase I and Phase II Environmental Site Assessments, soil and groundwater investigations, a Human Health Risk Assessment, and correspondence and approvals issued by the Santa Ana RWQCB and the Riverside County Department of Environmental Health. The request indicates that based on the previous environmental investigations, further investigation or corrective action would not meaningfully reduce environmental risk and thus case closure is requested. However, the case status has been listed as Open – Site Assessment as of October 4, 2023, and no case closure has been issued.

Project RW-1 Bergamont Park Conversion to RW

The project site is located southwest across Van Buren Boulevard from a LUST cleanup site, the USA Station #833 located at 8902 Trautwein Road. The listed site has been an active fueling facility since at least 2006 when a baseline assessment was conducted and concluded that groundwater was impacted by petroleum leakage from the LUST. In 2009, remedial over-purging of monitoring wells was conducted and groundwater gauging, purging, and sampling continued quarterly. Several subsurface investigations including groundwater monitoring through 2014 revealed that based on the available collected data and soil and groundwater results, the groundwater contamination plume presented no risk to the public and

environment and met the requirements for low threat regulatory case closure. The SWRCB determined that the site met the criteria and issued a case closure order letter for the LUST in January 2014.

RW-1 Idaleona Drive Upsizing

The proposed pipeline is located within the boundary of a FUDS associated with the former Gavilan Plateau Maneuver Area. The FUDS has been listed as an active-status State response site since November 10, 2021. Investigations into the former Rifle Grenade and Small Arms Range (MRS-01) within the FUDS boundary have determined there is the potential for the property to contain ordnance and explosives contamination/hazards due to previous munitions use, including grenades, practice grenades and small arms ammunition. However, the approximately 1,100-acre MRS-01 site extends southwest from the Rolling Meadows Drive/Rocky Glen Road intersection. This proposed pipeline project would not be subject to potential hazards/contamination associated with the MRS-01 (USACE 2008). As of March 2024, a Uniform Federal Policy Quality Assurance Project Plan was prepared for the site to identify the potential sources, types of sources, affected media, transport mechanisms, exposure routes, and potential receptors.

WWRF Expansion Study

There are closed and active sites located within and adjacent to the WWRF, as described in Project RW-1 Riverside National Cemetery Pump Station Upgrade above. The WWRF is located adjacent to MARB, which is an active cleanup site as described as above.

Near-Term Projects Without Known Hazardous Materials

The following near-term project sites are not listed on any federal or state agency regulatory databases and would not be located within 0.5 miles of a known hazardous materials site:

- Project W-5 New 3 MG Hidden Valley Tank
- Project W-6 New 1.5 MG El Nido Tank
- Project RW-1 El Sobrante PS Expansion (150 HP)
- Project W-12 Mariposa Ave/Lurin Avenue Upsize Project W-7 New 7 MG Markham Tank
- Project W-15 Juniper Road Pipeline Upsizing
- Project RW-1 Lake Ranch Pipelines

Future Projects

Project W-16 CITP (Intake PS)

The project site is located within a LUST cleanup site, the Western Municipal Water District Operations Center located at 16451 El Sobrante Road. A LUST was identified in 1994. The UST was removed and the cavity extending 11 feet bgs to the bedrock was excavated and removed from the site. Groundwater monitoring began in 1994 and concluded that groundwater was impacted by petroleum leakage from the LUST, resulting in liquid petroleum hydrocarbons. Groundwater monitoring and extraction wells were installed to remediate the contaminated groundwater plume. In 2011, upon successful remediation, all but five of the monitoring wells were removed to allow WMWD the ability to continue groundwater monitoring at the site. Following remediation, the SWRCB has determined that the case was closed in 2011.

Project W-18 Bergamont PS

The project site is located 0.17 miles southwest from a LUST cleanup site, the USA Station #833 located at 8902 Trautwein Road. The listed site has been an active fueling facility since at least 2006 when a baseline assessment was conducted and concluded that groundwater was impacted by petroleum leakage from the LUST. In 2009, remedial over-purging of monitoring wells was conducted and groundwater gauging, purging, and sampling continued quarterly. Several subsurface investigations including groundwater monitoring through 2014 revealed that based on the available collected data and soil and groundwater results, the groundwater contamination plume presented no risk to the public and environment and met the requirements for low threat regulatory case closure. The SWRCB determined that the site met the criteria and issued a case closure order letter for the LUST in January 2014.

Project W-23 New 13 MG Orangecrest Tank

There are two military cleanup sites listed at the MARB property, formerly named the March AFB, located just north of proposed Orangecrest project sites. The sites are listed as having a case-closed status in DTSC EnviroStor.

Former March AFB Site 25 Munitions Residue Burial Site located at	Site 25 covers approximately 33 acres and is located south of Cactus Avenue. Site 25 was used in the past for open air detonation and burning of munitions. Three areas with shallow trenches were used to bury munitions residue after destruction. Some of the contaminants found in the soils at this site included nickel, l,3,5-trinitrobenzene, nitroglycerin, benzopyrene, and RDX, all of which are munition residues. The Air Force was concerned that the contaminants in soil would cause groundwater contamination. After discussions with the regulatory agencies and the public, a decision was made to clean up the site by removing the debris and contaminated soils. Approximately 3,000 cubic yards of non-hazardous waste from the trenches and contaminated soils were removed and disposed of in the engineered waste cells at Site 6. Excavated materials from Site 25 to be transported to and disposed of in the engineered waste cells at Site 6 were tested for organic and inorganic constituents. Testing was also performed as part of the remedial investigation. All materials from Site 25 placed in the Site 6 engineered waste cells met the requirements of CCR Title 23, Section 2523 (currently CCR Title 27, Section 20220) for a non-hazardous solid waste landfill. Focused groundwater monitoring was completed at the site and no contaminants of concern were detected in groundwater. Confirmation sampling conducted after the interim removal action confirmed that the site had been cleaned to levels protective of human health and the environment. No restriction on future use of the land is required. The case was closed in May 2004 (USAF 2004).
Former March AFB Site 3 Landfill No. 5	IRP Site 3 was a former Landfill no. 5 located on West March. The landfill occupied an area of approximately 23 acres and was used from 1954 to 1974. The landfill received household and dumpster waste, construction debris, and military waste from the former base. The military waste included empty tanks, spent munitions, and miscellaneous wastes such as parachutes, medical waste, and fire hoses. Some contaminants found in the wastes included VOCs, pesticides, PCBs, PAHs, and munitions residues. An interim removal action was completed late 1995 and 1996. Approximately 223,200 cubic yards of landfilled materials and soil was removed. The footprint of landfill removed was approximately 12 acres. Excavated materials from Site 3 were transported to IRP Site 6 for disposal on site in a lined engineered waste cell as non-hazardous solid waste. Confirmation sampling conducted after the interim removal confirmed that the site had been cleaned up to levels protective of human health and the environment. No restrictions on land use were required. After the interim removal action, the site was restored by backfilling with clean soil and re-vegetating the site. The site closure report is dated February 1997. In the Record of Decision dated May 2004 State and Federal Agencies agreed to no further action at Site 3 (USAF 2004).

Project RW-2 RNC Pipeline Upsize to 18″

The northern segment of the proposed pipeline is located approximately 0.4 miles south of a former 1,000-gallon LUST that was discovered in 2014 during redevelopment grading on former March AFB property located north of Van Buren, west of Meridian Pkwy, and east of Plummer St. Upon discovery,

the UST remained full of fuel. The site was fenced and removal of the LUST was subsequently conducted on December 10, 2014, under Riverside County Department of Environmental Health (RCDEH) oversight. On Jan 28, 2015, the former LUST cavity was cleared and expanded minimally to allow for the collection of samples to verify subsurface conditions under the former UST. Sample results indicated the area had been adequately assessed and existing conditions did not pose a threat to public health or the environment. RCDEH issued a UST closure/no further action letter on April 17, 2015 (RCDEH 2015).

In addition, the listings described above for Project RW-1 Riverside National Cemetery Pump Station Upgrade, are in close proximity to the southern segment of this pipeline. However, the proposed pipeline would connect to the northern boundary of the WWRF and would not cross through any sites listed for previous hazardous materials contamination.

Project WW-7 McKinley Trunk Sewer 2 (WCWRA)

The project site is adjacent to an active voluntary agreement site to the northeast, located at 129 McKinley Street. The site was utilized by Park Avenue Cleaners, which conducted dry cleaning using tetrachloroethylene (PCE) from 1989 to 2018 and investigations identified releases of volatile organic compounds in soil and groundwater. Remediation activities consisted of a soil vapor extraction system (SVE) and soil excavation from 2014 to 2019. Soil vapor sampling in 2023 confirmed that PCE concentrations decreased across the site and contaminant distribution in soil vapor appeared to be stable. DTSC noted that the residual mass of PCE is not expected to intrude into the indoor air space and does not pose as unacceptable to onsite commercial workers.

Project WW-12 Markham Lift Station Ultimate Upgrades

The project site is across the road from a former DTSC school investigation site, which occurred on a 58-acre property at the southeast corner of the Markham Street/Wood Road intersection. Prior to development of the existing Citrus High School, the site was utilized for agriculture purposes indicating the potential use of pesticides. However, following an investigation of the soils on the site, it was determined that there were no previous releases of hazardous materials or naturally occurring hazardous materials at the site, and DTSC issued a No Further Action letter on August 9, 2002.

Project WW-13 MARB 1269 Lift Station Upgrade Study

In November 1991, MARB was listed as a Superfund site due to the presence of contaminated groundwater. There are numerous active and closed military cleanup sites listed at the MARB property. Active cleanup programs are currently in place at MARB associated with past aviation uses that have resulted in contamination from lead, petroleum, PCBs, PAHs, and COVs. There are several closed cleanup sites located adjacent to the proposed pump station, which is located at the very eastern edge of the MARB property. They include Site 16 East March Sludge Drying Beds, which include remnants of a secondary treatment system for sanitary and industrial waste installed in 1938, Site 14 Liquid Fuel Pump Station Overflow, where 1,000 gallons of jet propulsion fuel spilled into the ground in 1973, and Site 34, Pritchard Aircraft Fueling System, which involved remediation of six 50,000-gallon USTs. All of the sites located within 0.25 miles of the pump station are listed as having a case-closed status in SWRCB GeoTracker.

Future Projects Without Known Hazardous Materials

The following future project sites are not listed on any federal or state agency regulatory databases and would not be located within 0.5 miles of a known hazardous materials site.

- Project W-17 Increase Capacity of Mockingbird PS
- Project W-19 Rolling Meadows PS
- Project W-20 New 2 MG PZ2116 Tank
- Project W-21 New 4 MG PZ1550 Tank
- Project W-22 New 3 MG Hidden Valley Tank
- Project W-24 PZ 2320 12-Inch Pipelines
- Project W-25 Via Barranca Pipeline Upsizing
- Project RW-1 Upper Plateau Development Pipelines
- Project RW-2 RNC Pipeline Upsize to 24″
- Project RW-2 Additional 7-MG Storage in PZ1815
- Project RW-2 Oleander PS Expansion (200 HP)
- Project RW-2 McAllister PS Expansion (200 HP)
- Project RW-2 El Sobrante PS Expansion (150 HP)
- Project WW-8 La Sierra Trunk Sewer(WRCWRA)
- Project WW-9 Meridian Trunk Sewer North (WWRF)
- Project WW-10 Arnold Heights Trunk Sewer (WWRF)
- Project WW-11 Meridian Trunk Sewer South at RNC (WWRF)
- Project W-8 New 2 MG PZ1783 Tank

Sensitive Receptors

Preschools, schools, daycare centers, nursing homes, and hospitals are considered sensitive receptors for hazardous material issues because children and the elderly are more susceptible than adults to the effects of many hazardous materials. There are numerous sensitive receptors throughout the project area and there is the potential for many sensitive receptors to be within 0.25 miles of existing and proposed facilities.

Schools

Table 3.8-1 lists schools within 0.25 miles of each of the project locations.

TABLE 3.8-1
SCHOOLS WITHIN 0.25 MILES

School Name	Address	Nearest Project	Distance
Priority Facility Upgrade Projects			
Citrus High School	18150 Wood Road, Perris, CA, 92570	WW-3: Markham Lift Station Upgrade (WWRF)	0.02 miles
Near-Term Projects			
Frank Augustus Miller Middle School	17925 Krameria Avenue, Riverside, CA 92504	RW-1: Lurin Irrigation Tank Improvements	0.25 miles
Benjamin Franklin Elementary School	19661 Orange Terrace Parkway, Riverside, CA 92508	RW-1: Orangecrest Supply Pipelines	0.23 miles
Amelia Earhart Middle School	20202 Aptos Street, Riverside, CA 92508	RW-1: Meridian West Pipelines	0.12 miles
Tomas Rivera Elementary School	20440 Red Poppy Lane, Riverside, CA 92508	RW-1: Meridian West Pipelines	0.6 miles
Mark Twain Elementary School	19411 Krameria Avenue, Riverside, CA 92508	W-4: Mariposa Ave/Lurin Ave Upsize	0.25 miles
Future Projects			
Citrus High School	18150 Wood Road, Perris, CA, 92570	WW-12 Markham Lift Station Ultimate Upgrades	0.02 miles
Benjamin Franklin Elementary School	19661 Orange Terrace Parkway, Riverside, CA 92508	W-23 New 13 MG Orangecrest Tank	0.23 miles

Source: ESA 2026

Airports

Riverside County Airport Land Use Commission (ALUC) is responsible for airport planning in the region and reviews land use compatibility issues for development surrounding airports including safety, noise, overflight and airspace protection. These compatibility issues are identified and analyzed in the Airport Land Use Compatibility Plans (ALUCPs) for each airport, and implementation of ALUCPs promotes compatible development around the airports (Riverside County ALUC 2026). An ALUCP focuses on a defined area around each airport known as the Airport Influence Area (AIA). The following project facilities are located in AIA Zones M through D, which have limitations on development for safety reasons, as shown in **Table 3.8-2**. There are no priority projects located within these AIA zones.

The MARB is located near the northeast boundary of the Riverside Retail Service Area and its AIA includes several of the proposed project sites. According to the City of Riverside General Plan, plans for the long-range development of MARB as a joint military and air cargo facility will continue to present airport hazards and noise impacts in this area (City of Riverside 2019). The project area does not include any public-use airports or private airports.

TABLE 3.8-2
MARB AIA ZONES

Project Name	MARB AIA Zone	Applicable Prohibited Uses and Restrictions
Near-Term Projects		
RW-1 Cemetery PS Expansion	C-1 (Primary Approach/ Departure Zone)	Restricted hazards to flight include tall objects and visual and electronic forms of interference; Airspace review required for objects >70 feet tall.
RW-1 Meridian West Pipelines	C-2 (Flight Corridor Zone)	Restricted hazards to flight include tall objects and visual and electronic forms of interference; Airspace review required for objects >70 feet tall.
W-9 New 12.5 MG Orangecrest Tank, RW-1 New Orangecrest Tank, RW-1 Orangecrest Supply Pipelines	C-2 (Flight Corridor Zone)	Restricted hazards to flight include tall objects and visual and electronic forms of interference; Airspace review required for objects >70 feet tall.
WW-5 Meridian Lift Station Upgrades (WWRF)	B-1 (Inner Approach/ Departure Zone)	Restricted use includes hazardous materials storage, as well as power plants, electrical substations, and public communications facilities; Airspace review required for objects >35 feet tall.
WW-5 MARB 1269 Lift Station and Pipeline Upgrade 1269 Expansion	M (Military)	No ACLU Authority
WW-6 WWRF Expansion Study	C-1 (Primary Approach/ Departure Zone)	Restricted hazards to flight include tall objects and visual and electronic forms of interference; Airspace review required for objects >70 feet tall.
Future Projects		
WW-13 MARB 1269 Lift Station Upgrade Study	M (Military)	No ACLU Authority
RW-2 RNC Pipeline Upsize to 24″	C-1 (Primary Approach/ Departure Zone)	Restricted hazards to flight include tall objects and visual and electronic forms of interference; Airspace review required for objects >70 feet tall.

Source: ESA 2022

Emergency Operations Planning

The Riverside County Emergency Management Department (County EMD) and the City of Riverside Office of Emergency Management (OEM) are responsible for emergency response planning in the project area. Emergency plans that would be applicable to the proposed project are discussed in the local regulatory settings.

Wildfire Hazards

California Department of Forestry and Fire Protection (CAL FIRE) maps the Fire Hazard Severity Zones (FHSZ) for the City of Riverside and unincorporated County areas within the project area. The FHSZ are based on an evaluation of fuels, topography, dwelling density, weather, infrastructure, building materials, brush clearance, and fire history. According to the CAL FIRE FHSZ State Responsibility Area (SRA) and Local Responsibility Area (LRA) maps, the project area contains moderate, high, and very high fire hazard severity zones. Please refer to Figure 3.15-1 in Section 3.15, *Wildfire*, for a map of CAL FIRE's fire hazard severity zones.

3.8.2 Regulatory Framework

Hazards and hazardous materials are subject to numerous federal, State, and local laws and regulations intended to protect health, safety, and the environment. The USEPA, CalEPA, DTSC, Regional Water Quality Control Board (RWQCB), and County of Riverside are the primary agencies enforcing these regulations. Local regulatory agencies enforce many federal and state regulations through the Certified Unified Program Agency (CUPA) program.

Federal

Federal agencies with responsibility for hazardous materials management include the USEPA, Department of Labor (Federal OSHA), and Department of Transportation (USDOT). Major federal laws and issue areas include the following statutes and regulations:

Resources Conservation and Recovery Act 42 USC 6901 et seq.

The Resources Conservation and Recovery Act (RCRA) is the principal law governing the management and disposal of hazardous materials. RCRA is considered a "cradle to grave" statute for hazardous wastes in that it addresses all aspects of hazardous materials from creation to disposal. RCRA applies to this project because RCRA is used to define hazardous materials, offsite disposal facilities and the wastes each may accept are regulated under RCRA.

Emergency Planning and Community Right-to-Know Act (from SARA Title III)

Emergency Planning and Community Right-to-Know Act (EPCRA) improved community access to information regarding chemical hazards and facilitated the development of business chemical inventories and emergency response plans. EPCRA also established reporting obligations for facilities that store or manage specified chemicals. EPCRA applies to this project because contractors who use hazardous materials (e.g., fuels, paints and thinners, solvents, etc.) would be required to prepare and implement written emergency response plans to properly manage hazardous materials and respond to accidental spills.

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA was developed in 1980 to protect water, air, and land resources from risk created by past chemical disposal practices. CERCLA, also known as Superfund, allows the federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified.

Under CERCLA, the CERCLIS database was developed and lists all contaminated sites in the nation that have in part undergone or are currently undergoing cleanup activities. CERCLIS includes information on current hazardous waste sites, potential hazardous waste sites, and remediation activities, including sites listed on USEPA's National Priorities List (NPL) or being considered for the NPL.

USDOT Hazardous Materials Transportation Act of 1975 (49 USC 5101)

USDOT, in conjunction with the USEPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to safe storage and transportation of hazardous materials. CFR 49, 171–

180, regulates the transportation of hazardous materials, types of material defined as hazardous, and the marking of vehicles transporting hazardous materials. This regulation applies to this project because contractors will be required to comply with its storage and transportation requirements, which would reduce the possibility of spills.

The Federal Motor Carrier Safety Administration (49 CFR Parts 383–397)

The Federal Motor Carrier Safety Administration, a part of the USDOT, issues regulations concerning highway transportation of hazardous materials, the hazardous materials endorsement for a commercial driver's license, highway hazardous material safety permits, and financial responsibility requirements for motor carriers of hazardous materials. This regulation applies to this project because contractors would be required to comply with its storage and transportation requirements, which would reduce the possibility of spills.

Occupational Safety and Health Administration (29 USC 15)

OSHA is the federal agency responsible for ensuring worker safety. These regulations provide standards for safe workplaces and work practices, including those relating to hazardous materials handling. OSHA applies to this project because contractors would be required to comply with its hazardous materials management and handling requirements, which would reduce the possibility of spills.

Federal Regulation 49 Code of Federal Regulation Part 77

The Federal Aviation Administration (FAA) is the federal agency that identifies potential impacts related to air traffic and related safety hazards. The Federal Regulation 49 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for:

- Evaluating the effect of the proposed construction or alteration on operating procedures,
- Determining the potential hazardous effect of the proposed construction on air navigation,
- Identifying mitigating measures to enhance safe air navigation, and
- Charting of new objects.

FAA FAR Part 77 includes the establishment of imaginary surfaces (airspace that provides clearance of obstacles for runway operation) that allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing adverse impacts to the safe and efficient use of navigable airspace. The regulations identify three-dimensional imaginary surfaces through which no object should penetrate. Section 77.17 (Obstruction Standards) also states that an object would be an obstruction to air navigation if it is higher than 200 feet above ground level. Exceedance of 200 feet above ground level or the 100:1 imaginary surface requires notification to FAA (per FAR Part 77). An object that would be constructed or altered within the height restriction or imaginary surface area of the airport is not necessarily incompatible (ALUP 2008), but would be subject to FAA notification and an FAA aeronautical study to determine whether the proposed structures would constitute a hazard to air navigation.

Federal Insecticide, Fungicide, and Rodenticide Act 7 U.S.C. Section 136 et seq. (1996)

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provides for federal regulation of pesticide distribution, sale, and use ("pesticides" includes any herbicide, insecticide, rodenticide,

algaecide, fungicide, or any combination of substances intended to prevent, destroy, or repel any pest). All pesticides distributed or sold in the United States must be registered (licensed) by the USEPA. Before USEPA may register a pesticide under FIFRA, the applicant must show, among other things, that using the pesticide according to specifications "will not generally cause unreasonable adverse effects on the environment." FIFRA defines the term "unreasonable adverse effects on the environment" to mean: "(1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under section 408 of the Federal Food, Drug, and Cosmetic Act." Training is required for workers in pesticide-treated areas and certification and training for applicators of restricted use pesticides.

State

The primary state agencies with jurisdiction over hazardous chemical materials management for the project area are the DTSC and the SWRCB, overseen by the local Santa Ana RWQCB. Other state agencies involved in hazardous materials management are the Department of Industrial Relations (State OSHA implementation), State Office of Emergency Services (OES)—California Accidental Release Prevention (CalARP) implementation, the California Air Resources Board, Caltrans, the California Office of Environmental Health Hazard Assessment (Proposition 65 implementation), and California Integrated Waste Management Board. Hazardous materials management laws in California include the following statutes and regulations promulgated thereunder:

Hazardous Waste Control Act (California Health and Safety Code, Section 25100 et seq.)

The Hazardous Waste Control Act (HWCA) is the state equivalent of RCRA and regulates the generation, treatment, storage, and disposal of hazardous waste. This act implements the RCRA "cradle-to-grave" waste management system in California and extends regulation to certain hazardous wastes not covered by RCRA. The HWCA is also more stringent in its regulation of spent lubricating oil, small-quantity generators, transportation and permitting requirements, and includes increased penalties for violations.

Health and Safety Code, Section 2550 et seq.

This code and the related regulations in 19 CCR 2620 et seq., require local governments to regulate local business storage of hazardous materials in excess of certain quantities. The law also requires that entities storing hazardous materials be prepared to respond to releases. Those using and storing hazardous materials are required to submit a Hazardous Materials Business Plan (HMBP) to their local CUPA and to report releases to their CUPA and the State Office of Emergency Services. The RCDEH Environmental Protection and Oversight division is the designated CUPA in the County of Riverside. This code would apply to the project because the contractors would be required to prepare a HMBP that would provide procedures for the safe handling, storage, and transportation of hazardous materials.

California Accidental Release Prevention Program

The purpose of the CalARP is to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. This is accomplished by requiring businesses that handle more than a threshold quantity of a regulated substance listed in the regulations to develop a Risk Management Plan (RMP). An RMP is a detailed engineering analysis of the potential accident factors present at a business and the

mitigation measures that can be implemented to reduce this accident potential. The RMP contains safety information, hazards review, operating procedures, training requirements, maintenance requirements, compliance audits, and incident investigation procedures.

California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act)

The Business Plan Act requires preparation of hazardous materials business plans and disclosure of hazardous materials inventories, including an inventory of hazardous materials handled, plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (Health and Safety Code [HSC], Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the state. Local agencies are responsible for administering these regulations.

Several state agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety, including the CalEPA and the California Emergency Management Agency. The California Highway Patrol and Caltrans enforce regulations specifically related to the transport of hazardous materials. Together, these agencies determine which container types may be used to transport hazardous materials and grant licenses to hazardous waste haulers for hazardous waste transportation on public roadways.

The Business Plan Act applies to this project because contractors will be required to comply with its handling, storage, and transportation requirements that would reduce the possibility of spills, and to prepare an emergency response plan to respond to accidental spills.

California Division of Occupational Safety and Health

Cal/OSHA is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA requires many entities to prepare injury and illness prevention plans and chemical hygiene plans, and provides specific regulations to limit exposure of construction workers to lead. OSHA applies to this project because contractors will be required to comply with its handling and use requirements that increase worker safety and reduce the possibility of spills, and to prepare an emergency response plan to respond to accidental spills.

Government Code Section 65962.5, Cortese List

The provisions in Government Code Section 65962.5 are commonly referred to as the “Cortese List” (after the legislator who authored and enacted the legislation). The list, or a site’s presence on the list, has bearing on the local permitting process, as well as on compliance with CEQA. The list is developed with input from the State Department of Health Services, SWRCB, California Integrated Waste Management Board, and DTSC. At a minimum, at least annually, the DTSC is required to submit to the Secretary for Environmental Protection a list of the following:

1. All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.

2. All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.
3. All information received by the DTSC pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.
4. All sites listed pursuant to Section 25356 of the Health and Safety Code
5. All public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Section 116395 of the Health and Safety Code.
6. All underground storage tanks for which an unauthorized release report is filed pursuant to Section 25295 of the Health and Safety Code.
7. All solid waste disposal facilities from which there is a migration of hazardous waste and for which a California Regional Water Quality Control Board has notified the Department of Toxic Substances Control pursuant to Section 13273(e) of the Water Code.
8. All cease and desist orders issued after January 1, 1986, pursuant to Section 13301 of the Water Code, and all cleanup or abatement orders issued after January 1, 1986, pursuant to Section 13304 of the Water Code, that concern the discharge of wastes that are hazardous materials.
9. All solid waste disposal facilities from which there is a known migration of hazardous waste.

The Secretary for Environmental Protection consolidates the information submitted pursuant to this section and distributes it in a timely fashion to each city and county in which sites on the lists are located, and to any other person upon request. The secretary may charge a reasonable fee to persons requesting the information, other than cities and counties, to cover the cost of developing, maintaining, and reproducing and distributing the information.

Utility Notification Requirements

Title 8, Section 1541 of the CCR requires excavators to determine the approximate locations of subsurface utility installations (e.g., sewer, telephone, fuel, electric, water lines, or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The California Government Code (Section 4216 et seq.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to Section 4216.1, operators of subsurface installations who are members or participate and share in the costs of a regional notification center are in compliance with this section of the code. Underground Services Alert of Southern California (known as DigAlert) receives planned excavation reports from public and private excavators and transmits those reports to all participating members of DigAlert that may have underground facilities at the location of excavation. Members will mark or stake their facilities, provide information, or give clearance to dig (DigAlert 2019). This requirement would apply to this project because any excavation would be required to identify underground utilities before excavation.

California Fire Code

The California Fire Code, Article 80, includes specific requirements for the safe storage and handling of hazardous materials. These requirements reduce the potential for a release of hazardous materials and for

mixing of incompatible chemicals, and specify the following design features to reduce the potential for a release of hazardous materials that could affect public health or the environment:

- Separation of incompatible materials with a noncombustible partition.
- Spill control in all storage, handling, and dispensing areas.
- Separate secondary containment for each chemical storage system. The secondary containment must hold the entire contents of the tank, plus the volume of water needed to supply the fire-suppression system for a period of 20 minutes in the event of a catastrophic spill.

The California Fire Code, Article 79, includes specific requirements for the safe storage and handling of flammable and combustible liquids. Specific requirements address fire protection; prevention and assessment of unauthorized discharges; labeling and signage; protection from sources of ignition; specifications for piping, valving, and fittings; maintenance of aboveground tanks; requirements for storage vessels, vaults, and overfill protection; and requirements for dispensing, using, mixing, and handling of flammable and combustible liquids.

Regional

Certified Unified Program Agency

In 1993, SB 1082 was passed by the state legislature to streamline the permitting process for those businesses that use, store, or manufacture hazardous materials. The passage of SB 1082 provided for the designation of a CUPA that would be responsible for the permitting process and collection of fees. The CUPA would be responsible for implementing at the local level the Unified Program, which serves to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental and emergency management programs:

- Hazardous Waste
- Hazardous Materials Business Plan
- California Accidental Release Prevention Program
- Underground Hazardous Materials Storage Tanks
- Aboveground Petroleum Storage Tanks/Spill Prevention Control & Countermeasure Plans
- Hazardous Waste Generator and On-Site Hazardous Waste Treatment (tiered permitting) Programs

As described above, the RCDEH Environmental Protection and Oversight division is the designated CUPA in the County of Riverside.

Local

Riverside County Emergency Operations Plan

This County of Riverside Emergency Operations Plan (EOP) was formally adopted by the County Board of Supervisors in 2019. The EOP detailed emergency response checklists outlining procedures to be followed in the event of natural disasters, severe storms, major system failures, or terrorist attacks within the Riverside County Operational Area (OA), which includes the project area. The EOP focuses on coordinating mutual aid and provides an overview of the operational concepts relating to various

emergency situations, identifies components of the emergency response, and describes the overall responsibilities of the OA for supporting stakeholders in protecting life and property. In addition, the EOP addresses the roles and responsibilities of the County during all-hazards emergency response. Specifically, the EOP identifies and describes interaction with the County of Riverside, State, and Federal entities, the role of the OA Emergency Operations Center (EOC), and the coordination that occurs between the EOC and OA departments and agencies (County of Riverside 2024b).

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

This March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan was prepared for and adopted by the Riverside County Airport Land Use Commission (RCALUC). The plan includes noise and land use parameters to be implemented by development within certain zones of the MARB AIA.

Riverside County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHP)

The Riverside County OA's MJLHP identifies the County's hazards, reviews and assess past disaster occurrences, estimates the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards. The plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 to achieve eligibility and potentially secure mitigation funding through Federal Emergency Management Agency (FEMA) Flood Mitigation Assistance, Pre-Disaster Mitigation, and Hazard Mitigation Grant Programs (County of Riverside 2025).

Riverside County Hazardous Waste Management Plan

The Riverside County Hazardous Waste Management Plan (CHWMP) was adopted in 1989 and uses a framework of 24 programs to serve as the county's primary planning document for the management of hazardous substances. Its policies include:

- Comply with federal and state laws pertaining to the management of hazardous wastes and materials.
- Ensure active public participation in hazardous waste and hazardous materials management decisions in Riverside County.
- Coordinate hazardous waste facility responsibilities on a regional basis through the Southern California Hazardous Waste Management Authority.
- Encourage and promote the programs, practices, and recommendations contained in the County Hazardous Waste Management Plan, giving the highest waste management priority to the reduction of hazardous waste at its source.

County of Riverside General Plan

The County of Riverside General Plan addresses hazards and hazardous materials in the Safety Element. The following policies within the County of Riverside General Plan would be applicable to the proposed project (County of Riverside 2024a).

Building Code and Performance Standards

Policy S 4.1. All development and construction within Fire Hazard Severity Zones shall be reviewed by the Riverside County Fire Department and Building and Safety Department for consistency with the following requirements before the issuance of any building permits.

a. All proposed development and construction shall meet minimum state, county, and local standards and other legal requirements for fire safety, as defined in the Riverside County Building or Fire Codes, or by County zoning, or as dictated by the Building Official or the Transportation Land Management Agency, based on building type, design, occupancy, and use.

b. In addition to the standards and guidelines of the California Building Code, California Fire Code, the Riverside County Code of Ordinances, Title 14 of the California Code of Regulations, and other appropriate fire safety provisions, developments shall incorporate additional standards for high-risk, high-occupancy, and dependent facilities where appropriate under the Riverside County Fire Code (Ordinance No. 787) Ordinance. These shall include assurance that structural and nonstructural architectural elements of the building will not impede emergency egress for fire safety staffing/personnel, equipment, and apparatus; nor hinder evacuation from fire, including potential blockage of stairways or fire doors.

c. Proposed development and construction in Fire Hazard Severity Zones shall provide secondary public access, in accordance with Riverside County ordinances, where required. There shall be multiple points of ingress and egress that allow for emergency response vehicle access. Points of access shall also include visible street addresses and signs and sufficient water supplies, infrastructure for structural fire suppression, and other applicable local and state requirements.

d. Proposed development and construction in Fire Hazard Severity Zones shall use single loaded roads to enhance fuel modification areas, unless otherwise determined by the Riverside County Fire Chief.

e. Proposed development and construction in Fire Hazard Severity Zones shall provide a defensible space or fuel modification zones to be located, designed, constructed, and maintained to provide adequate defensibility from wildfires.

f. Prior to the approval of all parcel maps and tentative maps, the County shall require, as a condition of approval and as feasible and appropriate, the developer meet or exceed the State Responsibility Area Fire Safe Regulations and the Fire Hazard Reduction Around Buildings and Structures Regulations, particularly those regarding road standards for ingress, egress, and fire equipment access (see Gov. Code, Section 66474.02.)

g. Proposed development and construction of more than four residential units or more than 10,000 square feet of nonresidential space located in Very High Fire Hazard Severity Zones, or other appropriate zones as determined by the Riverside County Fire Department, shall submit and implement a fire protection plan as feasible and appropriate. This plan shall include provisions for roadways and access, firefighting infrastructure, signage, vegetation management, construction materials, and evacuations.

Policy S 5.3: Require that applications for discretionary development projects that will generate hazardous wastes or use hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.

Policy S 5.5: Regulate the storage of hazardous materials and wastes and require secondary containment and periodic examination for all such materials as necessary.

Policy S 5.6: Require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of a hazardous material, including

providing updated information to emergency responders on the type and quantity of hazardous materials kept on-site.

Policy S 5.8: Ensure that the use and disposal of hazardous materials in the County complies with local, state, and federal safety standards.

City of Riverside Local Hazard Mitigation Plan

The purpose of the City of Riverside LHMP is to evaluate and assess the risks identified hazards pose to the city, review and assess past disaster occurrences and through the engagement of the whole community set goals to mitigate potential risks to reduce or eliminate long-term risk to people, property and environment from natural, man-made and technological hazards. The Riverside Fire Department Office of Emergency Management (OEM) coordinated the development and update to the 2012 City of Riverside LHMP Annex to address planning considerations unique to the City of Riverside. The City of Riverside LHMP Annex integrates with the Riverside County Operational Area Multi-Jurisdictional LHMP and provides a uniform approach to community mitigation efforts. The plan identifies vulnerabilities, provides recommendations for prioritized mitigation actions, evaluates resources and identifies mitigation shortcomings, provides future mitigation planning and maintenance of existing plan (City of Riverside 2018).

City of Riverside General Plan

The following policies within the City of Riverside General Plan are related to hazards and hazardous materials (City of Riverside 2007):

Objective PS-3: Minimize risks associated with the storage, transport and disposal of hazardous materials.

Policy PS-3.3: Work with responsible Federal, State, and County agencies to identify and regulate the disposal of toxic materials.

Policy PS-3.4: Reduce the risks associated with ground transportation hazards, where feasible.

Objective PS-4: Protect the community from hazards related to air and ground transportation.

Policy PS-4.4: Maintain open space adjoining the Riverside Municipal Airport, March Air Reserve Base/March Inland Port and Flabob Airport as required for safety for both the present runway configurations and for possible future expansion as identified in the Riverside County Airport Land Use Compatibility Plan, including the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, and the Riverside Municipal Airport Master Plan.

Policy PS-4.6: Ensure that development within airport influence areas is consistent with the Airport Protection Overlay Zone development standards and the Riverside County Airport Land Use Compatibility Plan, which includes the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan.

Objective PS-6: Protect property in urbanized and nonurbanized areas from fire hazards.

Policy PS-6-3: Integrate fire safety considerations in the planning process.

Policy PS-6.4: Evaluate all new development to be located in or adjacent to wildland areas to assess its vulnerability to fire and its potential as a source of fire.

Policy PS-6.6: Continue to implement stringent brush-clearance requirements in areas subject to wildland fire hazards.

3.8.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to hazards and hazardous materials. The proposed project would have a significant impact if it would:

1. Create a significant hazard to the public or the 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. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.
8. Result in cumulatively considerable impacts to hazards and hazardous materials.

Impact Analysis

Transport and Release of Hazardous Materials

Impact 3.8-1: The proposed project could create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials, or the upset and accident conditions involving the release of hazardous materials into the environment.

Priority, Near-Term, and Future Projects

Pipelines, Pump Stations, Lift Stations, Storage Tanks

Construction activities would be required for implementation of the proposed facilities in the project area, including installation and upgrades to pipelines, pump stations, lift stations, and water tanks. The construction activities would involve site preparation and clearing, trenching, excavation, drilling, grading, and other ground-disturbing activities. The anticipated construction activities would temporarily require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials. In addition, construction activities would require the

use of heavy equipment that would contain oil, gasoline, or other fluids, and would likely be stored on and transported to the various project locations during the construction period.

Accidental release of these materials could occur during routine transport, disposal, or use, and could potentially injure construction workers, contaminate soil, and/or affect nearby groundwater or surface water bodies. Impacts associated with accidental release, although likely localized, could potentially create a significant hazard to the public or the environment. Cal/OSHA regulations provide for the proper labeling, storage, and handling of hazardous materials to reduce the potential harmful health effects that could result from worker exposure to hazardous materials. If not properly handled; however, accidental release of these substances could expose construction workers, degrade soils, or become entrained in stormwater runoff, resulting in adverse effects on the public or the environment. WMWD is required to comply with all relevant and applicable federal, State and local laws and regulations that pertain to the transport, storage, use, and disposal of hazardous materials and waste during construction of proposed facilities.

Construction projects that disturb 1 acre of land or more are required to obtain coverage under the NPDES General Construction Permit. All pipelines included in Chapter 2, *Project Description*, Tables 2-1, 2-2, and 2-3, in addition to the following aboveground facilities, would require coverage under the NPDES permit: W-5 New 3 MG Hidden Valley Tank, W-6 New 1.5 MG El Nido Tank, W-7 New 7 MG Markham Tank, W-9 New Orangecrest Tank, RW-1 Orangecrest Recycled Water Tank, RW-1 Lurin Irrigation Tank Improvements, WW-6 WWRF Expansion Study, W-8 New 2 MG PZ1783 Tank, W-20 New 2 MG PZ2116 Tank, W-21 New 4 MG PZ1550 Tank, W-22 New 3 MG Hidden Valley Tank, W-23 New 13 MG Orangecrest Tank, and RW-2 Additional 7 MG Storage in PZ1815. WMWD would prepare a SWPPP in compliance with Section 402 of the Federal CWA and would file a Notice of Intent with the SWRCB to obtain coverage under the SWRCB NPDES General Construction Permit (Order 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ). The SWPPP would include spill prevention measures to avoid and, if necessary, clean up accidental releases of hazardous materials. Compliance with all NPDES Construction General Permit requirements including the preparation and implementation of a SWPPP and associated BMPs would minimize the potential for mishandling and/or the release of hazardous materials. Therefore, compliance with the applicable regulations would ensure that construction of the proposed facilities would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or the accidental release of hazardous materials. Impacts would be less than significant.

Operation of the proposed project would consist of facilities designed to store, transport, and treat water. Maintenance activities of the facilities may include, but are not limited to, periodic removal of accumulated sediment and debris, replacement of non-operational machinery, and inspection and maintenance of all structures. The use of maintenance equipment and worker vehicles transporting workers to the conveyance facilities sites would require periodic transport and use of fuels and chemicals. No new workers would be added to support operation and maintenance of the upgraded/new facilities; existing staff would be rotated to serve maintenance needs. Thus, substantial amounts of hazardous materials are not anticipated to be used during operation and maintenance of the facilities. Further, any use of hazardous materials and substances during operations would be subject to the federal, state, and local health and safety requirements for the handling, storage, transportation, and disposal of hazardous materials. Compliance with all applicable regulations is required. As a result, operational impacts related

to the transport, use, or disposal of hazardous materials, and the accidental release of hazardous materials would be less than significant.

WWRF Expansion

Similar to construction of the facilities described above, the WWRF Expansion project would require construction activities that would temporarily require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials. Construction of the treatment facilities would adhere to all relevant and applicable federal, State and local laws and regulations, including implementation of BMPs for the SWPPP, as discussed above. Therefore, construction of the proposed WWRF Expansion project would not result in significant hazards to the public or the environment, and impacts would be less than significant.

Once operational, the proposed WWRF expansion would include mechanical equipment and structures to produce recycled water, and chemicals would be used as part of the tertiary treatment processes. All chemicals and equipment containing hazardous materials would be stored in accordance with applicable regulations that ensure safety. WMWD would be required to revise their current hazardous materials business plan (HMBP) for the new operations to describe procedures and protocols for the safe storage, handling, transport, and disposal of hazardous materials in accordance with modified operations at the facility. The revised HMBP would be submitted to the RCDEH Environmental Protection and Oversight division (the local CUPA) for their review and approval. In addition, WMWD would be required to obtain a hazardous waste generator identification number from the DTSC prior to generating any hazardous waste. Therefore, compliance with all applicable federal and state regulations would ensure that impacts associated with the handling, storage, transportation, and disposal of hazardous materials during operations would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Emit Hazardous Materials Near Schools

Impact 3.8-2: The proposed project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

Priority, Near-Term, and Future Projects

All Facilities

As shown in Table 3.8-1, there are eight schools within 0.25 miles of proposed project components. Further, various future pipelines, future storage tanks, future pump/lift stations, and the WWRF treatment plant upgrade have the potential to be located within 0.25 miles of a school. Construction activities would use limited quantities of hazardous materials such as gasoline and diesel fuel. Additionally, WMWD is required to comply with all relevant and applicable federal, State and local laws and regulations that pertain to the release of hazardous materials during construction of proposed facilities. Compliance with all applicable federal, State and local regulations would reduce potential impacts to the public or the

environment regarding hazardous waste emissions within 0.25 miles of a school. Therefore, impacts that would occur during construction activities would be less than significant.

Operation of the proposed projects would consist of facilities designed to store and transport water and substantial staff would not be required for periodic maintenance activities. Therefore, substantial amounts of hazardous materials would not be associated with the regular operation and maintenance of the facilities. No hazardous materials would be emitted or handled within 0.25 miles of a school. As a result, impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Hazardous Materials Sites

Impact 3.8-3: The proposed project could be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

Priority, Near-Term, and Future Projects

All Facilities

The hazardous sites analysis undertaken for this project, including a records search on the SWRCB GeoTracker and DTSC EnviroStor databases, revealed numerous hazardous materials sites located near the proposed facilities (Refer to Section 3.8.1, *Environmental Setting*). Most of the sites in the project area that were identified in proximity to the proposed facilities have been remediated and/or contain low levels of hazardous materials that would not pose a threat to people or the environment. There are few exceptions where active hazardous materials sites have been listed in close proximity to the proposed projects. These sites are summarized below.

Two near-term projects (RW-1 Cemetery PS Expansion and WW-6 WWRF Expansion Study) would be constructed in an area that is adjacent to the former U.S. Army Camp Haan, Site Y property located at the Riverside National Cemetery. The USACE has investigated potential contaminants of concern at the former Camp Haan, including lead, cadmium, copper, and nickel in soils; however, coordination between the USACE, DTSC, and SWRCB is ongoing and will determine if further investigation of existing soil contamination and/or remediation will be needed.

The near-term projects WW-4 MARB 1269 Lift Station and Pipeline and Upgrade 1269 Expansion are within the MARB and there are numerous active and closed military cleanup sites listed at the MARB property. Active cleanup programs are currently in place at MARB associated with past aviation uses that have resulted in contamination from lead, petroleum, PCBs, PAHs, and COVs. There are several closed cleanup sites located adjacent to the proposed pump station, which is located at the very eastern edge of the MARB property. All of the sites located in within 0.25 miles of the pump station are listed as having a case-closed status in SWRCB GeoTracker.

Three near-term projects (Project W-13 Highland Grove Pipeline III 18-Inch Pipeline, W-14 Highland Grove II and III 12-inch Pipeline, and W-10 Highland Grove Pressure Reducing Valve) are located 0.30 miles east from an open cleanup program site, Pulte Highland Ranch – Highland Grove and was historically used for agricultural purposes, indicating the potential uses of pesticides in addition to petroleum on portions of the site that previously contained buildings and equipment associated with historic farming operations. On January 30, 2026, a Low-Threat Underground Storage Tank Closure Request was prepared for the site, which indicates that based on the previous environmental investigations, further investigation or corrective action would not meaningfully reduce environmental risk. However, the case status has been listed as Open – Site Assessment as of October 4, 2023, and no case closure has been issued.

In addition, the RW-1 Idaleona Drive Upsizing is located within the Rifle Grenade and Small Arms Range Property, which has been identified as having potential ordnance and explosives contamination/hazards. This site is also active and is under investigation by the USACE. Furthermore, the MARB property, both historic operations west of Interstate 215 and current operations east of Interstate 215, contain active sites currently under investigation and remediation. At least one future project, WW-5 MARB 1269 Lift Station, as well as other proposed projects located adjacent to MARB, are located near active sites.

Due to the location of several active hazardous materials sites in the project area associated with historic military and landfill operations in the project area, it is possible that contaminated soil and/or groundwater, and ordnance and explosives contamination/hazards could be encountered during excavation of the proposed projects, thereby posing a health threat to construction workers, the public, and the environment. WMWD would be required to implement **Mitigation Measure HAZ-1** for projects RW-1 Cemetery PS Expansion, WW-6 WWRF Expansion Study, WW-4 MARB 1269 Lift Station and Pipeline, Upgrade 1269 Expansion, Project W-13 Highland Grove Pipeline III 18-Inch Pipeline, W-14 Highland Grove II and III 12-inch Pipeline, W-10 Highland Grove Pressure Reducing Valve, and RW-1 Idaleona Drive Upsizing, which would require site assessments and remediation prior to construction in and adjacent to known contaminated areas to ensure no contamination interference or exposure to other hazards associated with contaminated sites or remediation systems would occur. As a result, impacts to the public or the environmental relation to hazardous materials sites would be less than significant with mitigation.

Mitigation Measures

HAZ-1: Prior to approval of final design or commencement of construction for any proposed project facility located within or adjacent to a known or suspected hazardous materials site, WMWD shall prepare a Phase I Environmental Site Assessment in accordance with ASTM standards or equivalent regulatory guidance to evaluate the potential for hazardous materials contamination to be encountered during project construction or operation. If the Phase I ESA identifies recognized environmental conditions or the potential for contaminated soil, groundwater, soil vapor, or other hazardous materials to be present, WMWD shall prepare a Phase II Site Investigation sufficient to characterize the nature and extent of contamination.

If contamination is identified, WMWD shall prepare and implement a site-specific Soil and Groundwater Management Plan, Remedial Action Plan, or other regulatory-approved corrective action document, as applicable. Such plans shall include measures to protect workers and the public from exposure, properly manage, transport, and dispose of contaminated materials, and

prevent release or migration of hazardous substances during construction. All remediation, corrective actions, and contaminated material handling shall be conducted in accordance with applicable federal, state, and local regulations and under the oversight of the appropriate regulatory agency. Prior to commencement of construction, WMWD shall obtain any required agency approvals, clearances, or closure determinations from the applicable Regional Water Quality Control Board, Department of Toxics Substance Control, or any other responsible regulatory agencies.

