PURE WATER
SOUTHERN CALIFORNIA

Infrastructure Project Application for Pure Water Southern California

Prepared for:

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ACRONYMS AND ABBREVIATIONS

AFY	acre-feet per year
ASCE	American Society of Civil Engineers
AWP	Advanced Water Purification
Bay-Delta	Sacramento-San Joaquin River Delta
CAP	Climate Action Plan
CAMP4W	Climate Adaptation Master Plan for Water
CCPP	Construction Careers Pipeline Program
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRA	Colorado River Aqueduct
CWC	California Water Code
DAC	disadvantaged community
DWR	Department of Water Resources
EIR	Environmental Impact Report
EV	Electric Vehicle
GHG	greenhouse gas
Governor	Governor of California
GWP	global warming potentials
IPCC	Intergovernmental Panel on Climate Change
IPR	indirect potable reuse
ISI	Institute for Sustainable Infrastructure
JOS	Joint Outfall System
LAEDC	Los Angeles County Economic Development Corporation
LOI	Letters of Intent
LST	localized significance thresholds
MBR	membrane bioreactor
Metropolitan	The Metropolitan Water District of Southern California
MGD	million gallons per day
N_2O	nitrous oxide
NIC	Grace F. Napolitano Pure Water Southern California Innovation Center
PLA	Project Labor Agreement
PRC	Public Resources Code
Pure Water	Pure Water Southern California
RO	reverse osmosis
SANDAG	San Diego Association of Governments
Sanitation Districts	Los Angeles County Sanitation Districts
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SWP	State Water Project
USBR	United States Bureau of Reclamation
UV/AOP	ultraviolet advanced oxidation disinfection process
Warren Facility	A.K. Warren Water Resource Facility

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1.0 PROJECT BACKGROUND AND STATUS

The Metropolitan Water District of Southern California (Metropolitan) submits this application in accordance with California Public Resources Code (PRC) Division 13, Chapter 7, commencing with Section 21189.80. Specifically, this application is to support the Governor of California (Governor) in certifying Pure Water Southern California (Pure Water) as an infrastructure project under PRC Section 21189.82, and specifically as a "water-related project" as defined in PRC Section 21189.81(h)(1)(C).

Pure Water is a proposed partnership between Metropolitan and the Los Angeles County Sanitation Districts (Sanitation Districts) to beneficially reuse cleaned wastewater that is currently being discharged to the Pacific Ocean from the Sanitation Districts' A.K. Warren Water Resource Facility (Warren Facility) in the City of Carson. At full buildout, Pure Water would purify up to 150 million gallons per day (MGD), making it one of the largest programs of its kind in the world. Implementation of Pure Water would provide regional benefits to all Metropolitan member agencies by: (1) reducing reliance on imported water; (2) diversifying locally available supplies; (3) improving resilience to climate change and other stressors; and (4) enhancing operational reliability and flexibility.

An overview of Metropolitan, the Sanitation Districts, the project, and its schedule are provided below. Chapter 2 provides an overview of PRC section requirements applicable to Pure Water, followed by a description of how Pure Water complies with the requirements.

1.1 THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Metropolitan is a public agency incorporated in 1928 pursuant to the Metropolitan Water District Act (Statutes 1969, ch.209, as amended; Deering's California Water Code [CWC] – Uncodified Act 570) to build the Colorado River Aqueduct (CRA), a facility it still owns and operates. Metropolitan's primary purpose is to provide a supplemental water supply for domestic and municipal uses to its 26 member agencies, which include 14 cities, 11 municipal water districts (MWDs), and 1 county water authority. Metropolitan is governed by a 38-member Board composed of representatives from the member agencies.

Metropolitan's service area encompasses 5,200 square miles of the Southern California region. It extends about 200 miles along the Pacific Ocean from the City of Oxnard on the north to the international boundary with Mexico on the south, and it reaches as far as 70 miles inland from the coast (**Figure 1**). It includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura. Approximately 86 percent of the people living in those counties reside within Metropolitan's service area boundaries. Metropolitan estimates that approximately 18.6 million people, almost half of the state's population, were living in its service area as of 2024, based on official estimates from the California Department of Finance and on population distribution estimates from the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG). Metropolitan has historically provided between 40 and 60 percent of the municipal, industrial, and agricultural water used annually within its service area.

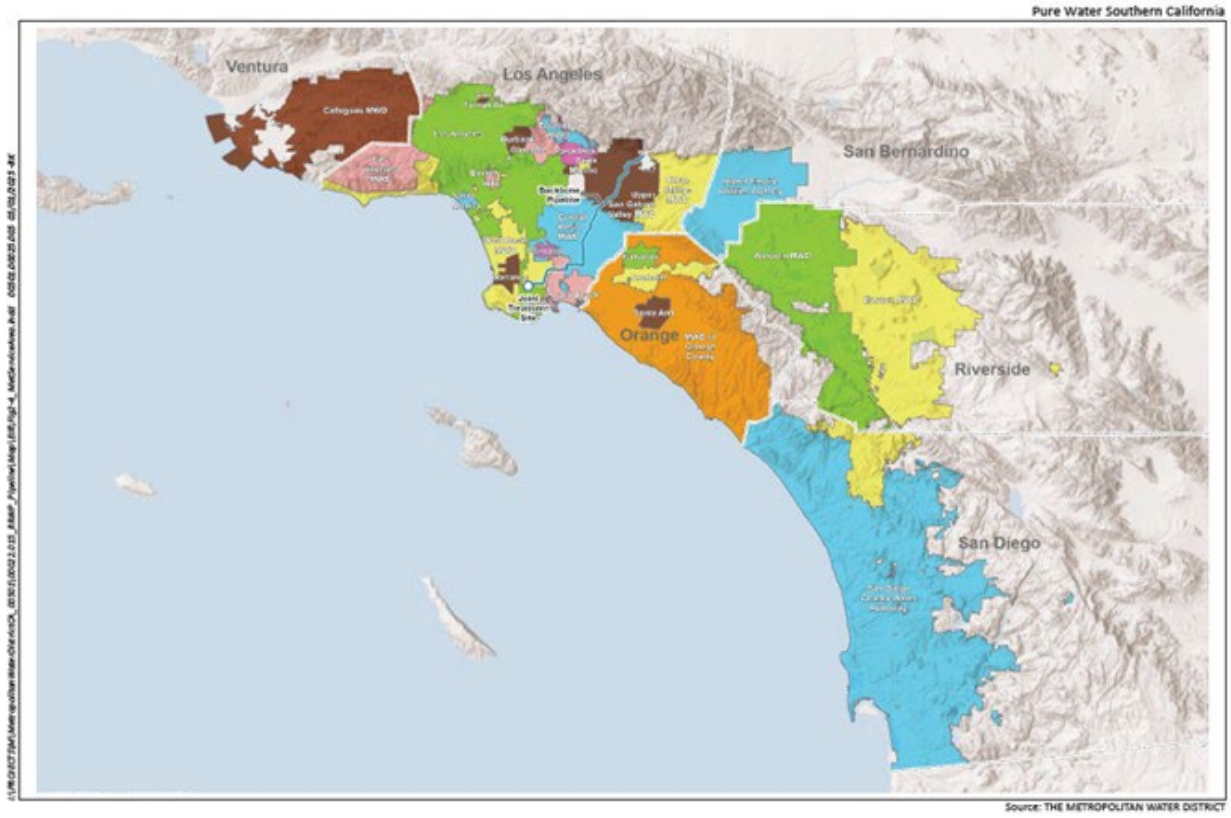


Figure 1. Metropolitan Service Area

Metropolitan imports water from two sources: the Colorado River via the CRA and the Sacramento-San Joaquin River Delta (Bay-Delta) via the State Water Project (SWP) through the California Aqueduct. The total amount of water and proportion available from each of these sources varies from year to year. The remaining water supply in the service area comes from local wells, surface water in local reservoirs, recycling, and the City of Los Angeles' aqueducts from the Owens Valley/Mono Basin east of the Sierra Nevada. In addition to importing water, Metropolitan supports its member agencies in developing local water conservation, recycling, storage, and resource management programs.

The Colorado River was Metropolitan's original source of water upon Metropolitan's establishment in 1928. Metropolitan has certain rights to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. The CRA transports water from Lake Havasu, at the border of the state of California with Arizona, approximately 242 miles to its terminus at Lake Mathews in Riverside County. In addition to the CRA, Metropolitan's existing facilities include a distribution system with 9 reservoirs, 5 water treatment plants, 16 hydroelectric plants, approximately 830 miles of large-diameter pipelines, and 400 connections to member agencies.

Metropolitan also has certain contract rights with respect to the SWP. The SWP is owned by the state of California and is operated and maintained by its Department of Water Resources (DWR). The SWP transports Feather River water stored in and released from Lake Oroville and conveyed through the Bay-Delta, as well as unregulated flows diverted directly from the Bay-Delta, south via the California Aqueduct to four delivery points. Under its contract, Metropolitan receives various supplies via the SWP, including water that is allocated by DWR on an annual basis. This allocation can vary dramatically from year to year and is dependent on many factors, such as precipitation, snowpack, available storage, water

quality, and environmental regulations and constraints. Metropolitan also has the contractual right to use the SWP conveyance system to convey both SWP and non-SWP supplies, subject to any applicable capacity limitations or operational restrictions.

Metropolitan would construct, own, and operate most of the treatment and conveyance facilities associated with Pure Water and, as such, is serving as the lead agency for purposes of this application and the environmental review (California Environmental Quality Act [CEQA] Guidelines Sections 15050-51, 15367).

1.2 LOS ANGELES COUNTY SANITATION DISTRICTS

The Sanitation Districts consist of 24 independent special districts that form a regional public agency that collects and treats wastewater for over 5.5 million people in Los Angeles County. Their service area covers about 850 square miles and encompasses 78 cities and unincorporated territories within the County (**Figure 2**). The 24 districts work cooperatively under a Joint Administration Agreement.

The Sanitation Districts construct, operate, and maintain facilities to convey and treat domestic and industrial wastewater, manage discharge of cleaned wastewater, and generate recycled water, electrical power, and biosolids as products of the treatment processes. The Sanitation Districts' wastewater system includes approximately 1,400 miles of sewers, 49 pumping plants, and 11 wastewater treatment plants. This system conveys and treats approximately half of the wastewater produced in the County. Ten of these wastewater treatment plants provide water reclamation (and are thus referred to as wastewater reclamation plants) that produce recycled water available for reuse, while one wastewater treatment plant, the Warren Facility, does not currently provide water reclamation (except for onsite reuse). The water reclamation plants capture and treat low-salinity wastewater to produce high-quality recycled water that is safe for human contact and can be used for a variety of uses, including landscape irrigation, dust control, and groundwater replenishment. The Sanitation Districts also provide solid waste management services for approximately 20 percent of the County's disposal needs through the operation of two sanitary solid waste landfills, two materials recovery/transfer facilities, and two facilities that convert landfill gas into renewable energy.

Seventeen of the 24 independent special districts that make up the Sanitation Districts are served by a regional, interconnected system of facilities known as the Joint Outfall System (JOS), which extends from the City of La Cañada-Flintridge south to the City of Long Beach and from the City of Los Angeles east to Orange and San Bernardino counties. The JOS serves approximately 5 million people in 73 cities and unincorporated territories, including small areas within the City of Los Angeles, Orange County, and San Bernardino County. The JOS includes seven wastewater treatment plants, the largest one being the Warren Facility, and the other six are smaller-scale water reclamation plants. The Warren Facility treats higher-salinity wastewater along with the solids removed at the six water reclamation plants that are part of the JOS. The Warren Facility is one of the largest wastewater treatment plants in the world and treats an average of approximately 250 MGD of wastewater. This cleaned wastewater is currently discharged to the Pacific Ocean and is one of the last significant potential sources of untapped cleaned wastewater in Metropolitan's service area that could be purified for potable reuse.

The Sanitation Districts would construct, own, and operate the treatment facilities upstream of the reverse osmosis (RO) process associated with Pure Water and, as such, is serving as a responsible agency for purposes of the environmental review (CEQA Guidelines Sections 15096, 15381).

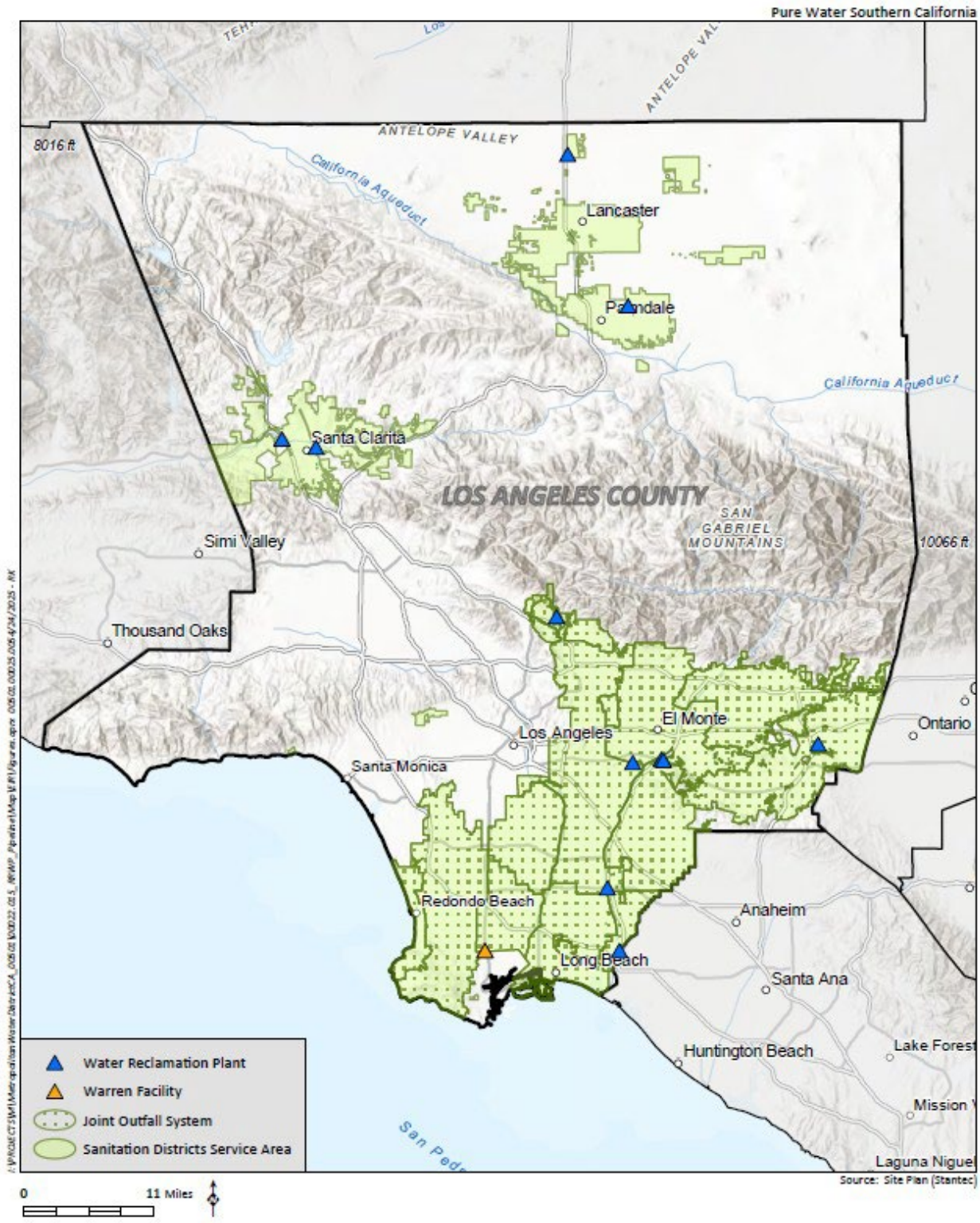


Figure 2. Sanitation Districts Service Area

1.3 PROJECT DESCRIPTION

Pure Water would produce a new sustainable local water supply by harvesting one of the region's largest untapped sources of cleaned wastewater[1] to produce nearly 155,000 acre-feet per year (AFY) of highly purified water, enough to meet the annual needs of over 500,000 households. This new water supply would help reduce the region's dependence on imported water and would assist the region in addressing potential disruptions to imported water supplies. Pure Water not only would provide a more diversified water supply to Southern California, it also would enhance Metropolitan's operational resilience, reliability, and flexibility in the face of ongoing challenges such as long-term drought and climate change.

Pure Water's proposed facilities and components would be located within Los Angeles County and would extend from the City of Carson to as far north as the City of Azusa and as far east as the City of La Verne (**Figure 3**). A summary of Pure Water is provided below, and a detailed description of Pure Water from the upcoming Final Environmental Impact Report (EIR) is provided as **Attachment A**.

Figure 3. Pure Water Area

[1] "Cleaned wastewater" is a general term referring to wastewater that has been treated at a wastewater treatment plant to remove solids and organic matter and may be used interchangeably with treated wastewater.

Pure Water would involve purification of cleaned wastewater obtained from the Sanitation Districts' existing Warren Facility, utilizing a new Advanced Water Purification (AWP) Facility. This new AWP Facility would use a state-of-the-art purification process consisting of membrane bioreactors (MBR), RO, and ultraviolet light/advanced oxidation process (UV/AOP) to produce up to 150 MGD, or nearly 155,000 acre-feet per year (AFY)[2], of sustainable, highly purified water[3]. Specifically, it would be used to recharge the West Coast, Central, and Main San Gabriel groundwater basins through spreading facilities and injection wells and to augment water supplies at existing WTPs owned and operated by Metropolitan within its service area. A portion of this purified water also may be used for non-potable reuse purposes, including landscape irrigation and industrial process applications. The purified water would be pumped from a new pump station as part of the AWP Facility to a new backbone conveyance system as described below.

To support this new AWP Facility, certain improvements to the Warren Facility would be needed. These include adding a sidestream centrate treatment system and associated ancillary facilities to reduce the amount of nitrogen in the cleaned wastewater going to the AWP Facility. In addition, a new Workforce Training Center would be developed to provide comprehensive hands-on training for a variety of trades and certification needs related to the water and wastewater industries.

Collectively, the AWP Facility, Warren Facility improvements, and Workforce Training Center would be constructed at a location referred to as the Joint Treatment Site. The Joint Treatment Site encompasses a portion of the Warren Facility and some adjacent property owned by the Sanitation Districts. The Joint Treatment Site is shown in **Figure 4**.

[2] One MGD is roughly equivalent to 1,121 AFY. The estimate of 155,000 AFY assumes that the AWP Facility would operate at full capacity 92 percent of the time.

[3] IPR involves the use of recycled water to replenish drinking water supplies indirectly, where a suitable environmental barrier is in place prior to potable reuse. DPR involves the use of highly treated recycled water to replenish drinking water supplies directly, where no environmental barrier is in place prior to potable reuse. IPR and DPR are discussed further in Section 2.4 of the Draft EIR.

Figure 4. Joint Treatment Site

Distribution of purified water produced at the AWP Facility would require construction of a new backbone conveyance system consisting of approximately 39 miles of pipeline (backbone pipeline), two pump stations, and multiple service connections. The backbone pipeline would be divided into eight segments or reaches extending from the AWP Facility in the City of Carson to the San Gabriel Canyon Spreading Grounds in the City of Azusa (**Figure 5**). Purified water would be distributed along the backbone pipeline to replenish groundwater basins via new recharge facilities, including spreading facilities and injection wells.

Facilities for DPR would include additional treatment facilities, pipeline connections from the backbone pipeline to Metropolitan's Weymouth WTP, and associated pump stations. Facilities for non-potable uses would include service connections along the backbone pipeline and small-diameter pipelines for distribution.

Several existing Sanitation Districts support facilities within the footprint of the future AWP Facility would be demolished and rebuilt elsewhere within the Warren Facility. These support facilities include a warehouse with outdoor storage space; an outdoor grit, screenings, and sewer cleanings handling area (pit); and a Secondary Treatment Area Research Facility. All the new Sanitation Districts support facilities would be located in vacant or underutilized areas in the northeastern portion of the Warren Facility.

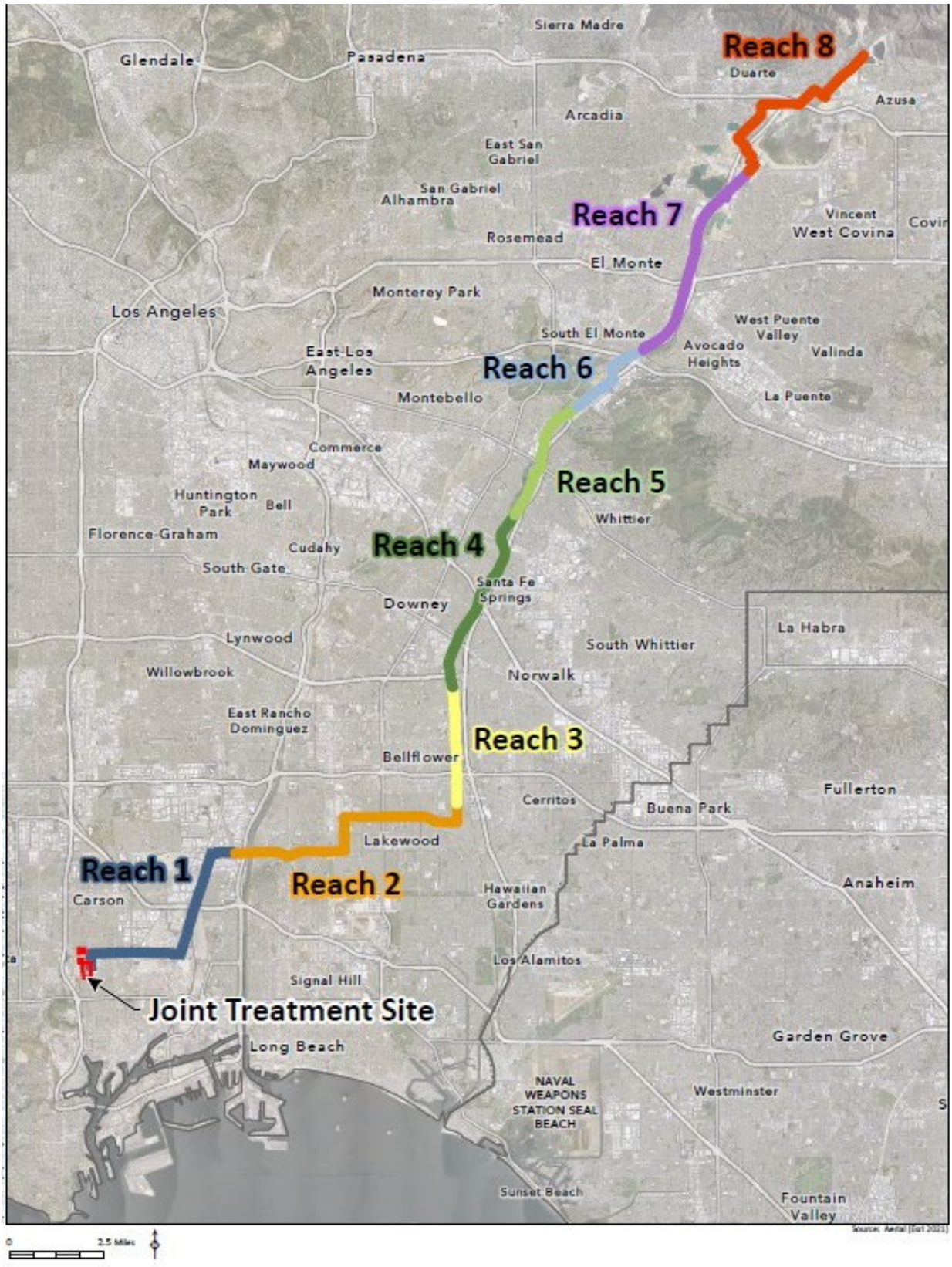


Figure 5. Backbone Pipeline Reaches

In summary, the proposed key facilities and components of Pure Water include:

- A new Joint Treatment Site, consisting of a new AWP Facility, pre-treatment processes such as the MBR, sidestream centrate treatment, and associated improvements to the Warren Facility, and a new Workforce Training Center;
- A new backbone conveyance system, consisting of a backbone pipeline, pump stations, and multiple service connections;
- New groundwater recharge facilities, including spreading facilities and injection wells;
- New DPR facilities, including associated treatment facilities, pipelines, and pump stations;
- New non-potable water facilities, including smaller pipelines and service connections; and
- New Sanitation Districts support facilities, including a warehouse; a grit, screenings, and new sewer cleanings handling station, and a research facility.

The facilities and components comprising Pure Water are discussed in detail in the Draft EIR, Chapter 4, Project Phasing and Detailed Description.

Key Pure Water operations and maintenance elements include:

- **Joint Treatment Site** – During operation, most administrative services, inspections, maintenance activities, and deliveries would occur during regular working hours. Treatment processes, water quality monitoring, pumping, and management of residual wastes would occur continuously throughout the day and night, as needed. To operate the fully built-out Joint Treatment Site, approximately 194 staff would be required. In addition, the visitor center at the AWP Facility is anticipated to receive an average of 10 visitors per day, and the Workforce Training Center is anticipated to serve approximately 31 trainees per day.
- **Backbone Conveyance System** – Operational activities for the backbone pipeline, pump stations, and service connections would include periodic inspection and maintenance. The pump stations would be monitored and operated from a regional operational control center with no regular onsite staff.
- **Recharge Facilities** – Operational activities associated with the spreading facilities and injection wells would include periodic inspection and maintenance. These facilities would be unstaffed.
- **DPR Facilities** – Operational activities for these facilities would be similar to those described above for the Joint Treatment Site (for treatment facilities) and the backbone conveyance system (for pipelines and pump stations).
- **Non-potable Water Facilities** – These facilities are anticipated to be located within public roadways and on Sanitation Districts-owned property. Operational activities would include periodic inspection and maintenance.
- **Sanitation Districts Support Facilities** – Operational activities at these facilities would generally be similar to those at the existing facilities that are being replaced.

1.4 SUMMARY OF ALTERNATIVES

As required by CEQA, a reasonable range of alternatives to Pure Water is considered and discussed in the Draft EIR. Those alternatives are set forth in detail in Chapter 9, and they were developed following an extensive screening process, with the goal of identifying potentially feasible means of attaining the basic program objectives, while avoiding or substantially lessening potentially significant environmental effects. The alternatives considered in detail include each of the following:

- **No Project Alternative**: As required by CEQA, the EIR presents what would be reasonably expected to occur in the foreseeable future if Pure Water is not constructed and operated.

- **115-MGD Alternative**: This alternative would treat and convey 90 MGD of water for non-potable and IPR purposes, similar to Pure Water as proposed. However, the amount of water purified and conveyed for DPR purposes under this alternative would be reduced from 60 MGD to 25 MGD. This reduced scale of water production would also involve a reduction in the scale of the DPR treatment facilities. The size and operational requirements of the backbone conveyance facilities would also be reduced, and the need for a new DPR pipeline and associated pump stations would be avoided.

- **Indirect Potable Reuse Only (90-MGD) Alternative**: This alternative would provide for treatment and conveyance of 90 MGD of water for non-potable and IPR purposes, similar to Pure Water as proposed. However, this alternative would not include any treatment or conveyance of water for DPR purposes. This alternative would involve foregoing construction and operation of the DPR treatment facilities (including at the AWP Facility, Weymouth WTP, and/or a satellite treatment facility), upgrades to the existing Azusa Pipeline, and construction of a new DPR pipeline and pump stations. The size and operational requirements of the backbone conveyance facilities would also be reduced.

- **Seven-foot-diameter Pipeline Alternative**: This alternative would be similar to Pure Water as proposed, except that the portion of the backbone pipeline north of Whittier Narrows would be seven feet in diameter rather than the nine-foot-diameter that is currently proposed. This alternative would provide sufficient capacity to convey all Pure Water flows to their intended destinations but would not provide capacity in the northern portion of the pipeline for potential future integration with other regional water supply systems. Additionally, the reduced size of the pipeline in this alternative would enable approximately 2.6 miles more of the pipeline to be constructed via trenched construction rather than tunneling.

- **Northern Pipeline Re-route Alternative**: This alternative would re-route the alignment of the backbone pipeline north of Huntington Drive. This alternative would place more of the backbone pipeline in roadways.