Significance Determination

Less than Significant with Mitigation

Airports

Impact 3.8-4: The proposed project could result in a safety hazard or excessive noise for people residing or working in the project area within an airport land use plan or 2 miles of a public airport or public use airport.

Priority, Near-Term, and Future Projects

All Facilities

Several project facilities are located within the MARB AIA as indicated in Table 3.8-2, which have certain safety restrictions for implementation of infrastructure. Project WW-5 Meridian Lift Station Upgrades (WWRF) would be located in Zone B-1 which requires airspace review for objects over 35 feet tall. Projects RW-1 Cemetery PS Expansion, RW-2 RNC Pipeline Upsize to 24″, and WW-6 WWRF Expansion would be located within Zone C-1, which requires airspace review for objects over 70 feet tall. Projects RW-1 Meridian West Pipelines, W-9 New 12.5 MG Orangecrest Tank, RW-1 New Orangecrest Tank, and RW-1 Orangecrest Supply Pipelines would be located in Zone C-2, which also requires airspace review for objects over 70 feet tall. The WW-5 MARB 1269 Lift Station and Pipeline Upgrade 1269 Expansions and WW-13 MARB 1269 Lift Station Study projects would be installed within the inner-most MARB AIA Zone M (Military), which means federal jurisdiction applies and the Riverside County ALUC has no authority. None of the facilities in Zone C-1 or C-2 would be constructed with equipment taller than 70 feet. Project WW-3 Meridian Lift Station, the only facility within Zone B-1, would be installed within an existing lift station and would not involve equipment taller than 35 feet for installation. As a result, construction of proposed project facilities would not require airspace review. Nevertheless, WMWD is committed to coordinating with Riverside County ALUC and MARB regarding construction of projects in close proximity to the air base, and will notify both entities via **Mitigation Measure HAZ-2** of proposed construction activities to ensure that the proposed construction equipment does not pose hazards to aviation. With implementation of Mitigation Measure HAZ-2, construction impacts associated with safety hazards for people working or residing in the project area would be reduced to less than significant.

Once operational, pipelines would be underground would not pose safety hazards to aviation. WW-5 Meridian Lift Station Upgrades (WWRF), which would be installed within MARB Zone B-1 and requires airspace review for facilities over 35 feet in height, would not be installed higher than one story and would therefore result in less-than-significant impacts to aviation safety. It is not anticipated that any of the other facilities to be installed within any other MARB zones would be taller than 75 feet in height.

Nevertheless, WMWD is committed to coordinating with Riverside County ALUC and MARB regarding operation of projects in close proximity to the air base, and will notify both entities via Mitigation Measure HAZ-2 of proposed project operation to ensure that the proposed facilities do not pose hazards to aviation. Therefore, operation of the proposed project would not result in safety hazards in proximity to airports. Impacts would be less than significant with mitigation.

Noise impacts that would occur during construction and operation of the proposed project are discussed in Section 3.11, *Noise*, of this Draft PEIR.

Mitigation Measures

> **HAZ-2:** Prior to approval of final design and commencement of construction for any proposed project located within the March Air Reserve Base Airport Influence Area Zones M, B-1, C-1 and C-2, WMWD shall coordinate with the Riverside County Airport Land Use Commission and MARB management, and any other agency with jurisdiction over land use compatibility. WMWD shall provide sufficient project information for review, including proposed facility locations, maximum structure heights, ground elevations, construction equipment heights, and final design specifications, if applicable. If the review identifies a potential conflict with applicable airport land use compatibility requirements, airspace protection standards, or aviation safety requirements, WMWD shall revise project plans or incorporate appropriate mitigation measures, such as height restrictions, obstruction marking, lighting, or other aviation safety features, as required by the reviewing agency. Any required approvals, determinations of consistency, or other agency clearances shall be obtained prior to commencement of construction.

Significance Determination

Less than Significant with Mitigation

Emergency Response or Evacuation Plan

Impact 3.8-5: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Priority, Near-Term, and Future Projects

Pipelines

Construction activities associated with construction of the proposed pipelines route would occur primarily within local rights-of-way and may temporarily restrict vehicular traffic. The proposed project would include partial lane roadway closures in order to implement the proposed pipelines. Lane closures have the potential to increase traffic on local roads and intersections, block access to roadways or driveways, and possibly disrupt or delay the response times of emergency responders. During partial road closures, impacts on emergency responders would be limited, since passage through intersections would be maintained. Although the construction-related impacts would be temporary, they could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. However, in order to ensure emergency access and safety on the local roadway network, **Mitigation Measure TRA-1** (Refer to Section 3.12, *Transportation*) would require preparation of a Traffic Control Plan identifying specific traffic control measures and that appropriate emergency service providers are notified ahead of planned road closures. Therefore, impacts to emergency response and

emergency evacuation planning during construction would be reduced to less-than-significant levels with implementation of mitigation.

Following construction, operation of the pipelines would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan as the pipelines would be located underground. Maintenance activities would require minimal trips and would not significantly impact the surrounding roadways. Impacts to an adopted emergency plan or emergency evacuation plan during operation would be considered less than significant.

Pump/Lift Stations, Storage Tanks, WWRF Expansion

There would be no installation of pump stations, lift stations, storage tanks, or treatment facilities within public rights-of-way and no possibility of interfering with evacuation routes. During construction, truck haul trips would transport construction equipment and materials to and from project sites; however, these trips would not impact the roadway in a way that would impede emergency evacuations. The truck trips would not require closure of any roadways and would only temporary slow traffic near the project sites. Project-related vehicles would not block existing street access to the sites. Therefore, no impacts related to an emergency evacuation plan would occur.

Operation of the proposed facilities would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The facilities all consist of water, recycled water, and sewer storage, transport, and treatment infrastructure which, during operation, would not interfere with traffic flows. The proposed facilities would require periodic maintenance activities, including, but not limited to, removal of accumulated sediment and debris, replacement of non-operational machinery, and inspection of structures. Maintenance activities would require minimal trips that would not significantly impact the surrounding roadways. Therefore, operation of the proposed aboveground facilities would have a less-than-significant impact to emergency response plans and emergency evacuation.

Mitigation Measures

Implement Mitigation Measure TRA-1 (See Section 3.12, *Transportation*)

Significance Determination

Less than Significant with Mitigation

Wildland Fires

Impact 3.8-6: The proposed project could expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Priority, Near-Term, and Future Projects

All Facilities

Lands adjacent to the proposed facilities vary locally, but generally include urbanized and undeveloped desert lands. With the exception of northeast areas of the Riverside Retail Service Area near the MARB (i.e., projects listed in the discussion for Impact 3.8-4), CAL FIRE has designated the majority of the project area as moderate, high, and very high fire hazard severity zones. As shown Figure 3.15-1, various proposed facilities would be located in areas subject to high wildfire risks. The primary fire hazards from

project construction would involve the use of vehicles and equipment. Heat or sparks from construction vehicles and equipment could ignite dry vegetation and create hazardous fire conditions. Additionally, construction activities that could result in sparks have a greater likelihood of creating a source of ignition. Therefore, depending on the time of year (as seasonality may affect climate conditions, prevailing winds, and vegetation/fuels) and the location of construction activities, the increase in sources of potential ignition associated with project construction could exacerbate the risk of wildfire within the various project sites and the surrounding areas. Project construction could increase the risk of exposure of people or structures to significant loss, injury, or death involving wildland fires, which would result in a potentially significant impact.

As explained in Section 3.15, *Wildfire*, all personnel on the proposed project sites would be required to comply with Public Resources Code (PRC) Sections 4427, 4428, 4431, and 4442, which include regulations relating to the handling of combustible fuels and equipment that can exacerbate fire risks. During construction, strict adherence to these PRC sections would ensure that contractors are responsible for all monitoring and safety measures ensuring that any risk to exacerbate wildfire would be reduced. Additionally, all construction must comply with fire protection and prevention requirements specified by the California Code of Regulations (CCR) and Cal/OSHA. This includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. Furthermore, implementation of **Mitigation Measure WDF-1** would be required to ensure fire hazard reduction measures are implemented during proposed project activities to further reduce the potential for wildfire impacts on project workers. As a result, the potential impact during construction would be reduced to a less-than-significant level with mitigation.

Operation of the proposed facilities would not include any activities that would exacerbate wildfire risk relative to existing conditions. The proposed pipelines would be installed underground and roadways would be restored to existing conditions. Upgrades to existing pump stations, lift stations, storage tanks, and treatment facilities would continue to operate similar to existing conditions within their respective WMWD facility sites. New pump stations and lift stations would include electrical equipment and require portable emergency generator connections; however, the stations would be built in accordance with standard construction methods for roofed masonry buildings and would be powered via underground service lines to minimize the potential for fire hazards. Further, operation-related activities would involve a limited number of maintenance trucks for inspections and material delivery. Due to the wildfire risks in the vicinity of the proposed facilities, operators of the project site would comply with PRC Sections 4427, 4428, 4431, and 4442, which include regulations relating to the handling of combustible fuels and equipment, and WMWD would implement of Mitigation Measure WDF-1. As a result, operational impacts related to the exposure of people or structures to wildland fires would be reduced to a less-than-significant level with mitigation.

Mitigation Measures

Implement Mitigation Measure WDF-1 (See Section 3.15, *Wildfire*)

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.8-7: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to hazards and hazardous materials.

The cumulative analysis for impacts to hazards and hazardous materials involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve residential, commercial, and industrial development. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. Therefore, the addition of more development within the Riverside Retail Service Area could result in significant cumulative environmental effects due to exposure of people or structures to hazards and hazardous materials during construction and operation. Because the potential impacts to airport hazards, emergency response and emergency evacuation plans, and wildfire risk associated with the implementation of the Riverside FMP projects would be less than significant with implementation of Mitigation Measures HAZ-1 through HAZ-4, TRA-1, and WDF-1, the project's contribution to cumulative hazards and hazardous materials impacts would be less than cumulatively considerable. Thus, a less than significant cumulative impact would occur to hazards and hazardous materials.

Mitigation Measures

Implement Mitigation Measures HAZ-1, HAZ-2, TRA-1, and WDF-1

Significance Determination

Less than Significant with Mitigation

3.8.4 References

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3.9 Hydrology and Water Quality

This section addresses the hydrology and water quality impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes a description of the existing hydrology and water quality conditions in and around the proposed project site; a summary of applicable regulations related to hydrology and water quality; and an evaluation of the potential impacts of the proposed project related to hydrology and water quality at the proposed project site and in the surrounding area, including cumulative impacts.

3.9.1 Environmental Setting

Regional and Local Hydrology

Santa Ana River Watershed

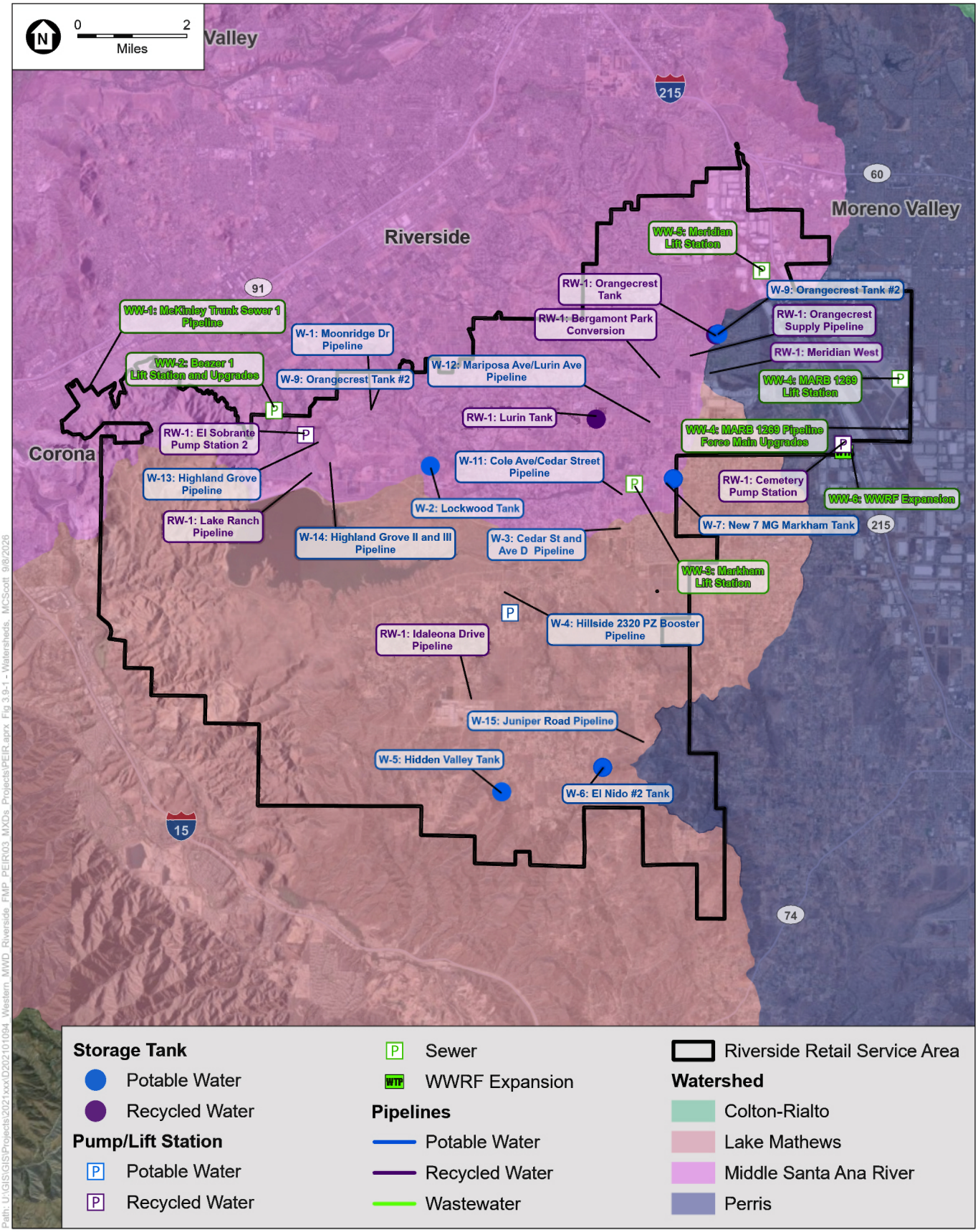
Watersheds are defined as areas of land where the water that is under it, or that drains off it, flows to the same place. The Santa Ana Regional Water Quality Control Board (RWQCB) identifies watersheds and various groupings and subdivisions (e.g., watershed management areas, watersheds, hydrologic areas, and hydrologic subareas) in the Santa Ana RWQCB Basin Plan. The Riverside Retail Service Area is mostly within the Lake Mathews and Middle Santa Ana River Subwatersheds of the Santa Ana River Watershed (RWQCB Santa Ana River Hydrologic Unit), which drains from the steep-slopes of the San Bernardino Mountains to the valley floor of the Inland Empire, through the Prado Basin and on to Orange County and the Pacific Ocean. Additionally, a small portion of the eastern edge of the project area is within San Jacinto Watershed's Perris Subwatershed. However, the San Jacinto River is also tributary to the Santa Ana River through Lake Elsinore and Temescal Wash in periods of high rainfall (Santa Ana Watershed Project Authority [SAWPA] 2018). The three Subwatersheds in the project area are shown in **Figure 3.9-1**.

Surface Water

Western does not directly utilize any surface water or stormwater sources for its retail system. However, Western represents Riverside County agencies as the Watermaster for the San Bernardino Basin Area (SBBA) and participates in regional projects to capture stormwater to enhance the long-term sustainability of the SBBA and help mitigate the effects of climate change on local supplies. The major surface water bodies in the project area are discussed below.

Santa Ana River

The primary waterway in the Santa Ana Watershed is the Santa Ana River, which travels approximately 100 miles from its origins near Big Bear Lake to the Pacific Ocean. As the Santa Ana River is arid, there is little natural perennial surface water. Surface waters start in the upper erosion zone of the watershed, primarily the San Bernardino, Santa Ana and San Jacinto Mountains. This upper zone has the highest gradient and soils/geology that do not allow large quantities of percolation of surface water into the ground. Flows consist mainly of snowmelt and storm runoff from the lightly developed San Bernardino National Forest. From the City of San Bernardino to the City of Riverside, the Santa Ana River flows perennially, mostly due to treated discharges from wastewater treatment plants. From the City of Riverside to Prado Dam, the flow in the Santa Ana River consists of highly treated wastewater and groundwater discharges, potable water transfers, irrigation runoff, groundwater forced to the surface by shallow/rising bedrock, and minor amounts of urban runoff (Riverside County Watershed Protection 2017).



SOURCE: ESRI, 2026; WMWD, 2025; NHD, 2026; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.9-1
Watersheds

ESA

Lakes and Reservoirs

Lake Elsinore is the only natural freshwater lake of any size in the Santa Ana River watershed, which is located at the terminus of the San Jacinto River Watershed in southwestern Riverside County. Lake Elsinore is one of the few natural lakes in southern California. It was formed in a geologically active area and has been in existence over thousands of years. Due to the Mediterranean climate and watershed hydrology, lake level fluctuations in Lake Elsinore have been extreme with periods of dry lake bed during some drought cycles.

Various water storage reservoirs (e.g., Lake Mathews, Lake Perris, Mockingbird Reservoir, and Canyon Lake) and flood control areas (Prado Dam area) have been constructed to hold surface water in the region (City of Riverside 2007; Riverside County Watershed Protection 2017). Lake Mathews is located within the Riverside Retail Service Area in the vicinity of several proposed projects.

Drainage

The Lake Mathews Subwatershed is approximately 39 square miles in size and is generally located west of the I-215 freeway, south of Van Buren Boulevard, east of Lake Mathews, and northerly of Santa Rosa Road. Runoff in this watershed drains into Lake Mathews, the terminal reservoir for Metropolitan's Colorado River Aqueduct (CRA). The 2003 Lake Mathews Area Drainage Plan included build-out a comprehensive non-point source pollution control system consisting of water quality wetlands, sediment basins, a first-flush diversion and water quality plan, a dam and a detention basin. The facilities were implemented along Cajalco Creek, the primary watercourse within the watershed, and involved relocation of certain segments of Cajalco Road to accommodate the improvements. The key facility was the Cajalco Creek Dam and Detention Basin, located immediately upstream of Lake Mathews to regulate flood peaks from Cajalco Creek, provide storage for conservation and for the further reduction of pollutant loading by extended detention, and added protection of Lake Mathews water quality in the event of a catastrophic spill in the watershed (County of Riverside 2003).

The Riverside County Flood Control and Water Conservation District (RCFCWCD) is responsible for regional flood control and drainage facilities in the project area. A number of water courses (arroyos) that are tributary to the Santa Ana River traverse the northern portions of the project area. The major arroyos include, from northeast to southwest: Springbrook Wash, Tequesquite Arroyo, Alessandro Arroyo, Prenda Arroyo, Woodcrest Arroyo, and Mockingbird Canyon. The City of Riverside maintains local facilities that tie into RCFCWCD regional system. Local drainage facilities, consisting mostly of underground closed conduits and storm drains located primarily in developed portions of the project area collect stormwater and convey it to regional facilities, including the Santa Ana River flood control channel built and maintained by the U.S. Army Corps of Engineers (City of Riverside 2007).

The northeast portion of the project area that is located in the San Jacinto Watershed is drained by the Perris Valley Storm Drain, which then flows into the San Jacinto River. The San Jacinto River drains the area from the San Jacinto Mountains to Canyon Lake, and to Lake Elsinore and the Santa Ana River in periods of high rain (City of Riverside 2007; Riverside County Watershed Protection 2017).

Surface Water Quality

Urban runoff in Riverside County ultimately flows to various surface waterbodies (inland streams, lakes and reservoirs) and may convey pollutants originating from numerous dispersed and uncontrolled sources

(non-point sources). Examples of pollutants that may be present in urban runoff are fertilizer, heavy metals, nutrients, petroleum products, sediment, bacteria, chemicals, and litter.

Santa Ana River (Reach 3), which is the receiving water for the majority of the project, is listed as an impaired water body for copper and lead under the most recent Clean Water Act (CWA) Section 303(d) Integrated Report (2024), that require total maximum daily loads (TMDLs) or equivalent restoration actions. Additionally, Canyon Lake and Lake Elsinore, which would be the receiving waters for the northeast portion of the project area, are listed separately as impaired water bodies collectively for indicator bacteria (149137) and DDT (Dichlorodiphenyltrichloroethane) and PCBs (Polychlorinated biphenyls) under the most recent Clean Water Act (CWA) Section 303(d) Integrated Report (2024).

Groundwater

Local groundwater is the largest source of water supply for the region. WMWD uses local groundwater from seven different groundwater basins: San Bernardino Basin Area (SBBA), Chino Basin, Riverside-Arlington Basin, Temescal Basin, Bedford-Coldwater Basin, Elsinore Valley Basin, and Temecula Valley Basin (WMWD 2021).

None of the managed groundwater basins from which supply is sourced in the Santa Ana Watershed, including those used to supply the Riverside Retail Service Area, are in jeopardy of overdraft (SAWPA 2019). However, each of these basins is either adjudicated and managed by a Watermaster or managed by a Groundwater Sustainability Agency (GSA) to ensure long term reliably supply (WMWD 2021). The adjudication judgments which have been made relating to the Santa Ana River Watershed include Western – San Bernardino Groundwater Adjudication (Judgment 78426 or 1969 Judgment), Santa Ana River Adjudication (Stipulated Judgment), and the Chino Groundwater Basin Adjudication. The Watermaster identified in these adjudications prepare annual reports documenting the previous year's pumping and export activities, groundwater elevation measurements, and stream flow and water quality measurements (WMWD 2021). WMWD's GSA for the Riverside-Arlington Basin is discussed further below in Section 3.9.2, *Regulatory Framework*, *Sustainable Groundwater Management Act*.

Although WMWD uses supplies from a total of seven groundwater basins, WMWD only uses groundwater supplies from the SBBA, Chino Basin, and Temecula Valley Basin for retail purposes. Descriptions of the groundwater basin that are used to supply WMWD's Riverside Retail Service Area, and the Riverside-Arlington Basin which underlies the northern boundary of the project area, are summarized below based on the descriptions provided in WMWD 2020 Urban Water Management Plan (UWMP).

San Bernardino Basin Area

The SBBA was defined and adjudicated in gross by the 1969 Judgement. The SBBA has a surface area of approximately 141 square miles and lies between the San Andreas and San Jacinto faults. The basin is bordered on the northwest by the San Gabriel Mountains and Cucamonga fault zone; on the northeast by the San Bernardino Mountains and San Andreas fault zone; on the east by the Banning fault and Crafton Hills; and on the south by a low, east-facing escarpment of the San Jacinto fault and the San Timoteo Badlands. It was determined in the Western Judgment that the Plaintiffs (Riverside County agencies) have a 64,862 acre-feet per year (AFY) share of the safe yield, which equates to 27.95 percent of the safe yield.

WMWD and Elsinore Valley Municipal Water District (EVMWD) have a contractual agreement for WMWD to use EVMWD's Meeks and Daley Water Company (Meeks and Daley) rights within the SBBA. WMWD owns shares in Meeks and Daley that entitle them to produce 226.52 AFY from the SBBA, which is conveyed by the City of Riverside and used in the Riverside retail system, since Western does not own or operate infrastructure than can directly extract water from the SBBA basin. Western has utilized the full 226.52 AFY allocation from the SBBA basin every year between 2016 and 2020.

Chino Basin

The Chino Sub basin is an adjudicated basin managed by the Chino Basin Watermaster. The Chino Sub basin lies in the southwest corner of San Bernardino County and is bordered to the east by the Rialto-Colton fault. In the other three directions, the Chino Sub basin is ringed by impermeable mountain rock, the San Gabriel Mountains to the north, the Jurupa Mountains and Puente Hills to the south and southwest. On January 2, 1975, several Chino Basin producers filed suit in California State Superior Court for San Bernardino County (the "Court") to settle the problem of allocating water rights in the Chino Basin. On January 27, 1978, the Court entered a judgment in *Chino Basin Municipal Water District v. City of Chino et al.* adjudicating water rights in the Chino Basin and establishing the Chino Basin Watermaster. The Judgment declared that the initial operating safe yield of the Chino Basin is 145,000 AFY. The Basin is managed through implementation of the Chino Optimum Basin Management Plan.

Since portions of the Chino Basin have been degraded by elevated concentrations of TDS and nitrate, two Chino Desalter facilities (Chino I and Chino II) have been constructed to provide a local source of potable water and decrease subsurface outflow of low-quality groundwater to the Santa Ana River. WMWD owns 3,534 AFY of capacity in the Chino II Desalter, which treats up to 21,000 AFY of brackish groundwater through reverse-osmosis and ion exchange technologies. However, the WMWD Riverside Retail Service Area does not currently use this source and as a result leases it to Jurupa Community Services District.

Temecula Valley Basin

The Temecula Valley Basin lies under several valleys within the southwest portion of Riverside County and parts of northern San Diego County. The Temecula Valley Basin is bound by non-water-bearing crystalline rocks of the Peninsular Ranges. The overlying valleys are drained by Wilson, Temecula, Murrieta, Warm Springs, and Pechanga Creeks to the Santa Margarita River, which flows west out of the Temecula Valley. As part of the Santa Margarita River system, surface water and groundwater supporting surface water (defined as being in the older and younger alluvium) within the Temecula-Murrieta Basin have been under some form of court jurisdiction since 1928. Rights to utilize surface water and groundwater determined to be contributing to the Santa Margarita River are governed by the Modified Final Judgment and Decree entered on April 6, 1966, by the U.S. District Court in United States v. Fallbrook Public Utility District, et al. (Civil No. 1247-SD-T). In 2020, 399 AFY of groundwater was extracted from the Temecula Valley Basin for WMWD Retail Service Area supplies.

Riverside-Arlington Basin

The Riverside-Arlington Basin underlies part of the Santa Ana River Valley in northwest Riverside County and southwest San Bernardino County, extending below a small portion of the Riverside Retail Service Area at the northern boundary. Within the Riverside-Arlington Basin lies a subbasin called the Arlington Groundwater Basin, which is a shallow, alluvial-filled valley. Groundwater quality in the Arlington Subbasin has historically been degraded by elevated concentrations of TDS, nitrate, and other

contaminants from industrial sources. To utilize Arlington Basin groundwater, Western operates the Arlington Desalter, a reverse-osmosis groundwater treatment facility that began operation in 1990. The Arlington Desalter is located at the western (down-gradient) end of the Arlington Basin, along with five nearby production wells. The Arlington Desalter serves two purposes, providing a local source of potable water and decreasing subsurface outflow of low-quality groundwater to the Temescal Basin. The capacity was recently expanded to provide additional potable supply. In 2020, groundwater production from the Arlington Desalter included 4,814 AFY.

Imported Water

Western purchases imported water from Metropolitan Water District (Metropolitan) and sells to wholesale customers within WMWD's service area, including the Riverside Retail Service Area. Metropolitan imports water from the State Water Project (SWP), which conveys water from the Bay-Delta to Southern California via the California Aqueduct, and from the Colorado River through the CRA. The supply mix changes depending on the availability of SWP supplies, which varies every year, much more significantly than the Colorado River supply. During the recent drought, water allocations from SWP were significantly reduced, leading to a greater proportion of Colorado River supplies in Metropolitan's supply mix. WMWD's water supplies for the Western Retail Service Area consist primarily of imported water purchased from Metropolitan (WMWD 2025).

Flood Hazards

FEMA Flood Hazards

Flooding in the project area could result from intense storms or as the result of dam failure. Flood hazard risks generally would be greatest in the vicinity of channels, creeks, streams and watercourses. Based on review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) and the Riverside County General Plan, Lake Mathews, Mockingbird Canyon Wash, which extends into the Riverside Retail Service Area along Van Buren Boulevard from the northwest, and a Cajalco Creek floodplain, which extends east of the reservoir to Clark Street, are designated within a Zone A – 100-year flood zone (FEMA 2008). The only proposed facilities that would be adjacent to these flood zone areas are the W-4 Hillside 2320 PZ Booster Pipeline near-term project and W-16 CITP (Intake PS) future project, located on the northern embankment of Cajalco Creek at an existing WMWD facility, as well as the W-17 Increase Capacity of Mockingbird future project, located southwest of Van Buren Boulevard.

Dam Inundation Areas

Flooding from dam failure can result from both natural and human causes, including earthquakes, erosion, improper siting and/or design, and rapidly rising floodwater during heavy storms. The type of failure, ranging from instantaneous to gradual, is dependent on the building material of the dam. Dam failure can potentially cause loss of life and property damage, displacement of persons residing in the inundation path, and damage to infrastructure. The U.S. Army Corps of Engineers (USACE) is responsible for dam safety and conducting routine inspections of federal dams, however, most of the dams in the general area fall under the jurisdiction of the DSOD. This includes the Santa Ana River and several dams, including Sycamore Canyon Dam, Box Springs Dam, Mary Street Dam, Alessandro Dam, Prenda Dam, Woodcrest Dam, Mockingbird Canyon Dam, Harrison Dam, and Lake Mathews Dam (City of Riverside 2007).

The potential inundation hazard areas associated with the Lake Mathews, Harrison Street, and Mockingbird Canyon dams are depicted in **Figure 3.9-2**. The projects that are located within the inundation hazard areas include: W-13 Highland Grove Pipeline, W-14 Highland Grove II and III Pipeline, WW-1 McKinley Trunk Sewer 1 Pipeline, and RW-1 Lake Ranch Pipeline. The Lake Perris Reservoir, located approximately 3 miles east of the March Air Force Base (MARB), is another major dam capable of presenting high inundation hazards in the area. However, the inundation area associated with this dam would not present hazards to the project area, as inundation maps prepared for Lake Perris Reservoir indicate that floods would spill east and south of the project area into the San Jacinto River and flow to Lake Elsinore (California Division of Safety and Dams [DSOD], 2026).

With the exception of the Mockingbird Canyon and Lake Mathews Dam, all dams within the project area are owned by RCFCWCD, according to the State Department of Water Resources. Mockingbird Canyon Dam is owned and maintained by the City of Riverside, while Lake Mathews is owned by Metropolitan. The DSOD inspects all dams under its jurisdiction (City of Riverside 2007).

Tsunami and Seiche Hazards

Tsunamis are ocean waves generated by vertical movement of the sea floor, normally associated with earthquakes or volcanic eruptions. The project area is not located in a coastal area that would be subject to tsunami hazards.

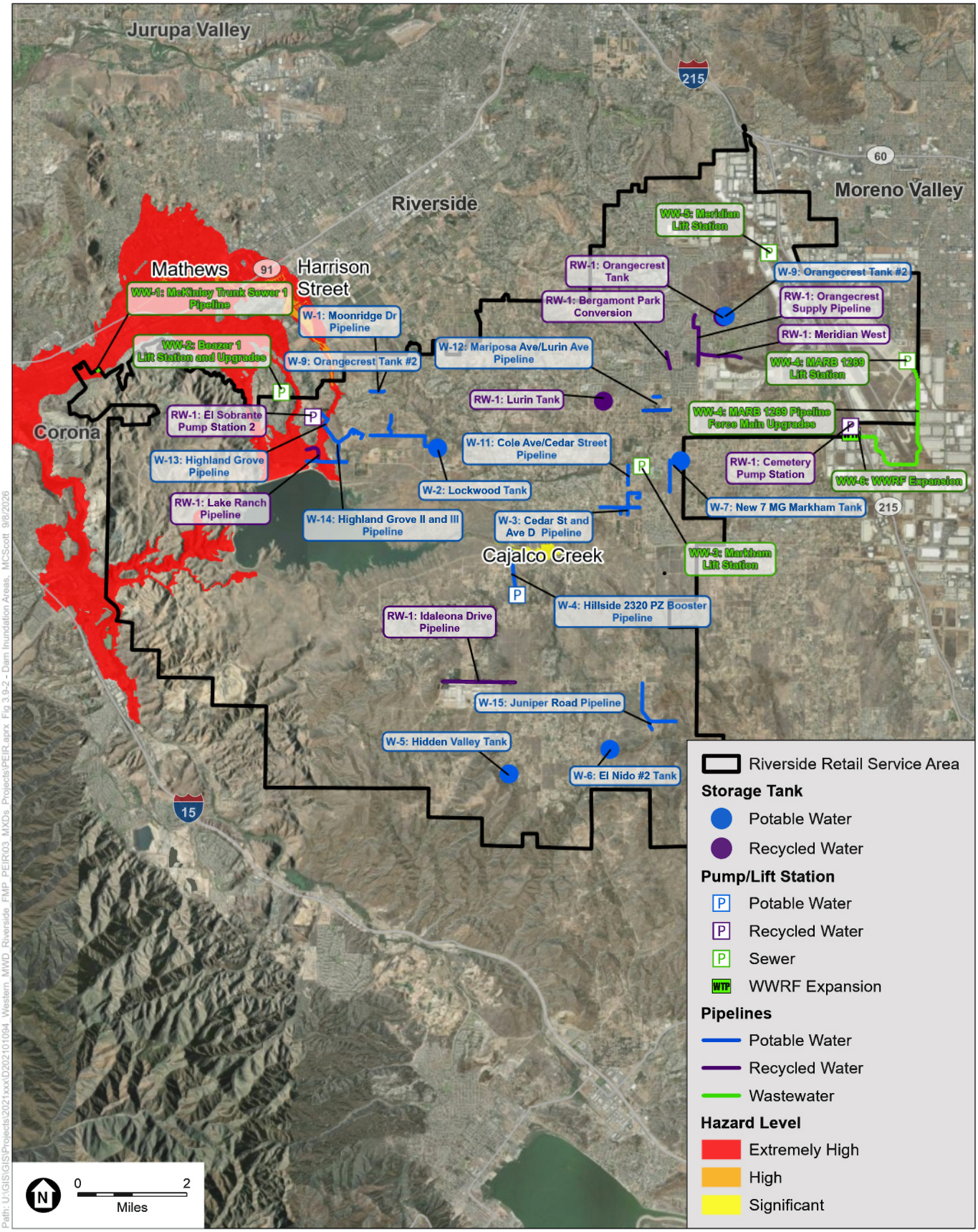
A seiche is an oscillating wave in an enclosed or semi-enclosed body of water (e.g., lake or bay) caused by seismic or atmospheric disturbances such as wind. Due to the location of numerous active faults in the region, the project area may be subject to hazards from seismic seiches in reservoirs such as Lake Mathews, Cajalco Creek, and other small water bodies.

3.9.2 Regulatory Framework

Federal

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the United States. The SDWA focuses on all waters actually or potentially designed for drinking uses, whether from above ground or underground sources. The principal federal agency involved in drinking water regulation is the USEPA. USEPA is responsible for implementing federal drinking water law and setting national drinking water requirements. Under the SDWA, the USEPA sets minimum drinking water quality standards. In California, the SWRCB's Division of Drinking Water (DDW) regulates public drinking water systems. DDW works with county environmental health departments to regulate drinking water suppliers through a permit program with monitoring and reporting requirements that enforce water quality standards.



SOURCE: ESRI, 2026; WMWD, 2022; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.9-2
Dam Inundation Areas

ESA

Floodplain Management, Executive Order No. 11988

Executive Order 11988 requires federal agencies avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative (FEMA 2022). If a project has a potential impact to or within a floodplain, there is an eight-step process that agencies can carry out during their decision-making process on the project. The eight-step process includes (1) determine if a proposed action is in the base floodplain or area which has a 1 percent or greater chance of flooding in any given year, (2) conduct early public review, (3) identify and evaluate practicable alternatives to locating in the base floodplain, (4) identify impacts of the proposed action, (5) develop measures to minimize the impacts and restore and preserve the floodplain if impacts cannot be avoided, (6) re-evaluate the alternatives, (7) present the findings and a public explanation, and (8) implement the action.

Clean Water Act

The federal Clean Water Act (CWA) and subsequent amendments, under the enforcement authority of the U.S. Environmental Protection Agency (USEPA), was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The purpose of the CWA is to protect and maintain the quality and integrity of the nation's waters by requiring states to develop and implement state water plans and policies. The CWA gave USEPA the authority to implement pollution control programs such as setting wastewater standards for industry. In California, implementation and enforcement of the National Pollutant Discharge Elimination System (NPDES) program is conducted through the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). The CWA also sets water quality standards for surface waters and established the NPDES program to protect water quality through various sections of the CWA, including Sections 401 through 404 and 303(d) that are implemented and regulated by the SWRCB and the nine RWQCBs.

CWA Section 303(d)

Section 303(d) requires states, territories, and authorized tribes to develop a list of water-quality limited segments of rivers and other water bodies under their jurisdiction. Those waters on the list 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 waters on the list and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality. These are action plans designed to improve the quality of water resources. As part of the TMDL process, municipalities must examine the water quality problems and identify sources of pollutants in order to create specific actions designed to improve water quality.

On December 13, 2024, the USEPA approved a revised list of water quality limited segments (herein referred to as the 303(d) list) prepared by the RWQCB. Santa Ana River (Reach 3), which is the receiving water for the majority of the project, is listed as an impaired water body for copper and lead on the 2024 CWA Section 303(d) List of Water Quality Limited Segments Being Addressed by USEPA Approved TMDLS (Riverside County Watershed Protection 2026).

CWA Section 402

The 1972 amendments to the Federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA devoted to stormwater permitting (Section 402[p]). The

USEPA has granted the SWRCB primacy in administering and enforcing the provisions of CWA and NPDES through the local RWQCBs. NPDES is the primary federal program that regulates point-source and non-point-source discharges to waters of the United States.

The SWRCB issues both general and individual permits for discharges to surface waters, including for both point-source and non-point-source discharges. In response to the 1987 amendments, the US EPA developed the Phase I NPDES Storm Water Program for cities with populations larger than 100,000, and Phase II for smaller cities. In California, the SWRCB has drafted the General Permit for Discharges of Storm Water from Municipal Separate Storm Sewer Systems (MS4 General Permit).

National Pollutant Discharge Elimination System Program

The NPDES permit program is administered in the State of California by the SWRCB and RWQCBs under the authority of the USEPA to control water pollution by regulating point sources that discharge pollutants into Waters of the US. If discharges from industrial, municipal, and other facilities go directly to surface waters, those project applicants must obtain permits. An individual NPDES permit is specifically tailored to a discharge to waters of the United States. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. A general permit applies with same or similar conditions to all dischargers covered under the general permit. The proposed program would be covered under the general permits discussed below.

General Dewatering Permit

The SWRCB has issued General Waste Discharge Requirements (WDRs) under Order No. R8-2003-0061, NPDES No. CAG 998001 (Dewatering General Permit) governing non-stormwater construction-related discharges from activities such as dewatering, water line testing, and sprinkler system testing. The discharge requirements include provisions mandating notification, testing, and reporting of dewatering and testing-related discharges. The General WDRs authorize such construction-related discharges so long as all conditions of the permit are fulfilled. This permit would apply to proposed projects if shallow perched groundwater is encountered during construction and requires dewatering.

Construction General Permit

The Construction General Permit *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit, as amended by 2010-0014-DWQ and 2012-0006-DWQ) 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.

In the project area, the Construction General Permit is implemented and enforced by the Santa Ana RWQCB, which administers the stormwater permitting program. To obtain coverage under this permit, project operators must electronically file Permit Registration Documents, which include a Notice of Intent, a Stormwater Pollution Prevention Plan (SWPPP), and other compliance-related documents. An appropriate permit fee must also be mailed to SWRCB. The SWPPP identifies best management practices

(BMPs) that must be implemented to reduce construction effects on receiving water quality based on potential pollutants. The BMPs identified are directed at implementing both sediment and erosion control measures as well as other measures to control potential chemical contaminants. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, and vehicle and equipment washing and fueling. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. The SWPPP also includes descriptions of the BMPs to reduce pollutants in stormwater discharges after all construction phases have been completed at the site (post-construction BMPs).

Industrial General Permit

The Industrial General Permit (IGP) became effective July 1, 2015 (Order No. 2014-0057-DWQ). The IGP covers ten broad categories of industrial activities, including sewage or wastewater treatment works that store, treat, recycle, and reclaim municipal or domestic sewage with a design flow of one million gallons per day or more, or are required to have an approved pretreatment program under 40 Code of Federal Regulations Part 403. For a sewage treatment facility, the IGP covers both the municipal or domestic sewage being sent to the facility for treatment, and rainwater falling on the facility that must be managed as stormwater. This is because rainwater falling on the facility is routed to the onsite treatment system to prevent contaminants from migrating offsite from the treatment facility.

Municipal Stormwater Permitting (MS4)

The State's Municipal Stormwater Permitting Program regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s). MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. As part of the Phase II, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and hospital complexes. The permit also requires permittees to develop Comprehensive Bacteria Reduction Plans (CBRP). Riverside County has prepared a CBRP.

The RWQCB issued an MS4 Permit (Waste Discharge Requirement Permit for the RCFCWCD, the County of Riverside, and the Incorporated Cities of Riverside County within the Santa Ana Region, Order No. R8-2010-0033 NPDES No. CAS618033) in February 2010. The permit requires the development of a site-specific water quality management plan (WQMP) for certain types of development, including new industrial development projects that create 10,000 square feet or more of impervious surface collectively over the project site or which add or replace 5,000 square feet of impervious surface on an existing developed site. The WQMPs should be based on the model WQMP Guidance and Template, and must include site design (including, where feasible, Low-Impact Development [LID] principles), source control and treatment control elements to reduce the discharge of pollutants into urban runoff. All proposed facilities would be located within this jurisdiction and would be included in this permit coverage.

National Flood Insurance Program

The National Flood Insurance Program (NFIP) was created to promote flood awareness and reduce flood losses of properties within Special Flood Hazard Areas. Drainage and related flooding hazards are managed in response to requirements established by the National Flood Insurance Act of 1986 and the Flood Disaster Protection Act of 1973, as amended. Requirements of the NFIP are included in respective municipality Building Codes and through interagency programs for flood management. In implementing the NFIP, the Federal Emergency Management Agency (FEMA) requires that new construction in a flood hazard area meet minimum design standards to place occupied structures above flood hazard areas. FEMA identifies areas throughout the United States that are at risk for flooding. The FEMA Flood Insurance Rate Map identifies areas that have a 1 percent or greater (100-year flood area) of being inundated by a flood event in a given year.

State

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the State must adopt water quality policies, plans, and objectives that protect the State's waters. The act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of Basin Plans and establishment of water quality objectives. Unlike the federal CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater and this authority serves as the basis for Waste Discharge Requirements issued to municipal sewage treatment facilities by the RWQCBs. The Porter-Cologne Water Quality Act is promulgated in the California Code of Regulations Title 22. Title 22 includes treatment and reuse requirements for recycled water projects throughout California.

Anti-Degradation Policy

The SWRCB's Anti-Degradation Policy, otherwise known as Resolution No. 68-16, sets specific restrictions for surface and groundwater that have higher than the required quality in order to avoid degradation of those water bodies. Requirements of this policy must be included within all Water Quality Control Plans throughout California (discussed below). Under this policy, actions that would lower the water quality in designated water bodies would only be allowed: if the action would provide a maximum benefit to the people of California, if it will not unreasonably affect beneficial uses, and if it will not lower water quality below applicable standards.

Water Recycling Requirements

The Santa Ana RWQCB Basin Plan requires that a discharge permit be obtained for the use of recycled water. Water Recycling Requirements (WRR) are prepared on a case-by-case basis for reuse of Title 22 recycled water as well as for discharge of fully advanced treated water intended for groundwater recharge or injection. WRRs are generally issued to the wastewater treatment agency but also cover intended uses. Water recycling criteria are contained in Sections 60301 through 60355 of Title 22 and prescribe recycled water quality and wastewater treatment requirements for the various types of allowed uses in accordance with the SWRCB DDW (formerly a part of the California Department of Public Health).

Water Recycling Policy and Salt and Nutrient Management Plans

In February 2009, SWRCB adopted Resolution No. 2009-0011, which established a statewide Recycled Water Policy. Draft amendments to the Recycled Water Policy were released in 2012 and 2013. The Recycled Water Policy encourages increased use of recycled water and local storm water. It also requires local water and wastewater entities, together with local salt/nutrient contributing stakeholders to develop a Salt and Nutrient Management Plan (SNMP) for each groundwater basin and subbasin in California.

Sustainable Groundwater Management Act

In 2014, the California State Legislature approved a combination of bills that together formed the Sustainable Groundwater Management Act (SGMA). SGMA requires the formation of local Groundwater Sustainability Agencies (GSAs) that must develop Groundwater Sustainability Plans (GSPs) for medium or high priority groundwater basins in California by 2022. These plans must quantify basin characteristics and supplies and must establish management actions and projects to achieve basin sustainability within 20 years of implementation (by 2042). The SGMA imposes many new monitoring and reporting requirements, and other procedural and substantive mandates related to groundwater management. WMWD serving as the Riverside-Arlington Subbasin GSA has submitted a GSP to DWR to achieve this goal, and is currently under review.

Recycled Water Groundwater Recharge Projects

On June 18, 2014, new regulations were adopted covering groundwater recharge for potable reuse with recycled water. The new regulations (CWC sections 13500-13529.4) outline permit requirements for recharging groundwater with recycled water for potable reuse in California. The regulations cover surface recharge and subsurface injection and transfer permitting responsibilities from the CDPH to the SWRCB DDW. The regulations include protocols to provide for source control, water quality control, retention time, emergency response planning, monitoring programs, operational plans, management plans, reporting requirements, and public review requirements.

California Water Code Section 1211

California Water Code Section 1211 requires that (1) the owner of any wastewater treatment plant obtain the approval of the SWRCB before making any change in the point of discharge, place of use, or purpose of use of treated wastewater where changes to the discharge or use of treated wastewater have the potential to decrease the flow in any portion of a watercourse and (2) the SWRCB review the proposed changes pursuant to the provisions of Water Code Section 1700. In order to approve the proposed change, the SWRCB must determine that the proposed change will not operate to the injury of any legal user of the water involved.

Regional

Water Quality Control Plan for the Santa Ana River Basin (Basin Plan)

The Santa Ana RWQCB Basin Plan (Santa Ana RWQCB 2025) is designed to preserve and enhance water quality and protect the beneficial uses of all regional terrestrial surface water bodies (e.g., creeks, rivers, streams, and lakes), groundwater, coastal drainages, estuaries, coastal lagoons, and enclosed bays within the jurisdictional area. The preparation and adoption of Basin Plans are required by California Water Code Section 13240. According to Water Code Section 13050, Basin Plans establish the beneficial uses to be protected for the waters within a specified area, water quality objectives to protect those uses,

and an implementation program for achieving the objectives. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control. The water quality objectives are thus incorporated into NPDES permits. The Basin Plan is designed to preserve and enhance water quality and protect beneficial uses of all waters. Specifically, it:

- Designates beneficial uses for surface water and groundwater.
- Sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy.
- Describes implementation programs for achieving objectives to protect all waters in the region.

In addition, the Basin Plan incorporates all applicable SWRCB and RWQCB plans and policies and other pertinent water quality policies and regulations. The Santa Ana Region Basin Plan covers parts of southwestern San Bernardino County, western Riverside County, and northwestern Orange County. Water quality objectives specified for the creeks and streams include TDS, hardness, sodium, chloride, sulfate, total inorganic nitrogen, and chemical oxygen demand. Existing/potential beneficial uses for surface water in Reach 3 of the Santa Ana River, which would be the "receiving water" for the majority of the project area, include the following:

- Agricultural Supply (AGR)
- Groundwater Recharge (GWR)
- Contact Water Recreation (REC-1)
- Non-contact Water Recreation (REC-2)
- Warm Freshwater Habitat (WARM)
- Wildlife Habitat (WILD)
- Rare, Threatened, Endangered Species (RARE)
- Spawning, Reproduction, and Development (SPWN)

Intermittent beneficial uses for surface water in Reaches 1 through 3 of the San Jacinto River, which receive surface flows from the separate watershed in the eastern project area, include the following:

- Municipal and Domestic Supply (MUN)
- Agricultural Supply (AGR)
- Groundwater Recharge (GWR)
- Contact Water Recreation (REC-1)
- Non-contact Water Recreation (REC-2)
- Warm Freshwater Habitat (WARM)
- Wildlife Habitat (WILD)
- Rare, Threatened, Endangered Species (RARE) (Existing/Potential Beneficial Use)

Groundwater quality objectives for all groundwater basins address total coliform, chemical constituents, radioactivity, and taste and odor.