- **Los Angeles River Backbone Alignment Alternative**: This alternative would re-route the portion of the backbone pipeline south of Whittier Narrows to place the pipeline primarily within Southern California Edison and Los Angeles County Flood Control District rights-of-way, paralleling the Los Angeles River and then the Rio Hondo Channel, and would include placement of portions of the pipeline within public streets and rights-of-way where necessary based on corridor width.

Table 1 summarizes the environmental comparison between Pure Water and the six alternatives. Environmental resource categories for which an alternative would result in reduced impacts relative to Pure Water are indicated with a minus sign ('-'), while environmental resource categories for which an alternative would result in increased impacts are indicated with a plus sign ('+').

Table 1
COMPARISON OF PURE WATER AND ALTERNATIVE IMPACTS

Environmental Resource Category	Pure Water	No Project Alternative	115-MGD Alternative	Indirect Potable Reuse Only (90-MGD) Alternative	Seven-foot-diameter Pipeline Alternative	Northern Pipeline Re-route Alternative	Los Angeles River Backbone Alignment Alternative
Air Quality	SU*	N	SU*-	SU*-	SU*+	SU*	SU*
Biological Resources	SM	N	SM-	SM-	SM-	SM-	SM-
Cultural Resources	SU	N	SU-	SU-	SU	SU-	SU-
Energy	N	N	N-	N-	N+	N	N-
Geology and Soils (Paleontological Resources)	SM	N	SM-	SM-	SM	SM	SM-
Greenhouse Gas Emissions	N	N	N-	N-	N+	N	N-
Hazards and Hazardous Materials	N	N	N-	N-	N-	N+	N+
Hydrology and Water Quality	N	N	N-	N-	N	N	N-
Land Use and Planning	N	N	N	N	N	N	N
Noise	SU*	N	SU*-	SU*-	SU*+	SU*+	SU*
Transportation	N	N	N-	N-	N+	N+	N-
Tribal Cultural Resources	SU	N	SU-	SU-	SU	SU	SU-

SM = significant but mitigable impacts
SU = significant and unavoidable impacts
SU* = Significant and unavoidable impact during construction only
N = no significant impacts
– = reduced impact level(s) relative to Pure Water as proposed
+ = increased impact level(s) relative to Pure Water as proposed

1.5 METROPOLITAN'S COMMITMENT TO SUSTAINABILITY AND COMMUNITY

Metropolitan is committed to sustainability and community. A summary of applicable initiatives, plans, and programs supporting Pure Water is provided below.

Stewardship Programs, Plans, and Initiatives

Pure Water would include specific environmental commitments and mitigation measures to address anticipated impacts of the program, both as designed and as built. Beyond this, Metropolitan has programs, plans, and initiatives aimed at fulfilling its mission to provide "its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way." In addition, Metropolitan and the Sanitation Districts are working together to ensure Pure Water is pursued in a manner that is sensitive to the communities that would be most affected by this program. The discussion below briefly summarizes those stewardship programs, plans, initiatives, and actions that are most pertinent to Pure Water.

Climate Action Plan

In May 2022, Metropolitan adopted a comprehensive Climate Action Plan (CAP), which set a path to achieve the state's target goal of reducing greenhouse gas (GHG) emissions by 40 percent below 1990 levels and reaching carbon neutrality by 2045. The CAP sets targets and strategies for reducing GHG emissions from Metropolitan's operations, including the conveyance, storage, treatment, and delivery of water throughout its 5,200 square-mile Southern California service area. Pure Water was analyzed and included in the CAP through CAP Measure WC-6, which calls for the implementation of advanced technology systems to increase Metropolitan-owned recycled and groundwater recovery systems to maintain the local water supply. Specifically, the CAP analyzed the construction and operational GHG emissions estimated from Pure Water, including up to 40 miles of pipelines, three pump stations, and groundwater recharge activities.

Climate Adaptation Master Plan for Water

Metropolitan is developing a Climate Adaptation Master Plan for Water (CAMP4W) to address the challenges presented by climate change. CAMP4W takes a holistic approach that considers both water supply needs and financial constraints. CAMP4W is focused on expanding Metropolitan's water resource portfolio and improving the resilience and reliability of its system, while ensuring that investments are made with an eye toward affordability and financial sustainability. CAMP4W will provide a roadmap guiding Metropolitan's future selection and investment in various capital projects, including Pure Water, as it confronts the new climate reality in the years ahead.

Sustainability, Resilience, and Innovation Initiatives

In addition to its CAP and CAMP4W, Metropolitan has other initiatives focused on environmental stewardship that are overseen and managed by its Office of Sustainability, Resilience, and Innovation. These include initiatives aimed at transitioning Metropolitan's automotive fleet to zero emission vehicles; identifying and pursuing alternative sources of green energy; promoting innovative approaches to local water supply development and conservation; supporting research, evaluation, and pilot studies of water- and energy-saving technologies; managing and mitigating fire risks associated with Metropolitan's operations; and providing education and training to staff on ways to deliver more

sustainable infrastructure. These initiatives are expected to help inform and guide implementation of Pure Water as it moves forward.

Envision Framework and ASCE Standard for Sustainable Infrastructure

The Institute for Sustainable Infrastructure (ISI) is an education and research nonprofit established in 2010 by the American Public Works Association, the American Society of Civil Engineers (ASCE), and the American Council of Engineering Companies. ISI's core mission is to "help communities around the world build sustainable, resilient, and equitable civil infrastructure". In 2011, ISI published the first version of Envision, a framework and rating system aimed at helping agencies and professionals plan, design, and deliver such infrastructure. The Envision framework has been updated twice since then, and a third update is expected in 2028. In support of ISI's mission, ASCE published the Standard Practice for Sustainable Infrastructure, ASCE/COS 73-23, in October 2023. This first-of-its-kind standard "provides guidance for infrastructure owners to develop and implement sustainable solutions throughout a project's entire life cycle". Metropolitan and the Sanitation Districts intend to seek Envision verification for Pure Water and to follow ASCE/COS 73-23 where appropriate.

Workforce Development

As noted in prior chapters, Metropolitan and the Sanitation Districts plan to establish a Workforce Training Center as part of the Joint Treatment Site in the City of Carson, which would provide education, training, and certification in a wide variety of trades. This center would offer career pathways related to Pure Water, as well as opportunities across the broader water supply, wastewater management, and treatment sectors. In addition, Pure Water would be constructed under a Project Labor Agreement (PLA), which would ensure fair wages, offer robust training, and prioritize hiring local and transitional workers. A more detailed summary of the PLA is provided below, and the PLA Annual Report is provided as **Attachment B**.

Metropolitan's PLA was enacted in 2022 as a regional investment largely tied to Pure Water and other major capital programs (PLA Video: *https://youtu.be/Zh4TTlmEprE?si=XWQkxprHqD1mBpt_*). The PLA has a 60 percent goal of employing local workers and a 15 percent goal of employing transitional workers who overcome challenges to begin a career in construction. The PLA currently includes 39 projects and programs, including Pure Water. Together, these projects account for 90 percent of Metropolitan's planned construction contract expenditures over the next decade, and with Pure Water, they would cover over $10 billion in construction expenses. One of the main benefits of the PLA is the ability to cultivate a diverse workforce supported by a spirit of labor harmony with our building partners. The PLA's Construction Careers Pipeline Program (CCPP) increases opportunities for individuals from underrepresented communities to pursue careers in the construction industry. The CCPP connects Metropolitan's contractors and signatory union partners with graduates from Apprenticeship Readiness Programs, which train students using the North America's Building Trades Unions recognized multi-core craft curriculum training. The CCPP also creates opportunities for veterans in partnership with the nationally recognized Helmets to Hardhats Program. Metropolitan's commitment with the PLA is to invest locally and identify areas affected by Pure Water so that the PLA can have meaningful impacts in revitalizing the local economy and assist in training the next generation of skilled construction labor.

The Sanitation Districts are also developing a PLA for the MBR project that will have similar elements to Metropolitan's PLA, including local workforce development and labor harmony for the life of the project. Negotiations of that PLA are expected to begin later this year.

Community Improvements and Benefits

In carrying out their missions, Metropolitan and the Sanitation Districts recognize the importance of being mindful of and respectful to the communities in which they operate. As such, these agencies have taken an expansive approach to addressing the potential impacts of Pure Water on surrounding communities. Indeed, many of the environmental measures and actions being proposed go beyond the minimums required to address program needs and CEQA mandates as follows:

1. While Construction at the Joint Treatment Site would require eight onsite abandoned oil wells to be plugged or re-plugged in accordance with California Geologic Energy Management requirements, the Sanitation Districts are planning to close four other abandoned oil wells (three active and one idle) located within its property boundary south of the Warren Facility. Closure of these abandoned oil wells would eliminate a potential source of pollution and represent a benefit to those who live and work in proximity to the Warren Facility.

2. While a minimum of 1.5 MW of solar panels and 115 electric vehicle (EV) charging stations will be installed at the Joint Treatment Site to reduce potential GHG emissions associated with Pure Water, Metropolitan, and the Sanitation Districts are exploring other ways to further offset GHG emissions above that required by CEQA. This includes the 12 EV charging stations to be constructed near the CNG fueling station as part of mitigation measure AQ-MM-4, as well as potential measures such as utilizing onsite renewable energy sources during construction and operation of facilities at the Joint Treatment Site, purchasing renewable energy credits during operation of Pure Water, planting additional trees and vegetation within the footprint of its facilities and components, and incorporating other green features into the program.

3. Even though voluntary, Metropolitan and the Sanitation Districts are exploring the development of a community benefits program to offset economic, social, or other effects that are not addressed under CEQA or through compliance with other laws, rules, and regulations. Such programs often include funding or in-kind contributions in support of environmentally friendly projects or other community enhancements.

Outreach Charter and Good Neighbor Guidelines

Fostering an inclusive community outreach program is an integral part of Pure Water. Metropolitan and the Sanitation Districts have established an outreach charter with an emphasis on engaging underserved communities. As part of this charter, Metropolitan and the Sanitation Districts are committed to listening to, communicating with, and involving residents and community members in the development and implementation of Pure Water.

Metropolitan and the Sanitation Districts are also committed to following “good neighbor guidelines” for Pure Water when undertaking work in areas that may impact neighborhoods, homes, and businesses. This includes communicating potential impacts, responding to inquiries in a timely manner, and maintaining an active dialogue with affected communities, both before and during construction. It also includes collaborating with local communities to minimize the impact of such work and restoring impacted areas to their original condition or better.

1.6 PROJECT STATUS AND SCHEDULE

Pure Water is anticipated to be implemented in two primary phases. Phase 1 would focus on production of up to 115 MGD of purified water and would involve construction of the key treatment, conveyance, recharge, and support facilities needed for Pure Water. Construction of Phase 1 facilities is anticipated to start in 2027 and be completed by 2035. Phase 2 would involve expansion and/or addition of treatment facilities to produce another 35 MGD of purified water, bringing the program's full buildout capacity to 150 MGD. Construction of Phase 2 facilities is anticipated to start in 2035 and be completed in 2040. These phases are summarized in **Table 2**. All water produced by Pure Water would meet the standards and criteria required for IPR. In addition, a portion would undergo additional treatment to meet the standards and criteria required for DPR.

Table 2
PHASING SUMMARY

Program Component	Construction Schedule	Operations	
		Purified Water Volume and Standard	Start Date
Phase 1			
Initial Delivery Subphase			
AWP Facility and Ancillary Facilities (approx. 30 MGD)	2027 through 2033	30 MGD Total (IPR Only)	2033
Workforce Training Center			
Backbone Conveyance System (Reaches 1-2)			
Recharge Facilities			
Non-potable Water Facilities			
Sanitation Districts Support Facilities			
Continuation of Phase 1			
AWP Facility and Ancillary Facilities (approx. +85 MGD)	2029 through 2035	115 MGD Total (90 MGD IPR & 25 MGD DPR)	2035
Warren Facility Improvements			
Backbone Conveyance System (Reaches 3-8)			
Recharge Facilities			
DPR Treatment Facilities at Weymouth WTP			
Azusa Pipeline Retrofit			
Phase 2			
AWP Facility and Ancillary Facilities (+35 MGD)	2035 through 2040	150 MGD Total (90 MGD IPR & 60 MGD DPR)	2040
DPR Treatment at AWP Facility, Weymouth WTP, or Satellite Location			
DPR Pipeline			

Metropolitan continues to make progress in the planning and design of various components of Pure Water. Key progress on project activities is summarized below.

- **Environmental Planning** – Environmental planning efforts are well underway. Metropolitan, as the CEQA lead agency, released the Draft EIR in May 2025 for a 61-day public review. The comment period closed in July 2025. Since that time, Metropolitan has worked on addressing comments, and any revisions, clarifications, and additions will be reflected in the Final EIR. Metropolitan anticipates releasing the Final EIR in January 2026. Metropolitan's Board is currently expected to consider certification of the Final EIR and whether to adopt Pure Water in January 2026. The Sanitation Districts' Board is expected to act on Pure Water shortly thereafter in its capacity as a CEQA Responsible Agency.

- **Program Management** – In January 2023, Metropolitan's Board authorized an agreement with the joint venture of AECOM Technical Services Inc. and Brown and Caldwell for program management services to support Pure Water. The program management consultant provides project controls, scheduling, budget development, risk management, coordination with program partners and stakeholders, grants and funding, and preparation of various plans and studies to advance Pure Water.

- **Design** – Conceptual design of the treatment and conveyance facilities was recently completed. Metropolitan received the Method of Services study from Southern California Edison (SCE) in May 2025 to identify the infrastructure and costs needed to meet AWP Facility power requirements. Metropolitan is also coordinating with SCE in drafting a lease agreement for Metropolitan's usage of approximately 12 miles of SCE right-of-way along the San Gabriel River for Pure Water. The conceptual pipeline alignment has also been reviewed with municipalities and other permitting authorities, including but not limited to the United States Army Corps of Engineers, Los Angeles County Department of Public Works, Caltrans, Union Pacific Railroad, and Los Angeles County Metropolitan Transportation Authority. Preliminary design of the first two pipeline reaches is underway, including utility and geotechnical field investigations.

- **Demonstration Testing** – Metropolitan completed construction of a 0.5 MGD demonstration testing facility at the Warren Facility in the city of Carson in 2019, which has been in operation since then and renamed the Grace F. Napolitano Pure Water Southern California Innovation Center (NIC). The purpose of the demonstration facility is to demonstrate the performance of the intended advanced water treatment processes, including the MBR, RO, and UV/AOP for IPR. Metropolitan has also completed bench-scale testing to screen the potential DPR treatment processes that could be used for Pure Water. Planning of pilot-scale and demonstration-scale testing is in progress. In 2026, Metropolitan plans to upgrade the demonstration test facility to include additional pilot testing units to demonstrate DPR performance.

  The demonstration testing facility also provides valuable data and experience for Metropolitan and the Sanitation Districts to optimize the design and operation of the facility, including adjustments to the MBR biological nutrient removal process to minimize nitrous oxide (N_2O) production and off-gassing of greenhouse gases. Design optimization employed at the demonstration facility will directly inform the future design of the large-scale AWP Facility, including minimization of overall GHG emissions.

- **Agreements Development** – Between 2019 and 2022, Metropolitan entered into Letters of Intent (LOI) with eight member agencies interested in directly receiving purified water from Pure Water. In the LOIs, Metropolitan and the member agencies expressed interest in also developing agreements for the purchase and delivery of the purified water. Between April 2024 and June 2025, Metropolitan staff met with the member agencies through a series of workshops to develop key terms that establish the general expectations and performance responsibilities of Metropolitan and the member agencies for initial funding and construction of facilities necessary to connect to PWSC, as well as activities during the operation and maintenance of PWSC. The agreement terms are currently being developed and will form the basis of the purchase and delivery agreements next year.

- **Public Outreach and Community Benefits** – For nearly a decade, Metropolitan, in collaboration with the Sanitation Districts, has implemented a robust community outreach program to support Pure Water, reaching millions of people across the region. A cornerstone of the outreach program is the NIC, which has hosted tours for more than 12,000 visitors to date. Additional engagement efforts include partnerships with community-based organizations, participation in community events, presentations to stakeholders and community organizations, and targeted outreach in communities near proposed program facilities. Informational materials and messaging are accessible in multiple languages and delivered through a variety of platforms, including video, print, social media, web, and earned media. In support of the program's environmental review under CEQA, Metropolitan conducted an extensive outreach campaign for the Notice of Preparation and the Draft EIR to facilitate public involvement in the process. Outreach strategies were designed to make information easily accessible and understandable. These strategies included a dedicated website, public information meetings; advertisements in English and Spanish newspapers; social media updates; booths at community events; presentations to environmental, business, and community-based organizations; informational materials including bilingual videos, fact sheets, how-to-participate guides, mailers, e-mail blasts, and other materials, and partner toolkits to facilitate sharing. These efforts enabled two-way engagement and helped foster public understanding and input at key stages of the CEQA process.

  Metropolitan is also exploring the development of a voluntary community benefits program for Pure Water. While not required, community benefit programs are increasingly recognized as best practices for large infrastructure projects, particularly those that may have residual impacts on underserved and disadvantaged communities located near project facilities. The purpose of such a program would be to complement required environmental mitigation efforts and help address impacts to the communities most affected by the program through voluntary, community-driven actions. To date, Metropolitan has conducted baseline research, reviewing external and internal examples as well as any applicable policies or laws to inform the approach.

- **Funding** – Metropolitan has successfully secured federal grant and state funding, as well as partner contributions, to help reduce the overall cost burden to Metropolitan and allow for the advancement of necessary environmental planning and design activities. This includes approximately $16.6 million in partner contributions from the Sanitation Districts, Southern Nevada Water Authority, and Arizona Department of Water Resources. Federal grants and state funding includes $80 million from the State of California, a $1 million State of California Pilot Study Grant, a $125 million WaterSMART: Large-Scale Water Recycling Program Grant from the United States Bureau of Reclamation (USBR), a $5 million USBR Planning and Design Grant, and

a $750,000 USBR WaterSMART: Water Reclamation and Reuse Research Grant. Grant resolutions are provided as **Attachment C**.

- **Economic Analysis** – The estimated capital cost associated with full buildout of the Pure Water program is approximately $11.3 billion, with approximately 83 percent of the costs being incurred during Phase 1. The estimated operations, maintenance, and repair costs associated with the full program total approximately $286 million per year. These estimates are in 2025 dollars. Costs for Pure Water may be funded through a combination of rates and charges, grants, loans, third-party contributions, or other financing mechanisms. While implementing Pure Water would require a significant financial commitment, it would provide a host of economic benefits that extend well beyond Metropolitan's service area. According to a study prepared by the Los Angeles County Economic Development Corporation (LAEDC), construction of Pure Water's facilities and components at full build-out is expected to generate over $15.1 billion in total economic output and support approximately 75,660 job-years[4] across the Southern California region, including 43,700 job-years directly related to the program and another 31,950 job-years through indirect and induced effects. In addition, construction of Pure Water would contribute $719.4 million in state and local tax revenue and $1.4 billion in federal tax revenue. Pure Water also would have a recurring positive impact on the regional economy once construction is completed. The LAEDC study report indicates that annual operations and maintenance activities are expected to generate over $640 million in total economic output and support approximately 2,460 job-years across the Southern California region. Furthermore, these activities would contribute over $48 million in state and local taxes and over $57 million in federal taxes each year.[5]

[4] One job-year refers to a worker working full time for that year. In analyzing the total economic impacts of a multi-year development project, employment impacts are typically expressed in job-years rather than the number of jobs. This is because many associated positions are sustained over multiple years over the development period.

[5] Estimates are conservatively based on the previous 2023 program cost estimates, which was the latest information available at the time of the study.

2.0 CONSISTENCY WITH STATUTORY REQUIREMENTS FOR STREAMLINING UNDER SB 149

This chapter summarizes each applicable section of the California Public Resources Code (PRC), as amended by Senate Bill 149 (Stats. 2023, c. 60), SB 149), and describes how Pure Water complies with the requirements in the section. Additional supporting information is provided in attachments, as warranted.

2.1 WATER-RELATED PROJECT

PRC Section 21189.81(e)(4) defines the term "infrastructure project" to include a "water-related project." PRC section 21189.81(h)(1)(C) defines a "water-related project" to include "Projects for the development of recycled water, as defined in Section 13050 of the Water Code."

Pure Water qualifies as an "infrastructure project" and "water-related project" under PRC Sections 21189.81(e)(4) & (h)(1)(C). California Water Code Section 13050 defines "recycled water" as "water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource." As noted in the description above, Pure Water will purify cleaned wastewater to make the water suitable for direct beneficial use.

2.2 PUBLIC WORKS

PRC section 21189.81(h)(2) states that water-related projects "are public works for the purposes of Section 1720 of the Labor Code and shall comply with the applicable provisions of Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the Labor Code."

Pure Water is a public works project for purposes of Section 1720 of the Labor Code, and Metropolitan will comply with the applicable provisions of Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the Labor Code. With respect to apprenticeship ratio requirements in particular, Metropolitan requires contractors to comply with the minimum and maximum apprenticeship ratio requirements as set forth in Labor Code § 1777.5. This requirement is documented in Paragraph 55 of Metropolitan's General Conditions Standard Specification Document, as well as Article 14 of the PLA, both of which are provided in **Attachment B**. No alternate ratios have been established for Pure Water.

2.3 COURT COSTS

PRC section 21189.82(a)(4)(B)(i) states that project applicant must agree "to pay the costs of the trial court and the court of appeal in hearing and deciding any case challenging a lead agency's action on a certified project under this division, including payment of the costs for the appointment of a special master if deemed appropriate by the court, in a form and manner as provided in the rule of court adopted by the Judicial Council under Section 21189.85."

Metropolitan is committed to pay these costs, should they occur.

2.4 COST OF THE RECORD OF PROCEEDINGS

PRC Section 21189.82(a)(4)(B)(ii) states that project applicant must agree "to pay the costs of preparing the record of proceedings for the project concurrent with the review and consideration of the project under this division, in a form and manner specified by the lead agency for the project."

Metropolitan is committed to pay these costs and authorize the services necessary to complete this work on the timeline required for compliance to achieve the certification.

2.5 RECORD OF PROCEEDINGS PROVISIONS

PRC Section 21189.82(a)(4)(B)(iii) states that for a project for which environmental review has commenced, the applicant must demonstrate "that the record of proceedings is being prepared in accordance with Section 21189.86."

The environmental review for Pure Water has commenced, and Metropolitan is working to ensure compliance with the provisions of Section 21189.86 as expeditiously as possible.

In May 2025, Metropolitan issued a Draft EIR for Pure Water. At the same time, Metropolitan posted a link on the Pure Water website with all readily available records along with a statement that Metropolitan planned to seek SB 149 certification for the project. Metropolitan will comply with PRC Section 21189.86 and continue to post relevant records as they become available.
See: *https://www.mwdh2o.com/building-local-supplies/pure-water-southern-california* and *https://bda.mwdh2o.com/ceqa%20record%20of%20proceeding/forms/allitems.aspx*.

Table 3 summarizes the Metropolitan's efforts to gather the record of proceedings and make this record available on its website.

Table 3
STATUS OF PURE WATER CEQA RECORD OF PROCEEDINGS

PRC Section 21189.86 Requirement	Metropolitan's Current Efforts to Achieve Compliance
21189.86. Notwithstanding any other law, the preparation and certification of the record of proceedings for an infrastructure project shall be performed in the following manner:	
(a) The lead agency for the project shall prepare the record of proceedings under this division concurrently with the administrative process.	Metropolitan is working to gather the complete record of proceedings and make the record available on its website as quickly as possible. All available records, other than relevant and disclosable email correspondence currently being reviewed, has been posted.
(b) All documents and other materials placed in the record of proceedings shall be posted on, and be downloadable from, an internet website maintained by the lead agency commencing with the date of the release of the draft environmental impact report.	Metropolitan posted all readily available documents and materials to its website on the date that the DEIR was released and continues to post additional documents materials as they become available. Documents may be found at the link above. This link is also available on Metropolitan's Pure Water website for ease of public access, at the link above.

PRC Section 21189.86 Requirement	Metropolitan's Current Efforts to Achieve Compliance
(c) The lead agency shall make available to the public in a readily accessible electronic format the draft environmental impact report and all other documents submitted to, or relied on by, the lead agency in preparing the draft environmental impact report.	The 2025 Draft EIR is currently available on Metropolitan's website. All materials relied upon in these documents, that are not protected by copyright restrictions, are available in an electronic format by contacting Metropolitan. All comments on the 2025 Draft EIR are available on Metropolitan's website. Metropolitan will make all other relevant and disclosable documents submitted to or relied upon in the preparation of the EIR available in an electric format on its website by the date of the Governor's certification.
(d) Any document prepared by the lead agency or submitted by the applicant after the date of the release of the draft environmental impact report that is a part of the record of proceedings shall be made available to the public in a readily accessible electronic format within five days after the document is released or received by the lead agency.	All such documents are available on Metropolitan's website and Metropolitan will continue to comply with this requirement.
(e) The lead agency shall encourage written comments on the project to be submitted in a readily accessible electronic format and shall make any comment available to the public in a readily accessible electronic format within five days of its receipt.	Metropolitan performed extensive outreach when soliciting written comments on the Draft EIR and provided options to submit comments in electronic and other formats. All comments on Pure Water have been posted on the website with other available records. Consistent with CEQA provisions governing responses to Draft EIR comments, Metropolitan will respond as appropriate to any comments or other correspondence related to Pure Water that it receives.

2.6 MINIMIZATION OF GREENHOUSE GAS EMISSIONS

PRC Section 21189.82(a)(4)(C) states that the Governor may certify a project as a water-related project for purposes of this chapter only if the Governor finds that greenhouse gas emissions resulting from the project will be mitigated to the extent feasible.

Chapter 5, Section 5.6 Greenhouse Gas Emissions, of the Pure Water Draft EIR addresses the potential GHG emissions impacts of Pure Water. Potential impacts associated with construction and operation of Pure Water's facilities and components have been analyzed at the program level. The potential impacts associated with certain facilities and components are further analyzed at a project level where sufficient information is available. The program-level analysis is based on readily available, general information derived from applicable resources and planning documents. The project-level analysis further considers and is based on the information, data, assumptions, and methodologies presented in the Draft EIR.

The analysis demonstrates that Pure Water is consistent with Metropolitan's 2022 CAP, a qualified GHG reduction plan under CEQA Guidelines Section 15183.5, which establishes measures to achieve statewide GHG targets, including carbon neutrality by 2045. Pure Water incorporates environmental commitments, which include, but are not limited to, onsite renewable energy, EV charging infrastructure, energy recovery systems, and use of biogenic carbon supplements. These commitments are in addition to those identified in the CAP, and Pure Water would also comply with the Wilmington, Carson, West Long Beach Community Emissions Reduction Plan.

With respect to nitrogen in particular, both the CAP and the Draft EIR account for N_2O emissions, which are generated as a byproduct of the MBR nitrification-denitrification biological process. N_2O is a potent greenhouse gas, and its emissions are included in Metropolitan's GHG emissions forecast and carbon budget. As with other non-CO_2 greenhouse gases, N_2O emissions are converted to carbon dioxide equivalent (CO_2e) using global warming potentials (GWPs) published by the Intergovernmental Panel on Climate Change (IPCC). This allows all GHGs, whether methane, N_2O, or CO_2, to be reported on a consistent basis, based on their relative contribution to global warming. While these specific emissions cannot currently be eliminated, Metropolitan's CAP ensures that total emissions across its operations are reduced to the extent feasible and aligned with the state's long-term climate goals. The CAP includes a broad suite of measures, such as transitioning to 100% carbon-free electricity under SB 100, improving energy efficiency, electrifying vehicle fleets, and pursuing renewable energy projects, that together will enable Metropolitan to achieve carbon neutrality by 2045. These cumulative reductions offset residual emissions from essential processes like biological treatment, ensuring that Metropolitan remains on track to meet its climate commitments.

Metropolitan's CAP is designed as a flexible, agency-wide GHG reduction strategy that incorporates a carbon budget and implementation framework to accommodate project-level refinements. The CAP's carbon budget spans the 2005 to 2045 period and sets annual targets to keep Metropolitan on track toward carbon neutrality by 2045. Through 2022, Metropolitan emitted approximately 5,408,096 metric tons (MT) of CO_2e emissions, which is only 55 percent of the cumulative budgeted emissions for that period and demonstrates significant progress toward interim targets. For the remaining period from 2023 through 2045, the CAP established a total carbon budget of 9,252,380 MT CO_2e.