Riverside-Arlington Groundwater Management Plan

The Groundwater Management Plan (GWMP) was developed to inform the public of the importance of groundwater in the Riverside-Arlington Basin, as well as to develop relationships with stakeholders and discuss issues related to groundwater, and to develop plans to ensure the long-term sustainability of groundwater resources in the Basin. The goals of the GWMP are to optimize groundwater levels, enhance water quality, and minimize land subsidence. The plan area covers approximately 23 square miles of extensively developed land that is predominately urban. The plan area used approximately 8,600 acre-feet of groundwater in 2009, a small portion of the greater amount of water used, but this water supply is local, reliable and vital to the future sustainability of the plan area. This plan was developed through WMWD per AB 3030 and SB 1938 (WMWD 2012).

Riverside Arlington Subbasin Groundwater Sustainability Plan

As discussed previously, the Arlington Basin is located within this basin and underlies some portions of the project area. Although the larger Riverside-Arlington Basin is partially adjudicated under the Western – San Bernardino Groundwater Adjudication, the Arlington Basin is not adjudicated. Western has adopted the Arlington Basin GWMP within the unadjudicated portion of the basin, which includes actions to mitigate overdraft and replenish groundwater levels, as well as protect and improve groundwater quality. The Riverside-Arlington Subbasin is classified as a low priority basin, but proactive management will continue to ensure its reliability into the future. WMWD serving as the Riverside-Arlington Subbasin GSA has submitted a GSP to DWR to achieve this goal and is currently under review. The GSP will develop water budgets, assess groundwater storage, develop sustainable management criteria, undesirable results, and minimum thresholds to protect the basin for future supply. The GSP also considers how the Riverside-Arlington Subbasin interacts with adjacent basins in the area. The ongoing GSP will result in a plan and identify projects needed to ensure future sustainability of supplies from this basin (DWR 2026; WMWD 2021).

Local

County of Riverside General Plan

The following goals and policies within the Safety Element and the Lake Mathews/Woodcrest Area Plan of the County of Riverside General Plan regarding hydrology and water quality that would be applicable to projects within the unincorporated portion of Riverside County within the Riverside Retail Service Area (County of Riverside 2021, 2024).

Flood and Inundation Hazard Abatement

Policy S 3.3: Prohibit alteration of floodways and channelization unless alternative methods of flood control are not technically feasible or alternative methods are used to the maximum extent practicable. The intent is to balance floodway protection with prudent land use solutions, recreational needs, and habitat requirements, and as applicable to provide incentives for natural watercourse preservation.

A) Prohibit the construction, location, or substantial improvement of structures in areas designated as floodways, except upon approval of a plan which provides that the proposed

development will not result in any significant increase in flood levels during the occurrence of a 100-year flood discharge.

B) Prohibit the filling or grading of land for nonagricultural purposes and for non-authorized flood control purposes in areas designated as floodways, except upon approval of a plan which provides that the proposed development will not result in any significant increase in flood levels during the occurrence of a 100-year flood discharge.

Agricultural Hazards

Policy S 7.4: Prepare for a reduced, long-term water supply resulting from more frequent and severe drought events, including working with regional water providers to implement extensive water conservation measures and ensure sustainable water supplies.

Policy S 7.5: Coordinate with water agencies and irrigation districts to explore ways to improve and increase storage capacity and generation efficiency.

Lake Mathews/Woodcrest Area Plan

Policy LMWAP 6.1: Prior to any development approvals of less than 2 acres in size within areas designated for 1 acre or less development within the area addressed in the Drainage Water Quality Management Plan for the Lake Mathews Watershed, a master water and wastewater facility plan shall be developed and approved by the service providing agency.

Policy S LMWAP 6.4: Proposed projects within the Lake Mathews drainage basin which may significantly increase run-off over natural levels shall be engineered to reduce potential pollutant loads that may affect water quality.

City of Riverside General Plan

The following goals and policies within the Open Space and Conservation Element of the City of Riverside General Plan regarding hydrology and water quality would be applicable to all project activities within the City of Riverside portion of the Riverside Retail Service Area (City of Riverside 2012).

Objective OS-7: Turn the Santa Ana River Task Force "Vision" into reality.

Policy OS-7.6: Partner with other jurisdictions, including the Regional Water Quality Control Board and the US Army Corps of Engineers, to minimize the impact of new development on the river and bring about some of the enhancements envisioned by the Santa Ana River Task Force.

Objective PF-1: Provide superior water service to customers.

Policy PF-1.7: Protect local groundwater resources from localized and regional contamination sources such as septic tanks, underground storage tanks, industrial businesses and urban runoff.

Objective OS-10: Preserve the quantity and quality of all water resources throughout Riverside.

Policy OS-10.2: Coordinate plans, regulations and programs with those of other public and private entities which affect the consumption and quality of water resources within Riverside.

Policy OS-10.6: Continue to enforce RWQCB regulations regarding urban runoff.

Policy OS-10.7: Work with the RWQCB in the establishment and enforcement of urban runoff water quality standards.

Policy OS-10.8: Cooperate with Riverside and San Bernardino Counties and adjacent jurisdictions in the review and approval of new developments which affect the quality and quantity of basin-wide groundwater and surface water resources.

Policy OS-10.9: Evaluate development projects for compliance with NPDES requirements, and require new development to landscape a percentage of the site to filter pollutant loads in stormwater runoff and provide groundwater percolation zones.

Policy OS-10.10: Protect aquifer recharge features and areas of important aquifers from degradation of water quality and reduction of recharge.

Policy OS-10.11: Monitor the quality and quantity of groundwater and surface water resources and consider revisions to the General Plan's policies if monitoring identifies significant reductions in water quality.

3.9.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to hydrology and water quality. The proposed 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 ground water 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 through the addition of impervious surfaces, in a manner that would:
    a) Result in substantial erosion or siltation on- or off-site;
    b) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite;
    c) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    d) Impede or redirect flood flows.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
6. Result in a cumulatively considerable impact to hydrology and water quality.

Impact Analysis

Water Quality

Impact 3.9-1: The proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Priority, Near-Term, and Future Projects

All Facilities

Construction of proposed pipelines, pump/lift stations, storage tanks, and the WWRF Expansion would involve various soil-disturbing activities including, but not limited to, site preparation and clearing, trenching, grading, sandblasting, and installation of structures. Further, the proposed pipeline projects may require dewatering depending on their location. These construction activities could introduce sediment and chemicals (e.g., fuels, paints, thinners, and solvents) to runoff, which would have the potential to impact surface water bodies and/or percolate into groundwater basins downstream of the project area.

In accordance with the NPDES Construction General Permit, construction on project sites greater than one acre would be subject to the requirements of the NPDES Construction General Permit. All pipelines included in Chapter 2, *Project Description*, Tables 2-1, 2-2, and 2-3, in addition to the following aboveground facilities, would require coverage under the NPDES permit: W-5 New 3 MG Hidden Valley Tank, W-6 New 1.5 MG El Nido Tank, W-7 New 7 MG Markham Tank, W-9 New Orangecrest Tank, RW-1 Orangecrest Recycled Water Tank, RW-1 Lurin Irrigation Tank Improvements, WW-6 WWRF Expansion Study, W-8 New 2 MG PZ1783 Tank, W-20 New 2 MG PZ2116 Tank, W-21 New 4 MG PZ1550 Tank, W-22 New 3 MG Hidden Valley Tank, W-23 New 13 MG Orangecrest Tank, and RW-2 Additional 7 MG Storage in PZ1815. Under the Construction General Permit, a SWPPP would be prepared and implemented, including specific measures and conditions to reduce or eliminate stormwater flow carrying pollutants from the construction activities. The SWPPP would include specific BMPs, including erosion and stormwater control measures that would be implemented on each construction site. Examples of typical construction BMPs include installing sediment barriers such as silt fencing and fiber rolls, maintaining equipment and vehicles used for construction, and tracking controls such as stabilization of construction access points. Smaller construction projects, such as the proposed pump station/lift station projects, may involve ground disturbing activities on less than an acre. Implementation of BMPs is required under the CWA in accordance with the NPDES Construction General Permit and by local MS4 permit requirements and ordinances as required by Riverside County. In addition, Riverside County's LID requirements require site design BMPs, such as infiltration, bioretention, and source control measures, to prevent stormwater discharge and pollutant transport. However, during the rainy season, implementation of erosion and sediment control BMPs is required for all construction activities regardless of their disturbance footprint size. Compliance with these required measures would minimize erosion and sediment transport and would reduce potential water quality impacts to a less-than-significant level. Furthermore, in the event that shallow groundwater is encountered during installation of the proposed pipelines, dewatering activities would adhere to requirements of the NPDES Dewatering General Permit.

Once operational, the proposed pipelines would be located underground and resurfaced to original conditions. The aboveground facilities would also be restored to similar conditions with regard to replacement of disturbed soils. Operation of all proposed facilities would not involve ground disturbance

or otherwise pose a threat to water quality; however, the facilities would require periodic maintenance including periodic removal of sediment, inspections, repairs, and replacement of non-operational machinery; these activities could impact the quality of stormwater runoff on the project sites by introducing sediment or chemicals to runoff. Source control BMPs would be implemented with the MS4 and other applicable regulations. Therefore, impacts to water quality would be considered less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Groundwater Supplies

Impact 3.9-2: The proposed project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Priority, Near-Term, and Future Projects

All Facilities

The proposed facilities would have the potential to affect groundwater if excavation associated with construction is deep enough to reach the local groundwater table. When this occurs, groundwater dewatering is required to allow for installation of facilities or foundations. It is anticipated that excavation of most of the proposed facilities would not occur at depths that could intercept the underlying groundwater table. However, the proposed pipelines are assumed to have greater potential to interfere with groundwater as the depth-to-groundwater would depend on localized conditions at each segment. In the event that dewatering activities are necessary, construction activities would comply with the NPDES Dewatering General Permit, which includes various measures to reduce groundwater impacts, such as implementation of BMPs to control discharges and designation of a discharge disposal site. Any groundwater encountered during construction of the pipelines would be subject to compliance with the NPDES Dewatering General Permit, which would require treatment and management of extracted groundwater through filtration, sedimentation, or other BMPs, prior to discharge. These requirements would minimize potential impacts to groundwater discharges and water quality impacts.

As described in Section 3.9.1, *Environmental Setting*, none of the basins in the region are currently overdrafted or projected to be overdrafted. The proposed project would not involve groundwater extraction or require increased use of groundwater supplies during construction or operation. The proposed projects would result in additional potable water, recycled water and wastewater facilities to accommodate planned growth within the Riverside Retail Service Area. The proposed projects would be subject to applicable local groundwater management plans, adjudicated judgments, and regional GSPs, and all federal, state, and local regulations related to sustainable groundwater management in the project area. Impacts would be considered less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Drainage Patterns

Impact 3.9-3: The proposed project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site; create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; impede or redirect flood flows.

Priority, Near-Term, and Future Projects

All Facilities

The proposed facilities would not be located in streams or rivers, however, construction of the proposed facilities would temporarily alter localized topographies and drainage patterns due to ground-disturbing activities, such as grading and excavation. Such alterations in the drainage pattern may temporarily result in erosion or siltation and/or increase the rate or amount of surface runoff if substantial drainage is rerouted. As stated in the discussion for Impact 3.9-1, the construction of projects would implement SWPPPs that would include specific BMPs, including erosion and stormwater control measures. Furthermore, discharges from dewatering activities would adhere to requirements of the NPDES Dewatering General Permit to ensure substantial discharges would not occur in exceedance of local stormwater drainage system capacities.

The proposed water storage tanks, pump/lift stations, and treatment facility upgrades would install concrete foundations and aboveground structures. These facilities would increase the amount of impervious surfaces at the project sites, thereby decreasing infiltration and potentially increasing runoff that could result in erosion, siltation and/or flooding. However, the aboveground facilities would not be located within flow paths of steams or rivers, would have relatively small footprints, and are mostly located at existing WMWD facilities. As is standard practice following construction, excess soils would be redistributed or removed from the site, which would ensure that changes to drainage conditions would be mostly limited to the footprints of the proposed facilities. The proposed pipelines would be located underground and would not have the potential to change existing drainage patterns once installed. Construction and operation of the proposed facilities would comply with requirements of the NPDES General Construction Permit, MS4s, and federal, state, and local regulations to reduce the potential for drainage alterations to occur. Therefore, the impact relative to erosion, siltation, exceedance of stormwater system capacities, additional sources of polluted runoff, or impeded or redirected flood flows would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Release Pollutants in Flood Hazard Zone

Impact 3.9-4: The proposed project could be located in flood hazard, tsunami, or seiche zones, and risk release of pollutants due to project inundation.

Priority, Near-Term, and Future Projects

All Facilities

As discussed in Section 3.9.1, *Environmental Setting*, the project area would be susceptible to flood hazards and seiches due to the presence of creeks, reservoirs, and similar water bodies and the seismic potential of the region. One near-term project (W-4 Hillside 2320 PZ Booster Pump Station and Pipeline) would be constructed south of an existing WMWD property, which borders the FEMA 100-year flood zone associated with the creek. One future project (W-16 CITP (Intake PS)) would be constructed within an existing WMWD property on the elevated north bank of Cajalco Creek, which borders the FEMA 100-year flood zone associated with the creek. In addition, the W-17 Increase Capacity of Mockingbird future project, located southwest of Van Buren Boulevard, is located at the existing Mockingbird Pump Station site within the FEMA 100-year flood zone associated with the Mockingbird Canyon Wash. The potential inundation hazard areas associated with the Lake Mathews, Harrison Street, and Mockingbird Canyon dams are depicted in Figure 3.9-2. The projects that are located within the inundation hazard areas include: W-13 Highland Grove Pipeline, W-14 Highland Grove II and III Pipeline, WW-1 McKinley Trunk Sewer 1 Pipeline, and RW-1 Lake Ranch Pipeline. Although the potential for inundation of these facilities is considered unlikely, it is conservatively assumed that the sites could be susceptible to flooding. Thus, in addition to NPDES Construction General Permit requirements discussed previously, construction and operation of the projects would be required to comply with federal, state and local laws and regulations that pertain to the transport, storage, use, and disposal of hazardous materials and waste, as discussed in Section 3.8, *Hazards and Hazardous Materials*. The NPDES Construction General Permit would require implementation of standard construction BMPs, such as bioswales, detention basins, retention basins, or infiltration galleries in addition to the preparation and implementation of a SWPPP that includes spill prevention measures to avoid and, if necessary, clean up accidental releases of hazardous materials. No other facilities would be located in close proximity to waterbodies or in areas that are mapped as being susceptible flood hazards or seiches. The proposed project area is not in proximity to the ocean and tsunami hazards would occur. Impacts would be considered less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Water Plans

Impact 3.9-5: The proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Priority, Near-Term, and Future Projects

All Facilities

The proposed project includes potable water, recycled water, and wastewater facilities, and would not involve implementation of groundwater injection/extraction facilities or require additional groundwater supplies. Further, the proposed projects would be subject to local groundwater management plans, adjudicated judgments, and regional GSPs, as well as all applicable local, state, and federal regulations regulating water quality to ensure downstream waterbodies and groundwater basins would not be impacted. As a result, the proposed project would be consistent with the designated beneficial uses and water quality objectives of the Santa Ana RWQCB Basin Plan. Therefore, implementation of the project would not conflict with water quality control plans or the applicable sustainable groundwater management plans.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Cumulative Impacts

Impact 3.9-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to hydrology and water quality.

The cumulative analysis for impacts to hydrology and water quality involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve residential, commercial, and industrial development. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. The addition of more development within the Riverside Retail Service Area could result in significant cumulative environmental effects due to an increase of construction and operational activities that could result in water quality impacts, groundwater supplies, drainage alterations, release of pollutants in inundation areas, or conflicts with water quality plans or sustainable groundwater management plans. Construction and operation activities for the Riverside FMP projects would be required to comply with the applicable federal, state, and local regulations discussed in Section 3.9.2, *Regulatory Framework*. Because the potential impacts to hydrology and water quality associated with the implementation of the Riverside FMP projects would be less than significant, the proposed project's contribution to cumulative hydrology and impacts would be less than cumulatively considerable. Thus, a less than significant cumulative impact would occur to hydrology and water quality.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

3.9.4 References

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3.10 Land Use and Planning

This section addresses the land use and planning impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes a description of the existing land use and planning conditions in and around the proposed project site; a summary of applicable regulations related to land use and planning; and an evaluation of the potential impacts of the proposed project related to land use and planning at the proposed project site and in the surrounding area, including cumulative impacts.

3.10.1 Environmental Setting

Regional Land Use

The project area includes the Riverside Retail Service Area, which is located in the City of Riverside and portions of unincorporated Riverside County. The City of Riverside and the County of Riverside have independent planning documents that guide the development of rural, urban, and commercial land uses within their jurisdictional boundaries.

The County of Riverside includes a total area of 7,303 square miles and is approximately 180 miles wide from east to west. The County of Riverside General Plan includes all unincorporated portions of the County of Riverside and 19 detailed Area Plans covering Riverside County's territory. The Lake Mathews/ Woodcrest Area Plan covers the majority of the unincorporated area within the Riverside Retail Service Area, extending from the southern border with the City of Riverside south to the Elsinore Area Plan, and including communities such as El Sobrante, Woodcrest, Lake Mathews, and Gavilan Hills. The Lake Mathews/ Woodcrest Area Plan provides expansive rural and open space uses near Lake Mathews, as well as traditional residential and commercial areas near the Woodcrest community (County of Riverside 2016). Additionally, portions of the proposed project are located within the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan on the eastern side of the Riverside Retail Service Area. The March Air Reserve Base was established in 1918 and was used as a military facility until 1993. A four party Joint Powers Authority (JPA), comprised of the County of Riverside and the cities of Moreno Valley, Perris and Riverside, now governs the facility. Future plans for the site include an active inland port (County of Riverside 2016).

The City of Riverside encompasses approximately 82 square miles within Riverside County. The City of Riverside's corporate boundary includes approximately 51,310 acres that generally extends north past the SR 91 and I-215 interchange, and south to the community of La Sierra South and the Orangecrest area. The City of Riverside also includes an expansive Southern Sphere of Influence that extends south from the City's southern boundary to the crest of Cajalco Ridge (City of Riverside 2019). The area is approximately 36,826 acres and includes the communities of El Sobrante, Glen Valley, Woodcrest, and limited portions of Gavilan Hills and Lake Mathews. While the areas within the City of Riverside's Southern Sphere of Influence have been identified by the Riverside County Local Agency Formation as a logical future expansion of the City, the County of Riverside still retains land use authority over the areas (County of Riverside 2016).

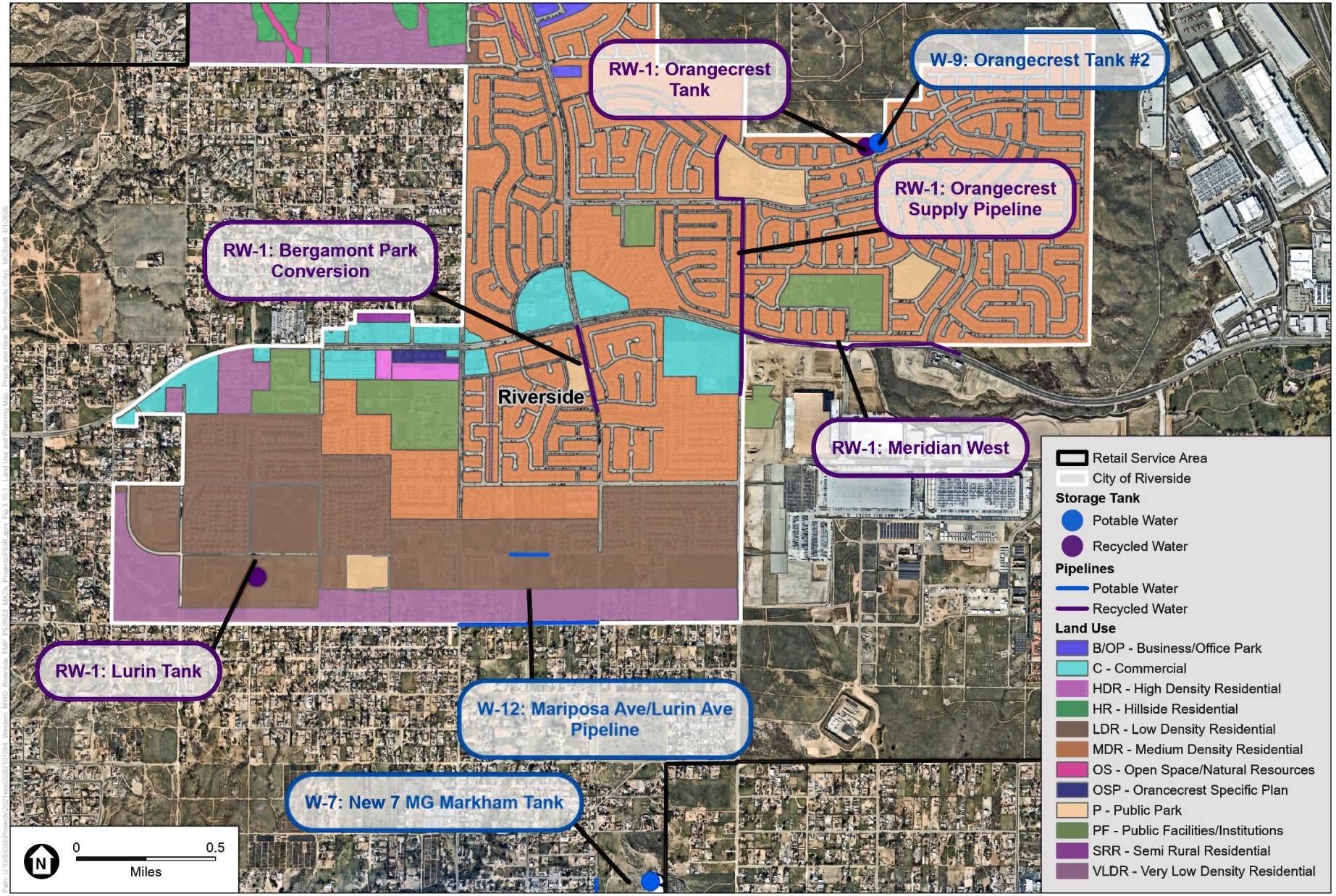
Existing Land Use Designations

The project area is characterized primarily by rural residential land uses, with open space and agricultural land concentrated around the Lake Mathews and Gavilan Hills areas. As explained above, there are two agencies with land use jurisdiction over the project area: the City of Riverside and Riverside County (unincorporated). The land use designations associated with the priority and near-term projects within the City of Riverside are shown on **Figure 3.10-1** and within Riverside County on **Figure 3.10-2** and **Figure 3.10-3**. The land use designations for the future projects in the City of Riverside are shown on **Figure 3.10-4** and Riverside County on **Figure 3.10-5**.

Pipelines

Multiple segments of transmission pipelines would be constructed throughout the project area. The land use designation for the locations of the proposed priority and near-term project pipelines to be constructed before 2030 include the following:

- The W-1 Moonridge Drive Pipeline Upsizing project is surrounded by Rural Residential (RR) land use, consisting mostly of single-family homes in unincorporated Riverside County. This portion of the project area is within a public right-of-way.
- The W-2 Blackburn Road Pipeline Upsizing project is surrounded by agriculture (nursery) and rural undeveloped land, as well as sparsely populated rural residential properties in unincorporated Riverside County. A portion of the project area is within a public right-of-way and is surrounded by Agricultural/Rural Residential (RR) land use and Open Space-Conservation Habitat (OS-CH). The remaining portion of the project area would traverse through private property north of Blackburn Road within an Estate Density Residential (RC-EDR) land use.
- The W-3 Cedar Street and Avenue D Pipeline Upsizing is adjacent to Very Low Density Residential (VLDR) land use in unincorporated Riverside County. This portion of the project area is within a public right-of-way.
- The WW-1 McKinley Trunk Sewer 1 Pipeline Upsizing project is adjacent to Very High Density Residential (VHDR) land use, consisting mostly of single-family homes in unincorporated Riverside County. This portion of the project area is within a public right-of-way.
- The WW-1 Beazer 1 Lift Station and Forcemain Upgrades (WRCWRA) project is surrounded by residential and undeveloped land and is adjacent to Residential Agricultural (R-A) land use. This portion of the project area is within a public right-of-way.
- The W-11 Cole Ave/Cedar Street Upsize project is surrounded by agricultural and residential land and adjacent to Residential Agricultural (R-A-1) land use. This portion of the project area is within a public right-of-way.
- The W-12 Mariposa Ave/Lurin Avenue Upsize project is surrounded by agricultural, rural undeveloped land, as well as residential properties and is adjacent to Light Agriculture Zone (A-1-1) land use. This portion of the project area is within a public right-of-way.

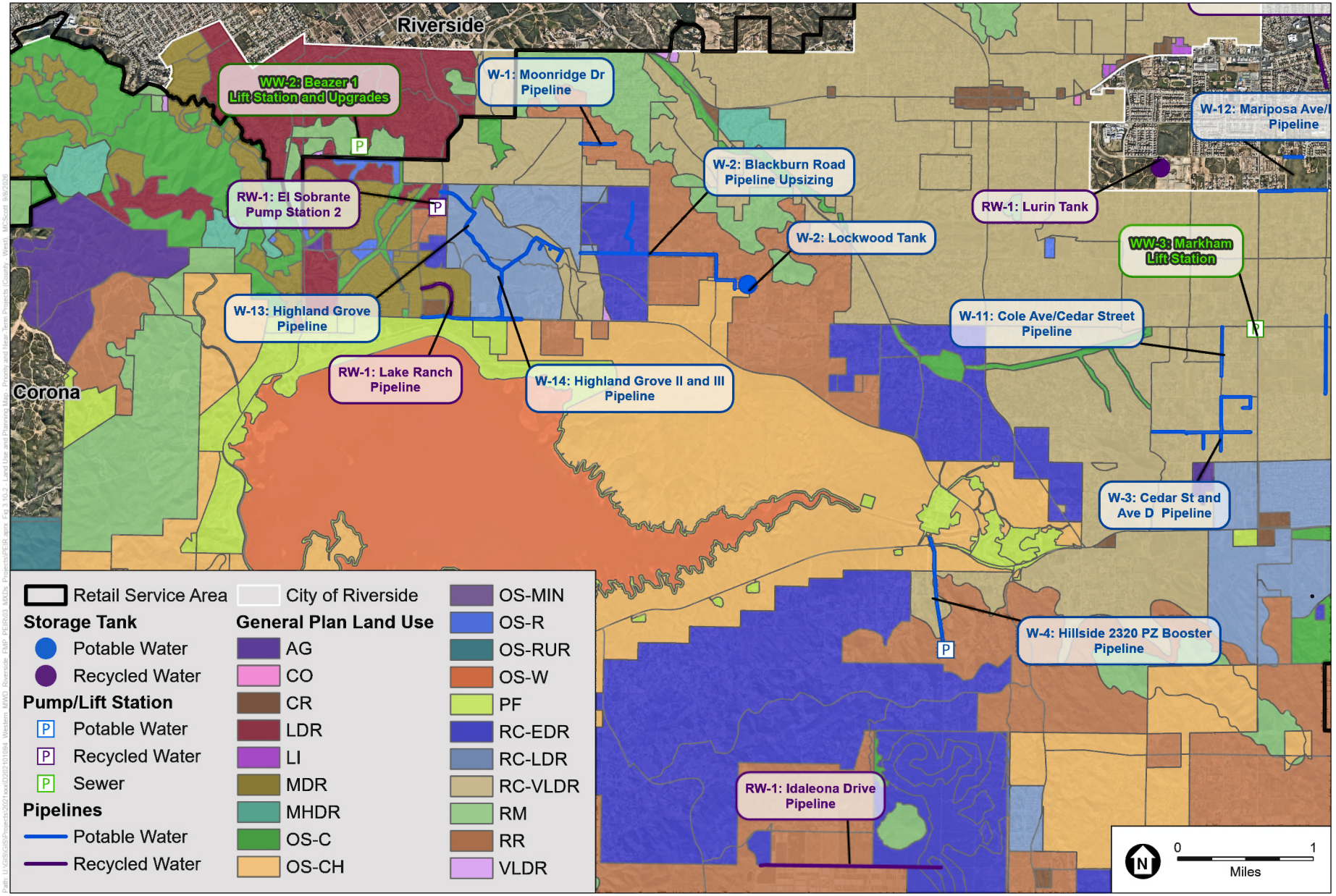


SOURCE: Nearmap, 2022; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.10-1
Land Use and Planning Map
Priority and Near-Term Projects (City of Riverside)

ESA

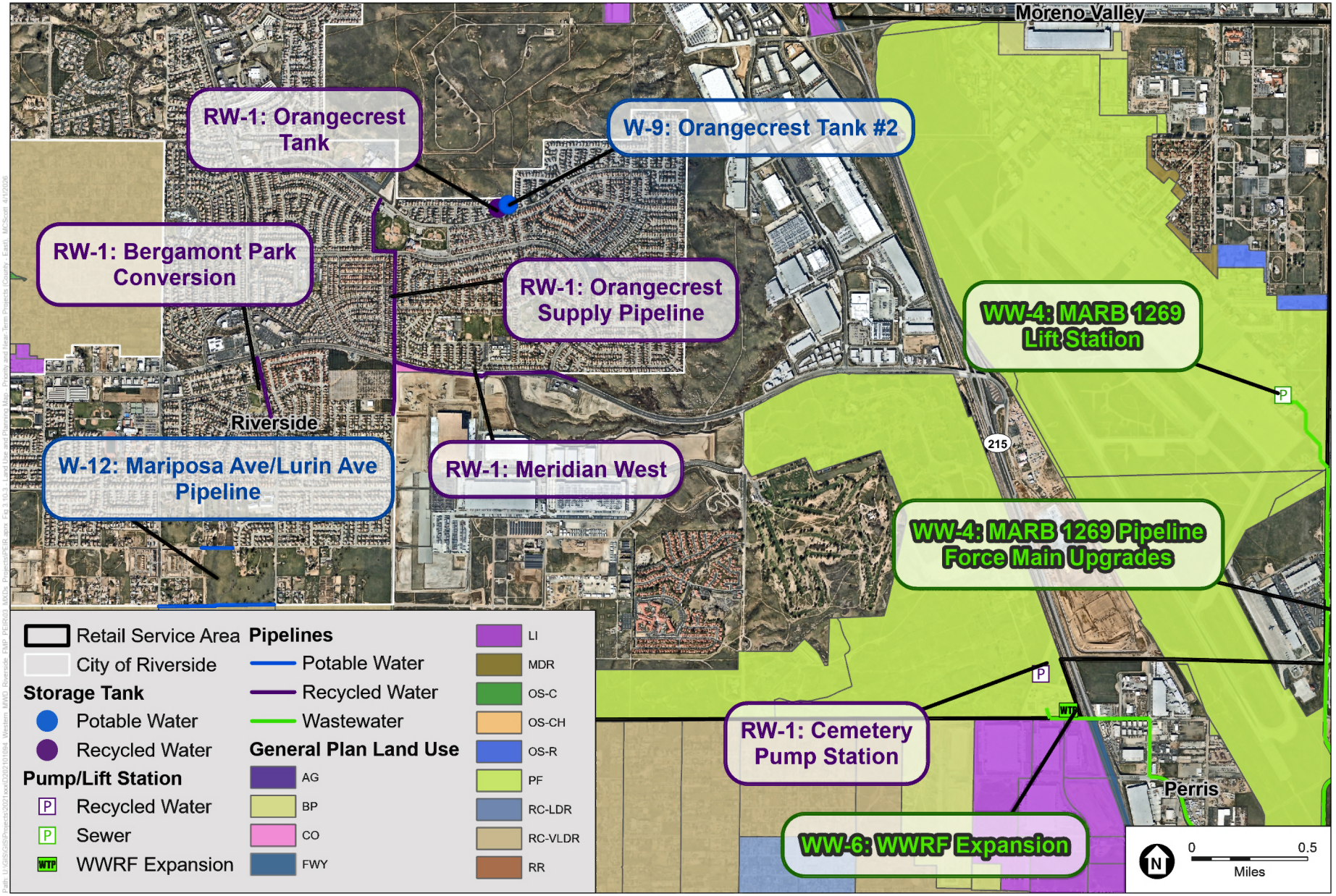


SOURCE: Nearmap, 2022; WMWD, 2022; ESA, 2022.

Riverside Facilities Master Plan

Figure 3.10-2
Land Use and Planning Map
Priority and Near-Term Projects (County of Riverside - West)

ESA

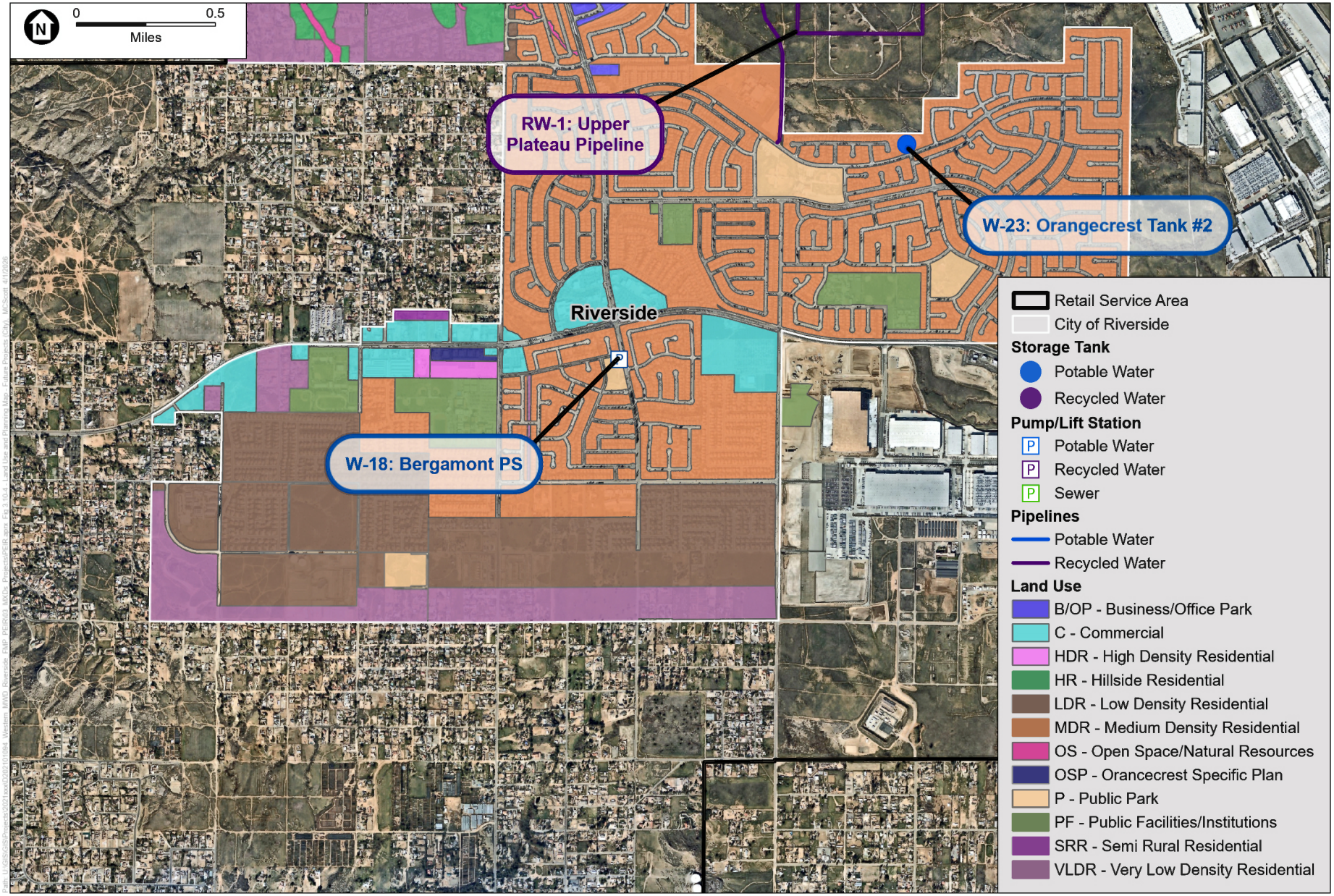


SOURCE: Nearmap, 2022; WMWD, 2022; ESA, 2022.

Riverside Facilities Master Plan

Figure 3.10-3
Land Use and Planning Map
Priority and Near-Term Projects (County of Riverside - East)

ESA

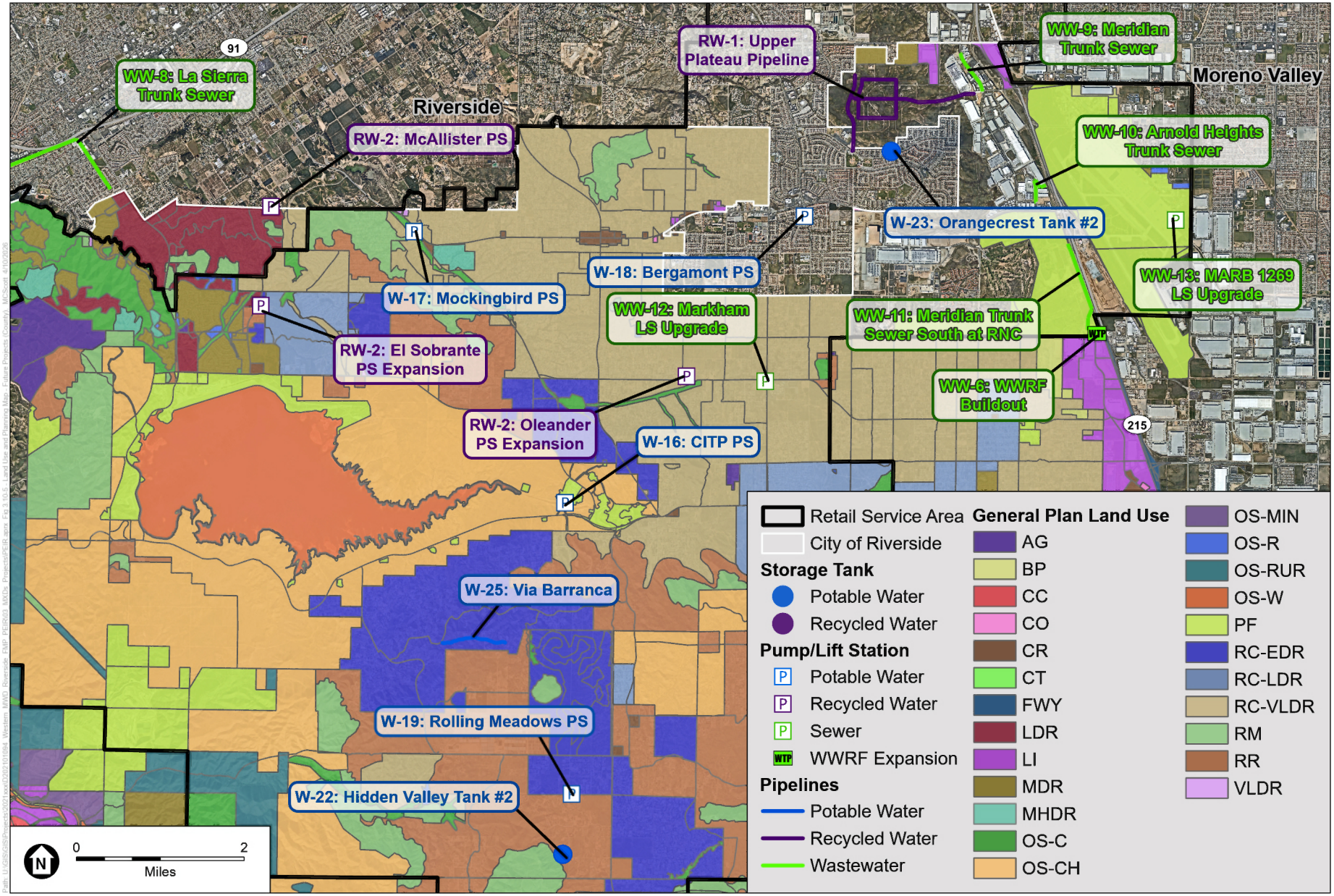


SOURCE: Nearmap, 2022; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.10-4
Land Use and Planning Map
Future Projects (City of Riverside)

ESA



SOURCE: Nearmap, 2022; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.10-5
Land Use and Planning Map
Future Projects (County of Riverside)

ESA

- The W-13 Highland Grove Pipeline project is surrounded by rural residential and undeveloped land. A portion of the project area is within a public right-of-way. Land surrounding the pipeline is designated as Rural Community – Low Density Residential (RC-LDR), Rural Community – Very Low Density Residential (RC-VLDR), Public Facilities (PF), and Open Space Conservation Habitat (OS-CH).
- The W-14 Highland Grove II and II 12-Inch Pipeline is surrounded by rural undeveloped land. Land surrounding the pipeline is designated as RC-LDR, Low Density Residential (LDR), and Rural Community – Estate Density Residential (RC-EDR).
- The W-15 Juniper Road Pipeline Upsizing is surrounded by agricultural and rural residential and undeveloped land. Land surrounding the pipeline is designated as Low Density Residential (LDR).
- The RW-1 Orangecrest Tank Supply Pipeline and the Meridian West Campus Development Pipeline would run along Van Buren Boulevard, Barton Street, Orange Terrace Parkway, Deercreek Drive, and Grove Community Drive, which are all paved roads within the City of Riverside. Adjacent land uses include Medium Density Residential (MDR), Public Park (P), Commercial (C), Low Density Residential (LDR), and Very Low Density Residential (VLDR).
- The RW-1 Bergamont Park Conversion to RW project is surrounded by residential land and a park and the project area is within a public right-of-way. Land surrounding the pipeline is designated as Medium Density Residential (MDR) and Public Park (P).
- The RW-1 Meridian West Pipelines project is surrounded by residential, agricultural, and undeveloped land and the project area is within a public right-of-way. Land surrounding the pipeline is designated as Medium Density Residential (MDR).
- The RW-1 Idaleona Drive Pipeline would run along an unpaved access road in unincorporated Riverside County. Land surrounding the pipeline is designated as Rural Residential (RR) and Rural Community Very Low Density Residential (RC-VLDR).
- The RW-1 Lake Ranch Pipelines project is surrounded by rural residential and undeveloped land. Portions of the project area are within a public right-of-way. Land surrounding the pipeline is designated as Medium Density Residential (MDR).

Two future water pipelines, three future recycled water pipelines, and five wastewater pipelines would be completed by 2050 and would occur mostly within public rights-of-way, and are explained below.

The W-24 PZ 2320 12-inch Pipelines would be constructed in Commercial Retail (CR) land use in Riverside County. The W-25 Via Barranca Pipeline Upsizing would be constructed in Rural Community Estate Density Residential (RC-EDR) land use in unincorporated Riverside County. The RW-1 Upper Plateau Development Pipelines would be constructed adjacent to Medium Density Residential (MDR) land use in the City of Riverside. The RW-2 RNC Pipeline Upsize to 24″ would be constructed within land designated as Medium Density Residential (MDR) in the City of Riverside and Public Facilities (PF) in unincorporated Riverside County. The RW-2 RNC Pipeline Upsize 18″ would be constructed within land designated as Medium Density Residential (MDR) in the City of Riverside and Public Facilities (PF) in unincorporated Riverside County.

The WW-7 McKinley Trunk Sewer 2 (WRCWRA) would be constructed adjacent to land designated as Open Space – Conservation (OS-C).

The WW-8 La Sierra Trunk Sewer (WRCWRA) would be constructed adjacent to Low Density Residential (LDR) and Medium Density Residential (MDR) land use in unincorporated Riverside County. The WW-9 Meridian Trunk Sewer North (WWRF) would be constructed adjacent to Public Facilities (PF) land use in unincorporated Riverside County. The WW-10 Arnold Heights Trunk Sewer (WWRF) would be constructed adjacent to Public Facilities (PF) land use in unincorporated Riverside County. The WW-11 Meridian Trunk Sewer South at RNC (WWRF) would be constructed adjacent to Light Industrial (LI) land use in unincorporated Riverside County.

Storage Tanks

The Riverside FMP includes construction of up to five new storage tanks (four potable water and one recycled water), and an upgrade to one recycled water storage tank. Three storage tanks would be constructed/upgraded by 2030. The land use designation for the locations of the proposed storage tanks to be constructed by 2030 includes the following:

- The W-5 New 3 MG Hidden Valley Tank would be constructed adjacent to an existing storage tank operated by WMWD. This portion of the project area is designated as Rural Residential (RR).
- The W-6 New 1.5 MG El Nido Tank would be constructed adjacent to an existing storage tank operated by WMWD. This portion of the project area is designated as Residential Agricultural (R-A-5).
- The W-7 New 7 MG Markham Tank would be constructed adjacent to an existing storage tank operated by WMWD. This portion of the project area is designated as Controlled Development/Floodplain (W-2-10).
- The W-9 Orangecrest Potable Water Storage Tank would be constructed in the Orangecrest area of the City of Riverside adjacent to an existing storage tank operated by WMWD. This portion of the project area is designated as Medium Density Residential (MDR).
- The RW-1 New Orangecrest Tank would be constructed in the Orangecrest area of the City of Riverside adjacent to an existing storage tank operated by WMWD. This portion of the project area is designated as Medium Density Residential (MDR).
- The RW-1 Lurin Storage Tank expansion would be implemented in the City of Riverside at the existing Lurin recycled water tank. This portion of the project area is designated as Low Density Residential (LDR).

Six new storage tanks would be constructed by 2050. While the locations are not definitely known, potential locations have been identified on Figure 3.10-5 and are explained below:

- The W-8 New 2 MG PZ1783 Tank would be constructed in land designated as Rural Residential (RR).
- The W-20 New 2 MG PZ2116 Tank would be constructed in land designated as Medium Density Residential (MDR).
- The W-21 New 4 MG PZ 1550 Tank would be constructed in land designated as Open Space – Conservation (OS-C).
- The W-22 3 MG Hidden Valley Tank would be constructed in land designated as Rural Residential (RR).
- The W-23 New 13 MG Orangecrest Tank would be constructed in land designated as Medium Density Residential (MDR).

- The RW-2 Additional 7-MG Storage in PZ1815 would be constructed in land designated as Rural Community – Very Low Density Residential (RC-VLDR).