While the CAP originally projected 5,340 MT CO_2e per year for Pure Water nitrification-denitrification process emissions, the project-level analysis presented in the Draft EIR updates this estimate to 41,668 MT CO_2e per year, resulting in a 36,328 MT CO_2e per year increase over what was originally included in

the CAP. This update is based on refined, site-specific nitrogen concentrations and updated IPCC methodology (see **Attachment D**).

As described in the Draft EIR, Pure Water would remain within the CAP's carbon budget under the low- and average-emissions scenarios. Under the high-emissions scenario, the overall carbon budget would be exceeded by 1,522,195 MT CO_2e. However, Phase 1 actions identified in the CAP are projected to reduce emissions by up to 2,003,695 MT CO_2e under the high-emissions scenario, more than offsetting the 1,522,195 MT CO_2e forecasted exceedance. Therefore, even with the increase in process emissions, Pure Water would not interfere with Metropolitan's ability to meet its 2030 or 2045 GHG reduction targets. This conclusion is supported by the analysis in Section 5.6.5.1 of the Draft EIR, which finds that the program's GHG emissions are not high enough to affect Metropolitan's ability to achieve its long-term climate goals. In addition, the project's emissions would be tracked as part of Metropolitan's ongoing carbon budgeting process and managed within the broader framework of CAP implementation.

Therefore, based on consistency with the CAP and Metropolitan's carbon budget, Pure Water would not generate GHG emissions that may have a significant impact on the environment, and any GHG impacts would be less than significant without mitigation. The complete GHG analysis as presented in Chapter 5 of the Draft EIR, along with two technical memoranda[6] supporting the analysis and referenced in the Draft EIR, are included in **Attachment D**.

Table 4 summarizes the environmental commitments, potential impacts, and significance determinations for Pure Water with respect to GHG emissions. As shown, Pure Water would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, resulting in the potential environmental impacts being **less than significant without mitigation**.

Table 4
SUMMARY OF ENVIRONMENTAL IMPACTS RELATED TO GREENHOUSE GAS EMISSIONS

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Greenhouse Gas Emissions					
GHG Emissions	**GHG-EC-1: Onsite Renewable Energy.** **GHG-EC-2: Electric Vehicle Charging.** **GHG-EC-3: Energy Recovery.**	Pure Water would not generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a	Less than Significant	No mitigation is required.	Less than Significant

[6] The increase in emissions and its implications on the CAP budget were analyzed in the Rincon Consultants, Inc. 2024 memorandum titled *Pure Water Greenhouse Gas Emissions Consistency with the Metropolitan Climate Action Plan Analysis*, which is referenced and summarized in Section 5.6 of the Draft EIR. Pure Water's project-level GHG emissions estimates have been refined since completion of Rincon's 2024 report; however, the refined emissions estimates are lower than what was considered and therefore the analysis and conclusions in Rincon's 2024 report remain applicable. In addition, the calculation methodology for nitrification-denitrification process emissions, as referenced in the Draft EIR Appendix B, is summarized in the Sanitation Districts' 2025 memorandum titled *PWSC BNR Net N2O Emissions Estimate Considering Ocean Nitrogen Discharge*.

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	GHG-EC-4: Biogenic Carbon Supplement. Metropolitan shall add a biogenic carbon supplement, such as glycerin-based MicroC-2000 manufactured by Environmental Operating Solutions, Inc., to support both denitrification and biological phosphorus removal at the AWP Facility.	significant impact on the environment.			
Conflict with GHG Reduction Plan	**GHG-EC-1: Onsite Renewable Energy.** **GHG-EC-2: Electric Vehicle Charging.** **GHG-EC-3: Energy Recovery.** **GHG-EC-4: Biogenic Carbon Supplement.**	Pure Water would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	No Impact	No mitigation is required.	No Impact

2.7 DISADVANTAGED COMMUNITIES

PRC Section 21189.82(c)(1) states that an applicant for certification of an infrastructure project under this chapter must avoid or minimize significant environmental impacts in any disadvantaged community.

PRC Section 21189.82(c)(2) states that if measures are required pursuant to this division to mitigate significant environmental impacts in a disadvantaged community, mitigate those impacts consistent with this division, including Section 21002. Mitigation measures required under this subdivision shall be undertaken in, and directly benefit, the affected community.

PRC Section 21189.82(c)(3) indicates that if measures are required to mitigate significant impacts in a disadvantaged community, then the applicant must enter into a binding and enforceable agreement to comply with this subdivision in its application to the Governor and to the lead agency prior to the agency's certification of the environmental impact report for the project.

A disadvantaged community (DAC) is defined by California Government Code Section 65302(h)(4)(A) as an area identified by CalEPA pursuant to Health and Safety Code Section 39711 or a low-income area that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation. CalEPA formally identifies DACs using the OEHHA California Communities Environmental Health Screening Tool, which was used to identify DACs within the Pure Water area. As shown on **Figure 6**, Pure Water's facilities and components would traverse numerous census tracts that are designated as DACs, particularly in the cities of Carson, Norwalk, Santa Fe Springs, Pico Rivera, Industry, El Monte, Baldwin Park, and Irwindale.

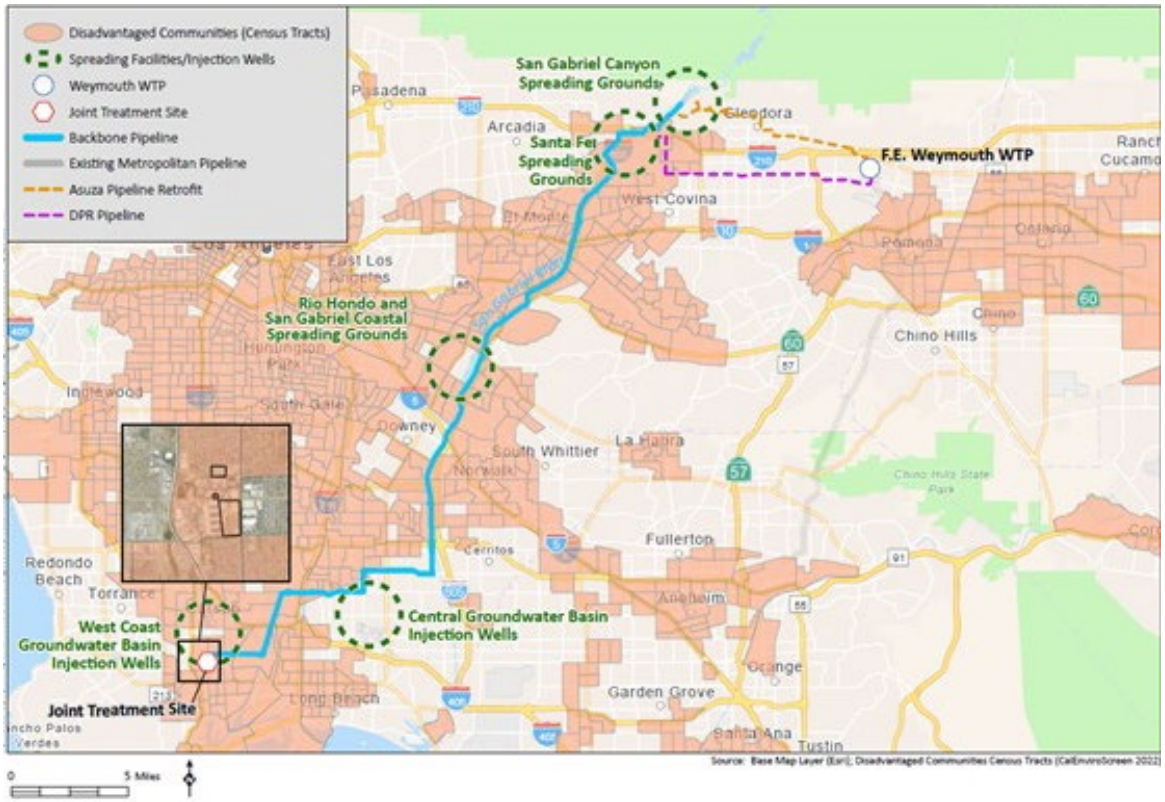


Figure 6. Disadvantaged Communities

The development of Pure Water has incorporated the avoidance or minimization of significant environmental impacts in all communities, including DACs. Pure Water's potential to cause environmental health-related impacts primarily include air quality, hazardous materials, and noise impacts that mainly arise during construction. Localized air pollutant emissions would be below applicable South Coast Air Quality Management District's (SCAQMD) localized significance thresholds (LST), and Pure Water would not result in exposure of sensitive receptors to substantial localized concentrations of criteria pollutants and precursors during construction or operation. It also would not expose sensitive receptors to substantial concentrations of toxic air contaminants. See Section 5.1 of the Draft EIR for a detailed discussion of potential air quality and applicable mitigation measures. Construction and operation of Pure Water would not result in the exposure of the public or the environment to hazardous materials. See Section 5.7 of the Draft EIR for a discussion of potential hazardous materials and applicable mitigation measures. Temporary noise generated during construction would be reduced to the extent feasible. Metropolitan developed a uniform construction noise threshold that would apply to the entire Pure Water area. This ensures noise impacts are addressed consistently and equitably across multiple jurisdictions, some of which have no specified numerical construction noise limits. See Section 5.10 of the Draft EIR for a discussion of potential noise and applicable mitigation measures.

With respect to carbon monoxide (CO) in particular, the Draft EIR concludes that construction of the Pure Water project would result in a significant and unavoidable impact to regional air quality due to CO emissions. This conclusion is based on modeled emissions that exceed SCAQMD regional thresholds for CO in certain construction years, despite mitigation measures. However, this regional exceedance does not equate to a significant localized impact near sensitive receptors. The Draft EIR states in Section 5.1.5.3 that localized CO concentrations near sensitive receptors would remain below SCAQMD's LST. The analysis includes a conservative assessment using LSTs for various project sites and receptor distances, including 5-acre sites with receptors within 50 meters. At no location do anticipated CO emissions exceed the localized thresholds, meaning the project would not expose residents or other sensitive receptors to substantial CO concentrations. While the project traverses several census tracts designated as disadvantaged communities, including parts of Carson, Norwalk, and El Monte, CO emissions would not pose localized air quality concerns in these areas. As discussed on pages 5.1-28 through 5.1-29 of the Draft EIR, CO disperses quickly and is unlikely to form hotspots under expected traffic and construction conditions, especially with implementation of traffic management plans. Therefore, although the project would have a significant regional CO impact, it would not result in significant localized CO impacts to nearby sensitive receptors or disadvantaged communities.

Because feasibility depends on project-specific factors (such as equipment availability, utility access, and site constraints), final determination and implementation of mitigation measures will occur during the construction planning and contracting stages, prior to and during active construction. These measures are binding under CEQA and are required to be incorporated into construction specifications and contractor agreements for all applicable work. For example, Mitigation Measures AQ-MM-2 (Use of Electric or Alternative-Fueled Construction Equipment) and AQ-MM-3 (Use of Onsite Power Sources or Renewable Fuel Generators) are performance-based measures that will be implemented during construction to the extent feasible at each site and phase of work. Metropolitan will review the feasibility of these measures on a case-by-case basis in coordination with construction managers, contractors, and utility providers, and will document their implementation through the Mitigation Monitoring and Reporting Program as required under CEQA. While the exact extent of implementation may vary, the Draft EIR conservatively does not rely on these measures to reduce impacts below significance thresholds.

Mitigation measures would be uniformly implemented, as applicable, to avoid or reduce impacts. Furthermore, mitigation measures would be undertaken in, and directly benefit, the affected community. For example, Mitigation Measure NOI-MM-1 requires preparation of a Noise Control Plan to reduce noise at noise-sensitive land uses from Pure Water's construction. The Noise Control Plan would include measures such as noise barriers, increased setbacks from noise-sensitive land uses, reducing construction hours, and scheduling deliveries during daytime hours. These measures would apply to all construction areas, including construction areas located in disadvantaged communities, and would be implemented in and directly benefit the affected communities.

In the event that Metropolitan's Board certifies the Final EIR and decides to move forward with program approval, Metropolitan is committed to implementing the environmental commitments and mitigation measures in the Final EIR. A complete list of mitigation measures is presented in Table ES-2 of the Draft EIR. Furthermore, Metropolitan acknowledges and understands the requirements set forth in PRC Section 21189.82(c) and is committed to implementing the environmental commitments and mitigation measures specifically in DACs for impacts that occur in these areas. Metropolitan's commitment letter and list of **potentially significant** impacts that may occur in DACs, respective mitigation measures, and level of significance after mitigation, as presented in Table ES-2 of the Draft EIR, are provided in **Attachment E**. These measures would be implemented in and directly benefit the affected disadvantaged communities.

Binding and Enforceable Agreement for Mitigating Significant Impacts in Disadvantaged Communities

As part of the CEQA process, Metropolitan is required to adopt feasible mitigation measures needed to reduce or avoid significant environmental impacts, including impacts to disadvantaged communities. In the event that Metropolitan's Board certifies the EIR and approves Pure Water, Metropolitan is committed to implementing the environmental commitments and mitigation measures in the Final EIR and would be committed to do so since the Mitigation Monitoring and Reporting Program is an integral part of the Final EIR.

ATTACHMENT A:
DRAFT EIR DETAILED PROJECT DESCRIPTION

- Draft EIR Section 2.0 Project Overview and Background
- Draft EIR Section 3.0 Project Needs, Benefits, and Objectives
- Draft EIR Section 4.0 Project Phasing and Detailed Description

2.0 PROJECT OVERVIEW AND BACKGROUND

This chapter provides an overview of Pure Water and other background information relevant to the discussion and analysis that follow in subsequent chapters, including the anticipated location and boundaries of Pure Water's various facilities and components as required under CEQA Guidelines Section 15124(a).