Pump Stations

The Riverside FMP includes upgrades/expansion of recycled water pump stations/wastewater lift stations and construction of new potable water pump stations. The land use designation for the locations of the proposed pump/lift stations to be constructed by 2030 are as follows:

- Upgrades for the WW-2 Beazer Lift Station would be installed within the existing Beazer Lift station, adjacent to a rural residential property near the intersection of Tuliptree Circle and Treetop Lane in unincorporated Riverside County. This portion of the project area is designated as Low Density Residential (LDR).
- Upgrades for the WW-3 Markham List Station would be installed within the existing Markham Lift station at the intersection of Wood Road and Markham Street within undeveloped land in unincorporated Riverside County. This portion of the project area is designated as Rural Community Very Low Density Residential (RC-VLDR).
- Upgrades for the W-4 Hillside 2320 PZ Booster Pump Station would be installed within the existing Hillside Pump Station within undeveloped land in unincorporated Riverside County. This portion of the project area is designated as Rural Agriculture (R-A-5).
- Upgrades for the RW-1 Cemetery PS Expansion would be installed at the existing Riverside National Cemetery pump station at the Western Water Recycling Facility (WWRF) near the intersection of Nandina Avenue and Harvill Avenue in unincorporated Riverside County surrounded by commercial businesses and industrial buildings. This portion of the project area is designated as Public Facilities (PF).
- An additional pump for RW-1 El Sobrante Pump Station would be installed within the existing El Sobrante pump station, adjacent to McAllister Street and surrounded by orchards in unincorporated Riverside County. This portion of the project area is designated as Rural Residential (RR).
- Upgrades for the WW-4 MARB 1269 Lift Station and Forcemain Upgrade (WWRF) would be installed at the existing MARB Lift Station within the March Air Reserve Base. This portion of the project area is designated as Public Facilities (PF).
- Upgrades for the WW-5 Meridian Lift Station would be installed within the existing Meridian lift station, near the intersection of Meridian Parkway and E Alessandro Boulevard within mixed use and built-up land. This area is part of the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan and is within the Office planned land use designation (RCALUC 2014).

New potable water pump stations, recycled water pump stations, and wastewater pump/lift station expansions would be completed by 2050. Potential locations have been identified on Figure 3.10-5 and are explained below.

- The W-16 CITP (Intake PS) would be constructed in land designated as Public Facilities (PF).
- The W-17 Increase Capacity of Mockingbird PS would be constructed in land designated as Open Space – Conservation (OS-C).
- The W-18 Bergamont PS would be constructed in land designated as Public Park (P).

- The W-19 Rolling Meadows PS would be constructed in land designated as Rural Community Estate Density Residential (RC-EDR).
- The RW-2 Oleander PS Expansion (200 HP) would be constructed in land designated as Agriculture (AG).
- The RW-2 McAllister PS Expansion (200 HP) would be constructed in land designated as Low Density Residential (LDR).
- The RW-2 El Sobrante PS Expansion (150 HP) would be constructed in land designated as Rural Community Estate Density Residential (RC-EDR).
- The WW-12 Markham Lift Station Ultimate Upgrades would be constructed in land designated as Agriculture (AG).
- The WW-13 MARB 1269 Lift Station Upgrade Study would be constructed in land designated as Public Facilities (PF).

Treatment Facilities

The Riverside FMP proposes an expansion of the existing WWRF, near the intersection of Nandina Avenue and Harvill Avenue in unincorporated Riverside County. The site is surrounded by commercial businesses and industrial buildings. This portion of the project area is designated Public Facilities (PF).

3.10.2 Regulatory Framework

State

California Government Code Section 53091

California Government Code Section 53091 specifies that water supply facilities such as those associated with the proposed project, are exempt from zoning restrictions. Specifically, Section 53091 states (State of California Legislative Council 2003):

> *(d) Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency.*
>
> *(e) Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water.*

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the federally mandated Metropolitan Planning Organization representing six counties: Los Angeles, Imperial, Orange, Riverside, San Bernardino, and Ventura. The SCAG Regional Comprehensive Plan addresses important regional issues such as housing, traffic/transportation, water, and air quality and serves as an advisory planning document to support and encourage local agencies in their planning efforts.

Local

County of Riverside General Plan

The Lake Mathews/ Woodcrest Area Plan includes four policy areas that contain unique features within the plan area. The following policies are related to land use and planning (County of Riverside 2016):

El Sobrante Policy Area

LMWAP 1.3: Coordinate with local agencies to ensure adequate service provision for all development within the Policy Area.

LMWAP 1.7: Development shall be sensitive to and retain the unique topographical features within and adjacent to the planning area.

March Joint Air Reserve Base Influence Area:

LMWAP 4.1: To provide for the orderly development of March Joint Air Reserve Base and the surrounding areas, comply with the 1984 Riverside County Airport Land Use Plan as fully set forth in Appendix L-1 and as summarized in Table 4, as well as any applicable policies related to airports in the Land Use, Circulation, Safety, and Noise Elements of the Riverside County General Plan.

City of Riverside General Plan

The following is a selected list of General Plan goals, objectives, and policies that are applicable to the proposed project respective to land use (City of Riverside 2019).

Policy LU 1.3: The County will notify city planning departments about new proposed discretionary projects that are located adjacent to cities or within their spheres of influence, with sufficient advance notice to allow for City-County coordination and city comments at public hearings. The County is willing to consider entering into intergovernmental agreements with cities and other governmental entities to address matters of mutual concern relating to land use, infrastructure, the environment, and other subjects relating to development activity in both the County and the cities or other governmental entities.

Objective LU-3: Preserve prominent ridgelines and hillsides as important community visual, recreational and biological assets.

Policy LU-3.1: Pursue methods to preserve hillside open space and natural habitat.

Objective LU-4: Minimize the extent of urban development in the hillsides, and mitigate any adverse impacts associated with urbanization to the extent feasible.

Policy LU-4.1: Adhere to the protections for hillside development set forth in Proposition R and Measure C.

Policy LU-4.2: Enforce the hillside grading provisions of the City's Grading Code (Title 17) to minimize ground disturbance associated with hillside development; respect existing land contours to maximum feasible extent.

Policy LU-4.3: Work closely with the County of Riverside, emphasizing the City's need to participate in the development review of projects proposed in surrounding unincorporated areas. Work to ensure that such developments proceed in concert with City of Riverside standards.

Policy LU-4.4: Ensure that the City provides comments to Riverside County on proposed new hillside development in the City's Sphere of Influence, taking into consideration the provisions of Proposition R and Measure C, the RC Zone, the Hillside Residential land use designation and the City's Grading Code (Title 17).

Objective LU-8: Emphasize smart growth principles through all steps of the land development process.

Policy LU-8.2: Avoid density increases or intrusion of non-residential uses that are incompatible with existing neighborhoods.

Objective OS-1: Preserve and expand open space areas and linkages throughout the City and sphere of influence to protect the natural and visual character of the community and to provide for appropriate active and passive recreational uses.

Policy OS-1.7: Work closely with the County of Riverside pursuant to the Joint Cities/County Memorandum of Understanding, emphasizing the City's need to participate in the development review process of projects proposed in surrounding unincorporated areas. Work to ensure that such developments proceed consistent with City standards, including hillside and arroyo grading preservation standards.

3.10.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to land use and planning. The proposed project would have a significant impact if it would:

1. Physically divide an established community.
2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
3. Result in a cumulatively considerable impact to land use and planning.

Impact Analysis

Divide an Established Community

Impact 3.10-1: The proposed project could physically divide an established community.

Priority, Near-Term, and Future Projects

All Facilities

The physical division of an established community generally refers to the construction of features that would impact mobility within an existing community or between a community and outlying area, such as an interstate highway, railroad tracks, or permanent removal of a means of access, such as a local road or bridge. The proposed facilities associated with the Riverside FMP are not aboveground linear features that would create a barrier or physically divide an established community. Although the proposed pipelines are linear features, they would be installed underground and as such would not permanently divide an established community. Some proposed facilities such as pump stations, storage tanks, and treatment plants would be located adjacent to public rights-of-way; however, there are no features of these

other proposed facilities that would create a barrier within public roadways or physically divide an established community. As a result, no impact would occur.

Mitigation Measures

None required

Significance Determination

No Impact

Plans and Policies

Impact 3.10-2: The proposed project could cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Priority, Near-Term, and Future Projects

All Facilities

The proposed facilities would be located within and adjacent to various land uses throughout the City of Riverside and unincorporated Riverside County, as described above in the existing setting and shown on Figures 3.10-1 through 3.10-5. These include various designations such as Public Facilities (PF), Rural Mountainous (RM), Rural Residential (RR), Rural Community Very Low Density Residential (RC-VLDR), Low Density Residential (LDR), Very Low Density Residential (VLDR), Medium Density Residential (MDR), Rural Community Estate Density Residential (RC-EDR), Commercial (C), Open Space-Conservation (OS-C), and Agricultural/Rural Residential (A/RR). It should be noted that future project facilities may be constructed in areas with land use designations that are different from the ones mentioned prior. Pipelines and ancillary facilities would be installed primarily within or adjacent to public rights-of-way to the extent feasible and would not conflict with land use designations or be incompatible with neighboring land uses. Pump/lift stations and storage tanks would primarily be installed within existing WMWD infrastructure and may be installed across other designated land uses. Per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. Therefore, any proposed storage tank, pump/lift station, pipeline, or treatment facility expansion would not be subject to a conditional use permit or general plan amendment. Furthermore, the construction of utilities fundamentally supports the vitality of communities and these developments are recognized generally within local General Plans as essential development features needed to support all land uses throughout the communities. As a result, there would be no conflict with the City or County land use plan, policy, or regulation. Therefore, impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Cumulative Impacts

Impact 3.10-3: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to land use and planning.

Future cumulative development projects identified in Table 3-2 could result in conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Additionally, Cumulative Future Infrastructure Projects, which would include linear infrastructure projects to be implemented through the year 2050, could divide an established community. Therefore, cumulative development within the Riverside Retail Service Area could result in significant cumulative environmental effects due to land use incompatibilities and conflicts with land use plans, policies, or regulations. Because the potential land use impacts associated with the implementation of the Riverside FMP projects would be less than significant, the project's contribution to cumulative land use impacts would be less than cumulatively considerable and thus a less-than-significant cumulative land use impact would occur.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

3.10.4 References

City of Riverside. 2019. *Riverside General Plan 2025*. Land Use and Urban Design Element. https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general-plan/04_Land_Use_and_Urban_Design_Element_with%20maps%20COMPLETE%20AUGUST%202019.pdf, accessed February 13, 2026.

County of Riverside. 2021. *County of Riverside General Plan: Lake Mathews/Woodcrest Area Plan*. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-GPA-2022-Compiled-LMWAP-4-2022-rev.pdf, accessed February 13, 2026.

Riverside County Airport Land Use Commission (RCALUC). 2014. Background Data: March Air Reserve Base/Inland Port Airport and Environs. https://www.rcaluc.org/Portals/13/42%20-%20Vol.%202%20March%20Air%20Reserve%20Base%20Final.pdf?ver=2016-08-15-150039-073, accessed May 25, 2022.

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3.11 Noise

This section addresses the noise and vibration impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes a description of the existing noise and vibration conditions in and around the proposed project site; a summary of applicable regulations related to noise and vibration; and an evaluation of the potential impacts of the proposed project related to noise and vibration at the proposed project site and in the surrounding area, including cumulative impacts.

3.11.1 Environmental Setting

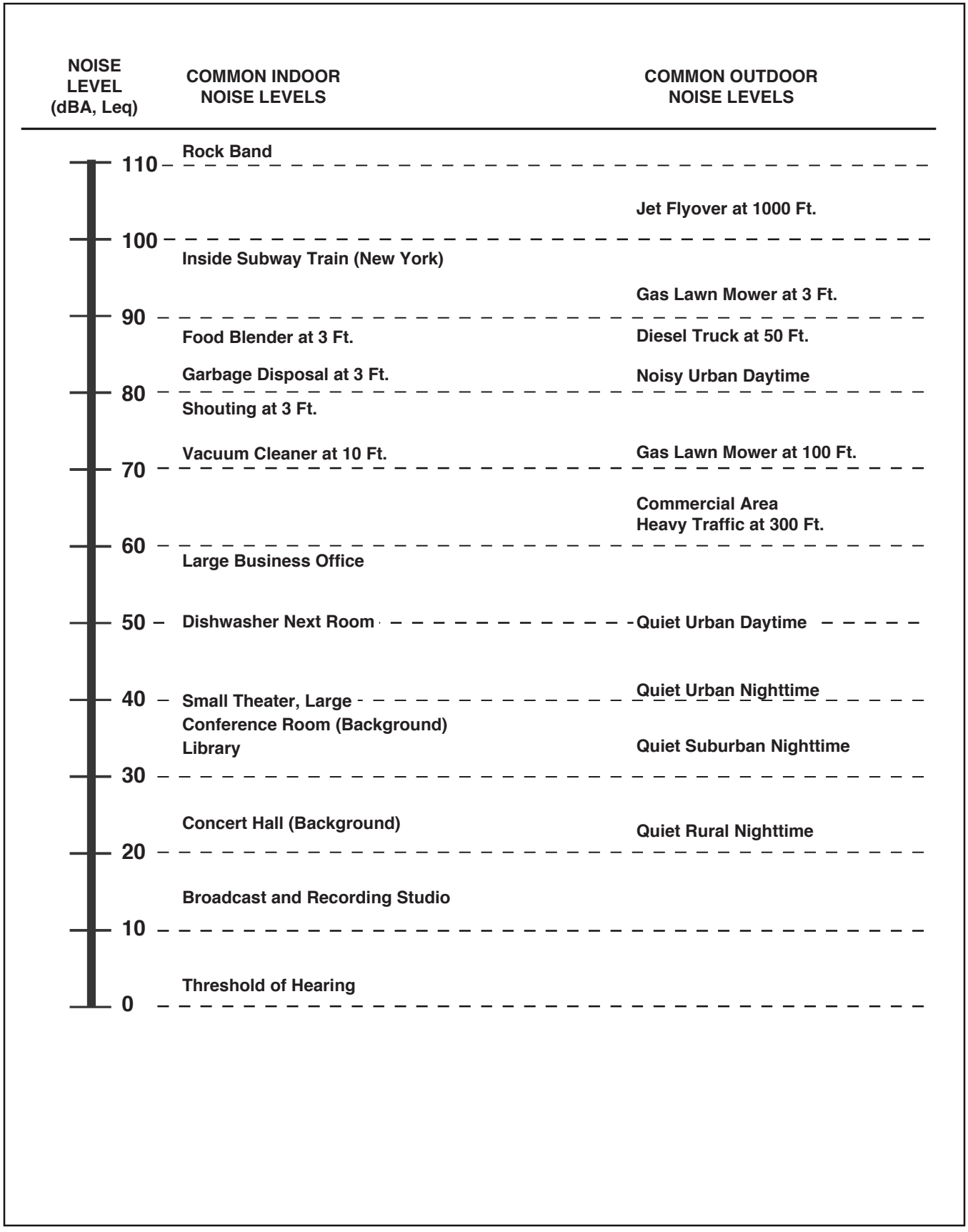
Noise Principals and Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as undesirable (i.e., loud, unexpected, or annoying) sound. Acoustics is defined as the physics of sound and addresses its propagation and control (Caltrans 2013). In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determine the sound level and characteristics of the noise perceived by the receiver.

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement and reflects the way people perceive changes in sound amplitude. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of feeling pain. Pressure waves traveling through air exert a force registered by the human ear as sound (Caltrans 2013).

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but, rather, a broad band of frequencies varying in levels of magnitude. When all of the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequencies spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum (Caltrans 2013).

The typical human ear is not equally sensitive to the frequency range from 20 to 20,000 Hz. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to these extremely low and extremely high frequencies. This method of frequency filtering or weighting is referred to as A-weighting, expressed in units of A-weighted decibels (dBA), which is typically applied to community noise measurements (Caltrans 2013). A-weighted noise levels are shown in **Figure 3.11-1**.



SOURCE: State of California, Department of Transportation (Caltrans), Technical Noise Supplement (TeNS). October 1998

Riverside Facilities Master Plan

Figure 3.11-1
Decibel Scale and Common Noise Sources

ESA

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in Figure 3.11-1 are representative of measured noise at a given instant in time; however, they rarely persist consistently over a long period of time. Rather, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Single-event noise sources, such as aircraft flyovers, sirens, etc., may cause sudden changes in background noise level (Caltrans 2013). However, generally, background noise levels change gradually throughout the day, corresponding with the addition and subtraction of distant noise sources, such as changes in traffic volume.

These successive additions of sound to the community noise environment change the community noise level from instant to instant, thus requiring that noise exposure be measured over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: The L_{eq}, or equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value; the L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.

L_{max}: The maximum, instantaneous noise level experienced during a given period of time.

L_{min}: The minimum, instantaneous noise level experienced during a given period of time.

L_{50}: The noise level that is equaled or exceeded 50 percent of the specified time period. The L_{50} represents the median sound level.

L_{90}: The noise level that is equaled or exceeded 90 percent of the specified time period. The L_{90} is generally considered to be representing the background or ambient level of a noise environment.

L_{dn}: Also termed the day-night average noise level (DNL), the L_{dn} is the average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dBA to measured noise levels between the hours of 10 p.m. and 7 a.m. to account nighttime noise sensitivity.

CNEL: CNEL, or Community Noise Equivalent Level, is the average A-weighted noise level during a 24-hour day that is obtained after an addition of 5 dBA to measured noise levels between the hours of 7 p.m. and 10 p.m. and after an addition of 10 dBA to noise levels between the hours of 10 p.m. and 7 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance)
- Interference effects (e.g., communication, sleep, and learning interference)
- Physiological effects (e.g., startle response)
- Physical effects (e.g., hearing loss)

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can include both awakening and arousal to a lesser state of sleep. With regard to the subjective effects, the responses of individuals to similar noise events are diverse and are influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

The World Health Organization's Guidelines for Community Noise details the adverse health effects of high noise levels, which include hearing impairment, speech intelligibility, sleep disturbance, physiological functions (e.g., hypertension and cardiovascular effects), mental illness, performance of cognitive tasks, social and behavioral effects (e.g., feelings of helplessness, aggressive behavior), and annoyance (WHO 1999).

With regard to the subjective effects, the responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity. Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur (WHO 1999):

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- Outside of the laboratory, a 3 dBA change in noise levels is considered to be a barely perceivable difference.

- A change in noise levels of 5 dBA is considered to be a readily perceivable difference.
- A change in noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships between change in noise level and human hearing response occur in part because of the logarithmic nature of sound and the dB scale. Because the dBA scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but, rather, logarithmically. Under the dBA scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dBA higher than one of the sources under the same conditions. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. Under the dB scale, three sources of equal loudness together produce a sound level of approximately 5 dBA louder than one source, and 10 sources of equal loudness together produce a sound level of approximately 10 dBA louder than the single source (Caltrans 2013).

Noise Attenuation

When noise propagates over a distance, the noise level reduces, or attenuates, with distance depending on the type of noise source and the propagation path. Noise from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, referred to as "spherical spreading." The rate of sound attenuation for a point source, such as a piece of mechanical or electrical equipment (e.g., air conditioner) or idling vehicle (e.g., bulldozer), is 6 dBA per doubling of distance from the noise source to the receptor over acoustically "hard" sites and 7.5 dBA per doubling of distance from the noise source to the receptor over acoustically "soft" sites (Caltrans 2013). Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the reduction in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, which in addition to geometric spreading, provides an excess ground attenuation value of 1.5 dBA (per doubling distance) (Caltrans 2013). For example, an outdoor condenser fan that generates a sound level of 60 dBA at a distance of 50 feet from a point source at an acoustically hard site would attenuate to 54 dBA at a distance of 100 feet from the point source and attenuate to 48 dBA at 200 feet from the point source.

Roadways and highways consist of several localized noise sources on a defined path, and, hence, are treated as "line" sources, which approximate the effect of several point sources (Caltrans 2013). Noise from a line source propagates over a cylindrical surface, often referred to as "cylindrical spreading." Line sources (e.g., traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans 2013). Therefore, noise due to a line source attenuates less with distance than that of a point source with increased distance.

Structures (e.g., buildings and solid walls) and natural topography (e.g., hills and berms) that obstruct the line-of-sight between a noise source and a receptor further reduce the noise level if the receptor is located within the "shadow" of the obstruction, such as behind a sound wall. This type of sound attenuation is known as "barrier insertion loss." If a receptor is located behind the wall but still has a view of the source (i.e., the line-of-sight is not fully blocked), barrier insertion loss would still occur but to a lesser extent. Additionally, a receptor located on the same side of the wall as a noise source may actually experience an

increase in the perceived noise level as the wall can reflect noise back to the receptor, thereby compounding the noise. Noise barriers can provide noise level reductions ranging from approximately 5 dBA (where the barrier just breaks the line-of-sight between the source and receiver) to an upper range of 20 dBA with a larger barrier (Caltrans 2013). Additionally, structures with closed windows can further attenuate exterior noise by a minimum of 20 dBA to 30 dBA (Caltrans 2013).

Receptors located downwind from a noise source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels (Caltrans 2013). Atmospheric temperature inversion (i.e., increasing temperature with elevation) can increase sound levels at long distances. Other factors such as air temperature, humidity, and turbulence can, under the right conditions, also have substantial effects on noise levels (Caltrans 2013).

Fundamentals of Vibration

Vibration can be interpreted as energy transmitted in waves through the ground or man-made structures, which generally dissipate with distance from the vibration source. Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Since energy is lost during its transfer from one particle to another, vibration becomes less perceptible with increasing distance from the source.

As described in the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment* (FTA 2018), groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, 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 operation of heavy earthmoving equipment. Groundborne vibration generated by man-made activities (e.g., road traffic, construction operations) typically weakens with greater horizontal distance from the source of the vibration.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings (FTA 2018). The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body (FTA 2018). The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. PPV is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA 2018). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment (FTA 2018).

The effects of groundborne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional

exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV (FTA 2018). In residential areas, the background vibration velocity level is typically approximately 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for healthy human hearing (FTA 2018).

Groundborne noise specifically refers to the rumbling noise emanating from the motion of building room surfaces due to the vibration of floors and walls; it is perceptible only inside buildings.[1] The relationship between groundborne vibration and groundborne noise depends on the frequency of the vibration and the acoustical absorption characteristics of the receiving room. For typical buildings, groundborne vibration that causes low frequency noise (i.e., the vibration spectrum peak is less than 30 Hz) results in a groundborne noise level that is approximately 50 dB lower than the velocity level. For groundborne vibration that causes mid-frequency noise (i.e., the vibration spectrum peak is between 30 and 60 Hz), the groundborne noise level will be approximately 35 to 37 dB lower than the velocity level.[2] Therefore, for typical buildings, the groundborne noise decibel level is lower than the groundborne vibration velocity level at low frequencies.

Project Area

Sensitive Receptors

Some land uses are considered more sensitive to noise than others due to the types of activities that typically occur at the receptor location. Noise-sensitive receptors are typically defined as land uses that are considered more sensitive to intrusive noise than others, such as residences, schools, motels and hotels, libraries, and hospitals, due to the land use activities typically occurring at the receptor (i.e., sleeping, concentrating, and convalescing).

Many of the proposed project facilities are located within low-density residential or single-family residential use areas within the City of Riverside and unincorporated area of Riverside County, and would be located adjacent to or within the vicinity of residential use sensitive receptors. Additionally, other sensitive receptors such as schools and recreational areas could be located along anticipated pipeline alignments and near future pump stations and storage tanks.

Existing Noise Sources

The primary noise sources of the project area are related to transportation including automobiles, trucks, motorcycles, buses, trains, helicopters, and planes. The predominant noise ambient sources include roadway traffic noise. Secondary noise sources include activities related to the operation of commercial businesses in the area including loading area/delivery truck activities, trash compaction, and refuse collection; and periodic landscape maintenance and other occasional outdoor noise associated with residential uses.

[1] FTA, *Transit Noise and Vibration Impact Assessment Manual*, Section 5.4, September 2018.

[2] FTA, *Transit Noise and Vibration Impact Assessment Manual*, Table 6-3 and Table 6-14, September 2018.

Major highways through the Riverside Retail Service Area include State Route (SR) 91 and SR 60, which connect to Interstate (I) 215 and I-15.

Existing Vibration Sources

Aside from periodic construction work that may occur throughout the area, other sources of groundborne vibration in the project area include heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks) on local roadways. Truck traffic at a distance of 50 feet typically generates groundborne vibration velocity levels of approximately 63 VdB (approximately 0.006 in/sec PPV). These levels could reach 72 VdB (approximately 0.016 in/sec PPV) where trucks pass over irregularities in the road surface.

Groundborne noise levels would generally be 20 to 50 dB lower than the velocity level depending on the frequency level of the source (FTA 2018). With a background groundborne vibration level in residential areas of 50 VdB or lower, groundborne noise levels would be approximately 0 to 30 dBA. A bus traveling at a distance of 50 feet would generate groundborne noise levels of approximately 23 to 38 dBA. The approximate level of human perception of groundborne noise is 25 dBA for low frequency vibration (near 30 Hz) and 40 dBA for mid-frequency vibration (near 60 Hz) (FTA 2018).

Airports

The San Bernardino International Airport is located approximately 10 miles to the northeast of the Riverside Retail Service Area. The San Bernardino International Airport has runways with a southwest to northeast orientation. The Ontario International Airport is located 12 miles northwest of Riverside Retail Service Area. The Ontario International Airport has runways with an east to west orientation. However, proposed projects are located on the March Air Reserve Base (MARB). The Riverside Retail Service Area is outside of the 65 dBA CNEL contour for both San Bernardino International Airport and the Ontario International Airport but is within the 65 dBA CNEL impact zone of MARB.

3.11.2 Regulatory Framework

Detailed below is a discussion of the relevant noise regulatory setting, and the noise regulations, plans, and policies applicable to the project.

Federal

U.S. Environmental Protection Agency

Under the authority of the Noise Control Act of 1972, the United States Environmental Protection Agency (USEPA) established noise emission criteria and testing methods published in Parts 201 through 205 of Title 40 of the Code of Federal Regulations that apply to some transportation equipment (e.g., interstate rail carriers, medium trucks, and heavy trucks) and construction equipment. In 1974, USEPA issued guidance levels for the protection of public health and welfare in residential land use areas (USEPA 1974). The guidance levels specified an outdoor L_{dn} of 55 dBA and an indoor L_{dn} of 45 dBA. These guidance levels are not considered as standards or regulations and were developed without consideration of technical or economic feasibility. There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the proposed project.

National Institute for Occupational Safety and Health

NIOSH establishes Recommended Exposure Limits (REL) for noise based on the best available science and practice. The NIOSH REL for noise is 85 dB, using the A-weighted frequency response (dBA) over an 8-hour average, usually referred to as Time-Weighted Average (TWA). Exposures at or above this level are considered hazardous.

Federal Transit Authority Vibration Standards

FTA has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by FTA are shown in **Table 3.11-1**.

TABLE 3.11-1
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA 2018.

In addition, FTA has also adopted standards associated with human annoyance for groundborne vibration impacts for the following three land-use categories: Vibration Category 1 – High Sensitivity, Vibration Category 2 – Residential, and Vibration Category 3 – Institutional. FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference. The vibration thresholds associated with human annoyance for these three land-use categories are shown in **Table 3.11-2**. No thresholds have been adopted or recommended for commercial and office uses.

TABLE 3.11-2
GROUNDBORNE VIBRATION IMPACT CRITERIA FOR GENERAL ASSESSMENT

Land Use Category	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[d]	65 VdB[d]	65 VdB[d]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

a. "Frequent Events" is defined as more than 70 vibration events of the same source per day.
b. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
c. "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.
d. This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.

SOURCE: FTA 2018

State

Noise

The State of California does not have statewide standards for environmental noise, but the California Department of Public Health (DPH) has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure (**Table 3.11-3**).

The purpose of these guidelines is to maintain acceptable noise levels in a community setting for different land use types. Noise compatibility by different land uses types is categorized into four general levels: "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable." For instance, a noise environment ranging from 50 dBA CNEL to 65 dBA CNEL is considered to be "normally acceptable" for multi-family residential uses, while a noise environment of 75 dBA CNEL or above for multi-family residential uses is considered to be "clearly unacceptable."

In addition, Per State of California Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. Specifically, Section 53091 states:

> *(d) Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency.*
>
> *(e) Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water.*

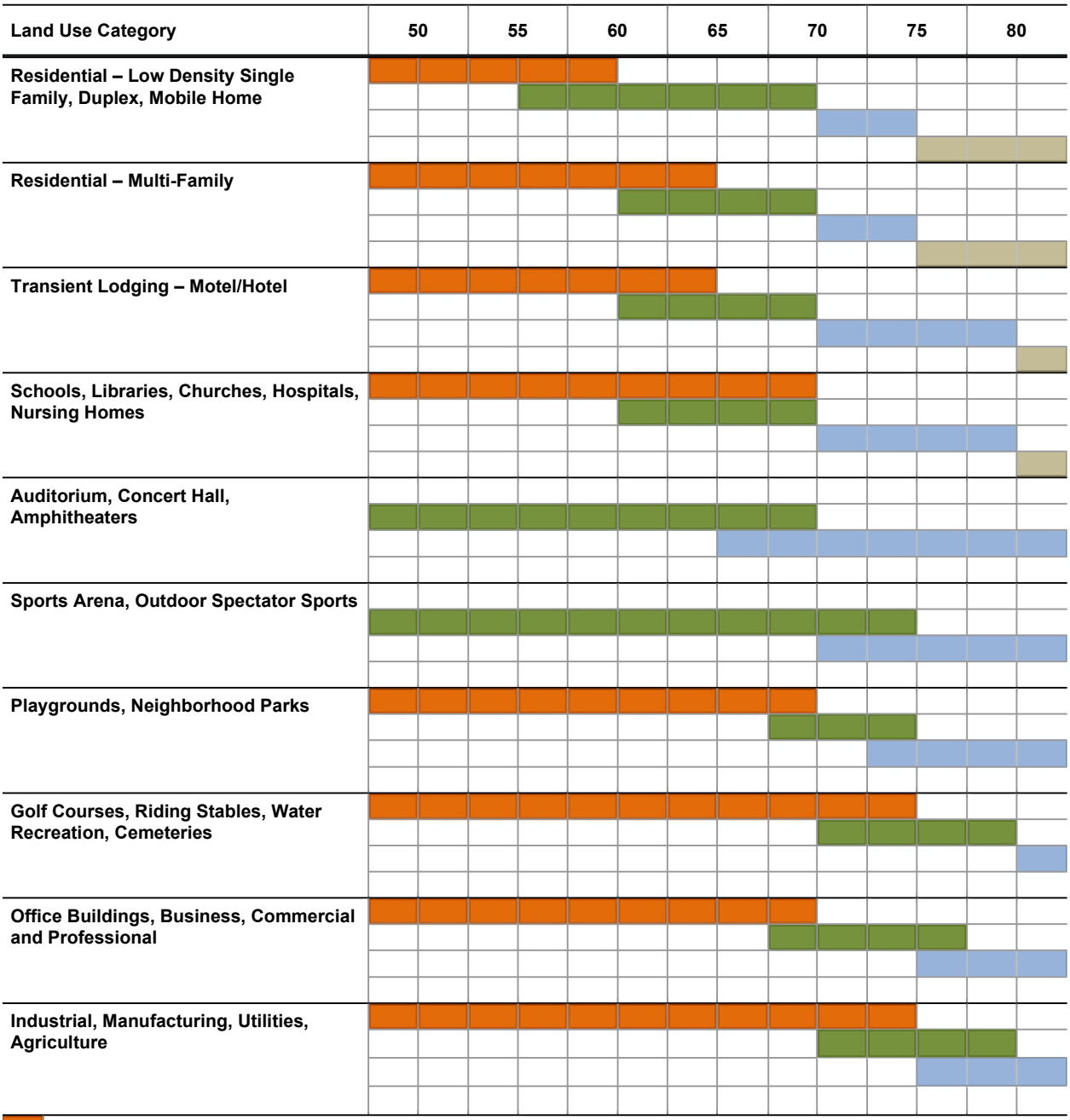
Vibration

There are no state vibration standards. Moreover, according to the California Department of Transportation's (Caltrans) *Transportation and Construction Vibration Guidance Manual*, there are no official Caltrans standards for vibration. However, this manual provides guidelines that can be used as screening tools for assessing the potential for adverse vibration effects related to structural damage and human annoyance. The manual is meant to provide practical guidance to Caltrans engineers, planners, and consultants who must address vibration issues associated with the construction, operation, and maintenance of Caltrans projects. The vibration criteria established by Caltrans for assessing structural damage and human are shown in **Table 3.11-4** and **Table 3.11-5**, respectively.

Local

Local noise regulation involves implementation of the noise goals and policies of the applicable municipal general plan noise element and the noise standards of the applicable municipal code noise ordinance. The project site is located in the City of Riverside and unincorporated areas of the County of Riverside; therefore, the City and County General Plan Noise Elements and Municipal Code Noise Ordinances are applicable to the project.

TABLE 3.11-3
COMMUNITY NOISE EXPOSURE – LDN OR CNEL (DBA)



	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development generally should not be undertaken.

SOURCE: State of California, Governor's Office of Planning and Research, 2017.

TABLE 3.11-4
CALTRANS VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTE: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
SOURCE: Caltrans 2013.

TABLE 3.11-5
CALTRANS VIBRATION ANNOYANCE POTENTIAL CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

NOTE: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
SOURCE: Caltrans 2013.

County of Riverside

County of Riverside Noise Element of the General Plan

The California Government Code Section 65302(g) requires that a noise element be included in the General Plan of each county and city in the State. The Noise Element of the County of Riverside General Plan is intended to provide a systematic approach to identifying and appraising noise problems in the community; quantifying existing and projected noise levels; addressing excessive noise exposure; and community planning for the regulation of noise.

The County's primary goal with regard to community noise is to ensure that noise-producing land uses would be compatible with adjacent land uses. To this end, the Noise Element establishes noise/land use compatibility guidelines based on cumulative noise criteria for outdoor noise. These guidelines are based, in part, on the community noise compatibility guidelines established by the DHS for use in assessing the compatibility of various land use types with a range of noise levels. The County's noise/land use compatibility guidelines are shown in **Table 3.11-6**.

TABLE 3.11-6
COUNTY OF RIVERSIDE LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE LEVEL (CNEL)

Land Use	Normally Acceptable[a]	Conditionally Acceptable[b]	Normally Unacceptable[c]	Clearly Unacceptable[d]
Single-Family, Duplex, Mobile Homes	50–60	55–70	70–75	above 75
Multifamily Homes	50–65	60–70	70–75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	above 80
Transient Lodging – Motels, Hotels	50–65	60–70	70–80	above 80
Auditoriums, Concert Halls, Amphitheaters	—	50–70	above 65	—
Sports Arena, Outdoor Spectator Sports	—	50–75	above 70	—
Playgrounds, Neighborhood Parks	50–70	—	68–75	above 74
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	—	70–80	above 80
Office Buildings, Business, Commercial, and Professional	50–70	68–77	—	above 75
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	—	above 75

NOTES: All CNEL (or L_{dn}) measurements are expressed in dBA.

a. Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
b. Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.
c. Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.
d. Clearly Unacceptable: New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

SOURCE: County of Riverside 2015

The County of Riverside General Plan Noise Element contains various policies to address countywide noise issues. The following are relevant to the proposed project:

> **Policy N 1.1.** Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or blockwalls shall be used.
>
> **Policy N 1.5.** Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.
>
> **Policy N 13.1.** Minimize the impacts of construction noise on adjacent uses within acceptable practices.
>
> **Policy N 13.2.** Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.
>
> **Policy N 13.4.** Require that all construction equipment utilizes noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

The County's Noise Element in its Appendix I: Noise Element Data, Determining and Mitigating Traffic Noise Impacts to Residential Structures Memo, states that, the interior noise level in residential dwellings

shall not exceed 45 dBA L_{dn}/CNEL. The exterior noise level shall not exceed 65 dBA L_{dn}/CNEL in outdoor active use areas.

County of Riverside County Code

Section 9.52.020 of the County Code lists several sources that are exempt from the noise provisions of Chapter 9.52, Regulation, which include the construction activities and emergency operations:

> *C. The maintenance or repair of public properties;*
>
> *D. Public safety personnel in the course of executing their official duties, including, but not limited to, sworn peace officers, emergency personnel and public utility personnel. This exemption includes, without limitation, sound emanating from all equipment used by such personnel, whether stationary or mobile;*
>
> *I. Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that:*
>
> *1. Construction does not occur between the hours of six p.m. and six a.m. during the months of June through September, and*
>
> *2. Construction does not occur between the hours of six p.m. and seven a.m. during the months of October through May;*

Ordinance No. 847 – Regulating Noise

The intent of Ordinance No. 847 is intended to establish county-wide noise standards for regulating noise for different General Plan land use designations. The ordinance also exempts certain agencies and/or uses from the general established noise standards including facilities owned or operated by or for a government agency.

With respect to residential and recreational open space uses, County of Riverside Ordinance 847.1, Section 4 (County of Riverside 2007) identifies the following general sound level standards as shown in **Table 3.11-7**. These sound level standards apply to operational sound emanating from all noise sources.

TABLE 3.11-7
COUNTY OF RIVERSIDE SOUND LEVEL STANDARDS

Land Use	Maximum Decibel Level (dB L_{max})
Community Development Residential	
10 p.m. to 7 a.m.	45
7 a.m. to 10 p.m.	55
Open Space Recreation	
10 p.m. to 7 a.m.	45
7 a.m. to 10 p.m.	45

SOURCE: County of Riverside Ordinance 847.1 Section 4, 2007

City of Riverside

City of Riverside General Plan

The City of Riverside General Plan Noise Element contains various policies to address citywide noise issues. The following is relevant to the proposed project:

> **Policy N-1.2:** Enforce the City of Riverside Noise Control Code to ensure that stationary noise and noise emanating from construction activities, private developments/residences and special events are minimized.

City of Riverside Municipal Code

Section 7.25.010 of the City of Riverside Municipal Code establishes the operation-related exterior noise standards as shown in **Table 3.11-8**.

TABLE 3.11-8
EXTERIOR NOISE STANDARDS

Land Use Category	Time Period	Noise Level (dBA)
Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	45 55
Office/Commercial	Any time	65
Industrial	Any time	70
Community Support	Any time	60
Public recreation facility	Any time	65
Nonurban	Any time	60

SOURCE: City of Riverside Municipal Code, Section 7.25.010

Section 7.35.010 of the City of Riverside Municipal Code prohibits the operation of any tools or equipment used in construction, drilling, repair, alteration, grading or demolition work between the hours of 7 p.m. and 7 a.m. on weekdays and between 5 p.m. and 8 a.m. on Saturdays or at any time on Sunday or federal holidays. Pursuant to the City of Riverside Municipal Code Section 7.35.020, construction, repair, remodeling, or grading that takes place within permissible times (7 a.m. to 7 p.m. on weekdays and 8 a.m. to 5 p.m. on Saturdays) are exempt from the provisions of the City's noise control ordinance. Additionally, noise related to an emergency or emergency work is exempt from the provisions of the City's noise control ordinance.[3]

March Air Reserve Base

Chapter 19.51 of March Air Reserve Base/Inland Port Airport (MARB/IP) Airport Overlay Zone

MARB/IP has established noise standards in its Code of Ordinance, as shown below.

[3] The City of Riverside Municipal Code defines emergency work as the work "necessary to restore property to a safe condition following a physical trauma or property damage caused by an emergency or work necessary to prevent or minimize damage from a potential emergency."

Sec. 19.51.080. Noise.

Airport Related Noise. Noise compatibility standards are intended to prevent the establishment of noise-sensitive land uses in portions of the airport environ that are exposed to significant levels of aircraft noise. Where permitted within the Airport Overlay Zone (AOZ), the following noise-sensitive land uses shall comply with applicable noise exposure criteria:

- All new residences, schools, libraries, museums, hotels and motels, hospitals and nursing homes, places of worship, and other noise-sensitive uses must have sound attenuation features incorporated into the structures sufficient to reduce interior noise levels from exterior aviation-related sources to no more than CNEL 40 dB. This requirement is intended to reduce the disruptiveness of loud individual aircraft noise events upon uses in this zone and represents a higher standard than the CNEL 45 dB standard set by state and local regulations and the Riverside County ALUC policy.
- Office space must have sound attenuation features sufficient to reduce the exterior aviation-related noise level to no more than CNEL 45 dB. To ensure compliance with these criteria, an acoustical study shall be required to be completed for any development proposed to be situated where the aviation-related noise exposure is more than 20 dB above the interior standard (e.g., within the CNEL 60 dB contour where the interior standard is CNEL 40 dB).
- Standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior standard is 20 dB or less.

3.11.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to noise and vibration. The proposed project would have a significant impact if it would:

1. 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. Generation of excessive groundborne vibration or groundborne noise levels.
3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.
4. Result in a cumulatively considerable impact to noise and vibration.

Methodology

Noise impacts are assessed based on a comparative analysis of the noise levels resulting from the proposed project and the noise levels under existing conditions.

Construction Noise

Analysis of temporary construction noise effects is based on typical construction phases, published or previously measured decibel levels of construction equipment and attenuation of those noise levels due to

distances, presence of any barriers between the construction activity and the sensitive receptors near the sources of construction noise, and time of day and expected duration of construction activity. Sensitive receptor distances are measured from the sensitive receptor property boundary to the work area.

Construction of the proposed project would generate noise levels higher than the current ambient noise levels. Construction noise levels are estimated using the equipment noise levels provided in the Federal Highway Administration (FHWA) Roadway Construction Noise Model User's Guide (FHWA, January 2006). Noise impacts from short-term construction activities could result in a significant construction impact if short-term construction activity occurred outside of the daytime hours permitted by the City's and/or County's municipal code noise ordinance. According to Section 9.52.020 of the County Code, construction noise is exempt from County's noise thresholds provided that construction does not occur between the hours of 6 p.m. and 6 a.m. during the months of June through September, or between the hours of 6 p.m. and 7 a.m. during the months of October through May.

Pursuant to the City of Riverside Municipal Code Section 7.35.020, construction, repair, remodeling, or grading that takes place within permissible times (7 a.m. to 7 p.m. on weekdays and 8 a.m. to 5 p.m. on Saturdays) are exempt from the provisions of the City's noise control ordinance.

For construction occurring within the respective municipal code times, the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (September 2018) includes an assessment methodology for evaluating construction noise from the use of on-site heavy-duty equipment (e.g., dozers, excavators, etc.). As outlined in the FTA manual, for the purposes of a detailed assessment, construction noise is evaluated based on equipment usage factors, distance attenuation based on the location of construction equipment and the distance to the noise receiver, and noise attenuating effects from site topography, natural and man-made barriers, and ground effects. The calculated noise level at the receiver is compared to a criteria of 80 dBA L_{eq} during daytime hours and 70 dBA L_{eq} for nighttime hours for residential receivers.

During construction of the project, noise levels would be generated from offsite mobile noise sources such as vehicular traffic. The noise levels generated by these mobile noise sources are assessed in this study with the FHWA approved traffic noise source noise modeling guidelines. The project would have a significant impact if project-related construction traffic noise causes the ambient noise levels measured at the property line of affected uses to increase by 3 dBA CNEL to or within the "normally unacceptable" or "clearly unacceptable" categories; or the Project causes the ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more within the "normally acceptable" or "conditionally acceptable" categories.

Construction Vibration

Vibration from construction is evaluated for potential impacts at sensitive receptors. Typical activities evaluated for potential building damage due to construction vibration include demolition, pile driving, and drilling or excavation in close proximity to structures. The groundborne vibration is also evaluated for perception to eliminate annoyance. Vibration propagates according to the following expression, based on point sources with normal propagation conditions:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Where PPV (equip) is the peak particle velocity in inches per second of the equipment adjusted for distance, PPV (ref) is the reference vibration level in inches per second at 25 feet, and D is the distance from the equipment to the receiver. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration and is often used in monitoring vibration because it is related to the stresses experienced by structures.

To determine the potential for annoyance, the RMS vibration level (L_v) at any distance (D) is estimated based on the following equation:

$$L_v(D) = L_v(25\ ft) - 30\log(D/25)$$

Operational Stationary Noise

A resulting off-site noise level at residences and other sensitive receptors from stationary, non-transportation sources that exceed levels in Table 3.11-7 or Table 3.11-8 would result in a significant noise impact.

Operational Mobile Noise

For project-related operational traffic-related noise, if the project causes the ambient noise levels measured at the property line of affected uses to increase by 3 dBA CNEL to or within the "normally unacceptable" or "clearly unacceptable" categories; or the project causes the ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more within the "normally acceptable" or "conditionally acceptable" categories, a significant impact would occur.

Impact Analysis

Increase in Ambient Noise Levels

Impact 3.11-1: The proposed project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Priority, Near-Term, and Future Projects

All Facilities

The priority and near-term projects located within unincorporated portions of Riverside County or the City of Riverside include W-1 Moonridge Drive Pipeline Upsizing, W-2 Blackburn Road Pipeline Upsizing, and W-3 Cedar Street and Avenue D Pipeline Upsizing, McKinley Truck Sewer 1 Pipeline Upsizing, Project W-5 New 3 MG Hidden Valley Tank, Project W-6 New 1.5 MG El Nido Tank, Project W-7 New 7 MG Markham Tank, Project W-9 New Orangecrest Tank, Project RW-1 Orangecrest Recycled Water Tank, Project RW-1 Lurin Irrigation Tank Improvements, W-4 Hillside 2320 PZ Booster Pump Station and Pipeline, Project RW-1Cemetery PS Expansion, Project RW-1 El Sobrante PS Expansion (150 HP), Project WW-4 MARB 1269 Lift Station and Forcemain Upgrade (WWRF), Project WW-5 Meridian Lift Station Upgrades (WWRF), W-11 Cole Ave/Cedar Street Upsize, Project W-12 Mariposa Ave/Lurin Avenue Upsize, W-13 Highland Grove Pipeline, Project W-14 Highland Grove II and III 12-inch Pipeline, Project W-15 Juniper Road Pipeline Upsizing, Project RW-1 Orangecrest Supply Pipelines, Project RW-1 Bergamont Park Conversion to RW, Project RW-1 Meridian West Pipelines, Project RW-1 Idaleona Drive Upsize, Project RW-1 Lake Ranch Pipelines, Project W-10 Highland Grove PRV and Project WW-6 WWRF Expansion Study.

The future projects include those projects needed to meet future buildout service demands. The construction of these projects would start after 2030. The future projects would include the construction of new facilities or improvements to existing facilities, and would consist of five new storage tanks, nine lift station upgrades, and upsizing of approximately 63,000 feet of pipeline. The actual timing of future facilities will be dependent upon the actual rate of growth and the timing of new developments expected in the Riverside Retail Service Area. Additionally, the exact location of infrastructure and sizing could change depending on buildout scenarios.

Construction

Construction noise levels associated with the installation the proposed priority, near-term, and future facilities would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Material haul truck trips (from spoils and pipelines) would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. **Table 3.11-9** shows the typical maximum and average noise levels produced by various types of construction equipment.

Consistent with the modeling conducted for the air quality and greenhouse gas emissions analysis using the California Emissions Estimator Model (CalEEMod) for construction of the project, construction noise is estimated based on the same types and number of construction equipment expected to be used in each construction phase for the components of the proposed project. As a worst-case scenario, based on the known pipeline alignments, construction of the pipelines would occur as close as 5 feet of the property line of sensitive receivers along the pipeline routes. For other project components, such as storage tanks and pump stations, the nearest distance to any sensitive receptor property lines based on known locations is estimated to be 18 feet.

The noise levels shown below in **Table 3.11-10** represent composite noise levels associated with typical construction activities, which take into account both the number of pieces and spacing of heavy construction equipment that are typically used during each phase of construction (see **Appendix NOISE**). These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 84 dBA L_{eq} measured at 50 feet from the noise source to the receptor would reduce to 78 dBA L_{eq} at 100 feet from the source to the receptor and reduce by another 6 dBA L_{eq} to 72 dBA L_{eq} at 200 feet from the source to the receptor. As shown in Table 3.11-10, construction of the pipelines would result in noise levels of approximately 100.6 dBA L_{eq} at 5 feet, where the nearest sensitive receptor property lines would be located.

For the proposed priority, near-term, and future projects located in unincorporated areas of Riverside County, there is no County-established noise threshold for construction noise, provided that construction would occur within the hours of 6 a.m. and 6 p.m. during the months of June through September, and between the hours of 7 a.m. and 6 p.m. during the months of October through May.

For the proposed priority, near-term, and future projects located in the City of Riverside, there are no City-established noise thresholds for construction noise as long as construction occurs within permissible times (7 a.m. to 7 p.m. on weekdays and 8 a.m. to 5 p.m. on Saturdays).

TABLE 3.11-9
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Maximum Noise Level (dBA, L_{max} at 50 feet)	Average Noise Level (dBA, L_{eq} at 50 feet)[a]
Air Compressor	78	74
Backhoe	78	74
Blasting	94	84[b]
Chain Saw	84	77
Compactor (Ground)	83	76
Concrete Mixer Truck	79	75
Concrete Pump Truck	81	74
Concrete Saw	90	83
Crane	81	73
Dozer	82	78
Dump Truck	76	72
Excavator	81	77
Generator	82	79
Flat-Bed Truck	74	70
Front End Loader	79	75
Grader	85	81
Jack Hammer	89	82
Pavement Scarifier	90	83
Paver	77	74
Pile Driver (Impact)	101	94
Pile Driver (Sonic/Vibratory/Push)	101	94
Pneumatic Tool	85	82
Pumps	81	78
Roller	80	73
Scraper	84	80
Tractor	84	80
Vacuum Street Sweeper	82	72
Vibratory Concrete Mixer	80	73
Welder/Torch	74	70

a. The average noise levels for the construction equipment at 50 feet were calculated from the maximum noise levels using the usage factors for each piece of equipment provided in the FHWA's RCNM.
b. An acoustical usage factor (AUF) of 0.1 (5 seconds out of 3,600 seconds in an hour) is applied to the blasting Lmax value to obtain an hourly equivalent noise level (L_{eq}) of 84 dBA L_{eq} at 50 feet.

SOURCE: FHWA 2018.

TABLE 3.11-10
ESTIMATED CONSTRUCTION NOISE LEVELS AT NEAREST EXISTING OFF-SITE SENSITIVE RECEPTORS

Project Component	Construction Phases	Distance between Nearest Receptor and Construction Site, feet	Estimated Construction Noise Levels at Noise Sensitive Receptor by Construction Phase,[a] Hourly L_{eq} (dBA)
Pipeline	Site Preparation	5 to 100 feet	94
	Excavation/Pipeline Installation		101
	Paving		94
	Maximum Combined Noise Levels		**100.6**
Station Upgrade	Building Upgrade	18 to 200 feet	79
	Paving		83
	Maximum Combined Noise Levels		**83.4**
Station Build	Excavation	18 to 200 feet	83
	Foundations		86
	Construction/Interior		84
	Paving		83
	Maximum Combined Noise Levels		**86.3**
Tank Build	Site Preparation	18 to 200 feet	83
	Grading/Excavation		82
	Foundations		86
	Tank Erection		84
	Coating		86
	Paving		83
	Cathodic Protection System		80
	Maximum Combined Noise Levels		**86.1**
Tank Upgrade	Tank Erection	18 to 200 feet	80
	Coating		80
	Cathodic Protection System		77
	Maximum Combined Noise Levels		**80.4**

a. Estimated construction noise levels represent the worst-case condition when noise generators are located closest to the receptors and are expected to last the entire duration of each construction phase. Construction noise level estimated at each receptor analyzed is a result of several pieces of construction equipment operating at as close as 5 feet and as far as 100 feet from the same receiver at the same time.

SOURCE: ESA 2026

The proposed project does not propose any sensitive uses or buildings and thus would not result in any significant noise impacts regarding the noise standards adopted in the March Air Reserve Base Code of Ordinance.

As discussed above, the FTA *Transit Noise and Vibration Impact Assessment Manual* (September 2018) assessment methodology is used to evaluate construction noise from the use of on-site heavy-duty equipment (e.g., dozers, excavators, etc.) occurring within the respective municipal code times. As shown in Table 3.11-10, on-site heavy-duty construction equipment noise levels associated with the construction of pipeline, station upgrades, station new builds, tank upgrades, and tank news builds would exceed the FTA criteria of 80 dBA L_{eq} when construction occurs in proximity to noise-sensitive residential receptors, resulting in a significant impact. According to the FTA *Transit Noise and Vibration Impact Assessment Manual*, ambient noise levels in proximity (about 50 feet) to parkways (i.e., landscaped roadways with

limited driveway access with stretches of relatively uninterrupted travel) and city streets range typically from approximately 65 dBA L_{eq} during the day and 55 dBA L_{eq} at night. While not applicable as construction noise standards, the County of Riverside Ordinance 847.1, Section 4 (County of Riverside 2007) and City of Riverside Municipal Code Section 7.25.010 identifies operational exterior ambient noise standards of 55 dBA and 45 dBA for daytime and nighttime hours, respectively. As shown in Table 3.11-10, the estimated on-site heavy-duty construction equipment noise levels associated with the construction of pipeline, station upgrades, station new builds, tank upgrades, and tank news builds would also exceed by a noticeable amount typical ambient noise levels in residential areas including those residential uses located near parkways and city streets when construction occurs in proximity to such noise-sensitive residential receptors. Additionally, if construction activities were to occur outside of the times and days specified by Riverside County or the City of Riverside, sensitive receptors could be exposed to increased noise levels during noise-sensitive hours, which could result in a significant impact. **Mitigation Measure NOISE-1** would be required to reduce construction noise-generating activities in proximity to noise sensitive receptors to the extent feasible. Even with implementation of feasible mitigation measures, construction noise levels may temporarily exceed the FTA criteria, particularly when construction occurs in proximity to noise-sensitive residential receptors. While the use of temporary noise barriers or other acoustical shielding measures is an effective means to reduce noise, it may not be feasible in all locations such as in challenging terrain with steep slopes or uneven surfaces or along streets with residential frontages that require driveway or walkway accessibility. Therefore, impacts from on-site construction noise from the use of heavy-duty equipment would be temporarily significant and unavoidable.

For offsite construction noise, based on Table 3.11-9, dump truck and flat bed truck noise would be up to 78 dBA L_{eq} adjusted to 25 feet (with a peak of 82 L_{max} adjusted to 25 feet) when in use near a sensitive receptor. During haul truck transport, when considering that haul trucks pass by sensitive receptors for only a few seconds, and when haul truck noise is averaged over a longer period of time together with generally lower ambient noise without truck noise (in the low 60s or 50s dBA), such as 30 minutes or 1 hour, the resulting average noise level would be substantially lower. Haul trucks traveling by residential uses could result in a general construction workday noise exposure in the mid-50s to the low-to-mid 60s dBA L_{eq}, depending on the ambient noise levels. As described above, typical ambient noise levels in proximity to parkways and city streets range typically from approximately 65 dBA L_{eq} during the day and 55 dBA L_{eq} at night. Dump truck and flat bed truck noise would generally be similar to these levels. A doubling of sound energy is required to increase noise levels of 3 dBA. Thus, dump truck and flat bed truck noise would not be expected to cause offsite traffic noise levels to increase by 3 dBA CNEL or more and impacts would be less than significant.

Operation

Project operations that would generate noise include maintenance vehicle trips and the operation of certain mechanical equipment such as stationary pumps. Implementation of the proposed facilities would not result in large numbers of new employees because the facilities are highly automated. Maintenance inspection of storage tanks, lift stations, pump stations, and pipelines would occur periodically in line with existing maintenance trips. The pipeline alignments would be largely underground and serviced on an as-need basis as well. As a result, maintenance and inspection of facilities would result in a minimal increase in traffic trips, and therefore, operational vehicle trip increases would not generate a substantial increase in noise along local roadways.

Storage tanks would involve passive conveyance and storage of water and would produce minimal operational noise. Pump and lift stations would include hydraulic pumps that would have the potential to produce increased ambient noise levels in the vicinity of sensitive receptors; however, they would be housed within structural buildings to minimize operational noise increases. Once constructed, the treatment plant expansion would produce minimal noise associated with normal operation of a business and would be in line with the existing noise produced at the plant. All projects would be designed in accordance with noise ordinances of the City or County, whichever the facility site is located within, to ensure that noise thresholds at the property boundary do not exceed day and nighttime limitations for neighboring land uses. For example, a proposed pump station located adjacent to residential uses would be designed to ensure operational noise does not exceed 50 dBA at neighboring residential property lines during the day and 45 dBA during the nighttime, in accordance with City (Table 3.11-8) and County (Table 3.11-7) of Riverside exterior noise standards for residential land uses. Additionally, new equipment would be designed to generate similar levels of noise as existing WMWD infrastructure. As a result, impacts would be less than significant.

Mitigation Measures

NOISE-1: Prior to commencement of ground disturbing activities involving potentially substantial noise-generating equipment within 200 feet of a noise-sensitive receptor, a qualified acoustical expert shall prepare a Construction Noise Plan. The plan shall identify measures necessary to avoid and minimize construction-noise impacts to the greatest extent feasible. As noted by Riverside County Code Section 9.52.020 and City of Riverside Municipal Code Section 7.35.020, noise related to emergency work would be exempt from the noise ordinances and would not be subject to the following measures. The plan shall be incorporated into the project plans and construction documents and shall include, at a minimum, the following:

- A description and map of the construction area, nearby noise-sensitive receptors, anticipated construction schedule, work hours, and major noise-generating activities and equipment.
- Limits on construction hours consistent with applicable jurisdictional requirements related to noise, unless otherwise approved by the jurisdiction with authority over the activity.
- If nighttime or weekend construction activities are required, WMWD shall notify in writing all landowners and occupants of properties within 500 feet of the construction area at least 72 hours before commencement of such activities. The notice shall identify the nature, location, duration, and anticipated hours of construction. In the case of an unpredictable, emergency, or public safety event, a notice to all landowners and occupants of properties within 500 feet of the construction area shall be provided as soon as reasonably practicable.
- All construction equipment shall be equipped with manufacturer-recommended mufflers and sound attenuation devices, which shall be maintained in good working order throughout construction. Mufflers and sound attenuation devices shall be rated to achieve a minimum noise attenuation level of 6 dBA compared to equipment without the devices installed.
- Stationary noise-generating equipment, including generators, compressors, pumps, and similar equipment, shall be located as far as practicable from sensitive receptors and shall be shielded or enclosed when located within 500 feet of a sensitive receptor where feasible and effective.
- Temporary noise barriers or other acoustical shielding measures shall be installed when construction activities are expected to exceed applicable construction noise standards at nearby sensitive receptors, where such measures are technically feasible and effective.

Temporary noise barriers or other acoustical shielding shall be designed to achieve a minimum noise attenuation level of 10 dBA.

- Designation of a Noise Complaint Coordinator responsible for responding to complaints regarding construction noise and ensuring that reasonable measures are implemented.
- Compliance monitoring and corrective-action procedures, including modification of work practice or implementation of additional feasible controls when required measures are not implemented or are not effectively reducing avoidable noise.

WMWD shall monitor compliance with these requirements throughout construction and shall require corrective actions if contractors fail to implement required noise control measures, notifications, monitoring support, corrective actions, and associated costs through enforceable contract specifications. If a specified control is infeasible or ineffective under site-specific conditions, WMWD shall document the basis for that determination and implement another feasible measure that provides the greatest practicable noise reduction.

Significance Determination

Significant and Unavoidable

Groundborne Vibration and Noise

Impact 3.11-2: The proposed project could generate excessive groundborne vibration or groundborne noise levels.

Priority, Near-Term, and Future Projects

Construction

Typical activities that could generate groundborne vibration during construction include demolition, pile driving, and drilling or excavation in close proximity to structures. FTA's threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV and the FTA threshold of human annoyance to groundborne vibration is 80 RMS (FTA 2018). Construction of the project would employ conventional activities and the equipment/techniques to be used would not cause excessive groundborne vibration; however, drilling could be required during pipeline installation. As shown in **Table 3.11-11**, use of heavy equipment during construction generates vibration levels of up to 0.644 in/sec PPV or 104 RMS (Impact Pile Driver) at a distance of 25 feet.

TABLE 3.11-11
VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT

Construction Equipment	PPV at 25 Feet (inches/second)	RMS at 25 Feet (VdB)
Blasting[a]	0.210	94
Pile Driver (Impact)	0.644	104
Pile Driver (Sonic/Vibratory/Push)	0.170	93
Large Bulldozer	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Drilling	0.089	87
Vibratory Roller	0.210	94
Small Bulldozer	0.003	58

a. Blasting vibration level is assumed to be similar to that of vibratory roller, due to blasting occurring below the surface.
SOURCE: FTA 2018

Construction of pipelines could require jack and bore techniques, as well as blasting, and vibrational roller techniques depending on the local geology and infrastructure to be avoided, such as roads and other linear features. Construction of pipelines requiring the use of blasting and vibratory roller activities could be as close as 130 feet away from sensitive receptors before exceeding the annoyance threshold of 80 RMS VdB and as close as 30 feet from a structure before exceeding the potential structural damage threshold of 0.2 in/sec PPV for conventional sensitive structures. Since construction of pipelines could occur within these distances, groundborne vibration impacts would be significant and mitigation measures would be required.

Construction of storage tanks may require pile driving, blasting, and other construction equipment to achieve underground support. If pile driving within 115 feet of a sensitive receptor were to occur, sensitive receptors could be exposed to groundborne vibration or groundborne noise in excess of FTA's 80 RMS VdB standard for annoyance. If pile driving activities within 25 feet of a conventional sensitive structures were to occur, that conventional sensitive structure could be exposed to groundborne vibration in excess of the structural damage threshold of 0.2 in/sec PPV. Since construction of storage tanks could occur within these distances, groundborne vibration impacts would be significant and mitigation measures would be required.

The exceedance of these thresholds would result in a significant impact. **Mitigation Measure NOISE-2** would reduce construction groundborne vibration and groundborne noise levels during blasting, vibratory roller, and pile driving activities occurring in proximity to sensitive receptors. Mitigation Measure NOISE-2 would reduce construction groundborne vibration and groundborne However, even with implementation of feasible mitigation measures, construction groundborne vibration and groundborne noise levels may temporarily exceed the annoyance and/or damage criteria, particularly when construction occurs in proximity to vibration-sensitive receptors and buildings. While incorporating setback distances from vibration-generating activity is an effective means to reduce vibration impacts, it may not be feasible in all locations such where vibration-generating construction equipment must be used

to complete the required work. Therefore, impacts from construction groundborne vibration and groundborne noise would be significant and unavoidable.

Operation

Operations of the future facilities and equipment would not generate substantial vibration that would affect receivers adjacent to proposed project facilities. Impacts would be less than significant.

Mitigation Measures

NOISE-2: Prior to commencement of construction activities involving blasting, vibratory compaction, jack and bore work, drilling pile driving, or other potentially substantial vibration-generating activities within the applicable distances identified in this Draft PEIR, a qualified acoustical expert shall prepare and implement a project-specific Vibration Control and Monitoring Plan. The plan shall identify measures necessary to avoid and minimize groundborne vibration effects to the greatest extent feasible. The plan shall be incorporated into project plans and construction contracts, and shall include, at a minimum, the following:

- A description and map of the construction area, nearby sensitive receptors, sensitive structures, anticipated construction methods and equipment, schedule, and vibration-generating activities.
- For purposes of vibration annoyance, blasting and vibratory roller activities occurring within 130 feet of a sensitive receptor, and pile driving activities to 115 feet or more from sensitive receptors shall be subject to the plan. Sensitive receptors for annoyance are defined as occupied residences, schools, hospitals, and other occupied uses that are sensitive to groundborne vibration or groundborne noise levels.
- For the purposes of structural damage, blasting and vibratory roller activities within 30 feet of a sensitive structure, and pile driving activities within 25 feet of a sensitive structure shall be subject to the plan. Sensitive structures are defined as historic buildings, older residential buildings, and buildings that are susceptible to damage from high groundborne vibration levels.
- Sensitive receptors (residences, residential areas, schools, hospitals, and other uses that are sensitive to groundborne vibration or groundborne noise levels) within 50 feet of project construction activities shall be identified and notified at least 24-hours prior to initiation of the construction activity. The notice shall identify the nature, location, anticipated duration, and hours of the activity and provide a contact for questions and complaints.
- Prohibit the use of impact pile driving equipment during construction. Instead, utilize low vibration pile installation equipment such as sonic, vibratory, push or similar types of pile driving equipment.
- WMWD and/or WMWD's contractors shall notify the owners of structures within the applicable structural impact distance, and with permission, conduct a preconstruction condition survey. Surveys shall be conducted by a licensed structural engineer to document existing conditions through photographs, video tape, or visual inventory, and shall include accessible interior and exterior building conditions, including walls, floors, foundations, driveways, and other relevant features. All existing cracks in walls, floors, and driveways shall be documented with sufficient detail for comparison after construction to determine whether actual vibration damage occurred. In cases where access is denied or unavailable, exterior photographs/video and notice records will satisfy the requirement to the extent practicable.

- Monitoring of vibration impacts during activities that could exceed the applicable vibration criterion. The plan shall establish action levels below the applicable criterion that require corrective measures, which may include modifying equipment or work practices, reducing energy or charge size, increasing setbacks, using an alternative method, or temporarily suspending work.
- A post-construction survey shall be conducted by a licensed structural engineer to document the condition of the surrounding buildings after the construction is complete. In the event that damage occurs caused by project construction-related groundborne vibration, WMWD and/or WMWD's designated representative shall arrange for an investigation and cause determination of the damage. If it is determined that project construction-related damage was caused, WMWD and/or WMWD's designated representative shall ensure that appropriate repair is completed by the responsible party, subject to construction-contract requirements, insurance, indemnity, claims procedures, and all applicable legal rights and defenses. Such repairs, if needed, shall be undertaken by a contractor licensed by the State of California to conduct commercial building repairs. In the event damage occurs to historic buildings caused by project construction-related groundborne vibration, repairs, if needed, shall be undertaken in consultation with a qualified preservation consultant, and, if warranted, in a manner that meets the Secretary of the Interior's Standards.

WMWD shall verify implementation of the plan and monitor compliance throughout construction. If a specified control is infeasible or ineffective under site-specific conditions, WMWD shall document the basis for that determination and implement another feasible measure that provides the greatest practicable reduction in groundborne vibration.

Significance Determination

Significant and Unavoidable

Airport Noise

Impact 3.11-3: The proposed project could expose people residing or working in the project area to excessive noise levels in the vicinity of a private airstrip or an airport land use plan.

Priority, Near-Term, and Future Projects

The San Bernardino International Airport is located approximately 10 miles to the northeast of the Western MWD service boundary. The San Bernardino International Airport has runways with a southwest to northeast orientation. The Ontario International Airport is located 12 miles northwest of Western MWD's service boundary. The Ontario International Airport has runways with an east to west orientation. There may be occasional flyovers from small general aviation aircrafts, but no commercial flights are scheduled to fly directly over the airspace serviced by the Western MWD. The Western MWD service area is outside of the 65 dBA CNEL contour for both San Bernardino International Airport and the Ontario International Airport. Many of the proposed projects are located on MARB. The entire Riverside Retail Service Area is within the 65 dBA CNEL impact zone of MARB. Because of the nature of the proposed project, which includes pipelines, lift stations, pump stations, and storage tanks, the project would not result in people residing or working in the project area exposed to excessive noise levels. Future employees to perform maintenance and inspection at the facility sites would be minimal and periodic, and therefore, employees would not be subjected to excessive noise levels from an airport or

airstrip. Therefore, implementation of the proposed project would not expose people to excessive airport noise levels, and impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Cumulative Impacts

Impact 3.11-4: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to noise and vibration.

The cumulative analysis for impacts to noise and vibration involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve residential, commercial, and industrial development. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. Future cumulative development within the Riverside Retail Service Area would require noise-and-vibration-generating activities during construction and operation. Significant environmental effects to noise and vibration could result during the construction of these facilities, especially for some of the large-scale residential and commercial projects already in the planning stages. Vibration impacts are by nature site specific and would not combine to be cumulatively considerable. Similarly, as described in Section 3.11.1, noise emissions do not affect ambient noise levels in an additive nature, but may increase up to approximately 3 dBA when combined in one location. The FMP projects' contribution to local noise levels in combination with other projects' noise emissions could result in increases in ambient noise levels during construction activities at certain locations. Implementation of Mitigation Measures NOISE-1 through NOISE-2 would minimize the FMP's contribution to cumulative noise and vibration impacts. However, even with implementation of feasible noise and vibration mitigation measures, the FMP projects could exceed the noise and/or vibration criteria since the implementation of the noise and vibration mitigation measures may not be technically feasible in all locations, as explained previously. As a result, noise and vibration impacts would be cumulatively considerable and impacts would be significant and unavoidable.

Mitigation Measures

Implement Mitigation Measures NOISE-1 and NOISE-2

Significance Determination

Significant and Unavoidable

3.11.4 References

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3.12 Transportation

This section addresses the transportation impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing transportation conditions in and around the proposed project site; a summary of applicable regulations related to transportation; and an evaluation of the potential impacts of the proposed project related to transportation at the proposed project site and in the surrounding area, including cumulative impacts.

3.12.1 Environmental Setting

Regional Setting

Riverside County's transportation system is composed of numerous state highways (both freeways and arterial highways), as well as numerous county and city routes. The transit system includes public transit systems, common bus carriers, AMTRAK (intercity rail service), Metrolink (commuter rail service), and other local agency transit and paratransit services. In addition, the Riverside County transportation system includes general aviation facilities, limited passenger air service within the county, freight rail service, bicycle facilities, and other services for non-motorized forms of transportation (multipurpose trails) (Riverside County 2015).

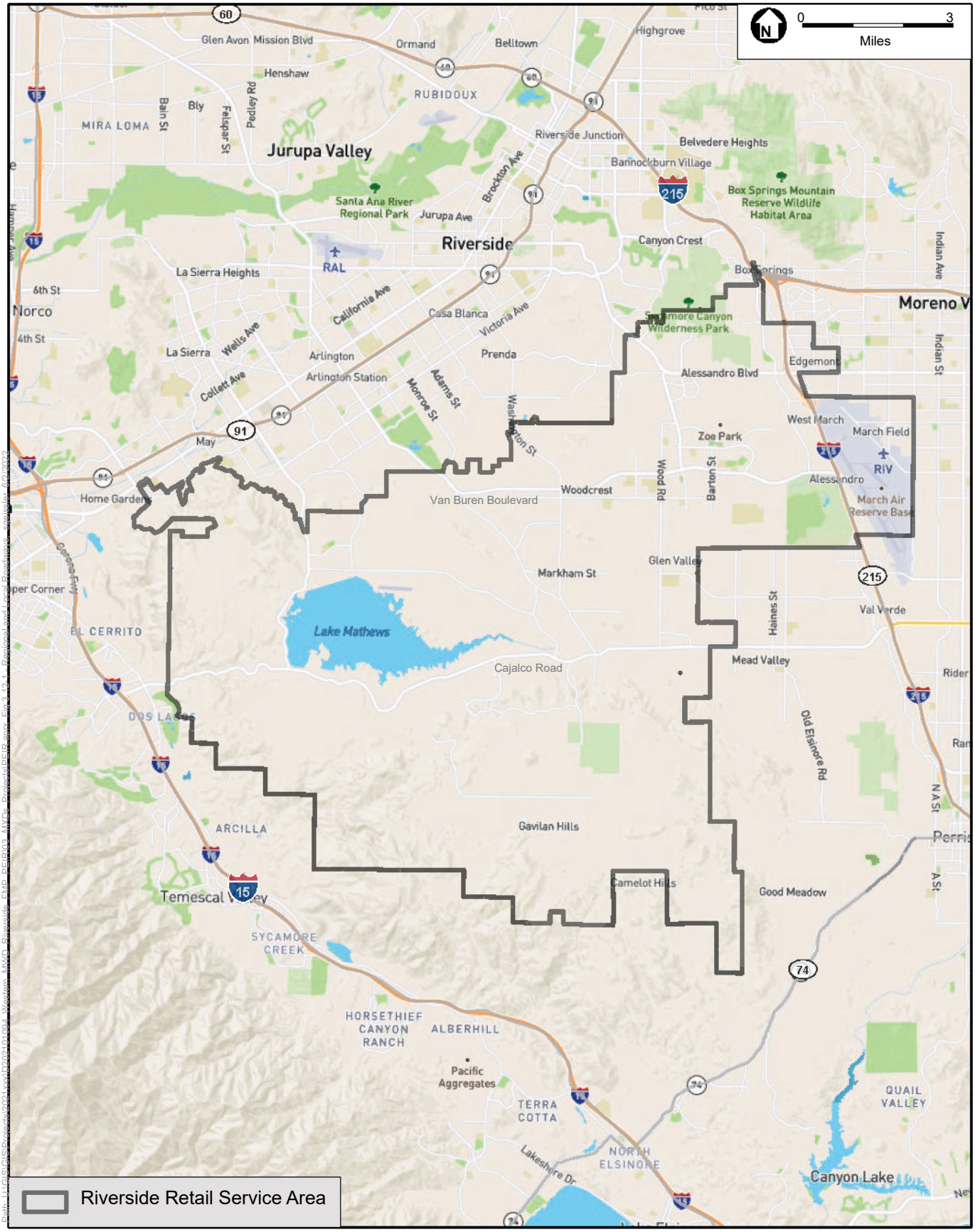
Several freeways traverse the City of Riverside planning area: SR-91, a major east–west inter-regional facility that extends from the beach cities in Los Angeles County to SR-60 to the east; SR-60, connecting downtown Los Angeles to the Inland Empire; and I-215, a north–south interstate route that provides access to Temecula and San Diego County (City of Riverside 2018).

Regional Circulation System

The project area is located within the City of Riverside and unincorporated areas of Riverside County. Details about the Interstate and State highways and other major roadways found within the project area are described below and shown on **Figure 3.12-1**:

- **I-15** is a north–south interstate highway that runs from San Diego, California to Sweetgrass, Montana. In the vicinity of proposed project area, the I-15 has three travel lanes in each direction.
- **I-215** is a north–south auxiliary Interstate Highway that runs from Murrieta to northern San Bernardino. In the vicinity of proposed project area, the I-215 has three travel lanes in each direction.
- **SR-91** is a major east–west state highway which runs from Vermont Avenue in Gardena to Riverside. In the vicinity of proposed project area, SR-91 has four travel lanes in each direction.
- **SR-74** is east–west state highway that runs from Interstate 5 in San Juan Capistrano to the Palm Desert in Riverside County. In the vicinity of the proposed project area, SR-74 has two travel lanes in each direction.

The Riverside Retail Service Area is bounded by these highways and interstates to the west, east, north, and south. None of the proposed facilities would be constructed near the state highways or interstates, however vehicles that may access the project sites would use these major arterials.



SOURCE: ESRI, 2022; WMWD, 2022; ESA, 2022.

Riverside Facilities Master Plan

Figure 3.12-1
Regional and Local Roadways

ESA

Local Circulation System

The project area's local transportation system is comprised of major arterials. These arterials represent the major carrying capacity for traffic to and within the project area and are described in more detail below and shown on Figure 3.12-1:

- **Van Buren Boulevard** is an east–west local arterial that runs from the City of Riverside north of Lake Matthews, southeast and then east to the I-15. This roadway provides one of the major east–west corridors in the project area and has one to two travels lane in each direction.
- **Cajalco Road**, is an east–west local arterial that runs from the I-15 past Lake Matthews through Mead Valley to the I-215. This roadway provides one of the major east–west corridors in the project area and has one travel lane in each direction.
- **Washington Street** is a north–south arterial that runs from the City of Riverside in the north to Cajalco Road in the south. The arterial has one to two lanes in each direction.
- **Wood Road** is a north–south arterial that runs from the City of Riverside in the north to Cajalco Road in the south. The arterial has one to two lanes in each direction.

Public Transit System

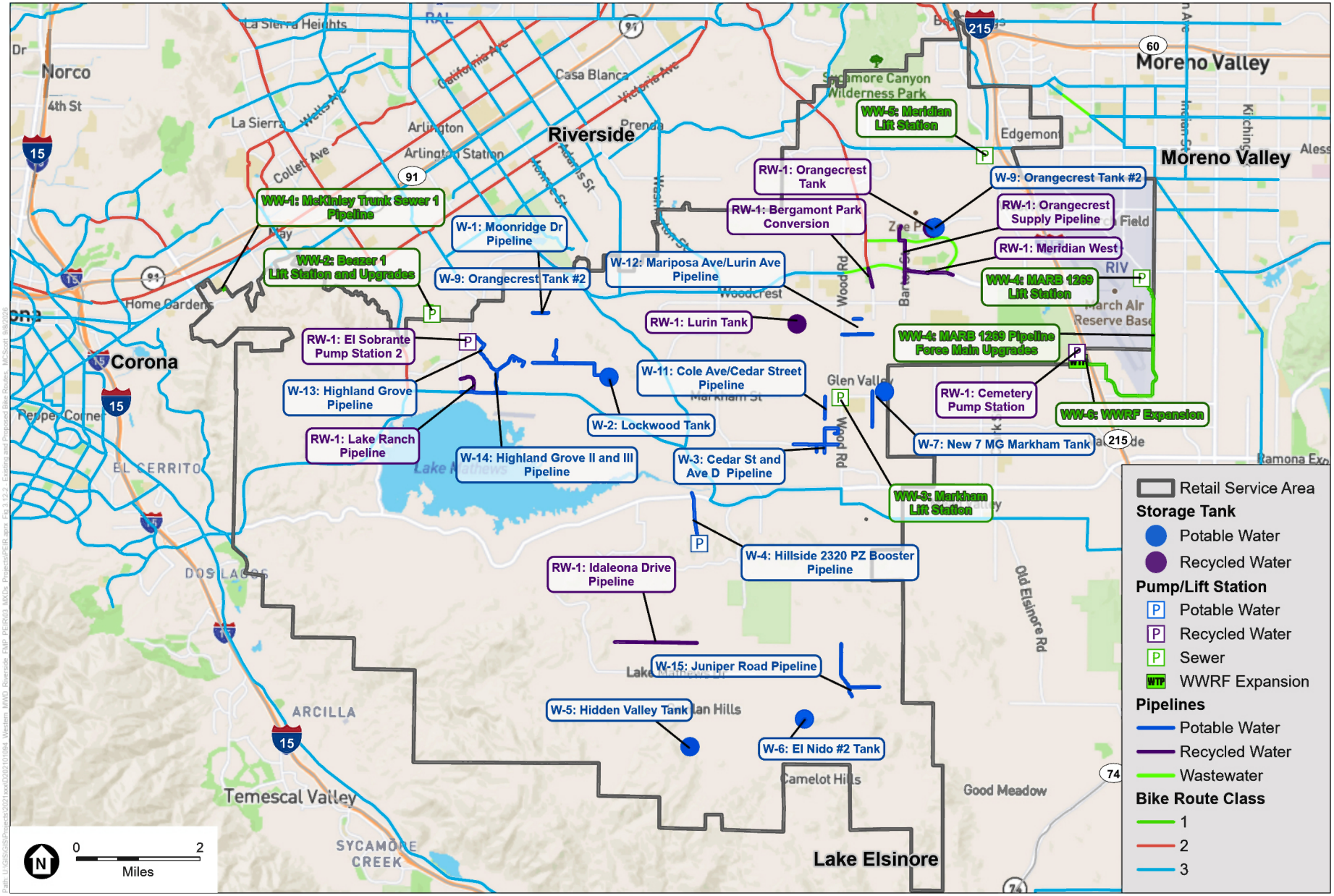
Riverside Transit Authority (RTA) is the Consolidated Transportation Service Agency for western Riverside County and is responsible for coordinating transit services throughout the approximate 2,500 square mile service area, providing driver training, assistance with grant applications and development of Short Range Transit Plans (STRPs). The member jurisdictions include the cities of Banning, Beaumont, Calimesa, Canyon Lake, Corona, Hemet, Lake Elsinore, Moreno Valley, Murrieta, Norco, Perris, Riverside, San Jacinto, Temecula, and the unincorporated areas of Riverside County Supervisorial Districts I, II, III and V.

RTA provides both local and regional services throughout the region with 38 fixed-routes, five CommuterLink routes, and Dial-A-Ride services using 231 vehicles. In Riverside, RTA coordinates with the city's Riverside Special Services, which provides ADA complementary service to RTA's fixed-route services (City of Riverside 2018).

Bus services within the project area is provided by the RTA in both the City of Riverside and unincorporated portions of Riverside County. There are several bus routes within the Riverside Retail Service Area including routes 20 (Alessandro Boulevard), 22 (Wood Road), and 27 (Van Buren Boulevard) (RTA 2026).

Bicycle and Pedestrian Facilities

Pedestrian facilities within the project area include sidewalks, walkways, bridges, crosswalks (County of Riverside 2020). Bikeways fall into one of three classes: Class I (provides a completely separated right-of-way for the exclusive use of bicycles with cross-flow minimized; typically known as "bike paths"); Class II (provides a striped and stenciled lane for one-way travel on a street or highway, typically known as "bike lanes"); and Class III (provides for shared use with motor vehicle traffic, typically known as "bike routes") (City of Riverside 2026). The project area contains multiple bikeways (see **Figure 3.12-2**). As shown on Figure 3.12-2, there are Class I, II, and III bikeways in Riverside Retail Service Area.



SOURCE: Mapbox, 2026; WMWD, 2025; SCAG, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.12-2
Existing and Proposed Bike Routes

ESA

3.12.2 Regulatory Framework

State

California Department of Transportation (Caltrans)

Caltrans manages interregional transportation, including management and construction of the California highway system. In addition, Caltrans is responsible for permitting and regulation of the use of state roadways. Caltrans has jurisdiction over state highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. Caltrans' construction practices require temporary traffic control planning "when the normal function of a roadway, or private road open to public travel, is suspended."

The proposed project area includes interconnected Interstates and California State routes managed by Caltrans that provide critical access to Riverside County. As such, the following Caltrans regulations apply to potential transportation and traffic impacts associated with the proposed Program.

- California Vehicle Code (CVC), division 15, chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.
- California Street and Highway Code Sections 660-711. Caltrans encroachment regulations would apply to construction of the proposed Program components within and immediately adjacent to roadways, as well as the transportation of construction crews and construction equipment throughout the Program area. Caltrans requires that permits be obtained for transportation of oversized loads, certain materials, and construction-related traffic disturbance.

Senate Bill No. 743

Approved in 2013, Senate Bill (SB) 743 amended the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. In accordance with Senate Bill (SB) 743, the new CEQA Guidelines Section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas and shift the focus from automobile delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Automobile delay, as measured by LOS and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA. The intent of this legislation is to balance the need for traffic LOS standards with the need to build infill housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers. In doing so, this legislation aims to provide greater flexibility to local governments to balance these sometimes competing needs. However, a jurisdiction may still adopt LOS as a performance standard for analyzing traffic conditions and maintaining throughput on its highway system. The Governor's Office of Planning and Research (OPR) has adopted changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

Regional

Connect SoCal 2024 – The 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy

On May 7, 2020, the Southern California Association of Governments (SCAG) adopted its 2024–2050 Regional Transportation Plan (RTP) known as Connect SoCal 2024. Connect SoCal 2024 is a long-range visioning plan that balances future mobility and housing needs with economic and environmental and goals. Connect SoCal 2024 embodies a collective vision for the region's future based on input from local governments, county transportation commissions (CTCs), tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

Connect SoCal 2024 is an important planning document for the region, allowing project sponsors to qualify for federal funding. In addition, Connect SoCal 2024 identifies a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, and support the vital goods movement industry.

Local

County of Riverside General Plan

C 1.4: Utilize existing infrastructure and utilities to the maximum extent practicable and provide for the logical, timey, and economically efficient extension of infrastructure and services.

City of Riverside General Plan

Policy CCM-7.2: Work with adjacent jurisdictions, the County and regional agencies to address the impacts of regional development patterns on the local circulation system.

Policy CCM-10.2: Incorporate bicycle and pedestrian trails and bicycle racks in future development projects.

Policy CCM-10.4: Identify and seek to eliminate hazards to safe, efficient bicycle or pedestrian movement citywide.

Policy CCM-12.4: Strive to minimize through truck traffic in residential areas, and enforce City codes that restrict trucks on certain streets.

3.12.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to transportation. The proposed 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).
4. Result in inadequate emergency access.
5. Result in a cumulatively considerable impact to transportation.

Impact Analysis

Circulation System

Impact 3.12-1: The proposed project could conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Priority, Near-Term, and Future Projects

Pipelines

Construction of pipelines would generate vehicle trips associated with both construction worker commutes and material and equipment hauling. The average number of equipment vehicle types required for a pipeline installation would be seven types of equipment/vehicles, with multiple vehicles of the same type. The total number of worker vehicles would range anywhere from 3 to 6 vehicles per site. These increases in trips per day on local and regional roadways could affect roadway capacity and circulation; slower movements and larger turning radii of construction trucks compared to passenger vehicles could also lessen roadway capacities. Construction of proposed near-term and long-term pipelines would mostly involve trenching using a conventional cut and cover technique. Jack-and-bore techniques may occasionally be needed to avoid sensitive land or hydrologic features or roadway intersections. Construction of pipelines could impede traffic flow because a large portion of the proposed pipelines would be installed within rights-of-way and could temporarily require partial or complete road closures. Additionally, construction of some of the proposed pipelines could disrupt the existing bus routes within the project area due to construction activities within roadway rights-of-way, which may result in partial lane closures, roadway closures and delays. Furthermore, construction of the proposed facilities could result in bike pathway and sidewalk closures in the project area. However, the traffic control plan required by **Mitigation Measure TRA-1,** would provide traffic control, flagging, and signage, and would provide measures to minimize lane closures. As a result, impacts would be less than significant with implementation of mitigation measures.

Operation of the proposed pipelines would not require periodic maintenance or additional trips. Impacts to the existing circulation system, including public transit and bicycles, associated with operation of the proposed pipelines would have no impact.

Pump/Lift Stations, Storage Tanks, WWRF Expansion

Construction of all pump/lift stations, storage tanks, and the WWRF Expansion would generate vehicle trips associated with both construction worker commutes and material and equipment hauling. These increases in trips per day on local and regional roadways could affect roadway capacity and circulation; slower movements and larger turning radii of construction trucks compared to passenger vehicles could also lessen roadway capacities. The number and type of equipment and worker vehicles required for construction would depend on the facility type. The minimum number of equipment vehicle types required for a stationary project site would range from five to nine types of equipment/vehicles, with multiple vehicles of the same type. The total number of worker vehicles would range anywhere from 3 to 10 vehicles

per site. Due to the temporary, localized nature of construction that is proposed for each facility, it is not anticipated that construction activities would have the potential to result in substantial amounts of vehicle trips generated on roadways in the project area compared to existing traffic amounts. Since there are numerous local and regional roadways in the Riverside Retail Service Area that have adequate capacity to support temporary increases in construction traffic, additional construction vehicle traffic would not result in the long-term degradation of circulation system conditions at project sites. Impacts would be less than significant.

Operation of the proposed pump/lift stations, storage tanks, and the WWRF Expansion would not require daily staffing and only periodic maintenance. Therefore, operation of these facilities would not generate a noticeable number of vehicular trips that would affect traffic volume or circulation on local or regional roadways. Impacts to the existing circulation system, including public transit and bicycles, associated with operation of the proposed facilities would have no impact.

Mitigation Measures

TRA-1: For projects such as pipelines that may affect traffic flow along existing roadways, WMWD shall require that contractors prepare a construction Traffic Control Plan prior to commencement of construction activities that includes the following elements:

- Show all signage, striping, delineated detours, flagging operations, and any other devices that will be used during project construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation.
- Develop circulation and detour plans if necessary to minimize impacts to local street circulation. For roadways requiring lane closures that would result in a single open lane, maintain alternate one-way traffic flow and utilize flagger-controls.
- Coordinate with Riverside Transit Authority and/or City of Riverside at least 30 days prior to construction of pipelines within roadways or rights-of way that coincide with public transit routes to determine whether construction of the proposed project would affect bus stop locations or otherwise disrupt public transit routes. A plan shall be developed to relocate bus stops or reroute buses to avoid disruption of transit service.
- The Traffic Control Plan shall be prepared to ensure that emergency access will not be restricted. WMWD shall also notify local emergency responders of any planned partial or full lane closures required for project construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow emergency response providers adequate time to prepare for lane closures.
- The Traffic Control Plan shall be reviewed and approved by the agency with jurisdiction over the affected roadway. The Traffic Control Plan shall demonstrate that construction activities will maintain safe circulation for motorists, bicyclists, pedestrians, transit users, and emergency responders throughout the construction period. If the Traffic Control Plan demonstrates that impacts would exceed thresholds identified in the PEIR, additional traffic control measures, revised construction phasing, lane restrictions, or other measures shall be implemented to reduce impacts to the maximum extent feasible.
- The approved Traffic Control Plan shall be implemented throughout construction. WMWD shall monitor compliance with the Traffic Control Plan and require corrective actions if traffic control measures are not maintained in accordance with the approved plan.

Significance Determination

Less than Significant with Mitigation

Vehicle Miles Traveled

Impact 3.12-2: The proposed project could conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

Priority, Near-Term, and Future Projects

All Facilities

CEQA Guidelines Section 15064.3, subdivision (b) includes criteria for determining the significance of transportation impacts that are primarily focused on projects within transit priority areas and shifts the focus from driver delay to reduction of GHG emissions, creation of multimodal networks, and promotion of a mix of land uses. VMT is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person. The Governor's Office of Land Use and Climate Innovation has published the Technical Advisory on Evaluating Transportation Impacts in CEQA, and the recommended significance criteria for the operation of new projects is to generate 15 percent less VMT per capita (or per employee) compared to existing conditions (LCI 2018). The Governor's LCI has not adopted specific VMT metrics or thresholds of significance for construction-related traffic. Many jurisdictions in Southern California consider construction-related traffic to cause adverse but not lasting intersection deficiencies because, while sometimes inconvenient, construction-related traffic efforts are temporary.

As documented above in Impact 3.12-1, construction of the proposed project would generate five to nine types of equipment/vehicles per project site, and 3 to 10 vehicles per site. Projects will be implemented at various times over a 24-year period from 2026 to 2050. Since construction of the proposed project would generate temporary vehicle trips during each project's construction period that are limited in quantity and scope, and construction activities would not create permanent employment, induce population growth, alter land use patterns, or increase transportation system capacity, the proposed project would result in a less-than-significant impact with respect to construction-related VMT.

Similarly, operation and maintenance of the project would not require the hiring of new employees or the establishment of new maintenance activities. The facilities would be integrated into WMWD's existing water, recycled water, and wastewater systems and would be operated and maintained by existing personnel as part of WMWD's ongoing operations and maintenance activities. Routine inspections, preventative maintenance, and repair activities associated with the proposed facilities would be comparable in nature and frequency to those currently performed for similar infrastructure and would be accommodated within existing staff levels, equipment resources, and operational budgets. Accordingly, operation of the proposed facilities would not result in a substantial increase in operational activities, employee trips, vehicle miles traveled, utility demands, or other maintenance-related impacts beyond those associated with WMWD's existing system. As a result, the proposed project would generate zero increase in operational trips and therefore would not exceed LCI's recommended significance thresholds for operational VMT. Therefore, impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Traffic Hazards

Impact 3.12-3: The proposed project could substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Priority, Near-Term, and Future Projects

All Facilities

The proposed project would not involve any roadway improvements or alterations and would thus not increase hazards due to a design feature like a sharp curve or dangerous intersections. The project would involve the hauling of heavy construction equipment. The use of oversize vehicles during construction could be an incompatible use and can create a hazard to the public by limiting motorist views on roadways by the obstruction of space. However, oversize loads associated with construction of the proposed project would be required to comply with applicable CVC and Caltrans requirements applicable to licensing, size, weight, load, and roadway encroachment of construction vehicles. Compliance with regulatory requirements to reduce hazards caused by incompatible roadway uses during construction would minimize the potential for hazards to other vehicles to less-than-significant levels.

Once constructed, all facilities would either be located underground or would be contained within existing WMWD facilities. Operation and maintenance of the project would not require any new employees or maintenance activities that would involve traffic hazards. No impact would occur during operation.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Emergency Access

Impact 3.12-4: The proposed project could result in inadequate emergency access.

Priority, Near-Term, and Future Projects

Pipelines, Pump/Lift Stations, Storage Tanks, WWRF Expansion

Fire protection, emergency medical services, and police services within the project area are provided by the City of Riverside, Riverside County Sheriff's Department, and California Highway Patrol. Construction of aboveground facilities contained within existing WMWD facilities would not disrupt emergency services. Depending upon the timing, location, and duration of construction activities, construction of the proposed pipelines could delay emergency vehicle response times or otherwise disrupt

delivery of emergency services. However, Mitigation Measure TRA-1 requires coordination with emergency service providers at least one month prior to construction. Adherence to this mitigation measure would reduce any potential impacts regarding emergency services to less-than-significant levels.

Once constructed, all facilities would either be located underground or would be contained within existing WMWD facilities. Operation and maintenance of the project would not disrupt delivery of emergency services. No impact would occur during operation.

Mitigation Measures

Implement Mitigation Measure TRA-1

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.12-5: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to transportation.

The Riverside Retail Service Area is partly urbanized with residential, commercial and industrial development in the east and more rural areas in the west. As the service area continues to develop, the addition of more residential, commercial, and industrial development as shown in Table 3-2 and on Figure 3-1, is expected to substantially increase traffic volumes on roadways within the service area. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development, and could interfere with traffic patterns within the area. This increase in cumulative traffic volumes and change in patterns could result in significant impacts to traffic circulation and hazards. The Riverside FMP projects' contribution to local traffic circulation levels in combination with other projects' contributions could result in impacts to traffic circulation during construction activities. Implementation of Mitigation Measure TRA-1 would minimize the Riverside FMP's contribution to cumulative traffic and transportation impacts. With implementation of traffic circulation minimization mitigations, the FMP projects would be in compliance with local plans and policies, and would not contribute to significant transportation impacts. As a result, transportation impacts would be less than cumulatively considerable. A less than significant cumulative transportation impact would occur.

Mitigation Measures

Implement Mitigation Measure TRA-1

Significance Determination

Less than Significant with Mitigation

3.12.4 References

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Riverside Transit Agency (RTA), 2026. 2026 January System Map vF1. https://riversidetransit.com/images/DOWNLOADS/PUBLICATIONS/SYSTEM_MAPS/2026%20January%20System%20Map%20vF1.pdf, accessed February 18, 2026.

3.13 Tribal Cultural Resources

This section addresses the tribal cultural resources impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing tribal cultural resources in and around the proposed project site; a summary of applicable regulations related to tribal cultural resources; and an evaluation of the potential impacts of the proposed project related to tribal cultural resources at the proposed project site and in the surrounding area, including cumulative impacts. The results of the Native American consultation conducted by WMWD for purposes of compliance with CEQA requirements prompted by Assembly Bill (AB) 52 are located in **Appendix TRIBAL** of this Draft EIR.

3.13.1 Environmental Setting

Ethnographic Setting

Luiseño

The Luiseño were named after Mission San Luis Rey, to which many of them were relocated following its establishment in 1798. The language of the Luiseño people has been identified as belonging to the Cupan group of the Takic subfamily, which is part of the larger Uto-Aztecan language family (Bean and Shipek 1978). Luiseño territory includes portions of northern San Diego, southern Orange, and Riverside Counties, and would have encompassed a diverse environment including lagoons and marshes, coastal areas, inland river valleys, foothills, and mountains. The neighbors of the Luiseño to the north and northwest were the Juaneño, Gabrielino, and Serrano; to the east were the Cahuilla and Cupeño; and to the south were the Kumeyaay.

The Luiseño subsisted on small game, coastal marine resources, and a wide variety of plant foods such as grass seeds and acorns. Luiseño houses were conical thatched reed, brush, or bark structures. The Luiseño inhabited permanent villages centered around patrilineal clans, with each village headed by a chief, or *not* (Sparkman 1908). Seasonal camps associated with villages were also used. Each village or clan had an associated territory and hunting, collecting, and fishing areas. Villages were typically located in proximity to a food or water source, or in defensive locations, often near valley bottoms, streams, sheltered coves or canyons, or coastal strands (Bean and Shipek 1978). It is estimated that there may have been around 50 Luiseño villages with a population of about 200 each at the time of the first Spanish contact (Bean and Shipek 1978).