2.1 PURE WATER LOCATION AND GENERAL DESCRIPTION

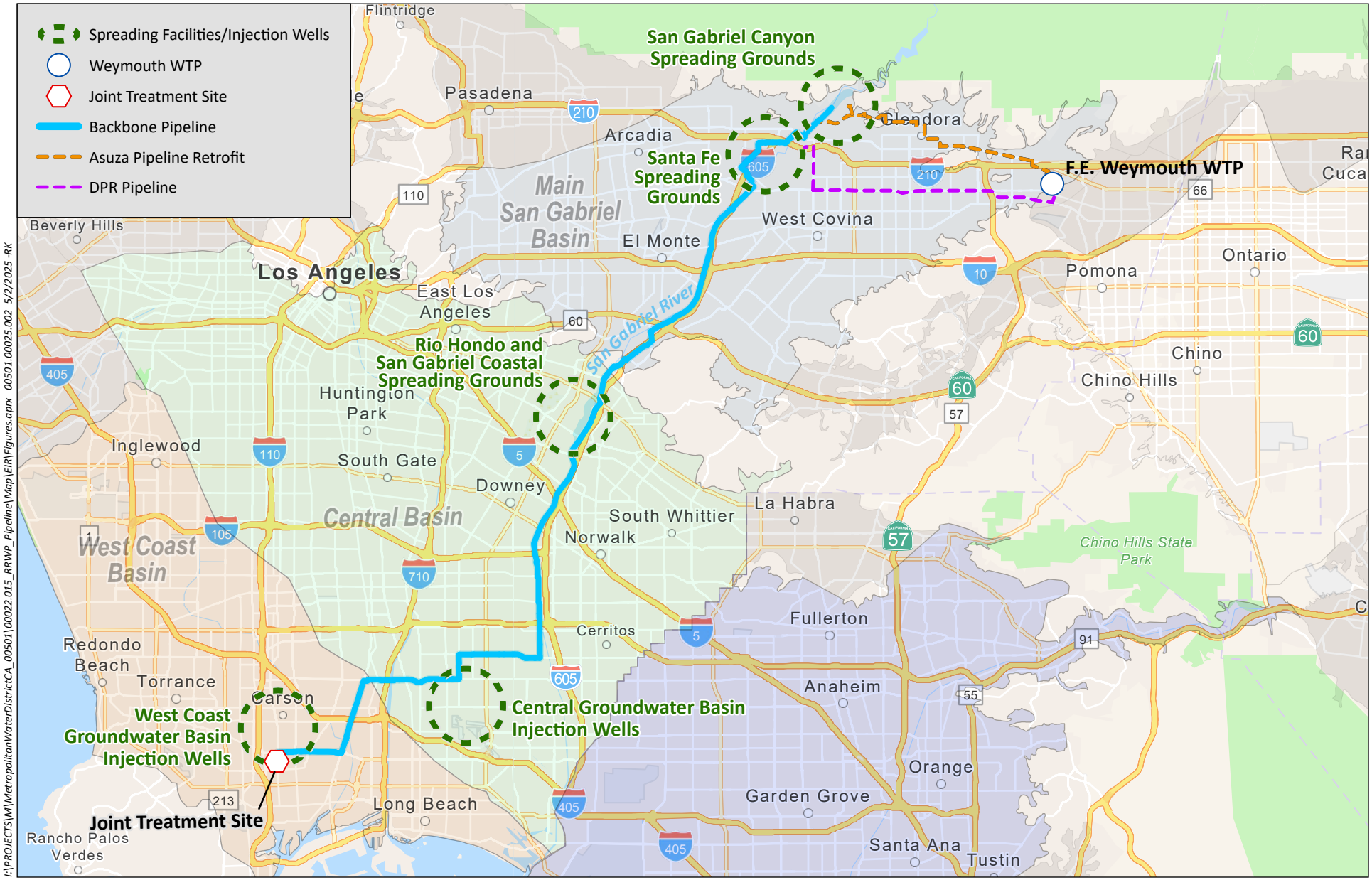
The proposed Pure Water facilities and components would be located within Los Angeles County (County) and would extend from the City of Carson to as far north as the City of Azusa and as far east as the City of La Verne. This area, referred to as the Pure Water area, is shown on **Figure 2-1** along with the locations of Pure Water's major facilities and components.

Pure Water would create and distribute a new sustainable local water supply by harvesting one of the region's largest untapped sources of cleaned wastewater[1] to produce purified water. This new water supply would help reduce the region's dependence on imported water and would assist the region in addressing potential disruptions to imported water supplies. Pure Water not only would provide a more diversified water supply to Southern California, it also would enhance Metropolitan's operational resilience, reliability, and flexibility in the face of ongoing challenges such as long-term drought and climate change.

Sanitation Districts A. K. Warren Water Resource Facility

Pure Water would involve purification of cleaned wastewater obtained from the Sanitation Districts' existing Warren Facility to a new AWP Facility. This new AWP Facility would use a state-of-the-art purification process to produce up to 150 MGD, or nearly 155,000 acre-feet per year (AFY)[2], of sustainable, highly purified water. This purified water would be primarily used for indirect potable reuse (IPR) and direct potable reuse (DPR)[3] purposes. Specifically, it would be used to recharge the West Coast, Central, and Main San Gabriel groundwater basins through spreading facilities and injection wells and to augment water supplies at existing WTPs

[1] "Cleaned wastewater" is a general term referring to wastewater that has been treated at a wastewater treatment plant to remove solids and organic matter and may be used interchangeably with treated wastewater.
[2] One MGD is roughly equivalent to 1,121 AFY. The estimate of 155,000 AFY assumes that the AWP Facility would operate at full capacity 92 percent of the time.
[3] IPR involves the use of recycled water to replenish drinking water supplies indirectly, where a suitable environmental barrier is in place prior to potable reuse. DPR involves the use of highly treated recycled water to replenish drinking water supplies directly, where no environmental barrier is in place prior to potable reuse. IPR and DPR are discussed further in Section 2.4.



PUREWATER SOUTHERN CALIFORNIA

Pure Water Area

Figure 2-1

owned and operated by Metropolitan within its service area. A portion of this purified water also may be used for non-potable reuse purposes, including landscape irrigation and industrial process applications. The purified water would be pumped from a new pump station as part of the AWP Facility to a new backbone conveyance system as described below.

To support this new AWP Facility, certain improvements to the Warren Facility would be needed. These include adding a sidestream centrate treatment system and associated ancillary facilities to reduce the amount of nitrogen in the cleaned wastewater going to the AWP Facility. In addition, a new Workforce Training Center would be developed to provide comprehensive hands-on training for a variety of trades and certification needs related to the water and wastewater industries.

Collectively, the AWP Facility, Warren Facility improvements, and Workforce Training Center would be constructed at a location referred to as the Joint Treatment Site. The Joint Treatment Site encompasses a portion of the Warren Facility and some adjacent property owned by the Sanitation Districts. The Joint Treatment Site is shown in **Figure 2-2**.

Distribution of purified water produced at the AWP Facility would require construction of a new backbone conveyance system consisting of approximately 39 miles of pipeline (backbone pipeline), two pump stations, and multiple service connections. The backbone pipeline would be divided into eight segments or reaches extending from the AWP Facility in the City of Carson to the San Gabriel Canyon Spreading Grounds in the City of Azusa (**Figure 2-3**). Purified water would be distributed along the backbone pipeline to replenish groundwater basins via new recharge facilities, including spreading facilities and injection wells.

Facilities for DPR would include additional treatment facilities, pipeline connections from the backbone pipeline to Metropolitan's Weymouth WTP, and associated pump stations. Facilities for non-potable uses would include service connections along the backbone pipeline and small-diameter pipelines for distribution.

Metropolitan F. E. Weymouth Water Treatment Plant

Several existing Sanitation Districts support facilities within the footprint of the future AWP Facility would be demolished and rebuilt elsewhere within the Warren Facility. These support facilities include a warehouse with outdoor storage space; an outdoor grit, screenings, and sewer cleanings handling area (pit); and a Secondary Treatment Area Research Facility. All the new Sanitation Districts support facilities would be located in vacant or underutilized areas in the northeastern portion of the Warren Facility.

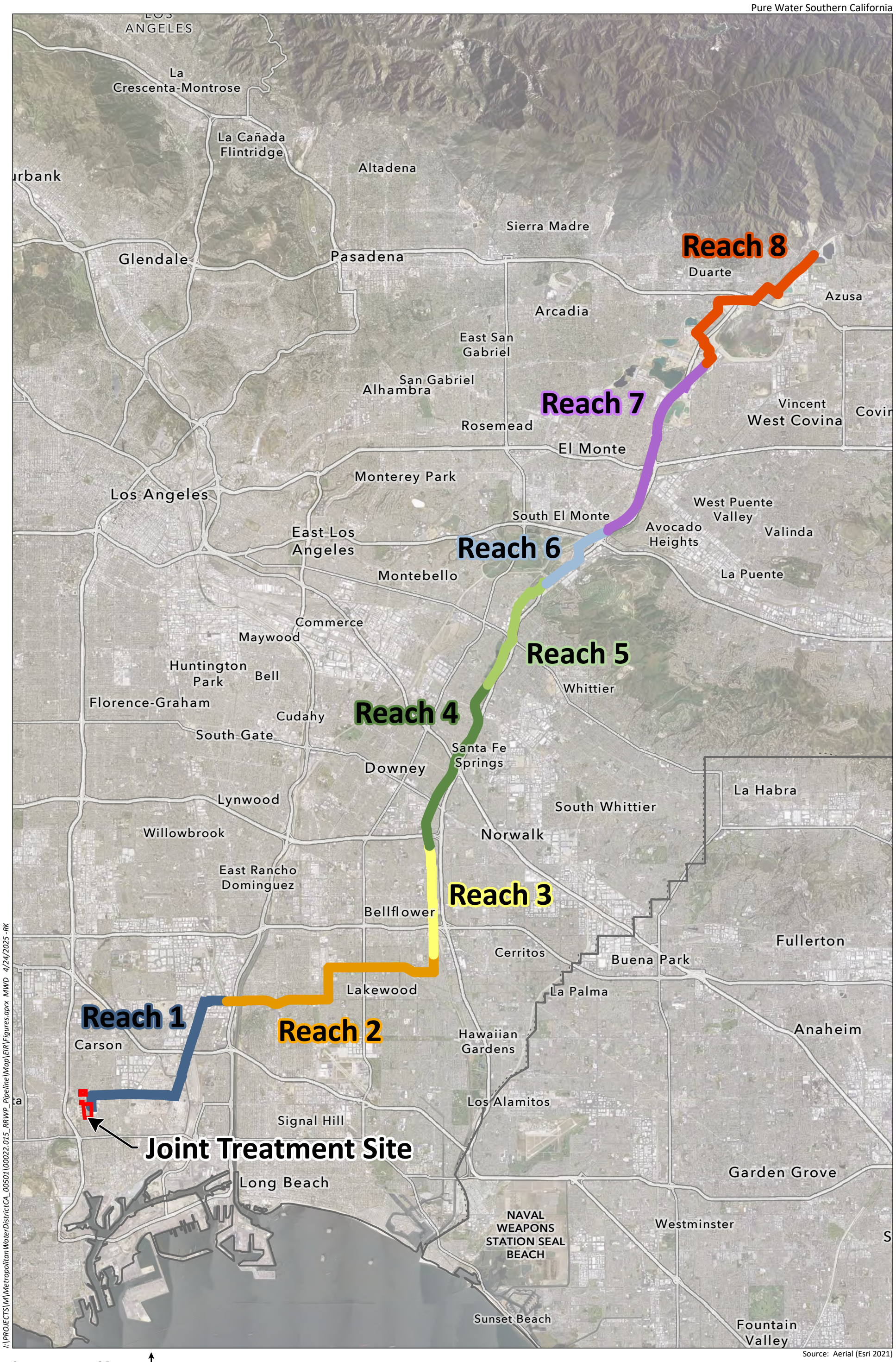
Source: Base Map Layer (Esri)

0 850 Feet

PUREWATER SOUTHERN CALIFORNIA

Joint Treatment Site

Figure 2-2



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Source: Aerial (Esri 2021)

PURE WATER SOUTHERN CALIFORNIA

Backbone Pipeline Reaches

Figure 2-3

In summary, the proposed key facilities and components of Pure Water include:

- A new Joint Treatment Site, consisting of a new AWP Facility, associated improvements to the Warren Facility, and a new Workforce Training Center;
- A new backbone conveyance system, consisting of a backbone pipeline, pump stations, and multiple service connections;
- New groundwater recharge facilities, including spreading facilities and injection wells;
- New DPR facilities, including associated treatment facilities, pipelines, and pump stations; and
- New non-potable water facilities, including smaller pipelines and service connections.
- New Sanitation Districts support facilities, including a warehouse; a grit, screenings, and new sewer cleanings handling station, and a research facility.

The facilities and components comprising Pure Water are discussed in detail in Chapter 4, *Project Phasing and Detailed Description*.