Today, there are six federally recognized tribes in California who share Luiseño tribal affiliation, language, and culture, including the La Jolla Band of Luiseño Indians (La Jolla), Rincon Band of Luiseño Indians (Rincon), Pauma Yuima Band of Mission Indians (Pauma), Pechanga Band of Indians (Pechanga), Pala Band of Mission Indians (Pala), and Soboba Band of Luiseño Indians (Soboba).

Cahuilla

The Cahuilla spoke a language belonging to the Cupan group of the Takic subfamily (Bean 1978). The Cahuilla are generally divided into three groups based on their geographic setting: the Pass Cahuilla of the Beaumont/Banning area; the Mountain Cahuilla of the San Jacinto and Santa Rosa Mountains; and the Desert Cahuilla from the Coachella Valley, as far south as the Salton Sea. The Cahuilla occupied

territories that ranged from low or moderately low desert to the mountain regions of the Transverse and Peninsular ranges.

Villages were placed near canyons that received substantial precipitation or were adjacent to streams and springs (Bean 1978). House structures of the Cahuilla ranged from "brush shelters to dome-shaped or rectangular structures 15-20 feet long" (Bean 1978). The Cahuilla social structure revolved around clans and exogamous moieties (components connected through inter-marriage). Hunting, in conjunction with the exploitation of a variety of available resources, governed the Cahuilla subsistence strategy. The material culture of the Cahuilla was extensive and varied, and included pottery, ornamental items, and a number of knapped stone tools.

Prior to European contact, population estimates for the Cahuilla range from 3,600 to as high as 10,000 persons. Due to European diseases, such as smallpox, the Cahuilla population was decimated during the 19th century. However, unlike other Native American populations in southern California, the Cahuilla were able to retain their autonomy even after the arrival and increasing control of European explorers and the settling governments that followed. It was not until 1891 that the Cahuilla culture and its population began to succumb to the pressure of European and, later, United States governing bodies (Bean 1978).

Today, there are nine federally recognized tribes in California who share Cahuilla tribal affiliation, language, and culture, including the Agua Caliente Band of Cahuilla Indians (Agua Caliente), Augustine Band of Cahuilla Indians (Augustine), Cabazon Band of Mission Indians (Cabazon), Cahuilla Band of Mission Indians, Los Coyotes Band of Cahuilla and Cupeño Indians (Los Coyotes), Morongo Band of Mission Indians (Morongo), Ramona Band of Cahuilla Indians (Ramona), Santa Rosa Band of Cahuilla Indians (Santa Rosa), and Torres-Martinez Desert Cahuilla Indians (Torres-Martinez).

Gabrielino

According to Bean and Smith (1978), the Gabrielino, with the exception of the Chumash to the north, "were the wealthiest, most populous, and most powerful ethnic nationality in aboriginal Southern California." Named after the San Gabriel Mission, the Gabrielino occupied sections of Los Angeles, Orange, and San Bernardino counties, and the islands of San Nicolas, Santa Catalina, and San Clemente. The Gabrielino subsisted on a variety of resources in several ecological zones. Acorns, sage, and yucca were gathered throughout the inland areas whereas shellfish, fish, as well as a variety of plants and animals were exploited within the marshes and along the coast. Deer and various kinds of small mammals were hunted on an opportunistic basis. Their material culture reflected the subsistence technology. Lithic tools such as arrow points and modified flakes were used to hunt and process animals. A variety of ground stone grinding implements, such as the mortar, pestle, mano, and metate, were used to process both plant and animal remains for food (Bean and Smith 1978).

The settlement patterns of the Gabrielino, and other nearby groups such as the Juaneño and Luiseño, were similar and they often interacted through marriage, trade and warfare. The seasonal availability of water and floral and faunal resources dictated seasonal migration rounds with more permanent villages and base camps being occupied primarily during winter and spring months. In the summer months, the village populations divided into smaller units that occupied seasonal food procurement areas. The more permanent settlements tended to be near major waterways and food sources and various secular and

sacred activities, such as food production and storage and tool manufacturing, were conducted at these areas (Bean and Smith 1978).

Identification of Tribal Cultural Resources

Records Search

A records search for the Proposed Program was conducted on June 16, 2022 by staff at the California Historical Resources Information System (CHRIS) Eastern Information Center (EIC), housed at the University of California, Riverside. The records search included a review of all recorded cultural resources within a 0.5-mile radius of the Riverside Retail Service Area as well as a review of cultural resource reports on file. Due to Covid-19 and staffing issues at the EIC, no mapping of resources or studies were available. Due to the large amount of data that was provided by the EIC, previous studies were not digitized but the studies are on-file with ESA and were reviewed to supplement this study as appropriate.

Previously Recorded Cultural Resources within the Riverside FMP Area

A total of 1,754 cultural resources have been previously recorded within 0.5-mile radius of the Riverside Retail Service Area. Of the 1,754 resources, 1,474 are located within the Riverside Retail Service Area. Specific information regarding resources that are located within, immediately adjacent (within 50-100 feet), and within the 0.25-mile of the priority and near term projects is provided below.

Priority Projects

A total of 13 cultural resources have been previously recorded within the 0.25-mile radius of the priority projects. These include six prehistoric archaeological sites; three historic-period archaeological sites; and three historic-period isolates. No resources were found to be recorded within, or immediately adjacent to the priority projects.

Near-Term Projects

A total of 59 cultural resources have been recorded within a 0.25-mile radius of the near term projects. These include 49 prehistoric archaeological sites; five prehistoric sites; two historic-period isolates; one historic structure; and three historic built-environment resources. No resources have been previously recorded within the near term project sites.

Future Projects

A total of 63 cultural resources have been recorded within a 0.25-mile radius of the future projects. These include 55 prehistoric archaeological sites; five historic-period archaeological sites; two historic-period isolates; and one historic-period built environment. No resources have been previously recorded within the future project sites as currently cited.

Sacred Lands File Search

A Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC) on May 5, 2022. The SLF search results prepared by the NAHC on June 6, 2022 and they indicated that the SLF results were positive.

Native American Consultation

On April 6, 2022, WMWD sent consultation notification letters via certified mail to seven Native American groups on WMWD's Master List pursuant to the requirements of AB 52 pertaining to government-to-government consultation. **Table 3.13-1** summarizes WMWD's consultation efforts. To date, WMWD has conducted consultation with two Native American Tribes: the Morongo Band of Mission Indians (Morongo) and the Rincon Band of Luiseño Indians (Rincon). The Morongo requested project design and mass grading maps, records search data, tribal participation in the pedestrian survey and testing, a copy of the Phase 1 study, and shapefiles of the geotechnical report. The Morongo also requested tribal monitors for all ground disturbing activity. The Rincon requested information related to the project, including the archaeological site records, shape files, archaeological record search results, geotechnical report, and the grading plans. The Rincon also requested tribal monitors for all ground disturbing activity. The requested materials, as available, were provided to both tribes for review and comment. The Rincon requested to review tribal mitigation, which was provided by WMWD, and Rincon has deferred tribal monitoring to Morongo. Consultation was closed with both tribes on January 26, 2023.

TABLE 3.13-1
SUMMARY OF AB 52 CONSULTATION EFFORTS

Individual Contacted	Tribe/Organization	Date Letter Mailed	Response Received
Patricia Garcia, Director, Tribal Historic Preservation Office	Agua Caliente Band of Cahuilla Indians	April 6, 2022	No response was received from the Agua Caliente
Raymond Huaute, Cultural Resources Specialist Robert Martin, Tribal Chairman	Morongo Band of Mission Indians	April 6, 2022	The Morongo requested formal consultation under AB 52 in an email dated May 27, 2022. Tribal consultation closed in a letter dated January 26, 2023.
Mark Macarro, Chairman	Pechanga Band of Luiseño Indians	April 6, 2022	No response was received from the Pechanga.
Cheryl Madrigal, Manager Cultural Resources Department/ THPO	Rincon Band of Luiseño Indians	April 6, 2022	The Rincon requested formal consultation in an email dated April 26, 2022. Tribal consultation closed in a letter dated January 26, 2023.
Jessica Mauck, Cultural Resources Department Director	San Manuel Band of Mission Indians	April 6, 2022	In an email dated May 9, 2022, the San Manuel indicated the project is outside of the Serrano ancestral territory, and as such, the Tribe does not request formal consultation or review of documents.
Joseph Ontiveros, Cultural Resources Director	Soboba Band of Luiseño Indians	April 6, 2022	No response was received from the Soboba.
Michael Mirelez, Cultural Resources Coordinator	Torres Martinez Desert Cahuilla Indians	April 6, 2022	In an email dated May 23, 2022, the Torres Martinez indicated the project is outside of the Tribes' traditional land use area, and as such, the Tribe defers to the San Manuel (who rejected formal consultation) and the Torres Martinez (who did not respond to request for consultation).

3.13.2 Regulatory Framework

State

Native American Heritage Commission

Public Resources Code (PRC) Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

Assembly Bill 52 and Related Public Resources Code Sections

AB 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

The primary intent of AB 52 is to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to CEQA Guidelines Appendix G, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process,

or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

3.13.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

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

1. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
   - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
   - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.
2. Result in a cumulatively considerable impact to tribal cultural resources.

Impact Analysis

Tribal Cultural Resources

Impact 3.13-1: The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is either listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Priority, Near-Term, and Future Projects

All Facilities

As stated above, as required by AB 52, consultation between the District, the Rincon Band of Luiseño Indians, and the Morongo Band of Mission Indians was conducted. No identified tribal cultural resources as defined in PRC Section 21074(a)(1) that are listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) have been identified within the Riverside FMP project area. However, the service area and vicinity has a very high density of prehistoric sites and resources, and therefore, archaeological resources that may be considered tribal cultural resources as well as, unanticipated tribal cultural resources could be encountered during construction of proposed projects and result in a significant impact.

Implementation of **Mitigation Measure TCR-1** would avoid and/or substantially lessen the above impact by ensuring that any unanticipated tribal cultural resources are appropriately identified, documented, evaluated, and treated promptly, so they are not inadvertently damaged or destroyed, and that both tribes are consulted in the event a resource is found. With implementation of Mitigation Measure TCR-1, the impact to any unanticipated tribal cultural resource would be reduced to a less-than-significant level.

Mitigation Measures

TCR-1: Native American Monitoring. Prior to the commencement of ground disturbing activity at any of the Riverside FMP project sites, the District shall notify the Morongo Band of Mission Indians of such activity. Should the Tribe choose not to monitor or not respond within 7 days, the work can continue with only the archaeologist present. The Tribal monitor will only be present on-site during the construction phases that involve ground disturbing activity as outlined in the Cultural Resources Mitigation Measures CR-2, CR-3, CR-4, CR-6, and CR-7. The on-site Tribal monitoring shall end when all ground disturbing activities on the project site are completed, or when the Tribal representatives and Tribal Monitor have indicated that the project site has little to no potential for impacting tribal cultural resources.

In the event that cultural resources of Native American origin are identified during construction, the District will coordinate with the qualified archaeologist (who meets the Secretary of the Interior's Professional Qualifications Standards), and both tribes that participated in consultation. If the District, in consultation with the Rincon Band of Luiseño Indians and the Morongo Band of Mission Indians determines that the resource is a tribal cultural resource and thus significant under CEQA, avoidance of the resources will be explored. If avoidance is not a possible, a

treatment plan shall be prepared and implemented in accordance with state guidelines and in consultation with the two Native American tribes. The treatment plan may include, but would not be limited to avoidance, capping in place, excavation and removal of the resource, interpretive displays, sensitive area signage, or other mutually agreed upon measure.

Significance Determination

Less than Significant with Mitigation

Cumulative Impacts

Impact 3.13-2: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to tribal cultural resources.

The cumulative analysis for impacts to tribal cultural resources involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve residential, commercial, and industrial development. Specifically, future cumulative projects would involve many large-scale development projects like the Lake Ranch Project (Tract 36730) and the Tract 22102 (Mockingbird Canyon) that would be constructed within undeveloped areas particularly in the areas northeast and east of Lake Matthews. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. Therefore, the addition of more development within the Riverside Retail Service Area could result in significant cumulative environmental effects due to significant adverse changes to tribal cultural resources. The projected growth through 2050 would result in rapid development of commercial, industrial, and residential land uses that could convert undeveloped areas that may contain tribal cultural resources. Because the potential impacts to tribal cultural resources associated with the Riverside FMP are able to mitigated to a less-than-significant level with Mitigation Measure TCR-1, which includes the consideration of avoidance of resources if possible, by the projects subject to CEQA, the project's cumulative tribal cultural resource impacts would be less than significant with implementation of mitigation measures. Therefore, the project's contribution to cumulative cultural resources impacts would be less than cumulatively considerable.

Mitigation Measures

Implement Mitigation Measure TCR-1

Significance Determination

Less than Significant with Mitigation

3.13.4 References

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3.14 Utilities and Service Systems

This section addresses the utilities and service systems impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing utilities and service systems in and around the proposed project site; a summary of applicable regulations related to utilities and service systems; and an evaluation of the potential impacts of the proposed project related to utilities and service systems at the proposed project site and in the surrounding area, including cumulative impacts.

3.14.1 Environmental Setting

Western Municipal Water District (WMWD; Western) has a service area of 527 square miles located in Western Riverside County. The information below is focused on utility services within Western's Riverside Retail Service Area, which is the extent of where the projects in the proposed Riverside Facilities Master Plan would be located.

Water Supply

Western supplies water to the Riverside Retail Service Area, which contains 21 pressure zones, over 565 miles of pipe, 16 storage tanks and 12 pump stations, and provides potable water to more than 25,000 connections (WMWD 2025). The Riverside Retail Service area obtains approximately 60 percent of its potable water supply from the Metropolitan Water District of Southern California (Metropolitan) (WMWD 2022), receiving treated imported water via the State Water Project from the Mills Water Treatment Plant. The remainder of Western's water is supplied through local partnerships/agreements and groundwater sources. Local agreements are in place with the City of Riverside, the Meeks and Daley Water Company, and Chino Basin utility providers, while groundwater sources include the San Bernardino Basin Area, Chino Basin, and the Temecula Valley Basin. No surface or stormwater sources are used as potable supplies in the Riverside Retail Service Area.

Western also supplies the Riverside Retail Service Area with non-potable/recycled water via the Western Water Recycling Facility (WWRF), the Riverside Canal, and the Colorado River Aqueduct.[1] The Colorado River Aqueduct and Riverside Canal provide non-potable water to the recycled water system, while the WWRF supplies Title 22 recycled water to the recycled water system. The non-potable/recycled water system includes approximately 62 miles of pipelines, 6 storage reservoirs, and 11 pump stations. The WWRF, which is owned and operated by Western, was expanded in 2011 to a capacity of 3 MGD tertiary treatment, and delivers recycled water to customers including the Riverside National Cemetery, General Archie Old Golf Course, schools, parks, groves, and nurseries. In 2020, Western delivered 1,758 AFY tertiary treated water to customers within the Riverside Retail Service Area (WMWD 2022).

[1] The Western Riverside County Regional Wastewater Authority (WRCRWA) Treatment Plant, operated by Western and owned by a joint powers authority composed of the cities of Norco and Corona, Jurupa Community Services District, Home Gardens Sanitary District, and Western, currently discharges all flows to the Santa Ana River and has no infrastructure to deliver treated water to Western's service area.

Wastewater

WMWD has two centralized wastewater treatment facilities to which wastewater from the service area is conveyed. The first plant is the Western Riverside County Wastewater Treatment Plant, located in Corona, which is a tertiary facility providing recycled water for reuse or for discharge through an outfall to the Santa Ana River. The treatment plant is owned by the Western Riverside County Wastewater Authority. The second plant is the WWRF, owned and operated by Western, that supplies Title 22 recycled water to the recycled water system. Individual septic tanks are also a popular means of wastewater management amongst the inhabitants of the Riverside Retail Service Area. Both the City of Riverside and WMWD provide wastewater collection and treatment services within the Riverside Retail Service Area. The City of Riverside operates the Riverside Water Quality Control Plant, which is a wastewater collection system that serves more than 300,000 people within the City of Riverside and surrounding areas. Over 800 miles of pipeline conveys wastewater from residences and businesses to the Riverside Regional Water Quality Control Plant where it is treated (City of Riverside 2026).

Stormwater

The Riverside County Watershed Protection and Water Conservation District is the regional flood management authority for the western part of Riverside County. The Riverside Retail Service Area is located in Zone 2, which covers a 225-square-mile area and includes the cities of Corona, Eastvale, Lake Elsinore, Norco, and Riverside. The District provides multiple services including regulation of drainage and drainage planning.

Solid Waste Management

The closest landfill to the proposed project facilities in Riverside County include El Sobrante Landfill. El Sobrante Landfill, located at 10910 Dawson Canyon Road in Corona, approximately 7 miles from the project area, had a remaining capacity of 121,083,583 cubic yards as of May 2023 and is expected to operate until 2051 (CalRecycle 2026a). The Blythe Sanitary Landfill is located at 1000 Midland Road in Blythe. The landfill had a remaining capacity of 3,271,203cubic yards as of 2022 and is expected to operate until 2052 (CalRecycle 2026b). Blythe Landfill currently accepts chemical toilet and septic tank waste from commercial hauling companies.

Electric Power

Riverside Public Utilities (RPU) is the electricity provider for the City of Riverside. RPU provides electrical services to service area population of 328,096 people and 111,161 energy customers throughout its 90 square-mile service area in 2020 (RPU 2020). In 2020, RPU's total electricity sales was estimated to be 2,115 gigawatt hours (GWh) (RPU 2020). RPU produces and purchases its energy from a mix of conventional and renewable generating sources.

Natural Gas

The Riverside Retail Service Area is within service area of Southern California Gas Company (SoCalGas), which is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas serves approximately 21.1 million customers in more than 500 communities encompassing approximately 24,000 square miles throughout central and southern California (SoCalGas 2026). Gas supply available to SoCalGas from California sources averaged

approximately 217 million cubic feet per day or 223,440 million Btu (MMBtu) in 2024, the most recent year for which data are available. This equates to an annual average of 79,205 million cubic feet per year or 81,555,600 MMBtu per year (California Gas and Electric Utilities 2024).

Telecommunication

Most telecommunication services in the county and City of Riverside are delivered by private service providers, including T-Mobile, Verizon, Stellar Telecom, and Sunnymead Communication Systems, Inc.

3.14.2 Regulatory Framework

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (40 CFR, Part 258 Subtitle D) establishes minimum location standards for siting municipal solid waste landfills. In addition, because California laws and regulations governing the approval of solid waste landfills meet the requirements of Subtitle D, the U.S. EPA has delegated the enforcement responsibility to the State of California.

State

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Public Resources Code [PRC] Division 30) enacted through AB 939 emphasized conservation of natural resources through reduction, recycling, and reuse of solid waste. AB 939 requires that all cities and counties divert 25 percent of solid waste streams from landfills by 1995 and 50 percent by 2000. In accordance with AB 939, each local agency must submit an annual report to the California Integrated Waste Management Board summarizing its progress in diverting solid waste disposal.

Protection of Underground Infrastructure

The California Government Code Section 4216-4216.9 "Protection of Underground Infrastructure" requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for southern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

Assembly Bill 341

Since the passage of AB 939 in 1989, State diversion rates are now equivalent to 65 percent, the statewide recycling rate is 50 percent, and the beverage container recycling rate is 80 percent. With the passage of AB 341 (Chesbro, Chapter 476, Statutes of 2011), the Governor and the Legislature established a policy goal for the State that a minimum of 75 percent of solid waste must be reduced, recycled, or composted by the year 2020. The State provided strategies to achieve that 75 percent goal:

1. Moving organics out of the landfill

2. Expanding the recycling/manufacturing infrastructure
3. Exploring new approaches for state and local funding of sustainable waste management programs
4. Promoting state procurement of post-consumer recycled content products
5. Promoting extended producer responsibility

To achieve these strategies, the State recommended legislative and regulatory changes including mandatory organics recycling, solid waste facility inspections, and revising packaging. With regard to construction and demolition, the State recommended an expansion of California Green Building Code standards that incentivize green building practices and increase diversion of recoverable construction and demolition materials. Current standards require 50 percent waste diversion on construction and some renovation projects, although this may be raised to 65 percent for nonresidential construction in upcoming changes to the standards. The State also recommends promotion of the recovery of construction and demolition materials suitable for reuse, compost or anaerobic digestion before residual wastes are considered for energy recovery (CalRecycle 2017c).

2008 California Energy Action Plan II

The California Energy Commission (CEC) prepared the California Energy Action Plan Update in February 2008 and it serves as the state's principal energy planning and policy document (CEC 2008). The plan identifies state-wide energy goals, describes a coordinated implementation plan for state energy policies, and identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. In accordance with this plan, the first priority actions to address California's increasing energy demands are energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure). Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy and capacity needs, clean and efficient fossil-fired generation is supported.

The State of California adopted standards to increase the percentage of electricity that retail sellers, including investor-owned utilities and community choice aggregators, must provide from renewable resources. The standards are referred to as the Renewables Portfolio Standards (RPS). The legislation requires utilities to increase the percentage of electricity obtained from renewable sources to 33 percent by 2020 and 50 percent by 2030. On September 10, 2018, Governor Jerry Brown signed SB 100, which further increased the California RPS and requires retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030.

Renewables Portfolio Standard

The California Renewables Portfolio Standard (RPS) was established in 2002 and required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2013. California Senate Bill 350 (Chapter 547, Statues of 2015) is the most recent update to the state's RPS requirements. The RPS requires publicly owned utilities and retail sellers of electricity in California to procure 33 percent of their electricity sales from eligible renewable sources by 2020 and 50 percent by the end of 2030.

California Water Code Section 13260

California Water Code Section 13260 requires any person who discharges waste, other than into a community sewer system, or proposes to discharge waste that could affect the quality of waters of the state to submit a report of waste discharge to the applicable Regional Water Quality Control Board (RWQCB). Any actions of the proposed project that would be applicable under California Water Code Section 13260 would be reported to the Santa Ana RWQCB.

California Urban Water Management Planning Act

Section 10610 of the California Water Code establishes the Urban Water Management Planning Act. The act states that every urban water service provider that serves 3,000 or more customers or that supplies over 3,000 acre-feet of water annually should prepare an Urban Water Management Plan (UWMP) every 5 years. The goal of a UWMP is to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Western prepared it's 2020 UWMP in 2021.

NPDES Construction General Permit

Construction associated with the proposed Program would disturb more than 1 acre of land surface for centralized and regional structural Best Management Practices (BMPs) (and possibly for those distributed structural BMPs larger than 1 acre), affecting the quality of stormwater discharges into waters of the United States. The proposed Program would therefore be subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit [CGP]), as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). The CGP regulates discharges of pollutants in stormwater associated with construction activity to waters of the United States 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 1 acre of land surface.

The CGP requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off-site into receiving waters. The SWPPP BMPs are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. The CGP and SWPPPs are described in more detail in Section 3.8, *Hydrology and Water Quality*.

California Green Building Code Section 5.408

5.408.1 Construction waste diversion. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

> *5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that: 1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling,*

reuse on the project or salvage for future use or sale. 2. Indicates if construction and demolition waste materials will be sorted on-site (sourceseparated) or bulk mixed (single stream). 3. Identifies diversion facilities where construction and demolition waste material collected will be taken. 4. Specifies that the amount of construction waste and demolition materials diverted shall be calculated by weight or volume, but not by both.

Regional

Riverside County California Green Building Code Integration

Riverside County adopted the State of California Green Building Code Requirements (known as "CALGreen") that took effect January 1, 2011, which sets forth recycling requirements for construction and demolition projects in the unincorporated areas of Riverside County. The provisions of the Code apply to any project that requires a construction permit, demolition permit, and/or grading permit. According to the Code, non-residential construction projects consisting of commercial, industrial, or retail structures, irrespective of the square footage, must recycle a minimum of 65 percent of the debris generated by weight, which would apply to the proposed project. The County requires the completion of a Construction and Demolition Waste Recycling Plan and Waste Reporting Form, which requires a project description and completion of appropriate attachments depending on the type of project.

3.14.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to utilities and service systems. The proposed project would have a significant impact if it would:

1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
2. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
3. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
4. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
5. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.
6. Result in a cumulatively considerable impact to utilities and service systems.

Impact Analysis

Relocation of Utilities

Impact 3.14-1: The proposed project could require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Priority, Near-Term, and Future Projects

All Facilities

The proposed project would implement new water, recycled water, and wastewater infrastructure to support planned growth within the Riverside Retail Service Area, the environmental effects of which are evaluated throughout this Draft PEIR. Aboveground facilities (pump/lift stations, storage tanks, and a potential WWRF expansion) would be constructed primarily within existing WMWD facilities that would not require relocation of utilities. Construction of conveyance facilities would occur mainly underground within existing public rights-of-way and could result in the need to relocate existing water, wastewater, electric, natural gas, or telecommunications facilities, depending on the location. Utilities with underground or overhead service lines that would be impacted by the proposed project would include but would not be limited to Metropolitan, Riverside County, City of Riverside, SCE, and other private utility service providers. In order to ensure that existing utilities are not impacted by construction of the proposed project, WMWD would implement **Mitigation Measure UTIL-1** for all pipelines, which would require an underground utilities search and coordination with utility providers operating within proposed construction impact areas during the design phase and prior to construction. With implementation of Mitigation Measure UTIL-1, impacts would be less than significant.

Construction associated with the proposed facilities would generate minor wastewater from worker portable toilet use. Per Riverside County Municipal Code requirements, wastewater generated from portable toilets within Riverside County would be collected by a permitted entity and disposed of at an appropriate location, such as the Blythe Sanitary Landfill, and would not exceed applicable wastewater treatment requirements. Construction is not expected to generate other forms of wastewater requiring treatment. The volume of wastewater would be negligible compared to the local wastewater treatment capacities, resulting in a less-than-significant impact. Construction activities would generate negligible to no storm water runoff.

Operation of the pump/lift stations, pipelines and storage tanks would not result in the relocation of utilities or the generation of wastewater. WMWD is considering potential future expansion of the WWRF, the environmental impacts of which are addressed throughout this PEIR. The project would provide an expansion of water, wastewater, and recycled water facilities within the Riverside Retail Service Area to support planned growth. No new or expanded telecommunications or natural gas facilities are proposed and would not be required during operation. The majority of proposed project facilities would be sited at existing WMWD facilities that are already supplied by electrical lines. Furthermore, the existing electricity grid would have adequate capacity to meet energy requirements of the proposed project (see Section 4.6, *Energy*). However, several future projects to be constructed from the year 2030 to 2050 may need new electric grid connections, depending on the final location chosen based on buildout within the Riverside Retail Service Area. Western would be required to implement Mitigation Measure **UTIL-2** for

any future facilities that require new electrical or other utility connections. With implementation of mitigation measures, impacts related to new or relocated utilities would be less than significant.

Mitigation Measures

UTIL-1: Prior to approval of final design and issuance of construction permits for any pipelines project, WMWD shall identify existing underground utilities within and adjacent to the construction area through utility record searches, field verification, utility potholing, and coordination with affected utility providers, as appropriate. WMWD shall incorporate utility protection, relocation, and service continuity measures into project plans and construction specifications to avoid or minimize disruption of existing utility services. If temporary disruption of utility service is necessary, WMWD shall coordinate with the affected utility provider and provide advance written notice to affected customers in accordance with the utility provider's requirements. Construction activities shall be conducted in a manner that maintains emergency access to utility infrastructure and minimizes the duration and extent of service interruptions.

UTIL-2: Prior to approval of any future project requiring new or expanded electrical utility infrastructure, WMWD shall evaluate whether the installation of such infrastructure is within the scope of the impact analysis contained in this PEIR. If the infrastructure is determined to be within the scope of the PEIR, applicable mitigation measures identified in this PEIR shall be incorporated into the project design and construction specifications and implemented during project construction. If the required electrical infrastructure or associated ground-disturbing activities were not analyzed in this PEIR, WMWD shall conduct additional environmental review required by CEQA and implement all feasible mitigation measures necessary to reduce identified impacts. WMWD shall coordinate with the Riverside Public Utilities during project design to ensure that utility infrastructure improvements are adequately planned and constructed in a manner that avoids or minimizes environmental impacts and service disruptions.

Significance Determination

Less than Significant with Mitigation

Water Supplies

Impact 3.14-2: The proposed project could have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

Priority, Near-Term, and Future Projects

All Facilities

Construction of the proposed priority, near-term, and future projects would require minimal water for dust control and concrete washout activities. All water supplies required for construction would be supplied by one on-site water truck per facility or existing water connections where available, and would range from 1,000 gallons to 4,000 gallons per site. For the 54 projects to be implemented as part of the Riverside FMP, this would require up to 216,000 gallons through 2050, which averages approximately 9,000 gallons per year (0.028 acre-feet per year [AFY]). In the context of Western's potable projected water supply capacity which ranges from 27,073 AFY in 2025 to 41,821 AFY in 2045 (see Table 5-4 in Chapter 5, *Growth Inducement*), 0.028 acre-feet per year would constitute approximately 0.0001 to 0.00007 percent of annual water supply. Water demand during construction would not require new or expanded water supply resources. Impacts would be less than significant.

Operation of the proposed facilities would store, distribute, and treat potable water to various end users within the Riverside Retail Service Area. The WMWD facilities would provide the infrastructure necessary to meet the projected growth and water demand of the Riverside Retail Service Area. No additional water supply resources or entitlements are required for implementation of the Riverside FMP. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Wastewater Treatment

Impact 3.14-3: The proposed project could result in a determination by the wastewater treatment provider that 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.

Priority, Near-Term, and Future Projects

All Facilities

As discussed above, construction associated with the proposed facilities would generate minor wastewater from worker portable toilet use that would be collected by a permitted entity and disposed of at an appropriate location. Impacts would be less than significant.

Several projects within the Riverside FMP involve expansion of existing wastewater facilities to support planned growth, including projects WW-2 Beazer Lift Station Upgrade, WW-3 Markham Lift Station Upgrade (WWRF), WW-4 MARB 1269 Lift Station and Pipeline Upgrade 1269 Expansion, and the WW-5 Meridian Lift Station Upgrades (WWRF). The WWRF Expansion Study (WW-6) would increase the amount of treated wastewater from 3 MGD to 6 MGD. As the wastewater treatment provider, Western would expand the WWRF to be able to accommodate planned growth within the Riverside Retail Service area, and would not need to amend its own wastewater entitlements. No new workers would be added to support operation and maintenance of the upgraded/new facilities; existing staff would be rotated to serve maintenance needs. As a result, operation of the proposed expansion would not generate additional wastewater above the baseline condition that would require an increase in wastewater treatment capacity. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Solid Waste

Impact 3.14-4: The proposed project could generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Priority, Near-Term, and Future Projects

All Facilities

Construction of the proposed project facilities would generate solid waste requiring disposal at a landfill or recycling facility. The El Sobrante Landfill has a remaining capacity of 121,083,583cubic yards as of 2023and will not cease operation until 2051; therefore, this facility would be able to accommodate solid waste generated by the proposed project (CalRecycle 2026a). Further, all construction activities for the proposed project would be required to divert construction waste from landfills per State CALGreen construction waste diversion requirements. Riverside County requires preparation of a Waste Recycling Plan and Waste Reporting form to demonstrate compliance with these State diversion requirements. Therefore, impacts related to sufficient landfill capacity during construction would be less than significant.

During operation, maintenance activities associated with pump/lift stations, pipelines, and storage tanks would generate minimal solid waste. Existing landfills in the project vicinity are anticipated to be able to accommodate waste associated with project operation. Therefore, impacts related to sufficient landfill capacity during operation would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Solid Waste Regulations

Impact 3.14-5: The proposed project could comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Priority, Near-Term, and Future Projects

The proposed project facilities would comply with Section 5.408.1.1 of the 2019 CALGreen Code, which requires recycling of at least 65 percent of the waste generated during construction, as well as the Construction and Demolition Waste Recycling Plan and Waste Reporting Form which identifies the expected material types, locations for recycling of construction and demolition waste resulting from the project, demonstrates the actual quantity of construction and demolition waste recycled. The proposed project facilities would not generate solid waste during operation. Therefore, the proposed project would comply with all applicable solid waste regulations, and impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Cumulative Impacts

Impact 3.14-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to utilities and service systems.

The cumulative analysis for impacts to utilities and service systems involves the projected growth of the Riverside Retail Service Area. Future cumulative development projects identified in Table 3-2 and depicted on Figure 3-1 would involve residential, commercial, and industrial development. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. This cumulative development within the Riverside Retail Service Area is forecast to require or result in the construction of water, wastewater treatment, storm water drainage, electric power, natural gas, and telecommunications facilities, as well as expansion of existing facilities. The cumulative need for additional and expanded utility facilities could result in significant environmental effects during the construction of these facilities, especially for some of the large-scale residential and commercial projects already in the planning stages. Because the potential impacts to utility relocation associated with the implementation of the Riverside FMP projects would be less than significant with implementation of Mitigation Measures UTIL-1 and UTIL-2, the project's contribution to cumulative utility impacts would be less than cumulatively considerable. Additionally, the Riverside FMP projects would not require new or expanded wastewater or water treatment facility capacity to serve the FMP projects. As a result, a less than significant cumulative utility and service system impact would occur.

Mitigation Measures

Implement Mitigation Measure UTIL-1 and UTIL-2

Significance Determination

Less than Significant with Mitigation

3.14.4 References

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3.15 Wildfire

This section addresses the wildfire impacts associated with implementation of the proposed project, including priority, near-term, and future projects associated with the Riverside Facilities Master Plan (FMP). This section includes: a description of the existing utilities and service systems in and around the proposed project site; a summary of applicable regulations related to utilities and service systems; and an evaluation of the potential impacts of the proposed project related to utilities and service systems at the proposed project site and in the surrounding area, including cumulative impacts. Given the wildfires within the project area and updates to wildfire hazard mapping, the baseline is post publication of the NOP.

3.15.1 Environmental Setting

Fire Environment

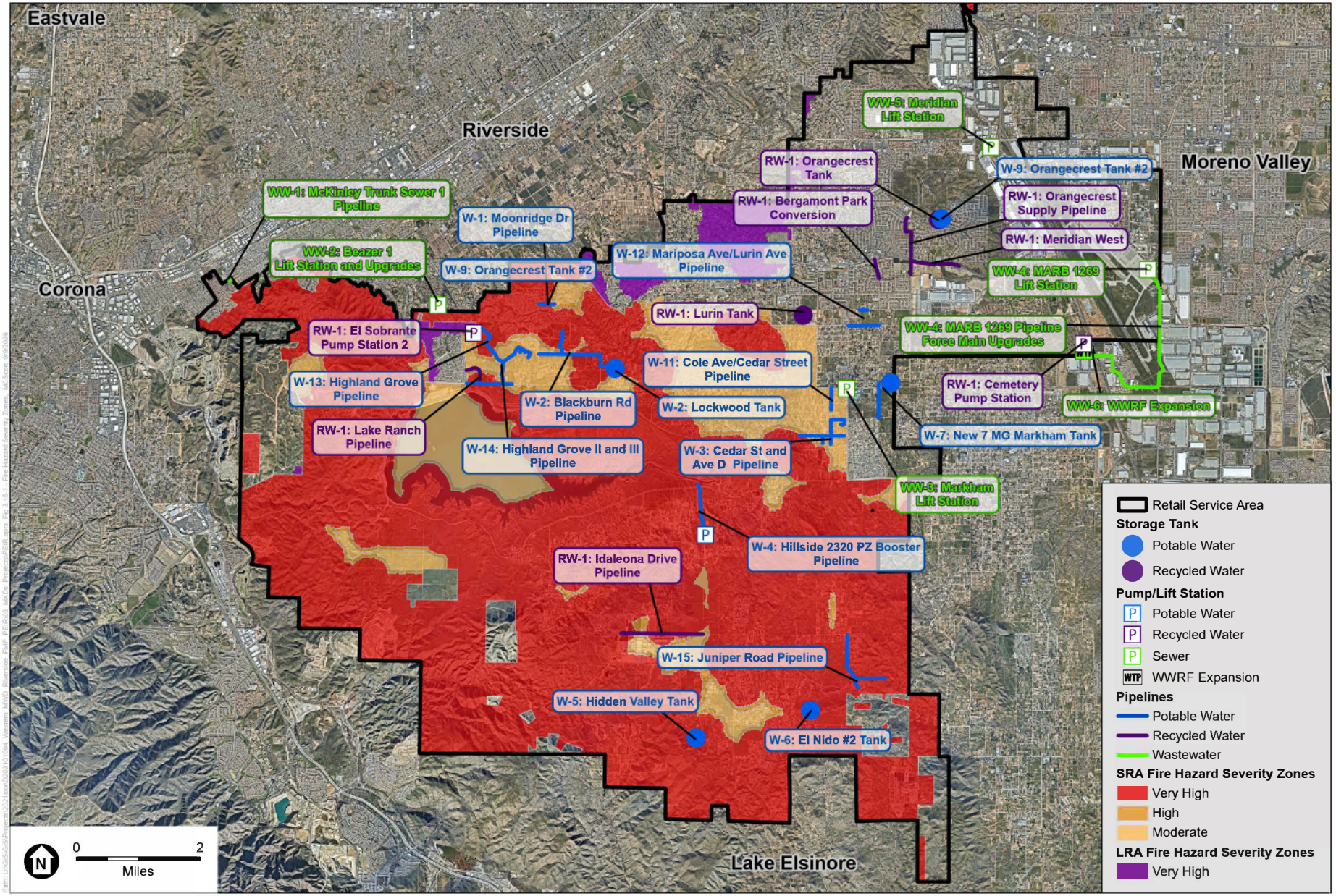
Fire environments are dynamic systems and include many types of environmental factors and site characteristics. Fires can occur in any environment where conditions are conducive to ignition and fire movement. The three major components of fire environment are vegetation (fuels), climate, and topography. The state of each of these components and their interactions with each other determines the potential characteristics and behavior of a fire at any given moment. It is important to note that wildland fire may transition to urban fire if structures are receptive to ignition. Understanding the existing wildland vegetation and fuel conditions on and around the project site is necessary to understand the fire environment.

The climate of Southern California, including the project site, has been characterized by fire climatologists as the worst fire climate in the United States with high winds (Santa Ana) occurring during autumn after a six-month drought period each year.

As defined by the Public Resources Code (PRC) 4126, State Responsibility Areas are State and privately owned forest, watershed, and rangeland for which the primary financial responsibility of preventing and suppressing wildland fires rests with the State. State Responsibility Areas, by definition, do not include any lands within city limits. The portion of the proposed project that occurs within unincorporated Riverside County is located almost entirely within a State Responsibility Areas.

For State Responsibility Areas, CAL FIRE maps fire hazard severity zones based on factors such as fuel, slope, and fire weather to identify the degree of fire hazard throughout California (e.g., moderate, high, or very high). CAL FIRE also provides recommendations for fire hazard severity zones within Local Responsibility Areas but the responsibility for mapping Local Responsibility Areas lies within the local jurisdiction responsible for fire management and control within the Local Responsibility Area. While fire hazard severity zones do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern.

Fire hazard severity zones in and around the proposed project site are shown on **Figure 3.15-1**. According to the mapping completed by CAL FIRE, the proposed project facilities are located in Very High, High, and Moderate Fire Hazard Severity Zones (2026). Because the wildfire hazard mapping changed since the time the NOP was published to reflect more hazardous conditions, prior hazard mapping done in 2022 is also included for reference in **Figure 3.15-2**.

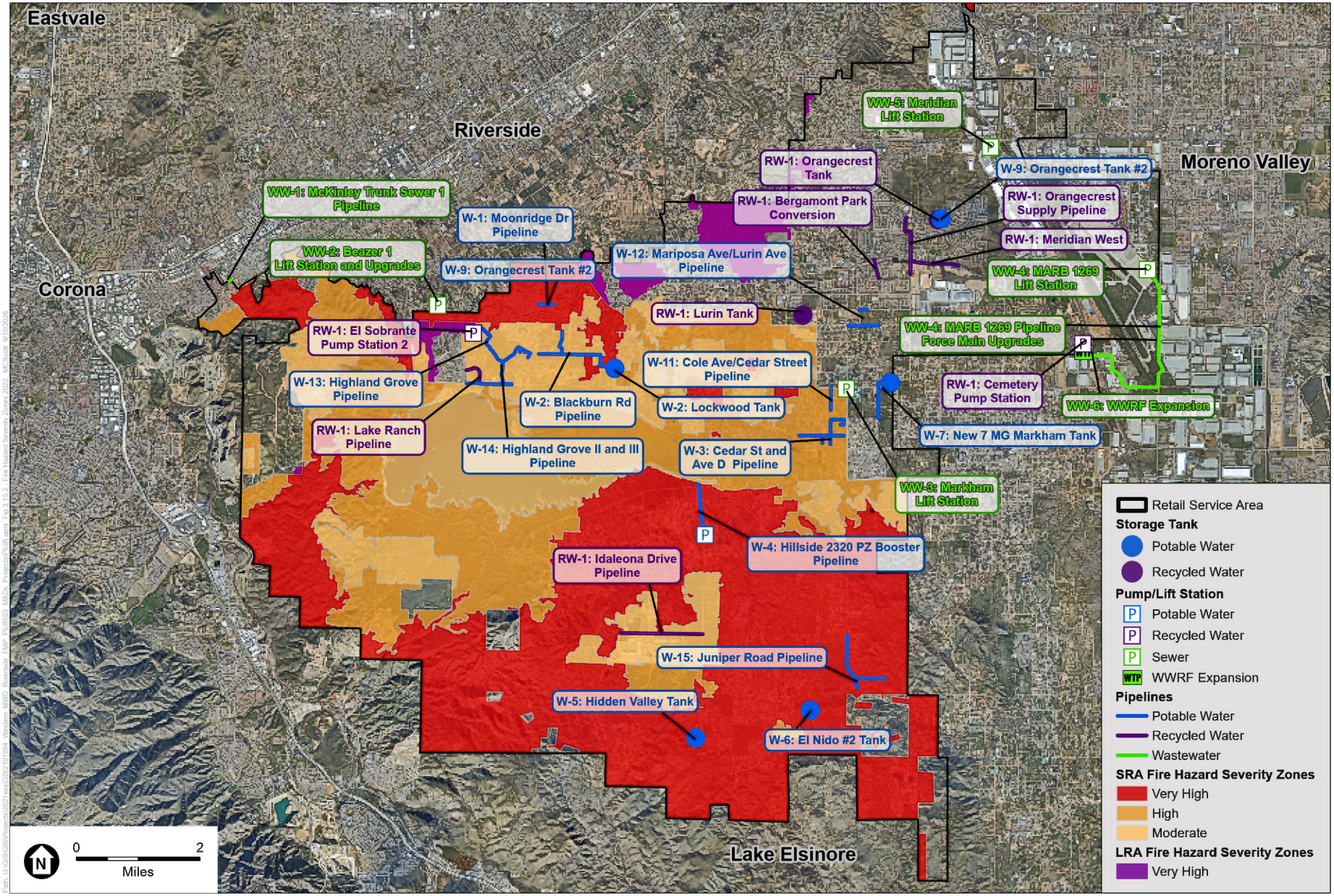


SOURCE: Nearmap, 2022; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.15-1
Fire Hazard Severity Zones (2026)

ESA



SOURCE: Nearmap, 2022; CalFire, 2022; WMWD, 2025; ESA, 2026.

Riverside Facilities Master Plan

Figure 3.15-2
Fire Hazard Severity Zones 2022

ESA

Pipelines

Multiple segments of transmission pipelines would be constructed throughout the project area. The fire hazard risk associated with each project to be constructed before 2030 includes the following:

- The W-1 Moonridge Drive Pipeline Upsizing would be located in a State Responsibility Area Very High Fire Hazard Severity Zone.
- The W-2 Blackburn Road Pipeline Upsizing would be located in a State Responsibility Area Moderate Fire Hazard and Very High Fire Hazard Severity Zone.
- The W-3 Cedar Street and Avenue D Pipeline Upsizing would be located in a State Responsibility Area Very High Fire Hazard Severity Zone.
- The WW-1 McKinley Trunk Sewer 1 Pipeline Upsizing would not be located in a Fire Hazard Severity Zone.
- The WW-2 Beazer 1 Lift Station and Forcemain Upgrades (WRCWRA) would be located in a State Responsibility Area Very High Fire Hazard Severity Zone.
- The W-11 Cole Ave/Cedar Street Upsize would be located in a State Responsibility Area Moderate Fire Hazard Severity Zone.
- The W-12 Mariposa Ave/Lurin Avenue Upsize would not be located in a Fire Hazard Severity Zone.
- The W-13 Highland Grove III 18-Inch Pipelines would be located in State Responsibility Area Very High, High, and Moderate Fire Hazard Severity Zones.
- The W-14 Highland Grove II and III 12-Inch Pipeline would be located in State Responsibility Area Very High, High, and Moderate Fire Hazard Severity Zones.
- The W-15 Juniper Road Pipeline Upsizing would be located in a State Responsibility Area Very High Fire Hazard Severity Zone.
- The RW-1 Orangecrest Tank Supply Pipeline and the Meridian West Pipelines would not be located in a Fire Hazard Severity Zone.
- The RW-1 Bergamont Park Conversion to RW would not be located in a Fire Hazard Severity Zone.
- The RW-1 Idaleona Drive Upsize would be located in State Responsibility Area Very High, High, and Moderate Fire Hazard Severity Zones.
- The RW-1 Lake Ranch Pipelines would be located in State Responsibility Area Very High, High, and Moderate Fire Hazard Severity Zones.

Future project pipelines to be constructed from 2030 to 2050 would mostly be located within the right-of-way of existing roadways throughout the project area. The W-24 PZ 2320 12-inch Pipelines, RW-1 Upper Plateau Development Pipelines, RW-2 RNC Upsize to 18”, RW-2 RNC Upsize to 24”, WW-9 Merdian Trunk Sewer North (WWRF), WW-10 Arnold Heights Trunk Sewer (WWRF), and WW-11 Meridian Trunk Sewer South at RNC (WWRF) would be located in a State Responsibility Area Very High Fire Hazard Severity Zone. The W-25 Via Barranca Pipeline Upsizing and WW-8 La Sierra Trunk Sewer (WRCWRA) would be located in a State Responsibility Area High Fire Hazard Severity Zone. The

WW-7 McKinley Trunk Sewer 2 (WRCWRA) would not be located in a State Responsibility Area Fire Hazard Severity Zones.

Storage Tanks

The Riverside FMP includes construction of up to six new storage tanks by 2030. The fire hazard risk associated with each project to be constructed by 2030 includes the following:

- The W-5 New 3 MG Hidden Valley Tank would be located in a State Responsibility Area Very High Fire Hazard Severity Zone.
- The W-6 New 1.5 MG El Nido Tank would be located in a State Responsibility Area Very High Fire Hazard Severity Zone.
- The W-7 New 7 MG Markham Tank would be constructed in a Local Responsibility Area, but not with a Fire Hazard Severity Zone.
- The W-9 New Orangecrest Tank would be constructed in a Local Responsibility Area, but not with a Fire Hazard Severity Zone.
- The RW-1 Orangecrest Recycled Water Tank would be constructed in a Local Responsibility Area, but not with a Fire Hazard Severity Zone.
- The RW-1 Lurin Storage Tank expansion would be implemented in the City of Riverside at the existing Lurin recycled water tank. The Tank would be constructed in a Local Responsibility Area, but not with a Fire Hazard Severity Zone.

Six new water storage tanks would be constructed by 2050. The W-20 New 2 MG PZ2116 Tank, W-21 New 4 MG PZ1550 Tank, W-22 New 3 MG Hidden Valley Tank, and W-8 New 2 MG PZ1783 Tank would be located in a State Responsibility Area Very High Fire Hazard Severity Zone. The W-23 New 13 MG Orangecrest Tank and RW-2 Additional 7 MG Storage in PZ1815 would be constructed in a Local Responsibility Area, but not with a State Fire Hazard Severity Zone.

Pump/Lift Stations

The FMP includes upgrades/expansion of five recycled water pump stations/ wastewater lift stations and construction of one new potable water pump station by 2030. The fire hazard risk associated with each project to be constructed by 2030 are as follows:

- The WW-2 Beazer Lift Station Upgrade would be located within a State Responsibility Area Very High Fire Hazard Severity Zone.
- The WW-1 Markham Lift Station Upgrade would be located within a State Responsibility Area High Fire Hazard Severity Zone.
- The W-4 Hillside 2320 PZ Booster Pump Station and Pipeline would be located within a State Responsibility Area Very High Fire Hazard Severity Zone.
- The RW-1 Cemetery PS Expansion would be located at the existing Riverside National Cemetery pump station at the Western Water Recycling Facility (WWRF), a Local Responsibility Area, but not within a Fire Hazard Severity Zone.

- The RW-1 El Sobrante PS Expansion (150 HP) would be located within a State Responsibility Area Moderate Fire Hazard Severity Zone.
- The WW-3 Meridian Lift Station Upgrades (WWRF) would be located within a Local Responsibility Area, but not within a Fire Hazard Severity Zone.

One new potable water pump station and two pump/lift station expansions are anticipated between 2030 and 2050. The W-16 CITP (Intake PS) and W-19 Rolling Meadows PS would be located within a State Responsibility Area Moderate Fire Hazard Severity Zone. The W-17 Increase Capacity of Mockingbird PS, RW-2 Oleander PS Expansion (200 HP), RW-2 El Sobrante PS Expansion (150 HP), and WW-12 Markham Lift Station Ultimate Upgrades would be located within a State Responsibility Area High Fire Hazard Severity Zone. The W-18 Bergamont PS, RW-2 McAllister PS Expansion (200 HP), and WW-13 MARB 1269 Lift Station 1269 Upgrade Study would be constructed in a Local Responsibility Area, but not with a Fire Hazard Severity Zone.

The FMP would also include other improvements, such as a pressure reducing valve and a WWRF expansion study.

- The W-10 Highland Grove PRV would be located in a State Responsibility Area Moderate Fire Hazard Severity Zone.
- The WW-6 WWRF Expansion Study would be located within a Local Responsibility Area, but not within a Fire Hazard Severity Zone.

Vegetation (Fuels)

Vegetation and land cover types were identified for priority and near-term projects as part of the biological resources analysis in this Draft EIR (see Section 3.4 Biological Resources). The priority and near-term projects would be installed primarily on developed land, with small portions of ruderal and orchard. Small portions of several projects sites have shrubland alliance and non-native grassland onsite. The shrub and grassland communities have variable levels of native versus non-native plant species cover. Brush and grassland habitats are highly flammable while other vegetation, such as riparian communities or forest understory, are less flammable due to their perennially higher plant moisture content, fuel arrangement, ignition resistance, compact structure, and available shading from overstory tree canopies. Based on desktop review, the land cover types within future project areas primarily consist of developed and disturbed communities similar to the priority and near-term project locations.

Fire History

Fire history information can provide an understanding of fire frequency, fire type, most vulnerable locations, and significant ignition sources. The fire history data for the Riverside Retail Service Area is based on CAL FIRE’s California Statewide Fire Map that displays fires through 1950 and CAL FIRE’s Fire Resource Assessment Program (FRAP) database that assesses the amount and extent of California's forests and rangelands, analyzes their conditions, and identifies alternative management and policy guidelines. These tools show there is significant wildfire potential in the region and the potential for the proposed priority, near-term, and future projects to be subject to occasional wildfire encroachment, most likely originating from the open space areas near the proposed project site. According to data available from CAL FIRE’s California Statewide Fire Map (2026), there have been 21 fires within the Riverside Retail Service Area

since 2013 as presented in **Table 3.15-1**. Of these, the largest include the Juniper Fire of 2025, the Gavilan Fire of 2023, and the Candy Fire of 2020 (CAL FIRE 2017, 2018, 2019, 2020, 2023, 2024, 2025). The Juniper Fire of 2025 covered an area of 756 acres and burned along Idaleona Road and Juniper Road.

TABLE 3.15-1
FIRE HISTORY

Fire Name	Date	Acres Burned	Location
Fires within the Riverside Retail Service Area			
Eagle Fire	July 4, 2017	205	Off Tin Mine Rd & La Sierra Ave, west of Lake Mathews (Eagle Valley)
Meadow Fire	April 9, 2018	21	Tin Mine Rd, north of the Cajalco Expressway and west of Lake Mathews (Eagle Valley)
Sobrante Fire	July 28, 2018	30	El Sobrante Road at McAllister Street, north of Lake Matthews
Eagle Fire	October 10, 2019	9	Eagle Canyon Rd. and Cajalco Rd., southwest of Corona (Cajalco Canyon)
Sobrante Fire	November 1, 2019	19	Off of La Sierra Ave and Tin Mine Road, East of Corona. Northwest of Lake Mathews
Harley Fire	May 28, 2020	60	19000 Block of Gustin Road, East of Lake Mathews
Sierra Fire	June 8, 2020	100	La Sierra Avenue and Cajalco Road. Southwest of Lake Mathews
Candy Fire	September 29, 2020	227	Gavilan Road and Lake Mathews Dr, Perris in Riverside County
Day Fire	June 5, 2023	56	Day Street and Cajalco Road, near Mead Valley
Rider Fire	June 11, 2023	12	Cajalco Road and Rider Street, near Mead Valley
Gavilan Fire	June 15, 2023	336	Gavilan Road and Smith Road in Lake Matthews
Juniper Fire	June 27, 2023	68	Juniper Road and Santa Rosa Road, west of the City of Perris
Sierra Fire	November 20, 2023	35	La Sierra Avenue and El Sobrante Road, El Cerrito
Harford Fire	May 25, 2024	18	Harford Park Lane & Frantz Road, Lake Mathews
Luken Fire	July 2, 2024	18	Lukens Lane and Metz Road, unincorporated Perris
Post Fire	July 7, 2024	11	Post Road & San Jacinito Avenue, Perris
Walnut Fire	July 27, 2024	68	Near Walnut Street and Sunny Canyon Street in Riverside County
Mack Fire	August 10, 2024	63	Mack St. and Old Elsinore Rd, Mead Valley
Sierra Fire	May 21, 2025	20	La Sierra Avenue and Tin Mine Road, South of El Sobrante
Juniper Fire	June 30, 2025	756	Idaleona Road and Juniper Road, Unincorporated Perris
Cactus Fire	July 5, 2025	20	Cactus Avenue and Meridian Parkway, east of Riverside

Emergency Response

The City of Riverside 2025 General Plan identifies the City's major evacuation routes and existing infrastructure that can influence response times during a major disaster. The Safety Element identifies Interstate 215, Interstate 15, Route 60, Route 91, Van Buren Boulevard, Arlington Avenue, Magnolia Avenue, Tyler Street, Indiana Avenue, Jurupa Avenue, Central Avenue, Alessandro Boulevard, Mission Grove Parkway, Iowa Avenue, Chicago Avenue, University Avenue, and La Sierra Avenue as major evacuation routes (City of Riverside 2021). The County of Riverside General Plan Safety Element list key routes, as well as the associated communities, that would be used during an evacuation. For the Lake

Mathews/Woodcrest and Mead Valley area, evacuation routes include Interstate 15, Cajalco Road, and La Sierra Avenue (County of Riverside 2021).

3.15.2 Regulatory Framework

State

California Fire Code (California Code of Regulations Title 24, Part 9)

The California Fire Code is found in Title 24, Part 9, of the CCR, as a subsect of the California Building Code (CBC). The California Fire Code combines the Uniform Fire Code with amendments necessary to address California's unique needs. The California Fire Code (Title 24, Part 9, of the CCR) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The California Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the California Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The California Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

Typical fire safety requirements of the California Fire Code include: the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas. The California Fire Code applies to all occupancies in California, except where more stringent standards have been adopted by local agencies.

Cal/Occupational Safety and Health Administration (OSHA) Regulations (CCR Title 8)

Cal/OSHA has primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the Code of Federal Regulations (CFR). Cal/OSHA standards are generally more stringent than federal regulations. The use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

California Public Resources Code

The California Public Resources Code (PRC) was established in 1939 by the California Code Commission. The PRC contains law relating to natural resources, the conservation, utilization, and supervision thereof, along with mines and mining, oil and gas, and forestry. The following sections of the PRC are relevant to the proposed project:

PRC 4427

During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarpots, or grinding devices from which a spark, fire, or flame may originate, which is located on

or near any forest-covered land, brush-covered land, or grass-covered land, without doing both of the following:

(a) First clearing away all flammable material, including snags, from the area around such operation for a distance of 10 feet.

(b) Maintain one serviceable round point shovel with an overall length of not less than 46 inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

This section does not apply to portable power saws and other portable tools powered by a gasoline-fueled internal combustion engine.

PRC 4428

No person, except any member of an emergency crew or except the driver or owner of any service vehicle owned or operated by or for, or operated under contract with, a publicly or privately owned utility, which is used in the construction, operation, removal, or repair of the property or facilities of such utility when engaged in emergency operations, shall use or operate any vehicle, machine, tool or equipment powered by an internal combustion engine operated on hydrocarbon fuels, in any industrial operation located on or near any forest, brush, or grass-covered land between April 1 and December 1 of any year, or at any other time when ground litter and vegetation will sustain combustion permitting the spread of fire, without providing and maintaining, for firefighting purposes only, suitable and serviceable tools in the amounts, manner and location prescribed in this section:

(a) On any such operation a sealed box of tools shall be located, within the operating area, at a point accessible in the event of fire. This fire toolbox shall contain one backpack pump-type fire extinguisher filled with water, two axes, two McLeod fire tools, and a sufficient number of shovels so that each employee at the operation can be equipped to fight fire.

(b) One or more serviceable chainsaws of 3.5 horsepower or more with a cutting bar 20 inches in length or longer shall be immediately available within the operating area, or, in the alternative, a full set of timber-felling tools shall be located in the fire toolbox, including one crosscut falling saw 6 feet in length, one double-bit ax with a 36-inch handle, one sledge hammer or maul with a head weight of 6 pounds or more and handle length of 32 inches or more, and not less than two falling wedges.

(c) Each rail speeder and passenger vehicle, used on such operation shall be equipped with one shovel and one ax, and any other vehicle used on the operation shall be equipped with one shovel. Each tractor used in such operation shall be equipped with one shovel.

(d) As used in this section:

  (1) “Vehicle” means a device by which any person or property may be propelled, moved, or drawn over any land surface, excepting a device moved by human power or used exclusively upon stationary rails or tracks.

  (2) “Passenger vehicle” means a vehicle which is self-propelled and which is designed for carrying not more than 10 persons including the driver, and which is used or maintained for the transportation of persons but does not include any motortruck or truck tractor.

PRC 4431

During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate or cause to be operated in the area any portable saw, auger, drill, tamper, or other portable tool powered by a gasoline-fueled internal combustion engine on or near any forest-covered land, brush-covered land, or grass-covered land, within 25 feet of any flammable material, without providing and maintaining at the immediate locations of use or operation of the saw or tool, for firefighting purposes one serviceable round point shovel, with an overall length of not less than 46 inches, or one serviceable fire extinguisher. The Director of Forestry and Fire Protection shall by administrative regulation specify the type and size of fire extinguisher necessary to provide at least minimum assurance of controlling fire caused by use of portable power tools under various climatic and fuel conditions. The required fire tools shall at no time be farther from the point of operation of the power saw or tool than 25 feet with unrestricted access for the operator from the point of operation.

PRC 4442

(a) Except as otherwise provided in this section, no person shall use, operate, or allow to be used or operated, any internal combustion engine which uses hydrocarbon fuels on any forest-covered land, brush-covered land, or grass-covered land unless the engine is equipped with a spark arrester, as defined in subdivision (c), maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443.

(b) Spark arresters affixed to the exhaust system of engines or vehicles subject to this section shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.

(c) A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles over 0.0232 inches in size from the exhaust flow of an internal combustion engine that uses hydrocarbon fuels or which is qualified and rated by the United States Forest Service.

(d) Engines used to provide motive power for trucks, truck tractors, buses, and passenger vehicles, except motorcycles, are not subject to this section if the exhaust system is equipped with a muffler as defined in the Vehicle Code.

(e) Turbocharged engines are not subject to this section if all exhausted gases pass through the rotating turbine wheel, there is no exhaust bypass to the atmosphere, and the turbocharger is in effective mechanical condition.

(f) Motor vehicles when being operated in an organized racing or competitive event upon a closed course are not subject to this section if the event is conducted under the auspices of a recognized sanctioning body and by permit issued by the fire protection authority having jurisdiction.

California Building Code

The CBC includes regulations that are consistent with nationally recognized standards of good practice, intended to facilitate protection of life and property. Among other things, its regulations address the mitigation of the hazards of fire explosion, management and control of the storage, handling and use of hazardous materials and devices, mitigation of conditions considered hazardous to life or property in the use or occupancy of buildings, and provisions to assist emergency response personnel.

Chapter 7 of the CBC details the materials, systems, and assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area. A Wildland-Urban Interface Area is defined in Section 702A as a geographical area identified by the areas of a fire hazard severity zones in accordance with Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Fire hazard severity zones are geographical areas classified as Very High, High, or Moderate in State Responsibility Areas or as Local Responsibility Areas as Very High Fire Hazard Severity Zones. Fire hazard severity zones, which are determined based on factors such as fuel, slope, and fire weather, do not predict when or where a wildfire will occur, but they do identify the degree of fire hazard (very high, high or moderate). The CBC details the materials, systems, and assemblies used for structural fire resistance and fire-resistance-rated construction separation of adjacent spaces to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings.

The City of Riverside adopted the California Building Standards Code in 2020, which also includes the 2019 California Fire Code (City of Riverside 2020).

Local

County of Riverside General Plan

The following policies of the County of Riverside General Plan are related to wildfires:

Wildland Fire Hazard:

LMWAP 15.1: Protect life and property from wildfire hazards through adherence to the Fire Hazards section of the Safety Element.

Building Code and Performance Standards

Policy S 4.1. All development and construction within Fire Hazard Severity Zones shall be reviewed by the Riverside County Fire Department and Building and Safety Department for consistency with the following requirements before the issuance of any building permits.

a. All proposed development and construction shall meet minimum state, county, and local standards and other legal requirements for fire safety, as defined in the Riverside County Building or Fire Codes, or by County zoning, or as dictated by the Building Official or the Transportation Land Management Agency, based on building type, design, occupancy, and use.

b. In addition to the standards and guidelines of the California Building Code, California Fire Code, the Riverside County Code of Ordinances, Title 14 of the California Code of Regulations, and other appropriate fire safety provisions, developments shall incorporate additional standards for high-risk, high-occupancy, and dependent facilities where appropriate under the Riverside County Fire Code (Ordinance No. 787) Ordinance. These shall include assurance that structural and nonstructural architectural elements of the building will not impede emergency egress for fire safety staffing/personnel, equipment, and apparatus; nor hinder evacuation from fire, including potential blockage of stairways or fire doors.

c. Proposed development and construction in Fire Hazard Severity Zones shall provide secondary public access, in accordance with Riverside County ordinances, where required. There shall be multiple points of ingress and egress that allow for emergency response vehicle access. Points of access shall also include visible street addresses and signs and

sufficient water supplies, infrastructure for structural fire suppression, and other applicable local and state requirements.

d. Proposed development and construction in Fire Hazard Severity Zones shall use single loaded roads to enhance fuel modification areas, unless otherwise determined by the Riverside County Fire Chief.

e. Proposed development and construction in Fire Hazard Severity Zones shall provide a defensible space or fuel modification zones to be located, designed, constructed, and maintained to provide adequate defensibility from wildfires.

f. Prior to the approval of all parcel maps and tentative maps, the County shall require, as a condition of approval and as feasible and appropriate, the developer meet or exceed the State Responsibility Area Fire Safe Regulations and the Fire Hazard Reduction Around Buildings and Structures Regulations, particularly those regarding road standards for ingress, egress, and fire equipment access (see Gov. Code, Section 66474.02.)

g. Proposed development and construction of more than four residential units or more than 10,000 square feet of nonresidential space located in Very High Fire Hazard Severity Zones, or other appropriate zones as determined by the Riverside County Fire Department, shall submit and implement a fire protection plan as feasible and appropriate. This plan shall include provisions for roadways and access, firefighting infrastructure, signage, vegetation management, construction materials, and evacuations.

City of Riverside General Plan

The following is a selected list of General Plan goals, objectives, and polices that are applicable to the proposed project respective to wildfires (City of Riverside 2007).

Objective PS-3: Minimize risks associated with the storage, transport and disposal of hazardous materials.

Policy PS-3.2: Provide the Fire Department with resources to ensure that hazardous materials used and generated by businesses are handled properly.

Objective PS-6: Protect property in urbanized and nonurbanized areas from fire hazards

Policy PS-6.1: Ensure that sufficient fire stations, personnel and equipment are provided to meet the needs of the community as it grows in size and population.

Policy PS-6.2: Endeavor to meet/maintain a response time of five minutes for Riverside's urbanized areas.

Policy PS-6-3: Integrate fire safety considerations in the planning process.

Policy PS-6.4: Evaluate all new development to be located in or adjacent to wildland areas to assess its vulnerability to fire and its potential as a source of fire.

Policy PS-6.5: Mitigate existing fire hazards related to urban development or patterns of urban development as they are identified and as resources permit.

Policy PS-6.6: Continue to implement stringent brush-clearance requirements in areas subject to wildland fire hazards.

Policy PS-6.7: Continue to involve the City Fire Department in the development review process.

Policy PS-6.8: Pursue strategies that maintain the City's Class 2 ISO rating.

Policy PS-6.10: Identify noncontiguous streets and other barriers to rapid response and pursue measures to eliminate the barriers.

Objective PS-9: Minimize the effects from natural and urban disasters by providing adequate levels of emergency response services to all residents in Riverside.

Policy PS-9.8: Reduce the risk to the community from hazards related to geologic conditions, seismic activity, flooding, and structural and wildland fires by requiring feasible mitigation of such impacts on discretionary development projects.

3.15.3 Impact Analysis and Mitigation Measures

Thresholds of Significance

The following criteria from CEQA Guidelines Appendix G are used as thresholds of significance to determine the impacts of the proposed project as related to wildfire. If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zone, the proposed 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, and other factors, exacerbate wildfire risks, 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.
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.
5. Result in a cumulatively considerable impact to wildfire.

Impact Analysis

Emergency Response Plan

Impact 3.15-1: The proposed project could substantially impair an adopted emergency response plan or emergency evacuation plan.

Priority, Near-Term, and Future Projects

All Facilities

All of the proposed project pipelines would mostly be constructed within public rights-of-way. Construction of the RW-1 Meridian West Pipelines and RW-1 Orangecrest Supply Pipelines would occur on Van Buren Boulevard, which is identified as an evacuation route by the City of Riverside. Pipeline installation would require localized closure of traffic lanes within roadways and associated detours. Potential road closures or detours could congest local roadways that could be used by the public and emergency responders if an emergency or disaster were to occur. Particular, construction and lane closures associated with RW-1 Meridian West Pipelines could interfere with a City-designated evacuation route. Impacts would be potentially significant. As a result, **Mitigation Measure TRA-1** would require

preparation of a Traffic Control Plan and other measures to ensure that impacts to emergency evacuation routes do not occur as a result of the proposed project. The mitigation measure would be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate emergency access and circulation. The Construction Traffic Control Plan would be coordinated with the City of Riverside and County of Riverside, and provided to emergency responders, including fire departments, police departments, and ambulances that have jurisdiction within the proposed Program area. Therefore, with implementation of Mitigation Measure TRA-1 construction of pipelines would not impair or physically interfere with emergency response teams or an evacuation plan. Impacts would be less than significant with implementation of mitigation.

Project construction for the storage tanks and pump/lift stations would be located within existing WMWD facilities or undeveloped areas and would not impact evacuation routes within rights-of-way. Impacts would be less than significant.

Operation and maintenance activities for the proposed project would be substantially similar to current conditions respective to emergency response and evacuation. No operation-related activities would occur within surrounding rights-of-way or along evacuation routes. Site access for operation and maintenance vehicles would be through the public and private rights-of-way that were used during construction. The proposed project would not result in impacts on emergency response plans or emergency evacuations. As a result, no impact would occur.

Mitigation Measures

Implement Mitigation Measure TRA-1

Significance Determination

Less than Significant with Mitigation

Exposure to Wildfire Pollutant Concentrations

Impact 3.15-2: Due to slope, prevailing winds, and other factors, the proposed project could exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Priority, Near-Term, and Future Projects

All Facilities

The majority of proposed project sites are located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, as listed above in Section 3.15.1, *Environmental Setting*. The W-2 Blackburn Road Pipeline Upsizing, W-3 Cedar Street and Avenue D Pipeline Upsizing, W-25 Barranca Pipeline Upsizing, and the W-4 Hillside 2320 PZ Booster Pump Station and Pipeline sites include slopes that are susceptible to prevailing winds. In addition, the RW-1 Idaleona Drive and RW-1 El Sobrante PS Expansion (150 HP) sites are adjacent to areas with highly flammable vegetation. The W-7 New 3 MG Hidden Valley Tank and W-6 New 1.5 MG El Nido Tank would be located within existing facilities surrounded by steep slopes. During construction, equipment and on-site diesel fuel could pose a risk to wildfire with possible ignition sources such as internal combustion engines, gasoline-powered tools, and equipment that could produce a spark, fire, or flame. The use of spark-producing

construction machinery within fire risk areas could expose temporary project workers and contractors to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire, resulting in a potentially significant impact. However, all personnel on the project site would have to comply with PRC Sections 4427, 4428, 4431, and 4442, which include regulations relating to the handling of combustible fuels and equipment that can exacerbate fire risks. During construction, strict adherence to these PRC sections would ensure that contractors are responsible for all monitoring and safety measures ensuring that any risk to exacerbate wildfire would be reduced. Additionally, all construction must comply with fire protection and prevention requirements specified by the CCR and Cal/OSHA. This includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. Furthermore, implementation of **Mitigation Measure WDF-1** would be required to ensure fire hazard reduction measures are implemented during proposed project activities to further reduce the potential for wildfire impacts on project workers. As a result, impacts would be reduced to a less-than-significant level with mitigation.

As discussed above, several of the proposed projects are located within a State Responsibility Area or Very High Fire Hazard Severity Zone and include slopes susceptible to prevailing winds. Brush and grassland habitats within and adjacent to some of the project sites are highly flammable. The proposed projects would involve expansion of WMWD's existing water, recycled water, and wastewater infrastructure and would not increase slope susceptibility to prevailing winds within the project areas. Operation-related activities would involve a limited number of maintenance trucks for inspections and material delivery. These trucks would be limited to established access roads and would have a low potential of producing sparks, fire, or flame that could result in uncontrolled spread of wildfire. Nevertheless, due to the topography and wildfire risk associated with the project sites mentioned above, operators of the proposed project site would comply with PRC Sections 4427, 4428, 4431, and 4442, which include regulations relating to the handling of combustible fuels and equipment that can exacerbate fire risks, and WMWD would require implementation of Mitigation Measure WDF-1. As a result, impacts would be reduced to a less-than-significant level with mitigation.

Mitigation Measures

WDF-1: Fire Hazard Reduction Measures. Prior to commencement of construction within State Responsibility Areas or areas designated as Very High Fire Hazard Severity Zones (VHFHSZs) by CAL FIRE, the project applicant shall prepare and implement a fire management plan, subject to review and approval by the applicable fire protection agency. The plan shall establish fire prevention, monitoring, and emergency response procedures for all construction activities. The plan shall address all staging areas, welding areas, or construction areas where spark-producing equipment may be used. These areas shall be cleared of dried vegetation, combustible materials, or other ignition sources prior to the commencement of construction activities. All construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. Construction vehicles and crews shall have immediate access to functional fire extinguishers at all times while working on-site. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. Implementation of the plan shall minimize the potential for construction-related wildfire ignitions and associated wildfire hazards.

Significance Determination

Less than Significant with Mitigation

Infrastructure that Exacerbates Wildfire Risk

Impact 3.15-3: The proposed project could 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.

Priority, Near-Term, and Future Projects

All Facilities

The proposed project includes construction and operation of new proposed pipelines, pump/lift stations, storage tanks, and WWRF treatment facility expansion to support the expansion of the Riverside Retail Service Area. This new infrastructure does not pose additional risk to exacerbation of wildfires other than what is discussed in Impact 3.14-2 above. A majority of the priority and near-term projects would be installed at existing WMWD facilities and would not involve new electrical lines that could exacerbate fire risk. There are some near-term and future facilities that could be located in areas that require new electrical connections that could exacerbate fire risk, resulting in a potentially significant impact. All infrastructure installed as part of the project during operation and maintenance will adhere to CCR Title 24, the CBC, and County of Riverside Safety Element, and would be required to implement fire reduction measures as outlined in Mitigation Measure WDF-1. Adherence to applicable laws and regulations and implementation of Mitigation Measure WDF-1 would reduce impacts to a less-than-significant level.

Mitigation Measures

Implement Mitigation Measure WDF-1

Significance Determination

Less than Significant with Mitigation

Post-Fire Slope or Drainage

Impact 3.15-4: The proposed project could expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Priority, Near-Term, and Future Projects

All Facilities

The movement of substantial quantities of soil and earth materials has the potential to result in landslides as a result of runoff or drainage changes during construction. Given that the size of the proposed project exceeds one acre in totality, the project would be required to comply with the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ) (Construction General Permit) and local stormwater ordinances. These state and local requirements were developed to ensure that erosion is controlled on construction sites. The Construction General Permit requires preparation and implementation of a SWPPP, which requires applications of BMPs to control runon and runoff from construction work sites. The BMPs would include, but would not be

limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. In the event that a wildland fire is followed by a rain event, and results in downstream flooding or landslides as a result of post-fire runoff, the BMP measures required to be implemented under the SWPPP would reduce the risk of runoff, post-fire slope instability, and drainage changes. With compliance with existing regulations, impacts would be less than significant.

Once constructed, the proposed projects would be designed to withstand a variety of site conditions to maintain capacity for the purpose of water conveyance, pumping, and storage. Infrastructure for the conveyance of water would remain underground and would not expose people or structures to significant risks. The pump/lift station and storage tanks at WMWD facilities may require periodic maintenance including periodic removal of accumulated sediment and debris, replacement of non-operational machinery, and inspection and maintenance of all structures. Onsite personnel could be put at risk should landslides or flooding occur as a result of wildland fires. However, the facility sites are maintained and fortified with fencing that would prevent flooding or landslides at the site. Operation of the proposed project would be managed in a manner that would not result in runoff, post-fire slope instability, or drainage changes as a result of potential wildland fire. As a result, impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less-than-Significant Impact

Cumulative Impacts

Impact 3.15-5: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative short-term and long-term impacts to wildfire.

Portions of the western and southern Riverside Retail Service Area are largely undeveloped open space areas susceptible to wildland fires. The majority of the service area outside of the City of Riverside is located within State Responsibility Areas or Local Responsibility Area Very High Fire Hazards Severity Zones. Future cumulative development projects identified in Table 3-2 would involve residential, commercial, and industrial development. Additionally, Cumulative Future Infrastructure Projects, which would include infrastructure projects to be implemented through the year 2050, would be implemented to support future development. The addition of more development within the service area could expose people or structures to a significant risk of loss, injury or death involving wildland fires. Since there would be potential for future projects and the Riverside FMP projects to be located within or adjacent to areas with high wildland fire risks, impacts would be cumulatively considerable. The proposed project would be required to implement Mitigation Measure WDF-1, which would implement fire hazard reduction measures, and Mitigation Measure TRA-1, which would implement a Traffic Control Plan, both of which would reduce impacts to a less-than-significant level. Other cumulative projects would be required to implement similar mitigation measures to reduce impacts to wildland fires. As a result, the project's

contribution to cumulative wildfire impacts would be less than cumulatively considerable. As a result, a less-than-significant cumulative aesthetics impact would occur.

Mitigation Measures

Implement Mitigation Measure WDF-1 and TRA-1

Significance Determination

Less than Significant with Mitigation

3.15.4 References

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CHAPTER 4
Other CEQA Considerations

4.1 Significant and Unavoidable Adverse Environmental Impacts

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

4.2 Significant Irreversible Environmental Changes

CEQA Section 21100(b)(2) and CEQA Guidelines Section 15126.2(b) require that any significant effect on the environment that would be irreversible if the pro is implemented must be identified. A project would generally result in a significant irreversible impact if:

- Primary and secondary impacts (such as roadway improvements that provide access to previously inaccessible areas, etc.) would commit future generations to similar uses.
- The project would involve a large commitment of nonrenewable resources.
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project.

Construction and operation of the proposed projects would require the use and consumption of nonrenewable resources, such as steel and other metals. Renewable resources, such as lumber and other wood byproducts, would also be used. Unlike renewable resources, nonrenewable resources cannot be regenerated over time. Construction of facilities would require the commitment of a relatively small amount of building materials. The small quantity of building materials used during implementation of proposed projects would not result in a significant impact because these types of resources are anticipated to be in adequate supply into the foreseeable future.

Energy would be consumed during both construction and operation of the proposed project. Nonrenewable resources and energy would also be consumed during the manufacturing and transportation of building materials, preparation of the site, and construction and site restoration

activities. The projects would not result in the wasteful, inefficient or unnecessary consumption of energy during construction or operation. The proposed program would result in the irretrievable and irreversible commitment of energy resources in the form of diesel fuel, gasoline and electricity during construction and operation. However, these types of resources are anticipated to be in adequate supply into the foreseeable future. Therefore, impacts due to these irretrievable and irreversible commitments of resources are considered less than significant.

CHAPTER 5
Growth Inducement

5.1 Introduction

The California Environmental Quality Act (CEQA) Guidelines (Section 15126.2(d)) require that an environmental impact report (EIR) include a discussion regarding the potential for project-related growth inducing impacts. The CEQA Guidelines provide the following guidance for the discussion and consideration of growth-inducing impacts:

> *Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have direct and/or indirect growth inducement potential. An example of a project that is directly growth-inducing is one that involves construction of new housing. An example of an indirectly growth-inducing project is one that requires a substantial new 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.

Water supply availability and service is one of the chief, though not the only, public services needed to support development. Implementation of the proposed Riverside Facilities Master Plan (FMP) would provide the water, recycled water, and wastewater system infrastructure necessary to meet projected growth within the Western Municipal Water District (WMWD; Western) through 2050. As such, implementation of the proposed project may help to remove water and recycled water supply availability and sewer capacity as obstacles to further development and population growth (as projected by local planning documents) within WMWD's Riverside Retail Service Area, which are expected to experience new development and growth by 2050. While available water/recycled water supply and sewer capacity would play a role in supporting project growth in the WMWD Riverside Retail Service Area, they would not be the single impetus to such growth. Other factors, including general plans and policies, public schools, transportation services, and other important public infrastructure, also influence business and residential or population growth. Economic factors, in particular, greatly affect development rates and locations.

5.2 Methodology

In accordance with the CEQA Guidelines, implementation of the proposed project could have an indirect growth inducement potential. As indicated in the CEQA Guidelines excerpt above, growth inducement itself is not necessarily an adverse impact. Rather, it is the potential consequences of growth, the secondary effects of growth, which may result in environmental impacts. Potential secondary effects of growth include increased demand on other public services; increased traffic and noise; degradation of air quality; loss of plant and animal habitats; and the conversion of agriculture and open space to developed uses. Growth inducement may result in adverse impacts if the growth is not consistent with local land use plans and growth management plans and policies for the area; this "disorderly" growth could indirectly result in additional adverse environmental impacts. Thus, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

This section analyzes the nature and extent of growth inducement potential for the proposed project. The analysis includes an assessment of existing and projected population levels, and existing and projected water and recycled water supply and demand, as well as a discussion of conformance with pertinent general plans. Growth inducement potential is then assessed.

5.3 Project Area Population and Water Demand Projections

5.3.1 Population and Population Projections

Western provides water supply, wastewater treatment and disposal, and water resource management to nearly one million people in a service area covering roughly 527 square miles. WMWD's service area is located in western Riverside County, approximately 50 miles east of Los Angeles. Western provides wholesale water supplied via the Metropolitan Water District of Southern California (Metropolitan) to cities such as Corona, Norco and Riverside, and the water agencies serving Box Springs, Eagle Valley, Elsinore Valley, Temescal Valley, and Temecula. Western also provides retail water service to approximately 25,000 customers in portions of unincorporated Riverside County around Lake Mathews, the City of Murrieta, and unincorporated Riverside County south of the City of Temecula.

The Riverside FMP identifies water, wastewater, and recycled water infrastructure needs within WMWD's Riverside Retail Service Area, which is generally bounded by the City of Riverside to the north, the City of Moreno Valley to the east, the City of Lake Elsinore to the south, and the City of Corona to the west. The Riverside Retail Service Area encompasses approximately 104 square miles, providing retail service within portions of the cities of Riverside, as well as unincorporated areas of Riverside County, such as the communities of El Sobrante, Eagle Valley, Temescal Creek, Woodcrest, Lake Mathews, and March Air Reserve Base. Because the Riverside Retail Service Area boundaries do not overlap exactly with any one municipality, unincorporated portions of Riverside County and the City of Riverside historical population data were used as a baseline. From 2010 to 2020, population within all communities of the Riverside Retail Service Area increased except for March Air Reserve Base, as shown in **Table 5-1**.

TABLE 5-1
HISTORICAL POPULATION GROWTH

	Population 2010	Population 2020	Percent Change
Riverside County			
Woodcrest	14,347	15,378	+7.2%
Mead Valley	18,510	19,819	+7.1%
Lake Mathews	5,890	5,972	+1.4%
March ARB	1,159	809	-30.2%
City of Riverside	303,871	314,998	3.7%

Note: Population Information not available for areas immediately north and northeast of Lake Mathews, as well as southeast past the Lake Mathews community.

Source: The Press Enterprise 2021.

As shown in Table 5-1, the City of Riverside experienced population growth of nearly 4 percent from 2010 to 2020. Unincorporated portions of Riverside County experienced the greatest population growth, with areas in the northern and central/southern portions of the Riverside Retail Service Area experiencing population growth upwards of 7 percent (Woodcrest and Mead Valley areas). The only area with a decline in population was within the March Air Reserve Base, which experienced a 30 percent decline. Riverside County added more inhabitants than any other county in California, growing from the period of 2010 to 2020 by 228,544 new residents. The growth within the Riverside Retail Service Area mimics general patterns in Riverside County but is less pronounced than other areas with growth rates of 30 percent.

As explained in the 2020 UWMP, population estimates for WMWD's Western Retail Service Area were developed using demographic projections from the Southern California Association of Governments (SCAG) Connect SoCal: The 2020-2045 Regional Transportation Plan/Sustainable Community Strategy (SCAG 2020). SCAG routinely forecasts population, housing, and employment estimates as well as develops transportation plans to support growing population and housing needs throughout the region. SCAG provided updated population, housing, and employment estimates for 2020, 2035, and 2045. This data is organized by Transportation Analysis Zones (TAZ). Because TAZ do not align with Western's service area, a geographical analysis in ArcGIS was used to determine the growth that is projected to occur within Western's service area. For intermediate years, the average annual rate of growth was determined and applied to find the population for 2025, 2030, and 2040. Population within the Western Retail Service Area was estimated in the 2020 UWMP using a 2.2 percent increase and is based on growth rates established in recent master planning efforts. SCAG growth estimates for Western's Riverside Retail Service Area did not appear to accurately represent near term future growth when compared to project development and permitting records. As a result, modifications to the Riverside Retail Service Area population were made in the 2020 UWMP to better represent recent trends in growth that are anticipated to continue. The population estimates included in the UWMP are presented below in **Table 5-2**. These projections predict that the Riverside Retail Service Area will increase in population by 53 percent from 2025 to 2045.

TABLE 5-2
POPULATION PROJECTIONS

	2025	2030	2035	2040	2045
Riverside Retail Service Area	87,652	97,260	107,981	120,293	134,013

Source: UWMP, WMWD 2022.

5.3.2 Water and Recycled Water Supply and Demand

Western's Riverside Service Area consists of 21 pressure zones, over 565 miles of pipe, 16 storage tanks and 12 pump stations to provide potable water to more than 27,000 connections spread over more than 100 square miles (WMWD 2025). The Riverside Retail Service area obtains approximately 60 percent of its potable water supply from Metropolitan (WMWD 2022), receiving treated imported water via the State Water Project from the Mills Water Treatment Plant. The remainder of Western's water is supplied through local partnerships/agreements and groundwater sources. Local agreements are in place with the City of Riverside, the Meeks and Daley Water Company, and Chino Basin utility providers, while groundwater sources include the San Bernardino Basin Area, Chino Basin, and the Temecula Valley Basin. No surface or stormwater sources are used in the Riverside Retail Service Area. Future demand for potable water is dependent on new development in the Riverside Retail Service Area.

Non-potable/recycled water is supplied to the Riverside Retail Service Area via the Western Water Recycling Facility (WWRF), the Riverside Canal, and the Colorado River Aqueduct. The Colorado River Aqueduct and Riverside Canal provide non-potable water to the recycled water system, while the WWRF supplies Title 22 recycled water to the recycled water system. The non-potable/recycled water system includes seven pressure zones, approximately 62 miles of pipelines 6 storage reservoirs, and 11 pump stations. The Riverside Retail Service Area is the only portion of Western's service area that uses recycled water. [1] The WWRF, which is owned and operated by Western, was expanded in 2011 to a capacity of 3 MGD tertiary treatment and delivers recycled water to customers including the Riverside National Cemetery, General Archie Old Golf Course, schools, parks, groves, and nurseries. In 2020, Western delivered 1,760 AFY tertiary treated water to customers within the Riverside Retail Service Area (WMWD 2022). The Riverside Canal inputs to the recycled water system in the northern portion of the service area. The Colorado River Aqueduct bifurcates the service area south of Lake Mathews and provides recycled water to the southern portion of the service area. Future demand for recycled water is dependent on new development in the Riverside Retail Service Area. Increasing the available supply of recycled water will allow customers who currently use non-potable water from the Colorado River Aqueduct and Riverside Canal to switch to a more drought- proof local supply for their non-potable water needs (WMWD 2022).

Within the Riverside Retail Service Area, Western has identified future developments associated with the near-term (before 2030) and buildout (after 2030) scenarios that would require expansion of potable and recycled water demand. The existing or priority projects would require an average potable daily demand

[1] The Western Riverside County Regional Wastewater Authority (WRCRWA) Treatment Plant, operated by Western and owned by a joint powers authority composed of the cities of Norco and Corona, Jurupa Community Services District, Home Gardens Sanitary District, and Western, currently discharges all flows to the Santa Ana River and has no infrastructure to deliver treated water to Western's service area.

of up to 12,400 gallons per minute (gpm) (maximum daily demand of 24,800 gpm). The near-term future developments would require an average potable daily demand of up to 21,000 gpm (maximum daily demand of 42,000 gpm). The future projects would require an additional average potable daily demand of up to 30,000 gpm (maximum daily demand of 60,000 gpm) (WMWD 2025). For recycled water, the maximum daily demand for near-term projects would be 1,092 gpm and an additional 2,072 gpm for the future scenario (WMWD 2025). Wastewater demand is projected to be 1.95 MGD for the near-term scenario and an additional 2.91 MGD for the future scenario. To accommodate these developments and associated water/recycled water supply, Western has identified projected potable and recycled water demand as shown in **Table 5-3** within the Riverside Retail Service Area. The increase in demand totals a 56 percent increase from 2025 to 2040, which is directly correlated to the population projection increase identified in Table 5-2 of 53 percent.

TABLE 5-3
WESTERN'S RIVERSIDE RETAIL SERVICE AREA PROJECTED WATER DEMAND

Source	2025	2030	2035	2040	2045
Riverside Retail Service Area					
Potable	22,119	24,675	27,527	30,709	34,258
Recycled	5,555	6,426	7,168	7,997	8,921
Total	**27,674**	**31,101**	**34,695**	**38,705**	**43,178**

Source: UWMP, WMWD 2022, Table 10-3

To accommodate planned growth within its retail service areas, Western is anticipated to increase potable water supplies from Metropolitan by approximately 118 percent from 2025 to 2045, as shown in **Table 5-4**. Other increases include groundwater extraction and treatment from the Chino Desalter and the Temecula Valley Basin. Supply from the Meeks and Daley system are projected to remain fairly flat through 2045, while extra surplus from the City of Riverside is not factored into supply projections moving forward. While the numbers presented in Table 5-4 are for Western's retail service areas, which include the Murrieta and Rainbow retail service areas, supply in the Riverside Retail Service Area is limited to imported water, City of Riverside surplus, and the owned portion of the Meeks and Daily supply. Regarding non-potable (recycled) water, supplies from the Colorado River Aqueduct are expected to decrease from 2025 levels by 2030 to 2040, and increase again to 2025 levels by 2045. Supply is anticipated to increase by threefold in the Riverside Canal from 2020 to 2045. Increased production is also expected from 2025 to 2045 from the WWRF (108 percent). As shown in Table 5-4, the overall potable and non-potable water supply within Western's retail service areas is anticipated to increase by 55 percent from 2025 to 2045, which is directly related to the projected demand increase of 56 percent identified in Table 5-3 within the Riverside Detail Service Area.

TABLE 5-4
WESTERN RETAIL CURRENT AND PROJECTED WATER SUPPLY

Source	2020	2025	2030	2035	2040	2045
Potable						
Metropolitan	12,004	14,680	19,306	22,293	26,181	31,928
Chino Desalter[A]	0	3,534	3,534	3,534	3,534	3,534
Temecula Valley Basin Groundwater	399	1,452	1,452	1,452	1,452	1,452
Leased Meeks and Daley	4,208	4,680	4,680	4,680	4,680	4,680
Western Owned Meeks and Daley	226.52	225.52	225.52	225.52	225.52	225.52
City of Riverside Surplus	3,163	2,000	0	0	0	0
Eastern	1,834[B]	500[C]	1,000	1,500	1,500	0
Total	**21,834**	**27,073**	**30,199**	**33,686**	**37,574**	**41,821**
Non-Potable (Recycled)						
Metropolitan (CRA)	1,819	1,671	1,300	1,300	1,300	1,681
Riverside-Arlington Basin Groundwater (Riverside Canal)	1,332	2,500	3,131	3,104	3,465	4,100
WWRF	1,758	1,940	2,598	3,481	4,032	4,032
WRCWRA	0	920	997	1,079	1,169	1,266
Total	**4,909**	**7,031**	**8,066**	**8,964**	**9,966**	**11,079**
Total Supply	**26,743**	**34,104**	**38,265**	**42,650**	**47,540**	**52,900**

A = Western Retail owns 3,534 AFY of capacity in the Chino II Desalter. However, Western Retail does not currently use this source and as a result leases it to Jurupa Community Services District.
B = Eastern Murrieta
C = Eastern North Perris Agreement
Source: UWMP, WMWD 2022, Tables 9-4 and 9-5

5.4 Growth Inducement Potential

Implementation of the Riverside FMP would not have a direct growth inducement effect, as it does not propose development of new housing that would attract additional population to the area. Further, implementation of the proposed project would not result in substantial permanent employment that could indirectly induce population growth. Although construction of the priority, near-term and future projects would create some short-term construction employment opportunities over the duration of project activities through 2050, the amount of opportunities created would not require persons outside of the existing western Riverside County work force.

The proposed project's objectives include providing water, wastewater, and recycled water services and infrastructure that meet the existing requirements (quantity, system pressure, and reliability) and projected demands within the Riverside Retail Service Area. The proposed project expects to achieve these goals by implementing the recommended projects in the Riverside FMP's CIP that will address existing system deficiencies and provide facilities necessary to meet future growth. However, the Riverside FMP would not be creating a new or expanded water or recycled water supply, or increasing availability of wastewater services, that could create an indirect growth inducement potential. Potential expansion of wastewater treatment capacity at the WWRF would accommodate the planned growth anticipated within the service area.

The local jurisdictions that govern land use and development in the Riverside Retail Service Area include the City of Riverside and the County of Riverside. The adopted General Plan documents guide the type, location, and level of land use and development. Both of these jurisdictions have assessed the growth-related impacts associated with planned land use and growth allowed under their General Plans and the CEQA EIRs they have prepared for those plans. In addition, SCAG, the regional authority charged with providing a framework for coordination of orderly regional growth and development, recently prepared the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (referred to as Connect SoCal) (SCAG 2020). The RTP/SCS acts as a long-term planning and management plan for the regional transportation system, providing a strategy for accommodating projected population growth and identifying mitigation measures to off-set the impacts of projected growth (SCAG 2020). The Final RTP/SCS Program EIR programmatically analyzes environmental impacts from transportation projects as well as regional land use development, and identifies significant unavoidable impacts in a number of issue areas (SCAG 2020).

Western does not have the authority to make land use decisions to halt or alter growth and development patterns or approvals, nor does it have the authority to address many of the potentially significant, secondary effects of planned growth. Authority to implement those measures lies with the City of Riverside and the County of Riverside. Western does have the authority to take actions and implement projects to help mitigate the secondary effects of growth on water or recycled water resources and wastewater services within the service area.

While the Riverside FMP would provide future water system infrastructure to meet future growth within Western's service area, the components to be constructed as part of the project would support planned population growth that has been identified within the service area. The Riverside FMP would not be creating a new water or recycled water supply that would induce future growth. Rather, as a capital improvement plan, the improvements would accommodate the population growth already planned by SCAG, the City of Riverside, and the County of Riverside, such that water, recycled water, and wastewater infrastructure reliability would not be an impediment to already-planned growth. Additionally, the majority of the proposed facilities would be implemented in phases from 2023 to 2050. As such, the most up-to-date current and projected water demand estimates would be assessed by Western prior to implementing future facilities. Facilities would not be implemented if they are not determined necessary to deliver water or recycled water or provide wastewater services to meet demand. For instance, many of the projects would support future residential neighborhoods and commercial developments identified by the City of Riverside and the County of Riverside. If those residential neighborhoods are never built, water and recycled water supply and wastewater services provided by Western to those neighborhoods and developments would not be needed, and associated Riverside FMP infrastructure would not be constructed. As a result, the Riverside FMP neither supports nor encourages growth within the Western service area to a greater degree than presently estimated by the City of Riverside of County of Riverside as described above, as land use jurisdictions over the project area. The Riverside FMP would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, impacts to growth inducement would be less than significant.

5.5 References

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CHAPTER 6
Alternatives Analysis

6.1 CEQA Requirements for Alternatives Analysis

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) describe and evaluate a reasonable range of feasible alternatives to a project, or to the location of a project, that would attain most of the project objectives and avoid or substantially lessen significant project impacts. The alternatives analysis must also include the "No Project Alternative" as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the project were not approved (CEQA Guidelines Section 15126(d)). The environmental impacts associated with the alternatives are evaluated relative to the impacts associated with the proposed project.