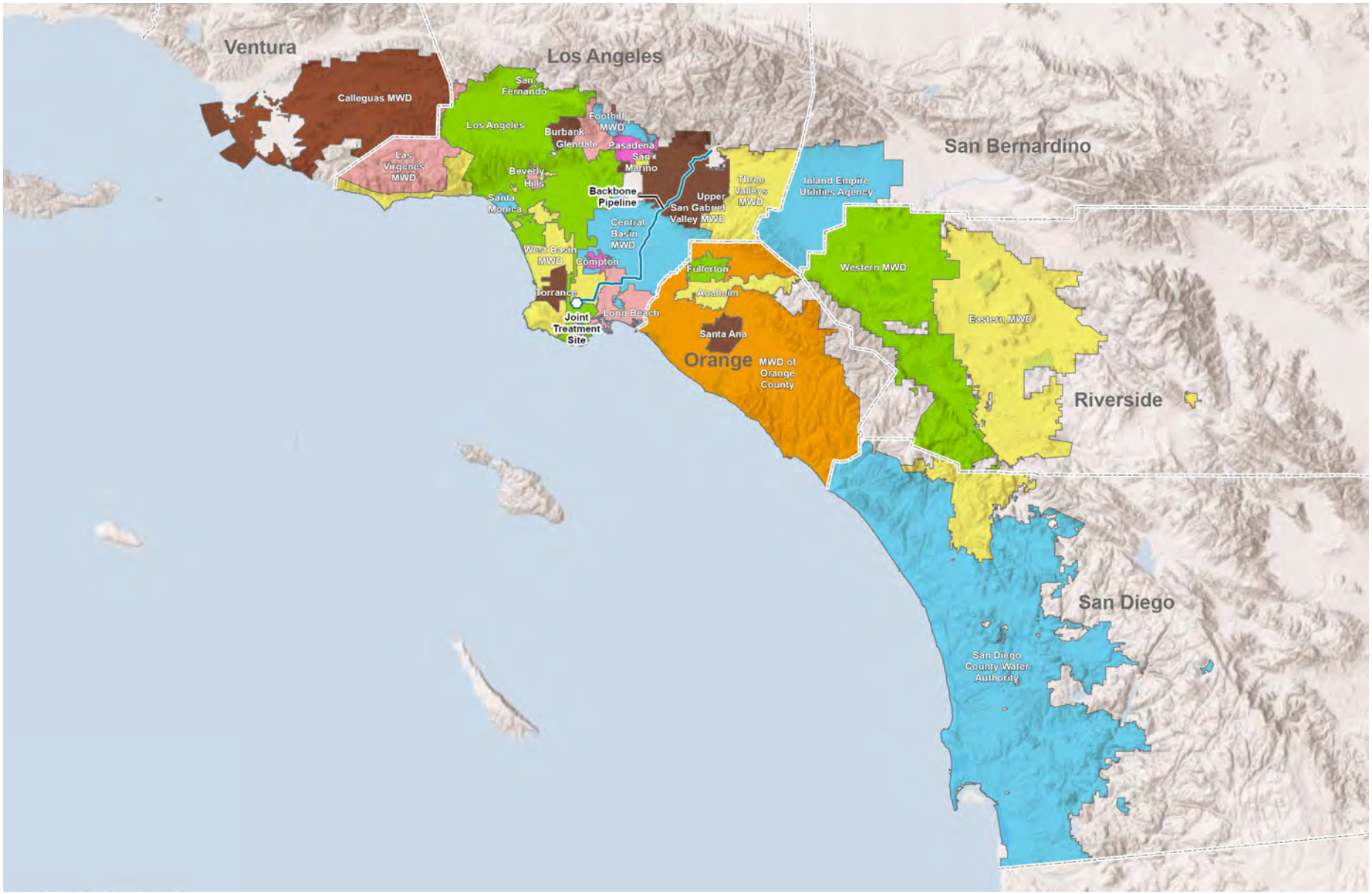
2.2 PURE WATER PARTNERS

2.2.1 The Metropolitan Water District of Southern California

Metropolitan is a public agency incorporated in 1928 pursuant to the Metropolitan Water District Act (Statutes 1969, ch.209, as amended; Deering's California Water Code [CWC] – Uncodified Act 570) to build the Colorado River Aqueduct (CRA), a facility it still owns and operates. Metropolitan's primary purpose is to provide a supplemental water supply for domestic and municipal uses to its 26 member agencies, which includes 14 cities, 11 municipal water districts (MWDs), and 1 county water authority. Metropolitan is governed by a 38-member Board composed of representatives from the member agencies.

Metropolitan's service area encompasses 5,200 square miles of the Southern California region. It extends about 200 miles along the Pacific Ocean from the City of Oxnard on the north to the international boundary with Mexico on the south, and it reaches as far as 70 miles inland from the coast (**Figure 2-4**). It includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura. Approximately 86 percent of the people living in those counties reside within Metropolitan's service area boundaries. Metropolitan estimates that approximately 19 million people, almost half of the state's population, were living in its service area as of 2020, based on official estimates from the California Department of Finance. Between 2011 and 2020, Metropolitan provided between 40 and 50 percent of the municipal, industrial, and agricultural water used in its service area.

Metropolitan imports water from two sources: the Colorado River via the CRA and the Sacramento-San Joaquin River Delta (Bay-Delta) via the State Water Project (SWP) through the California Aqueduct. The total amount of water and proportion available from each of these sources varies from year to year. The remaining water supply in the service area comes from local wells, surface water in local reservoirs, recycling, and the City of Los Angeles' aqueducts from the Owens Valley/Mono Basin east of the Sierra



Source: THE METROPOLITAN WATER DISTRICT

PURE WATER SOUTHERN CALIFORNIA

Metropolitan Service Area

Figure 2-4

Nevada. In addition to importing water, Metropolitan supports its member agencies in developing local water conservation, recycling, storage, and resource management programs.

The Colorado River was Metropolitan's original source of water upon Metropolitan's establishment in 1928. Metropolitan has certain rights to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. The CRA transports water from Lake Havasu, at the border of the state of California with Arizona, approximately 242 miles to its terminus at Lake Mathews in Riverside County (**Figure 2-5**). In addition to the CRA, Metropolitan's existing facilities include a distribution system with 9 reservoirs, 5 water treatment plants, 16 hydroelectric plants, approximately 830 miles of large-diameter pipelines, and 400 connections to member agencies.

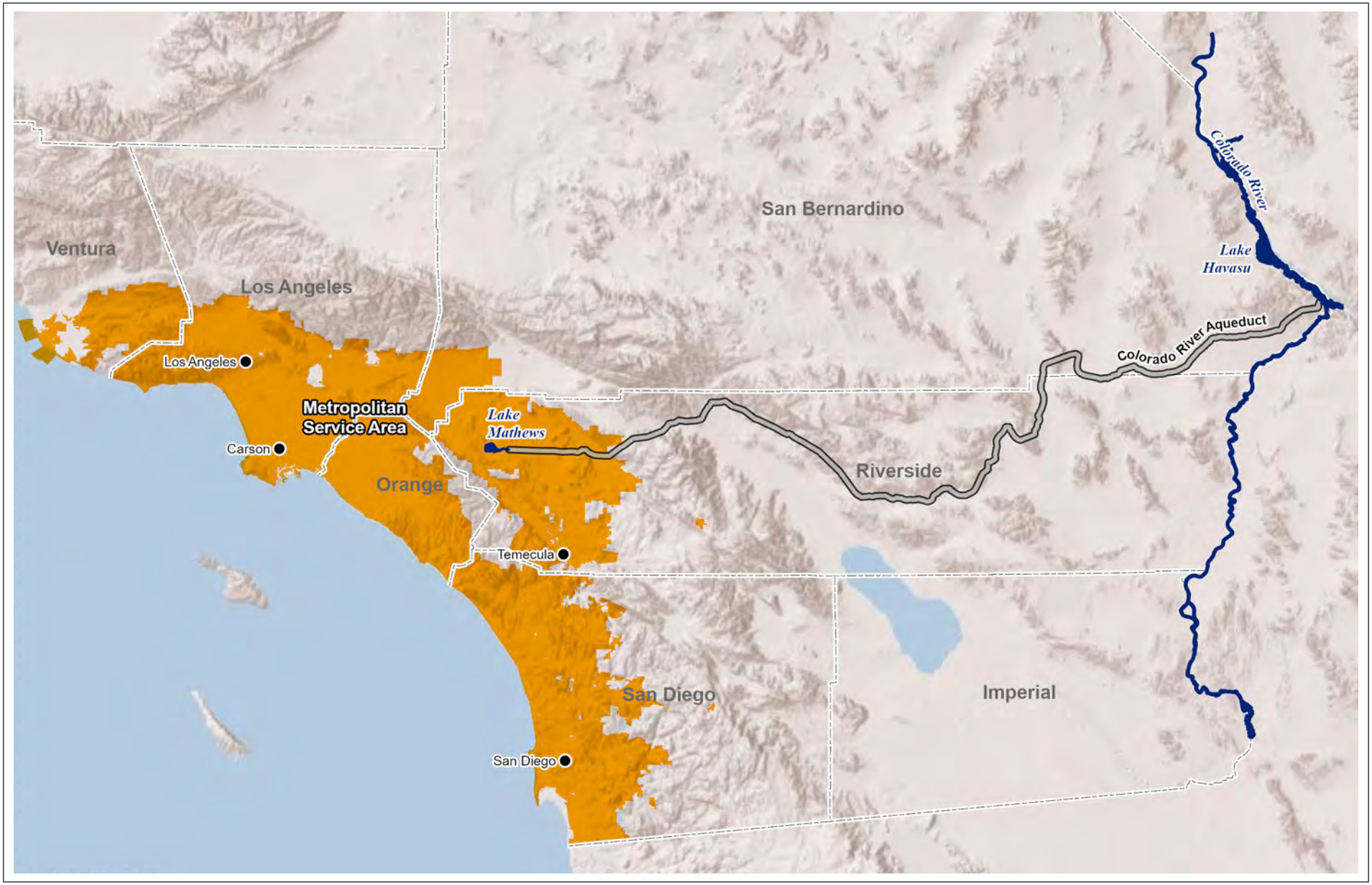
Metropolitan also has certain contract rights with respect to the SWP. The SWP is owned by the state of California and is operated and maintained by its Department of Water Resources (DWR). The SWP transports Feather River water stored in and released from Lake Oroville and conveyed through the Bay-Delta, as well as unregulated flows diverted directly from the Bay-Delta, south via the California Aqueduct to four delivery points (**Figure 2-6**). Under its contract, Metropolitan receives various supplies via the SWP, including water that is allocated by DWR on an annual basis. This allocation can vary dramatically from year to year and is dependent on many factors, such as precipitation, snowpack, available storage, water quality, and environmental regulations and constraints. Metropolitan also has the contractual right to use the SWP conveyance system to convey both SWP and non-SWP supplies, subject to any applicable capacity limitations or operational restrictions (Metropolitan 2021).

Metropolitan would construct, own, and operate most of the treatment and conveyance facilities associated with Pure Water and, as such, is serving as the lead agency for purposes of this environmental review (CEQA Guidelines Sections 15050-51, 15367).

2.2.2 Los Angeles County Sanitation Districts

The Sanitation Districts consist of 24 independent special districts that form a regional public agency that collects and treats wastewater for over 5.5 million people in the County. Their service area covers about 850 square miles and encompasses 78 cities and unincorporated territories within the County (**Figure 2-7**). The 24 districts work cooperatively under a Joint Administration Agreement.

The Sanitation Districts construct, operate, and maintain facilities to convey and treat domestic and industrial wastewater, manage discharge of cleaned wastewater, and generate recycled water, electrical power, and biosolids as products of the treatment processes. The Sanitation Districts' wastewater system includes approximately 1,400 miles of sewers, 49 pumping plants, and 11 wastewater treatment plants. This system conveys and treats approximately half of the wastewater produced in the County. Ten of these wastewater treatment plants provide water reclamation (and are thus referred to as wastewater reclamation plants) that produce recycled water available for reuse, while one wastewater treatment plant, the Warren Facility, does not currently provide water reclamation (except for onsite reuse). The water reclamation plants capture and treat low-salinity wastewater to produce high-quality recycled water that is safe for human contact and can be used for a variety of uses, including landscape irrigation, dust control, and groundwater replenishment. The Sanitation Districts also provide solid waste management services for approximately 20 percent of the County's disposal needs through the operation of two sanitary solid waste landfills, two materials recovery/transfer facilities, and two facilities that convert landfill gas into renewable energy.



Source: THE METROPOLITAN WATER DISTRICT

PUREWATER SOUTHERN CALIFORNIA

Colorado River Aqueduct

Figure 2-5

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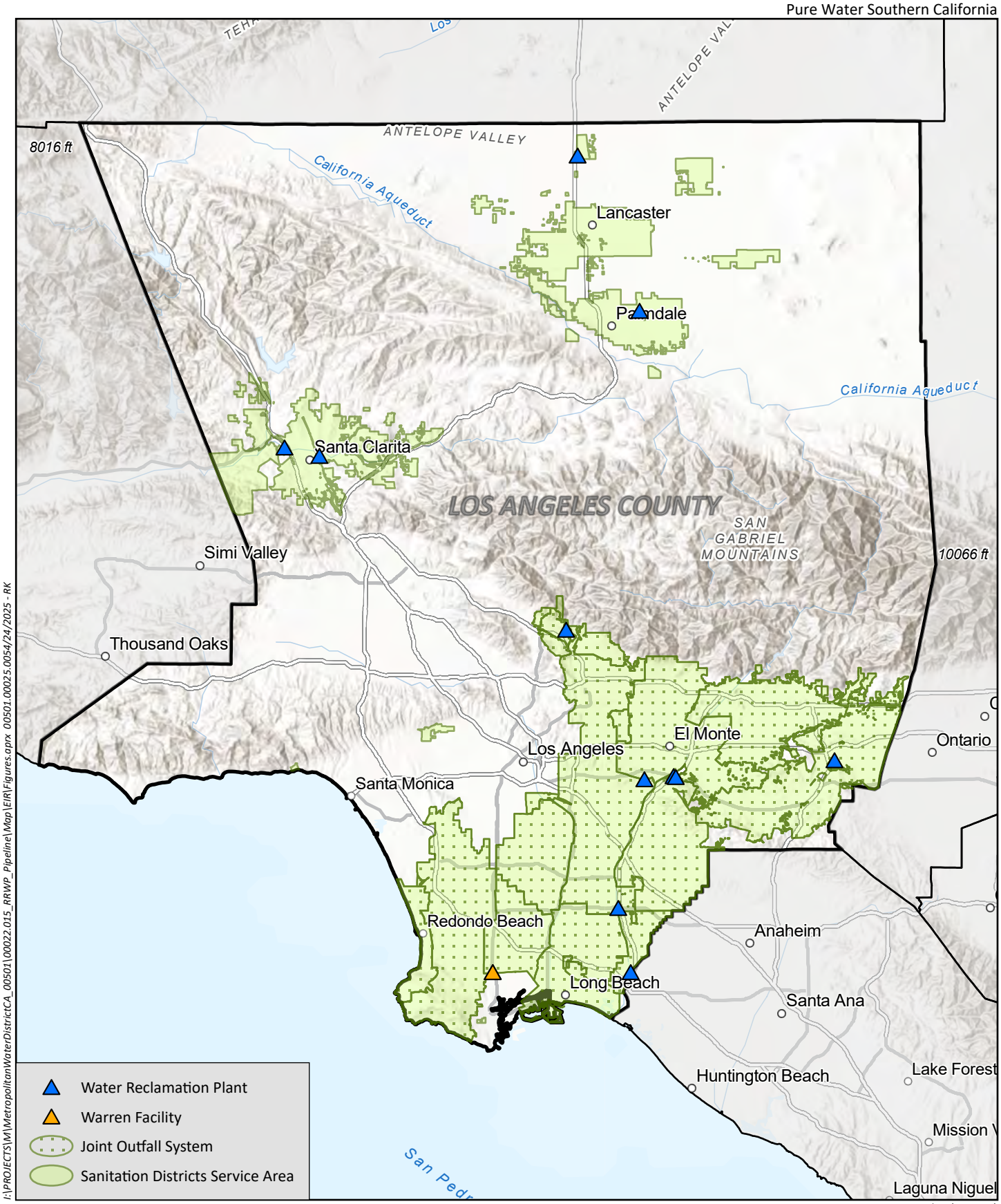
Source: THE METROPOLITAN WATER DISTRICT

PURE WATER SOUTHERN CALIFORNIA

State Water Project

Figure 2-6



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Source: Site Plan (Stantec)

PUREWATER SOUTHERN CALIFORNIA

Sanitation Districts Service Area

Figure 2-7

Seventeen of the 24 independent special districts that make up the Sanitation Districts are served by a regional, interconnected system of facilities known as the Joint Outfall System (JOS), which extends from the City of La Cañada-Flintridge south to the City of Long Beach and from the City of Los Angeles east to Orange and San Bernadino counties (**Figure 2-7**). The JOS serves approximately 5 million people in 73 cities and unincorporated territories, including small areas within the City of Los Angeles, Orange County, and San Bernardino County. The JOS includes seven wastewater treatment plants, the largest one being the Warren Facility and the other six are smaller scale water reclamation plants. The Warren Facility treats higher-salinity wastewater along with the solids removed at the six water reclamation plants that are part of the JOS. The Warren Facility is one of the largest wastewater treatment plants in the world and treats an average of approximately 250 MGD of wastewater. This cleaned wastewater is currently discharged to the Pacific Ocean and is one of the last significant potential sources of untapped cleaned wastewater in Metropolitan's service area that could be purified for potable reuse (Sanitation Districts 2025).