CEQA Guidelines (Section 15126.6) set forth the following criteria for alternatives:

- **Identifying Alternatives.** The range of alternatives is limited to those that would avoid or substantially lessen any of the significant effects of the project, are feasible, and would attain most of the basic objectives of the project. Factors that may be considered when addressing the feasibility of an alternative include site suitability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, economic viability, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site. An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. The specific alternative of 'no project' shall also be evaluated along with its impact.
- **Range of Alternatives.** An EIR need not consider every conceivable alternative, but must consider a reasonable range of alternatives that will foster informed decision-making and public participation. The "rule of reason" governs the selection and consideration of EIR alternatives, requiring that an EIR set forth only those alternatives necessary to permit a reasoned choice.
- **Evaluation of Alternatives.** EIRs are required to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the project. Matrices may be used to display the major characteristics of each alternative and significant environmental effects of each alternative to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed but in less detail than the significant effects of the project.

6.1.1 Project Objectives

The primary objectives of the proposed Riverside Facilities Master Plan (FMP) are to:

- Provide water, wastewater, and recycled water services that meet the quantity, system pressure, and reliability requirements of the Riverside Retail Service Area;
- Ensure water, wastewater, and recycled water system infrastructure is sufficient to meet projected demands within the Riverside Retail Service Area;
- Maintain and enhance water quality through treatment system improvements and recycled water system expansion;
- Enhance water supply reliability in an environmentally and cost effective manner.

6.1.2 Potentially Significant Impacts of the Proposed Project

Chapter 3 of this program environmental impact report (PEIR) identifies potential impacts associated with the proposed project for each environmental issue area in Appendix G of the CEQA Guidelines, including priority and near-term projects analyzed at the project-level and future projects analyzed at the program-level. Chapter 5 addresses impacts related to growth-inducement. Mitigation measures were identified to reduce the majority of impacts to a less than significant level. A summary of the significance of the greatest impacts for each environmental resource analyzed is presented below in **Table 6-1**. All impacts were able to be reduced to a less than significant level with implementation of mitigation measures except for temporary construction-related impacts to noise and vibration. Specific impacts and all mitigation measures are provided in Table ES-1 in the Executive Summary of this Draft PEIR.

6.2 Alternatives to the Project

The EIR must briefly describe the rationale for selection and rejection of alternatives and the information the lead agency relied on when making the selection.

As shown in Chapter 3 of this Draft EIR, the proposed project would have significant and unavoidable noise impacts during construction activities to noise and vibration that cannot be fully mitigated through feasible noise and vibration control measures. The following alternatives to the project were selected to inform evaluation of the project in light of the significant and unavoidable environmental impact of the Project (i.e., construction noise and vibration), significant impacts of the project that would be mitigated to a level of less than significant, the objectives established for the project (listed above), and the feasibility of the alternatives considered. No project alternatives were identified during consultation, scoping meetings, or workshops.

- No Project Alternative
- Increased Recycled Water Recharge Alternative
- Reduced Growth Assumptions Alternative

The No Project was developed pursuant to CEQA Guidelines Section 15126.6(e). The Increased Recycled Water Recharge Alternative and the Reduced Growth Assumptions Alternative were developed pursuant to CEQA Guidelines Section 15126.6(a).

TABLE 6-1
SUMMARY OF PROJECT IMPACT ANALYSIS

Environmental Resource	Significance Determination
Aesthetics	LSM
Agriculture and Forestry Resources	LTS
Air Quality and Greenhouse Gases	LSM
Biological Resources	LSM
Cultural Resources	LSM
Energy	LTS
Geology and Soils	LSM
Hazards and Hazardous Materials	LSM
Hydrology and Water Quality	LTS
Land Use	LTS
Noise	SU
Transportation	LSM
Tribal Cultural Resources	LSM
Utilities and Service Systems	LSM
Wildfire	LSM

LTS = Less than Significant
LSM = Less than Significant with Mitigation
SU = Significant and Unavoidable
SOURCE: ESA 2026.

6.2.1 Alternatives Considered But Rejected

CEQA Guidelines Section 15126.6(c) states that an EIR should identify any alternatives considered but rejected as infeasible by the lead agency during the scoping process and briefly explain the reasons for the exclusion. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects.

CEQA Guidelines Section 15126.6(f)(2) provides guidance regarding consideration of one or more alternative location(s) for a proposed project, stating that putting the project in another location should be considered if doing so would allow significant effects of the project to be avoided or substantially lessened. Only locations that would avoid or substantially lessen any of the significant effects of the proposed project need to be considered for inclusion in the EIR. If no feasible alternative locations exist, the EIR must disclose the reasons for this conclusion. Among the factors that may be considered when addressing the feasibility of an alternative site is suitability, economic viability, availability of infrastructure, general plan consistency, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site.

Western conducted an extensive review of proposed water, recycled water, and wastewater facilities in previous iterations of the Riverside FMP. Each previous iteration included different options of projects to be built to accommodate future growth. The projects proposed by WMWD take into consideration growth

projections as well as developer plans. Given the fact that there are multiple storage tanks, pump/lift stations, and pipelines that would be installed over the entirety of the Riverside FMP area, there are no specific locations that would eliminate potentially significant impacts of the projects. The only significant unavoidable impacts resulting from the project are related to construction noise and vibration, which could occur from construction of pipelines as close to 5 feet from sensitive receptors. Given the fact that pipelines are installed within roadway rights-of-ways throughout the service area, there are no options to feasibly avoid impacting sensitive receptors for noise or vibration. The pipelines are needed to support water reliability, fire flow capacity, and recycled water and accommodate future growth, and without them project objectives would not be met. As a result, there are no other feasible alternative locations that would reduce potentially significant impacts.

6.2.2 No Project Alternative

According to CEQA Guidelines Section 15126.6(e), discussion of the No Project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the project were not approved. Under the No Project Alternative, Western would not implement their Capital Improvement Program (CIP) for the Riverside Retail Service Area, which would hinder Western's ability to holistically address existing hydraulic system deficiencies, replace aging infrastructure, or provide the facilities necessary to meet future growth. Western would continue to use the existing water distribution system to convey water, recycled water, and wastewater throughout its Riverside Retail Service Area. Western's Riverside Retail Service Area consists of 21 pressure zones, over 565 miles of pipe, 16 storage tanks, and 12 pump stations to provide potable water to more than 27,000 connections, while the non-potable/recycled water system includes approximately 62 miles of pipelines, 6 storage reservoirs, and 11 pump stations (WMWD 2025). Western would continue to maintain existing infrastructure, and facilities specifically included in the CIP that are aging, required to meet fire flow requirements, or address system deficiencies, would be constructed or modified individually on an ad hoc basis. While Western could continue to replace or modify infrastructure as needed, the benefits of a comprehensive approach to project implementation under the CIP would not occur under the No Project Alternative. Without the holistic approach and associated benefits of CIP project implementation, Western could encounter delays in implementing projects related to environmental reviews, local approvals, and other factors not envisioned at this time. Under the No Project Alternative, Western's ability to provide water, recycled water, and wastewater services to its customers could be at risk, due to delay of individual project implementation and other obstacles.

Ability to Meet Project Objectives

Implementation of the No Project Alternative would not provide the benefits of improving and replacing existing Western water, recycled, and wastewater system infrastructure, or provide new infrastructure to meet future growth within Western's service area. Implementation of the No Project Alternative would not meet any of the stated project objectives and would not address Western's need for ensuring a reliable water supply capable of meeting increased water demand in the Riverside Retail Service Area.

Impact Analysis

Aesthetics

The construction and operation of CIP projects in the Riverside FMP would not occur under the No Project Alternative. The No Project Alternative would have no potential to impact scenic vistas, scenic resources, visual character, or light and glare in the proposed project area since no new facilities would be built. The proposed project would have a less than significant impact to scenic vistas and visual character after implementation of mitigation measures due to implementation of CIP projects in the Riverside FMP. Since the No Project Alternative would not alter any above-ground facilities as part of the Riverside FMP, it would result in fewer aesthetic impacts when compared to the proposed project.

Agriculture and Forestry Resources

The No Project Alternative would not alter sites associated with the Riverside FMP, and therefore would have no potential to impact farmland or forestry resources. While the proposed project would involve installation of pipelines in and adjacent to Unique Farmland, the land would be returned to pre-construction conditions and would not prevent land from being used for farmland in the future; impacts would be less than significant. No impact to forestry resources would occur. Since the No Project Alternative would not alter any farmland or forestry resources as part of the Riverside FMP, it would result in fewer agriculture and forestry resources impacts when compared to the proposed project.

Air Quality and Greenhouse Gas Emissions

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP and would therefore not generate emissions above baseline conditions that could impact air quality. While the proposed project would result in an increase of construction and operation-related emissions, they would not be above existing thresholds and therefore impacts would be less than significant. Mitigation would be needed to address future projects such as the WWRF Expansion to ensure emissions thresholds are not exceeded. As such, the No Project Alternative would result in fewer air quality impacts when compared to the proposed project.

The No Project Alternative would not involve any construction activities or operation of CIP projects associated with the Riverside FMP and therefore would not result in an increase in greenhouse gas emissions relative to existing conditions because no infrastructure would be implemented. The proposed project would result in greenhouse gas emissions during construction and operation but not at significant levels. As such, the No Project Alternative would result in fewer greenhouse gas emissions impacts when compared to the proposed project.

Biological Resources

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP and would therefore not alter the site conditions at existing and proposed project sites. The proposed project has the potential to impact special-status species and wetlands, which would be reduced to less than significant levels with implementation of mitigation measures. However, the No Project Alternative would completely avoid potential impacts to special-status species and wetlands. Therefore, the No Project Alternative would result in fewer potential biological resource impacts than the proposed project.

Cultural Resources

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP and therefore would not result in ground disturbance that would disrupt or affect archaeological resources, historic resources, or human remains. Although the proposed project would not directly impact any known cultural resources, construction activities would involve grading and excavation that could significantly impact unknown discovered cultural resources. With implementation of mitigation measures, the proposed project would result in less than significant impacts to cultural resources. Nevertheless, the No Project Alternative would result in no ground disturbance and therefore would have no potential to uncover any cultural resources. As a result, the No Project Alternative would result in fewer impacts to cultural resources than the proposed project.

Energy

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP and would therefore not result in an increase in energy consumption relative to existing conditions. The proposed project would result in an increased usage of electricity to operate proposed pumps, treatment facilities, and other infrastructure, but not at significant levels that would result in wasteful use of energy. The No Project Alternative would result in no change to energy consumption when compared to the proposed project. As a result, the No Project Alternative would result in fewer impacts to energy than the proposed project.

Geology and Soils

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP and would therefore not result in any geologic or soil-related impacts. The geologic effects of the proposed project were determined to be less than significant, including for impacts due to ground shaking, soil erosion, unstable geologic units, and expansive soil. The project area has exposures of sensitive geological formation/units with potential for encountering significant fossils, resulting in a potentially significant impact to paleontological resources. With implementation of mitigation measures, the proposed project would result in less than significant impacts to paleontological resources. As a result, since the No Project Alternative would not result in any ground disturbing activities or potential to uncover paleontological resources, the alternative would result in fewer geological, soil, and paleontological impacts when compared to the proposed project.

Hazards and Hazardous Materials

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP and would therefore not result in an increase in use or transport of hazardous materials above existing conditions. While the proposed project would involve routine transport and use of potentially hazardous materials, compliance with existing State regulations would reduce all impacts to less than significant levels. Because portions of the proposed project area are located in close proximity to active hazardous materials sites, mitigation measures would be required to ensure contamination interference or exposure to other hazards associated with active sites would not occur. Additionally, much of the proposed project area is located within MARB AIA zones. The project would require mitigation to coordinate with associated state and federal agencies to ensure conflicts with airport land use plans do not occur. While the proposed project would involve construction within rights-of-way that could impede emergency access, mitigation measures would be required to reduce impacts to evacuation routes. While

portions the proposed project would be located within a very high fire severity zone, mitigation measures would implement fire hazard reduction measures that would reduce impacts to a less than significant level. The No Project Alternative would involve no additional transport of potentially hazardous fuels and lubricants or use of hazardous materials above what is currently used at existing project sites for water/wastewater treatment, nor create new structures at risk of exposure to existing hazardous materials sites or wildland fire. As a result, the No Project Alternative would result in fewer impacts to hazards and hazardous materials when compared to the proposed project.

Hydrology and Water Quality

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP, and therefore would not result in ground disturbance that could impact surface water, associated drainage patterns, or modifications to downstream inundation risk. Under the proposed project, construction of new facilities would involve ground-disturbing activities that could impact surface water quality due to polluted runoff from the soil stockpiling and construction sites. Such potential impacts would be lessened with implementation of required regulatory requirements such as SWPPPs and BMPs. The No Project Alternative would not involve any ground-disturbing activities and would not have the potential for impacts to water quality during construction. As a result, the No Project Alternative would result in fewer impacts to hydrology and water quality when compared to the proposed project.

Land Use

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP, and therefore would not result in division of an established community or any conflicts with land use plans or policies. While the proposed project would involve construction of aboveground facilities, they would be constructed on parcels owned by Western or within public rights-of-way and, therefore, would not divide an established community or conflict with land use policy. The No Project Alternative would involve no construction or operation of new facilities and would therefore not divide an established community or conflict with any land use policy. As a result, impacts to land use would be similar under the No Project Alternative when compared to the proposed project.

Noise

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP, and therefore would not involve activities that would generate noise or vibration above baselines conditions. The proposed project would result in potentially significant temporary impacts to sensitive receptors and ambient noise levels during construction that would not be able to be mitigated to a less than significant level. Because the No Project Alternative would not alter the existing noise environment, there would result in fewer impacts associated with noise and vibration when compared to the proposed project. The No Project Alternative would avoid the significant and unavoidable impact of the project to noise and vibration during temporary construction activities.

Transportation

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP, and therefore would not result in transportation impacts. The proposed project would result in temporary impacts to traffic and the circulation system due to increased vehicle trips and active work within rights-of-way during construction that would be mitigated to less than significant levels with

implementation of a Traffic Control Plan. Nevertheless, since the No Project Alternative would not involve any changes to the transportation system, the No Project Alternative would result in fewer impacts when compared to the proposed project.

Tribal Cultural Resources

Under the No Project Alternative, construction or operation of CIP projects included in the Riverside FMP would not occur, and as a result would not affect any known or unknown tribal cultural resources. According to record searches and tribal resource consultations, no tribal resources are present on any of the proposed project sites. As such, the proposed project would not cause a substantial adverse change in the significance of a known tribal cultural resource. However, there always exists the potential that an unknown tribal cultural resource could be impacted by construction or operational activities. For the proposed project, this potential impact would be reduced to less than significant impacts with implementation of mitigation measures. Nonetheless, the No Project Alternative would result in fewer potential impacts to tribal cultural resources when compared to the proposed project.

Utilities and Service Systems

The No Project Alternative would not result in construction or operation of any CIP projects included in the Riverside FMP, and therefore would not result in impacts to utilities and service systems. The proposed project would result in potential relocation of utilities, which would be mitigated to a less than significant level with implementation of mitigation measures. Nevertheless, since the No Project Alternative would not involve any changes to the utility and service system, the No Project Alternative would result in fewer impacts when compared to the proposed project.

Wildfire

The No Project Alternative would not involve construction or operation of CIP projects included in the Riverside FMP, and therefore would not alter the existing wildfire risk at the project sites. The proposed project would require operation of construction equipment that has the potential produce a spark, fire or flame in an area that includes highly flammable vegetation and prevailing winds. As a result, construction of the proposed project has potential to increase the risk of wildfire; however, implementation of mitigation measures that include fire hazard reduction measures would ensure impacts associated with wildfire risk are reduced to less than significant levels. While the proposed project would involve construction within rights-of-way that could impede emergency access, mitigation measures would be required to reduce impacts to evacuation routes. Nonetheless, the No Project Alternative would not exacerbate the risk of wildland fire or conflict with emergency response because no new facilities would be built. As a result, the No Project Alternative would result in fewer impacts associated with wildfire when compared to the proposed project.

Cumulative Impacts

The No Project Alternative would not result in construction or operation of any CIP projects included in the Riverside FMP, and therefore would not contribute to cumulative impacts that may occur within the Riverside Retail Service Area. The proposed project would result in cumulatively considerable impacts that are able to be reduced to a less than significant level with implementation of mitigation measures. Nevertheless, since the No Project Alternative would not involve any changes to the cumulative scenario, the No Project Alternative would result in fewer impacts when compared to the proposed project.

6.2.3 Reduced Growth Assumptions Alternative

Under the Reduced Growth Assumptions Alternative, Western would only implement the Riverside FMP priority and near-term projects which address existing water system deficiencies and accommodate reasonably foreseeable planned growth in the Riverside Retail Service Area. These components are the highest priority for WMWD and are planned to be constructed prior to 2030. The following future projects, which address long-term growth through 2050, would not be implemented: nine pipelines (W-24 PZ 2320 12-inch Pipelines, W-25 Via Barranca Pipeline Upsizing, RW-2 RNC Upsize to 18″, RW-2 RNC Upsize to 24″, WW-7 McKinley Trunk Sewer 2 (WRCWRA), WW-8 La Sierra Trunk Sewer (WRCWRA), WW-9 Meridian Trunk Sewer North (WWRF), WW-10 Arnold Heights Trunk Sewer (WWRF), WW-11 Meridian Trunk Sewer South at RNC (WWRF)); six storage tanks (W-20 New 2 MG PZ2116 Tank, W-21 New 4 MG PZ1550 Tank, W-22 New 3 MG Hidden Valley Tank, W-23 New 13 MG Orangecrest Tank, RW-2 Additional 7 MG Storage in PZ1815, W-8 New 2 MG PZ1783 Tank); nine pump/lift stations (W-16 CITP (Intake PS), W-17 Increase Capacity of Mockingbird PS, W-18 Bergamont PS, W-19 Rolling Meadows PS, RW-2 Oleander PS Expansion (200 HP), RW-2 McAllister PS Expansion (200 HP), RW-2 El Sobrante PS Expansion (150 HP), WW-12 Markham Lift Station Ultimate Upgrades, WW-13 MARB 1269 Lift Station Buildout Upgrade Study). The Reduced Growth Assumptions Alternative would be implemented by Western if growth projections in the Riverside Retail Service Area do not materialize as planned, and the need for long-term components becomes less necessary.

Ability to Meet Project Objectives

Implementation of the Reduced Growth Assumptions Alternative would meet some of the project objectives because, fundamentally, this alternative would be implemented only if population growth and associated water demand was less than anticipated. The highest-priority components would be constructed in order to improve and replace existing WMWD system infrastructure. However, without construction of Riverside FMP future projects, the Reduced Growth Assumptions Alternative would not fully meet the project objective of providing infrastructure to meet planned growth within WMWD's service area. Implementation of the Reduced Growth Assumptions Alternative would not holistically address WMWD's need for ensuring a reliable water and recycled water supply capable of meeting increased water demand within its service area.

Impact Analysis

Aesthetics

Under the Reduced Growth Assumptions Alternative, fewer Riverside FMP projects would be constructed because only the priority and near-term projects would be implemented. The same mitigation measures would be required to reduce impacts at the priority and near-term facilities as would be required under the proposed project. Of the aboveground components associated with the future projects, six storage tanks and nine pumps/lift stations would not be constructed, which would limit aboveground impacts to scenic resources and visual character in the project area. Eliminating these projects would reduce the overall aesthetic impact associated with the proposed project, but would not eliminate a significant and unavoidable impact. As a result, the Reduced Growth Assumptions Alternative would have fewer impacts to aesthetics than the proposed project.

Agriculture and Forestry Resources

Under the Reduced Growth Assumptions Alternative, future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines, would not be constructed. As currently cited, none of the future projects would be installed on Prime Farmland, Unique Farmland or Farmland of Statewide Importance or on Williamson Act contracts. No project facilities would be installed on forest or timber land. As a result, implementation of the Reduced Growth Assumptions Alternative would not eliminate or lessen an impact associated with the proposed project. Impacts would be similar to the proposed project.

Air Quality and Greenhouse Gases

Under the Reduced Growth Assumptions Alternative, future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines, would not be constructed. Although the same types of equipment would be used to construct the Reduced Growth Assumptions Alternative as the priority and near-term projects, the amount of emissions generated would be reduced under the Reduced Growth Assumptions Alternative because fewer facilities would be constructed. As such, impacts to air quality and greenhouse gas emissions would be fewer under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Biological Resources

Under the Reduced Growth Assumptions Alternative, fewer Riverside FMP projects would be constructed because only the priority and near-term projects would be implemented. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines. As a result, the Reduced Growth Assumptions Alternative would result in construction and operation on fewer acres located within and adjacent to habitat that could support biological resources, including special-status species. The same mitigation measures would be required to reduce impacts for the priority and near-term projects implemented under the Reduced Growth Assumptions Alternative as would be required under the proposed project, which would include measures to avoid sensitive species and wetlands. While removing the future facilities would not eliminate a significant and unavoidable impact, the overall biological resources impact would be lessened. As a result, the impacts to special-status species would be fewer under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Cultural Resources

Under the Reduced Growth Assumptions Alternative, fewer Riverside FMP projects would be constructed because only the priority and near-term projects would be implemented. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines. As a result, the Reduced Growth Assumptions Alternative would result in construction and operation on fewer acres with potential to impact cultural resources or that could convey cultural significance. The same mitigation measures would be required to reduce impacts for the priority and near-term projects implemented under the Reduced Growth Assumptions Alternative as would be required under the proposed project, which would reduce impacts to unanticipated discovery of archaeological and historical resources, and human remains. While removing these future facilities would not eliminate a significant and unavoidable impact, the overall cultural resources impact would be lessened. As a result, the impacts to cultural resources would be fewer under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Energy

Under the Reduced Growth Assumptions Alternative, future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines, would not be constructed. The duration of project construction for the proposed project would last from 2026 to 2050, while construction for the Reduced Growth Assumptions Alternative would only from 2026 to 2030. As such, energy consumption would be greater for the proposed project than the priority and near-term projects under the Reduced Growth Assumptions Alternative. Operation of the proposed project would involve additional pump stations that would require more energy. Based on the duration of construction and fewer facilities to operate, the Reduced Growth Assumptions Alternative would result in less energy consumption than the proposed project.

Geology, Soils, and Seismicity

Three near near-term projects and one future project would occur in moderate to high liquefaction hazard zones, which is the designation given by the County and City of Riverside to areas where groundwater depths may be shallow and soils may be susceptible to liquefaction. Two of the future projects would be located on the foothills of Temescal Mountains, and could result in landslide hazards to downhill areas as a result of soil/rock displacement during construction activities or in the event of a major earthquake in the project area. At least one priority project and one near-term project would be located on expansive soils with high shrink-swell potential. Implementation of the Reduced Growth Assumptions Alternative would involve construction and operation of priority and near-term project facilities that would be located within the liquefaction zones and areas with expansive soils, but not within high landslide risk areas; compliance with existing regulations would reduce the impacts and no mitigation is needed. All other geology-related impacts to fault rupture and ground shaking and loss of topsoil would be similar between the proposed project and the Reduced Growth Assumptions Alternative. The project area has exposures of sensitive geological formation/units with potential for encountering significant fossils, resulting in a potentially significant impact to paleontological resources. With implementation of mitigation measures, the proposed project would result in less than significant impacts to paleontological resources. However, because so many fewer components would be constructed as part of the Reduced Growth Assumptions Alternative, the likelihood of impacts due to liquefaction and expansive soils would be lower than under the proposed project. Therefore, impacts to geology, soils, and seismicity would be less under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Hazards and Hazardous Materials

Under the Reduced Growth Assumptions Alternative, fewer Riverside FMP projects would be constructed because only the priority and near-term projects would be implemented. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines. Because the Reduced Growth Assumptions Alternative and priority/near-term proposed project components would be constructed and operated in the same locations, the Reduced Growth Assumptions Alternative and proposed project would generally result in the same impacts associated with the priority/near-term components involving the release of hazardous materials, emission of hazardous materials near schools, inclusion of project facilities near hazardous materials sites and airports, conflicts with emergency plans, and risk of wildland fires. The same mitigation measures would be required to reduce impacts for the priority and near-term projects implemented under the Reduced Growth Assumptions Alternative as would be required under the proposed project, which would include measures to minimize impacts to hazardous materials sites, airports, and emergency response.

However, because so many fewer components would be constructed as part of the Reduced Growth Assumptions Alternative, the likelihood of accidental spills and releases of hazardous materials would be lower than under the proposed project. As a result, impacts to hazards and hazardous materials would be fewer under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Hydrology and Water Quality

The Reduced Growth Assumptions Alternative and proposed project would implement the same priority and near-term projects. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines. Because the Reduced Growth Assumptions Alternative and the priority/near-term proposed projects would be constructed and operated in the same locations, the Reduced Growth Assumptions Alternative and proposed project would generally result in the same impacts associated with priority/near-term components to water quality standards and waste discharge requirements, groundwater supplies/plans, drainage patterns, and flood hazards. However, because so many fewer components would be constructed as part of the Reduced Growth Assumptions Alternative, the degree of impacts to water quality, drainage patterns, and flood hazards would be lower than under the proposed project. As a result, impacts to hydrology and water quality would be fewer under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Land Use

Given the vast location of proposed facilities throughout WMWD's Riverside Retail Service Area service area, which includes multiple kinds of land uses, the proposed project and the Reduced Growth Assumptions Alternative would generally result in similar impacts. Neither would divide an establish community or conflict with local zoning. In fact, the majority of all project facilities would be installed within land owned/operated by Western or within public rights-of-way. As a result, impacts to land use would be similar under the proposed project when compared to the Reduced Growth Assumptions Alternative.

Noise

The Reduced Growth Assumptions Alternative and proposed project would implement the same priority and near-term projects. As such, the types of equipment to be used to construct and operate the facilities under the Reduced Growth Assumptions Alternative would be the same when compared to the priority and near-term projects. In addition, distances from proposed facilities to sensitive receptors under the Reduced Growth Assumptions Alternative and the proposed project would be the same. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines, some of which are near sensitive receptors, thus reducing the potential number of noise and vibration-intensive activities within the Riverside Retail Service Area. The same mitigation measures would be required to reduce impacts for the priority and near-term projects implemented under the Reduced Growth Assumptions Alternative as would be required under the proposed project, however impacts would not be able to be reduced to a less than significant level under either alternative. However, because so many fewer components would be constructed as part of the Reduced Growth Assumptions Alternative, the degree of impacts to noise and vibration would be lower than under the proposed project. As a result, while the overall significant and unavoidable conclusion

would not be avoided, impacts to noise and vibration would be fewer under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Traffic and Transportation

The Reduced Growth Assumptions Alternative and proposed project would implement the same priority and near-term projects. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines. The majority of impacts to traffic and transportation would be the same under the Reduced Growth Assumptions Alternative when compared to the proposed project, and would mostly occur as a result of pipeline installation within rights-of-ways. Similar mitigation measures would be required to reduce impacts to the Reduced Growth Assumptions Alternative as the proposed project. However, the proposed project includes more pipeline projects than the Reduced Growth Assumptions Alternative. As a result, the Reduced Growth Assumptions Alternative would result in fewer temporary impacts to local traffic and circulation as a result of installation of less pipeline within rights-of-ways compared with the proposed project. As a result, the Reduced Growth Assumptions Alternative would result in fewer construction-related impacts to traffic and transportation when compared to the proposed project.

Tribal Cultural Resources

Under the Reduced Growth Assumptions Alternative, fewer Riverside FMP projects would be constructed because only the priority and near-term projects would be implemented. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines. As a result, the Reduced Growth Assumptions Alternative would result in construction and operation on fewer acres with potential to impact tribal cultural resources. The same mitigation measures would be required to reduce impacts for the priority and near-term projects implemented under the Reduced Growth Assumptions Alternative as would be required under the proposed project, which would reduce impacts to tribal cultural resources. While removing these future project facilities under the Reduced Growth Assumptions Alternative would not eliminate a significant and unavoidable impact, the overall tribal cultural resources impact would be lessened. As a result, the impacts to tribal cultural resources would be fewer under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Utilities and Service Systems

Under the Reduced Growth Assumptions Alternative, fewer Riverside FMP projects would be constructed because only the priority and near-term projects would be implemented. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines. Impacts to linear utilities, wastewater treatment, stormwater drainage facilities, and landfill capacity would be similar under the Reduced Growth Assumptions Alternative and proposed project since facilities constructed are not anticipated to cause significant environmental effects in these areas. Mitigation measures to identify and avoid underground utilities would be applicable to the Reduced Growth Assumptions Alternative as it would the proposed project. As a result, impacts to utilities and service systems would be similar under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Wildfire

Under the Reduced Growth Assumptions Alternative, fewer Riverside FMP projects would be constructed because only the priority and near-term projects would be implemented. The Reduced Growth Assumptions Alternative would not implement the future projects, including six storage tanks, nine pumps/lift stations, and ten pipelines. Riverside FMP projects would be installed within areas of very high and high fire severity zone as shown on Figure 3.15-1. Mitigation measures would be required for the Reduced Growth Assumptions Alternative and the proposed project to ensure adequate emergency response, as well as fire hazard reduction measures, are implemented. Because the Reduced Growth Assumptions Alternative would not lessen the impacts related to wildfire hazards, impacts to wildfire would be similar under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Cumulative Impacts

In general, because the Reduced Growth Assumptions Alternative would result in the construction of fewer components, the alternative's contribution to the cumulative scenario analyzed in Chapter 3 of this PEIR would be reduced compared to the proposed project. In addition, since construction of the Reduced Growth Assumptions Alternative would take place from 2026 to 2030, the cumulative contribution would only occur for five years, compared with the proposed project which would last through 2050. The Reduced Growth Assumptions Alternative would create less of a cumulative operational contribution because there are fewer facilities in total to operate which would result in fewer overall emissions, truck trips and consumption of energy. As a result, the Reduced Growth Assumptions Alternative would result in fewer construction and operational-related cumulative impacts that the proposed project.

6.2.4 Increased Recycled Water Recharge Alternative

The Increased Recycled Water Recharge Alternative would increase the amount of recycled water recharged into the groundwater basin. This would modify water quality and permit requirements for recycled water produced at the WWRF and would reduce proposed delivery of non-potable recycled water to new customers as envisioned under the Riverside FMP. As a result, the recycled water projects in the Riverside FMP, namely the RW-1 project that would supply additional recycled water to the Lurin Irrigation Zone, and the RW-2 project that would supply the Riverside National Cemetery, would not be implemented. Project RW-1 includes the following nine individual projects that would not be implemented as part of the Increased Recycled Water Recharge Alternative: RW-1 New Orangecrest Tank, RW-1 Orangecrest Recycled Water Tank, RW-1 Orangecrest Supply Pipelines, RW-1 Bergamont Park Conversion to RW, RW-1 Lurin Irrigation Tank Improvements, RW-1 Meridian West Pipelines, RW-1 Cemetery PS Expansion, RW-1 Idaleona Drive Upsize, RW-1 Lake Ranch Pipelines. Project RW-2 includes the following seven individual projects that would not be implemented as part of the Increased Recycled Water Recharge Alternative: RW-2 Additional 7 MG Storage in PZ1815, RW-2 Oleander PS Expansion (200 HP), RW-2 McAllister PS Expansion (200 HP), RW-2 El Sobrante PS Expansion (150 HP), RW-2 McAllister PS Expansion (200 HP), RW-2 RNC Upsize to 18″, and RW-2 RNC Upsize to 24″. Instead of building these projects, Western would utilize existing pipelines to convey recycled water from the WWRF to the Victoria recharge basin in the City of Riverside, which was built in 2019 and currently replenishes approximately 1,800 acre-feet per year (UWMP 2021). The Recycled Water Recharge Alternative would recharge recycled water via the Victoria recharge basin into the Riverside-Arlington groundwater basin, increasing the volume of water in the groundwater basin available for

treatment at the Arlington Desalter, which would provide a reliable local water source within Western's service area.

Ability to Meet Project Objectives

Implementation of the Increased Recycled Water Recharge Alternative would meet some of the project objectives. The potable water and wastewater projects would be constructed in order to meet the reliability requirements and projected demands within the Riverside Retail Service Area. However, without construction of recycled water projects, the Increased Recycled Water Recharge Alternative would not fully meet the project objectives of providing recycled water infrastructure to meet reliability requirements and planned growth. Implementation of the Increased Recycled Water Recharge Alternative would not holistically address WMWD's need for ensuring a reliable recycled water supply capable of meeting increased water demand within its service area.

Impact Analysis

Aesthetics

Under the Increased Recycled Water Recharge Alternative, the Riverside FMP recycled water projects (RW-1 and RW-2) would not be implemented. Instead of being delivered within the Riverside Retail Service Area, the recycled water would be recharged into the groundwater basin. The same mitigation measures would be required to reduce impacts under the Increased Recycled Water Recharge Alternative as would be required under the proposed project. Of the aboveground components associated with the Increased Recycled Water Recharge Alternative, the RW-1 New Orangecrest Tank, RW-1 Orangecrest Recycled Water Tank, RW-1 Lurin Irrigation Tank Improvements, RW-1 Cemetery PS Expansion, RW-1 El Sobrante PS Expansion (150 HP), RW-2 Additional 7 MG Storage in PZ1815, RW-2 Oleander PS Expansion (200 HP), and RW-2 McAllister PS Expansion (200 HP) would not be constructed, which would limit aboveground impacts to scenic resources and visual character in the project area. Eliminating these projects would reduce the overall aesthetic impact associated with the proposed project, but would not eliminate a significant and unavoidable impact. As a result, the Increased Recycled Water Recharge Alternative would have fewer impacts to aesthetics than the proposed project.

Agriculture and Forestry Resources

Under the Increased Recycled Water Recharge Alternative, the Riverside FMP recycled water projects (RW-1 and RW-2) would not be implemented. Instead of being delivered within the Riverside Retail Service Area, the recycled water would be recharged into the groundwater basin. As currently cited, none of the RW-1 or RW-2 projects would be installed on Prime Farmland, Unique Farmland or Farmland of Statewide Importance or on Williamson Act contracts. No project facilities would be installed on forest or timber land. As a result, implementation of the Increased Recycled Water Recharge Alternative would not eliminate or lessen an impact associated with the proposed project. Impacts would be similar to the proposed project.

Air Quality and Greenhouse Gases

Under the Increased Recycled Water Recharge Alternative, the recycled projects that are part of the RW-1 and RW-2 projects would not be implemented. Although the same types of equipment would be used to construct the Increased Recycled Water Recharge Alternative as the proposed project, the amount of

emissions generated would be reduced under the Increased Recycled Water Recharge because fewer facilities would be constructed. As such, impacts to air quality and greenhouse gas emissions would be fewer under the Increased Recycled Water Recharge when compared to the proposed project. It should be noted that the WWRF Expansion, which requires mitigation measures to ensure future construction and operation does not result in exceedance of significance thresholds, would be installed under the Increased Recycled Water Recharge and the proposed project, so the Increased Recycled Water Recharge would not eliminate a mitigation measure or lessen the severity of the impact conclusion.

Biological Resources

Under the Increased Recycled Water Recharge Alternative, none of the recycled water projects would be implemented. As a result, the Increased Recycled Water Recharge Alternative would result in construction and operation on fewer acres located within and adjacent to habitat that could support biological resources, including special-status species. The same mitigation measures would be required to reduce impacts for the non-recycled water projects implemented under the Reduced Growth Assumptions Alternative as would be required under the proposed project, which would include measures to avoid sensitive species and wetlands. While removing the recycled water facilities would not eliminate a significant and unavoidable impact, the overall biological resources impact would be lessened. As a result, the impacts to special-status species would be fewer under the Increased Recycled Water Recharge Alternative when compared to the proposed project.

Cultural Resources

Under the Increased Recycled Water Recharge Alternative, fewer Riverside FMP projects would be constructed because only the potable water and wastewater projects would be implemented. As a result, the Increased Recycled Water Recharge Alternative would result in construction and operation on fewer acres with potential to impact cultural resources or convey cultural significance. The same mitigation measures would be required to reduce impacts for the potable water and wastewater projects implemented under the Increased Recycled Water Recharge Alternative as would be required under the proposed project, which would reduce impacts to unanticipated discovery of archaeological and historical resources. While removing these recycled water facilities would not eliminate a significant and unavoidable impact, the overall cultural resources impact would be lessened. As a result, the impacts to cultural resources would be fewer under the Reduced Growth Assumptions Alternative when compared to the proposed project.

Energy

Under the Increased Recycled Water Recharge Alternative, none of the recycled water projects would be constructed. Energy consumption would be greater for the proposed project than the projects under the Increased Recycled Water Recharge Alternative because more projects would be built that require energy during construction and operation. Based on fewer construction projects and fewer facilities to operate, the Increased Recycled Water Recharge Alternative would result in less energy consumption than the proposed project.

Geology, Soils, and Seismicity

Two recycled water projects would occur in moderate to high liquefaction hazard zones, which is the designation given by the County and City of Riverside to areas where groundwater depths may be

shallow and soils may be susceptible to liquefaction. Compliance with existing regulations would reduce the impact and no mitigation is needed. None of the recycled water projects result in landslide hazards to downhill areas or would be located on expansive soils with high shrink-swell potential. All other geology-related impacts to fault rupture and ground shaking and loss of topsoil would be similar between the proposed project and the Increased Recycled Water Recharge Alternative. The project area has exposures of sensitive geological formation/units with potential for encountering significant fossils, resulting in a potentially significant impact to paleontological resources. With implementation of mitigation measures, the proposed project would result in less than significant impacts to paleontological resources. Because implementation of the Increased Recycled Water Recharge Alternative would involve construction and operation of recycled water projects that would be located within the liquefaction zones, impacts to geology, soils, and seismicity would be less under the Increased Recycled Water Recharge Alternative when compared to the proposed project.

Hazards and Hazardous Materials

Under the Increased Recycled Water Recharge Alternative, none of the recycled water projects would be implemented. The Increased Recycled Water Recharge Alternative and proposed project would generally result in the same impacts associated with the potable water and wastewater projects involving the release of hazardous materials, emission of hazardous materials near schools, inclusion of project facilities near hazardous materials sites and airports, conflicts with emergency plans, and risk of wildland fires. The same mitigation measures would be required to reduce impacts for the potable water and wastewater-related projects implemented under the Increased Recycled Water Recharge Alternative as would be required under the proposed project, which would include measures to minimize impacts to hazardous materials sites, airports, and emergency response. However, because the nine recycled water projects would not be constructed as part of the Increased Recycled Water Recharge Alternative, the likelihood of accidental spills and releases of hazardous materials would be lower than under the proposed project. As a result, impacts to hazards and hazardous materials would be fewer under the Increased Recycled Water Recharge Alternative when compared to the proposed project.

Hydrology and Water Quality

The Increased Recycled Water Recharge Alternative and proposed project would implement the same potable water and wastewater projects. The Increased Recycled Water Recharge Alternative would not implement any of the recycled water projects. The Increased Recycled Water Recharge Alternative and proposed project would generally result in the same impacts associated with potable water and recycled water-related projects to water quality standards and waste discharge requirements, groundwater supplies/plans, drainage patterns, and flood hazards. However, because the recycled water projects would not be constructed as part of the Increased Recycled Water Recharge Alternative, the degree of impacts to water quality, drainage patterns, and flood hazards would be lower than under the proposed project. As a result, impacts to hydrology and water quality would be fewer under the Increased Recycled Water Recharge Alternative when compared to the proposed project.

Land Use

Given the vast location of proposed facilities throughout WMWD's Riverside Retail Service Area service area, which includes multiple kinds of land uses, the proposed project and the Increased Recycled Water Recharge Alternative would generally result in similar impacts. Neither would divide an establish

community or conflict with local zoning. In fact, the majority of all project facilities would be installed within land owned/operated by Western or within public rights-of-way. As a result, impacts to land use would be similar under the proposed project when compared to the Increased Recycled Water Recharge Alternative.

Noise

The Increased Recycled Water Recharge Alternative and proposed project would implement the same potable water and wastewater projects. As such, the types of equipment to be used to construct and operate the facilities under the Increased Recycled Water Recharge Alternative would be the same when compared to the proposed project. In addition, distances from proposed facilities to sensitive receptors under the Increased Recycled Water Recharge Alternative and the proposed project would be the same. The same mitigation measures would be required to reduce impacts for the potable water and wastewater-related projects implemented under the Increased Recycled Water Recharge Alternative as would be required under the proposed project, however impacts would not be able to be reduced to a less than significant level under either alternative. The Increased Recycled Water Recharge Alternative would not implement any of the recycled water projects, some of which are near sensitive receptors, thus reducing the potential number of noise and vibration-intensive activities within the Riverside Retail Service Area. Because so many fewer projects would be constructed as part of the Increased Recycled Water Recharge Alternative, the degree of impacts to noise and vibration would be lower than under the proposed project. As a result, while the overall significant and unavoidable conclusion would not be avoided, impacts to noise and vibration would be fewer under the Increased Recycled Water Recharge Alternative when compared to the proposed project.

Traffic and Transportation

The Increased Recycled Water Recharge Alternative and proposed project would implement the same potable water and wastewater projects. The Increased Recycled Water Recharge Alternative would not implement any of the recycled water projects. The majority of impacts to traffic and transportation would be the same under the Increased Recycled Water Recharge Alternative when compared to the proposed project, and would mostly occur as a result of pipeline installation within rights-of-ways. Similar mitigation measures would be required to reduce impacts to the Increased Recycled Water Recharge Alternative as the proposed project. However, the proposed project includes four more pipeline projects than the Increased Recycled Water Recharge Alternative. As a result, the Increased Recycled Water Recharge Alternative would result in fewer temporary impacts to local traffic and circulation as a result of installation of less pipeline within rights-of-ways compared with the proposed project. As a result, the Increased Recycled Water Recharge Alternative would result in fewer construction-related impacts to traffic and transportation when compared to the proposed project.

Tribal Cultural Resources

Under the Increased Recycled Water Recharge Alternative, the recycled water projects would not be installed. As a result, the Increased Recycled Water Recharge Alternative would result in construction and operation on fewer acres with potential to impact tribal cultural resources. The same mitigation measures would be required to reduce impacts for the priority and near-term projects implemented under the Increased Recycled Water Recharge Alternative as would be required under the proposed project, which would reduce impacts to tribal cultural resources. While removing these recycled water project facilities

under the Increased Recycled Water Recharge Alternative would not eliminate a significant and unavoidable impact, the overall cultural resources impact would be lessened. As a result, the impacts to cultural resources would be fewer under the Increased Recycled Water Recharge Alternative when compared to the proposed project.

Utilities and Service Systems

Under the Increased Recycled Water Recharge Alternative, fewer Riverside FMP projects would be constructed because only the potable water and wastewater projects would be implemented. The Increased Recycled Water Recharge Alternative would not implement any of the recycled water projects. Impacts to linear utilities, wastewater treatment, stormwater drainage facilities, and landfill capacity would be similar under the Increased Recycled Water Recharge Alternative and proposed project since facilities constructed are not anticipated to cause significant environmental effects in these areas. Mitigation measures to identify and avoid underground utilities would similarly be applicable to the Increased Recycled Water Recharge Alternative as it would to the proposed project. As a result, impacts to utilities and service systems would be similar under the Increased Recycled Water Recharge Alternative when compared to the proposed project.

Wildfire

Under the Increased Recycled Water Recharge Alternative, fewer Riverside FMP projects would be constructed because only the potable water and wastewater projects would be implemented. The Reduced Growth Assumptions Alternative would not implement any of the recycled water projects. Riverside FMP projects would similarly be installed within areas of very high and high fire severity zone as shown on Figure 3.15-1. Mitigation measures would be required for the Increased Recycled Water Recharge Alternative and the proposed project to ensure adequate emergency response, as well as fire hazard reduction measures are implemented. Because the Increased Recycled Water Recharge Alternative would not lessen the impacts related to wildfire hazards, impacts to wildfire would be similar under the Increased Recycled Water Recharge Alternative when compared to the proposed project.

Cumulative Impacts

In general, because the Increased Recycled Water Recharge Alternative would result in the construction of fewer components, the alternative's contribution to the cumulative scenario analyzed in Chapter 3 of this PEIR would be reduced compared to the proposed project. The Increased Recycled Water Recharge Alternative would create less of a cumulative operational contribution because there are fewer facilities in total to operate, which would result in fewer overall emissions, truck trips and consumption of energy. As a result, the Increased Recycled Water Recharge Alternative would result in fewer construction and operational-related cumulative impacts that the proposed project.

6.3 Environmentally Superior Alternative

As stated above, the No Project Alternative would avoid many of the environmental impacts of the proposed project, including the significant and unavoidable impacts to noise and vibration during construction, but would not meet any of the project objectives. CEQA requires that an EIR identify the environmentally superior alternative of a project other than the No Project Alternative (CEQA Guidelines Section 15126.6(e)(2). A comparison of the proposed project to the Reduced Growth Assumptions

Alternative and the Increased Recycled Water Recharge Alternative present a tradeoff between achieving project objectives and impacting the environment. The Reduced Growth Assumptions Alternative would meet some of the project objectives because the highest-priority components would be constructed in order to improve and replace existing WMWD system infrastructure. However, without construction of future projects, the Reduced Growth Assumptions Alternative may not meet the project objective of providing infrastructure to meet future growth within WMWD's service area. The Increased Recycled Water Recharge Alternative would meet some of the project objectives because the potable water and wastewater projects would be constructed in order to meet the reliability requirements and projected demands within the Riverside Retail Service Area. However, without construction of the recycled water projects, the Increased Recycled Water Recharge Alternative may not meet the project objective of providing recycled water infrastructure to meet reliability requirements and planned growth. In terms of impacts, the Reduced Growth Assumptions Alternative and the Increased Recycled Water Recharge Alternative result in the same impacts for the priority/near-term projects and the potable water/wastewater projects, respectively, for many of the resources above. Neither alternative completely avoids the significant and unavoidable impact of the project related to temporary noise and vibration during construction. However, since the Reduced Growth Assumptions Alternative does not include implementation of future projects, and the Increased Recycled Water Recharge Alternative does not include implementation of recycled water projects, they both results in fewer environmental impacts to Aesthetics, Air Quality and Greenhouse Gas, Biological Resources, Cultural, Resources, Energy, Geology, Soils, Seismicity, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, and cumulative impacts compared to the proposed project. The reductions in impacts are based in large part on the fewer number of components to be built than the proposed project (see **Table 6-2**). Furthermore, there are fewer individual projects, and therefore environmental impacts, associated with the Reduced Growth Assumptions Alternative than the Increased Recycled Water Recharge Alternative. As a result, the Reduced Growth Assumptions Alternative would be considered the environmentally superior alternative to the proposed project.

TABLE 6-2
SUMMARY OF ALTERNATIVES ANALYSIS RELATIVE IMPACTS AS COMPARED TO THE PROPOSED PROJECT

Environmental Resource	Proposed Project	No Project Alternative	Reduced Growth Assumptions Alternative	Increased Recycled Water Recharge Alternative
Meets All Project Objectives?	Yes	No	Partial	Partial
Environmental Impacts				
Aesthetics	LSM	-	-	-
Agriculture and Forestry Resources	LTS	-	0	0
Air Quality and Greenhouse Gas	LSM	-	-	-
Biological Resources	LSM	-	-	-
Cultural Resources	LSM	-	-	-
Energy	LTS	-	-	-
Geology, Soils, Seismicity	LSM	-	-	-
Hazards and Hazardous Materials	LSM	-	-	-
Hydrology and Water Quality	LTS	-	-	-
Land Use	LTS	-	0	0
Noise	SU	-	-	-
Transportation	LSM	-	-	-
Tribal Cultural Resources	LSM	-	-	-
Utilities and Service Systems	LSM	-	0	0
Wildfire	LSM	-	0	0
Cumulative Impacts	LSM	-	-	-

LTS = less than significant
LSM = less than significant with mitigation
SU = significant and unavoidable
+ = more severe/more intense
- = less severe/less intense
0 = no change
SOURCE: ESA 2026.

6.4 References

WMWD (Western Municipal Water District). 2025. *Riverside Facilities Master Plan: Potable Water, Recycled Water & Wastewater*. Prepared by Dudek. December 2025.

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CHAPTER 7
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