The Sanitation Districts would construct, own, and operate a portion of the upstream treatment facilities associated with Pure Water and, as such, is serving as a responsible agency for purposes of this environmental review (CEQA Guidelines Sections 15096, 15381).

2.2.3 Nevada and Arizona

As will be discussed in Chapter 3, *Project Need, Benefits, and Objectives*, one of the objectives of Pure Water is to reduce Metropolitan's reliance on imported water supplies, which are facing increasing constraints due to a variety of factors. To that end, Metropolitan has been exploring potential partnerships with Southern Nevada Water Authority (SNWA), the Arizona Department of Water Resources (ADWR), and Central Arizona Water Conservation District (CAWCD) pursuant to which they would provide financial support and assistance for Pure Water in return for Metropolitan agreeing to take less water from the Colorado River under certain hydrologic conditions.

Pure Water is not dependent on the consummation of any such partnerships, nor are such partnerships a reasonably foreseeable outcome of any approval of Pure Water. Instead, discussions concerning such potential partnerships are still in their early stages and predicting what may result from those discussions is entirely speculative. Additionally, any final agreement between Metropolitan and these parties would be contingent upon the outcome of the United States Bureau of Reclamation's (USBR) Post-2026 Operational Guidelines that USBR will use to operate Lake Powell and Lake Mead and the related negotiations currently underway among the seven Basin States[4] (USBR 2025), which likewise cannot be predicted. Because of these uncertainties, the environmental impacts (if any) of any future partnerships (if any) are not reasonably foreseeable, and no meaningful analysis can be provided at this time.

However, to the extent a partnership with SNWA, ADWR, or CAWCD is pursued, it would not alter the basic nature, scope, and need for Pure Water, nor would it change any of Pure Water's physical or operational characteristics. Thus, the future possibility of a potential partnership does not affect the analysis of environmental impacts, mitigation measures, or alternatives presented in this EIR. While such a partnership could result in Metropolitan transferring or exchanging some its Colorado River supplies to other parties under certain circumstances, the Colorado River water involved in any such transfer or

[4] These states are Arizona, California and Nevada (Lower Basin) and Colorado, New Mexico, Utah and Wyoming (Upper Basin).

exchange would be located outside of California and would not require construction or operation of any facilities or components for Pure Water in addition to or different from those described in Chapter 4. Moreover, it is anticipated that any potential effects associated with these types of transfers and exchanges would be analyzed by USBR as part of its development of new agreements for Post-2026 Operations, in accordance with the requirements of the National Environmental Policy Act (CEQA Guidelines Section 15277).

2.3 PURE WATER DEVELOPMENT TIMELINE

Between 2010 and 2012, Metropolitan and the Sanitation Districts jointly conducted pilot-scale studies at the Warren Facility to test emergent technologies and to evaluate the feasibility of advanced purification of the Warren Facility's cleaned wastewater for IPR purposes. These pilot-scale studies determined that advanced purification of the Warren Facility's cleaned wastewater for IPR through groundwater recharge was feasible (Sanitation Districts/Metropolitan 2012).

Metropolitan Grace F. Napolitano Innovation Center

In 2016, Metropolitan completed a more detailed feasibility study of the overall Pure Water program and its key components, including the advanced water purification process, conveyance system, and recharge facilities. This study concluded that Pure Water as proposed is technically feasible (Metropolitan 2016). Subsequently, a 0.5-MGD demonstration-scale purification facility (now known as the Grace F. Napolitano Pure Water Southern California Innovation Center [NIC]) was constructed at the Warren Facility and began operation in October 2019 with the purpose of testing and optimizing an advanced water purification process and to prove the technology's viability as needed for regulatory approval. Testing has also included a compliance assessment of the planned ocean disposal of reverse osmosis (RO) concentrate from Pure Water's AWP Facility via the Warren Facility outfall, which has shown that the proposed ocean discharge of RO concentrate would meet current regulatory requirements and is not expected to generate concerns for water quality (Sanitation Districts 2022).

In 2019, Metropolitan completed conceptual planning studies that built upon the initial analyses presented in the 2016 feasibility study. It examined various aspects of Pure Water, including program phasing, conveyance system refinements, water quality purification options, groundwater recharge modeling for IPR, and potential DPR opportunities (Metropolitan 2019a). In 2020, Metropolitan further evaluated and refined the conveyance system and recommended that two feasible alignment alternatives be carried forward for consideration (Metropolitan 2020a). Metropolitan also prepared two white papers during this time. The first focused on program implementation strategies and DPR opportunities (Metropolitan 2019b). The second detailed Pure Water's role in Metropolitan's regional resource planning and provided information on financial and other considerations related to the program (Metropolitan 2020b).

In 2021, the Institute for Applied Economics of the Los Angeles County Economic Development Corporation (LAEDC) completed a study commissioned by Metropolitan that analyzed the projected economic and fiscal impact of both construction expenditures and ongoing activity associated with Pure Water. That study found that these activities would provide a significant positive economic impact in the Los Angeles Basin and throughout entire Southern California region (LAEDC 2021). LAEDC reviewed and updated this study in April 2025 and reached the same conclusions as before (LAEDC 2025).

In 2023, Metropolitan prepared an addendum to the second white paper to address certain changed conditions and updated information pertinent to the financial aspects of Pure Water (Metropolitan 2023). That same year, Raftelis prepared a report for Metropolitan that identified and assessed potential alternatives for the allocation and recovery of Pure Water costs and summarized several recommended alternative cost recovery mechanisms for consideration (Raftelis 2023).

Lastly, in 2024, Metropolitan prepared a third white paper focusing on DPR. This white paper discussed how DPR is considered as part of Pure Water, the implications of recently adopted DPR regulatory requirements, the considerations and research needs for implementing DPR, the benefits and challenges associated with different forms of DPR, and the recommended next steps for Metropolitan (Metropolitan 2024).

Many other formal and informal studies, analyses, and assessments of various facilities, components, and processes have been conducted in the course of developing Pure Water. These extensive planning efforts have resulted in the program as currently proposed, which is discussed in detail in Chapters 3 through 5.

2.4 RECYCLED WATER IN CALIFORNIA

Pure Water is being developed within a regulatory environment that is rapidly evolving with respect to the use of recycled water in California. This section provides a brief overview of this regulatory framework, as well as the current statewide goals for recycled water. In addition, this section describes some other recycled water projects that have been and are being successfully implemented in California.

2.4.1 Regulatory Framework

In California, recycled water is defined as "water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource" (CWC Section 13050(n)). Recycled water is a general term and primarily consists of municipal wastewater that has been treated and/or purified in a wastewater treatment facility and complies with recycled water regulations and standards for specified beneficial uses. The level of wastewater treatment depends on how the recycled water will be used, with the uses generally categorized as either non-potable reuse (i.e., in applications not involving human consumption) or potable reuse (i.e., as drinking water or in applications involving human consumption) (SWRCB 2025).

This first state laws related to water recycling were adopted in 1969 as part of the Porter-Cologne Water Quality Control Act (CWC Section 13000 *et seq*.). Since that time, these laws (CWC Sections 13500-13609) and their implementing regulations (CCR Div. 14, Chs. 3 & 17) have changed dramatically. Initially these laws and regulations only addressed non-potable reuse. However, over time they have been broadened to allow for various potable reuses, including IPR and DPR, subject to strict conditions.

IPR for groundwater recharge is the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system (CWC Section 13561(c)). General groundwater replenishment requirements for IPR were established in 1978 and pertained to surface application, or spreading, of recycled water. Additional requirements for surface application and new requirements for subsurface application (direct injection via wells) were added in 2014 (Olivieri et al. 2020).

DPR is the latest development in the use of recycled water in California. DPR can occur by introducing recycled water as a water source for a drinking water treatment plant, where it would undergo further treatment. This is known as raw water augmentation (RWA) (CWC Section 13561(b)(1)). Alternatively, it can be provided directly into a public water system after undergoing additional purification steps, which is known as treated water augmentation (TWA) (Section 13561(b)(2)).

In August 2021, State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) issued draft criteria for DPR, which were reviewed by a panel of experts convened by the National Water Research Institute (NWRI). NWRI issued preliminary findings and recommendations in June 2022 (NWRI 2022) and final findings and recommendations in October 2023 (NWRI 2023). The expert panel concluded that the draft DPR regulations adequately protected public health (NWRI 2023). Based on these findings, the SWCRB unanimously approved regulations for DPR, which took effect on October 1, 2024 (SWRCB 2024a; SWRCB 2024b). The approval gave California the most advanced standards in the nation for treating wastewater to such an extent that the final treated water meets or exceeds current drinking water standards. DPR includes extensive requirements, specifically pathogen control and chemical control, which are more stringent than IPR regulations to account for the absence of an environmental buffer (e.g., groundwater aquifer or reservoir) that is integral to IPR.

A more detailed discussion of the various laws, rules, and regulations applicable to recycled water use in California can be found in Section 5.8, *Hydrology and Water Quality*.

2.4.2 Statewide Recycled Water Goals

Recognizing the importance of recycled water as a critical water supply for California, the SWRCB adopted the Policy for Water Quality Control for Recycled Water (Recycled Water Policy) in 2009 and most recently amended it in 2018 (SWRCB 2018; SWRCB 2025). The purpose of the Recycled Water Policy is "to encourage the safe use of recycled water from wastewater sources that meet the definition in CWC Section 13050(n), in a manner that implements state and federal water quality laws and protects public health and the environment."

To support water supply diversity and sustainability and to encourage the increased use of recycled water in California, the SWRCB adopted the following goals as part of the 2018 amendment to the Recycled Water Policy:

1. Increase the use of recycled water from 714,000 AFY in 2015, to 1.5 million AFY by 2020, and to 2.5 million AFY by 2030.

2. Reuse all dry weather direct discharges of treated wastewater to enclosed bays, estuaries and coastal lagoons, and ocean waters that can be viably put to a beneficial use. For the purpose of this goal, treated wastewater does not include discharges necessary to maintain beneficial uses and brine discharges from recycled water facilities or desalination facilities.

3. Maximize the use of recycled water in areas where groundwater supplies are in a state of overdraft, to the extent that downstream water rights, instream flow requirements, and public trust sources are protected.

Recycled water production in 2020 fell short of the first goal listed above (1.5 million AFY), as the actual reported recycled water production in that year was 728,000 AF based on information provided by 94 percent of the permitted facilities (SWRCB 2021). Nonetheless, the state has continued to set increased targets for recycled water use. In August 2022, Governor Newsom released a water supply strategy that includes statewide goals for recycling a total of at least 800,000 AFY by 2030 and 1.8 million AFY by 2040 (CFA et al. 2022), with most of that additional recycling to be done with direct wastewater discharges that are now going to the ocean, such as those from the Warren Facility. Pure Water would help to further these goals.

2.4.3 Regional Recycled Water Use

For more than a century, recycled water has been used intentionally as a non-potable water supply source in California, primarily for agricultural and landscape irrigation. Early recycled water projects generally were implemented when water reuse was the most economical method of wastewater management, which was especially prevalent in inland areas where ocean discharge was not an available option. In the 1960s, population growth in California began to strain available freshwater sources, resulting in the use of recycled water to replenish groundwater basins. With the development of advanced water treatment technologies over the last 30 years, a dramatic increase has occurred in both non-potable and potable types of recycled water applications available and quantities of water being reused.

As of 2023, there were a total of 723 wastewater treatment or recycled water facilities in California, which treated about 2.5 million AF of wastewater that year. Of these facilities, 278 produced recycled water. Recycled water use in California totaled 717,000 AF during that same period (SWRCB 2024c). In the Metropolitan service area, about 463,000 AF of recycled water was used in 2023. In fiscal year 2023/24, Metropolitan provided incentives for 40,000 AF of recycled water use through the Local Resources Program (Metropolitan 2025). Described below are a few examples of other recycled water projects that are similar in nature to Pure Water.[5]

Orange County Water District's Groundwater Replenishment System, often referred to as GWRS, located in Fountain Valley, is the largest potable reuse project of its type in the world. Currently producing 130 MGD, GWRS began in January 2008 as a 70-MGD plant to recharge the Orange County Groundwater Basin. In May 2015, the GWRS was expanded to 100 MGD. In December 2022, the GWRS was expanded to 130 MGD, or approximately 134,000 AFY based upon a 90 percent online factor. The primary purpose of the GWRS is for IPR via groundwater replenishment. In addition to an advanced water purification facility, the GWRS includes a 13-mile pipeline that extends from Fullerton to recharge facilities in north Anaheim (Orange County Water District 2025).

The **Chino Basin Program** is a proposed potable reuse project initiated by the Inland Empire Utilities Agency. The program would include a new advanced water treatment facility that would produce approximately 15,000 AFY of purified water for IPR purposes to recharge the Chino Groundwater Basin

[5] These examples include projects within Metropolitan's service area with a treatment capacity greater than 100 MGD (or greater than 100,000 AF) of purified water; with multiple components or uses such as IPR, DPR, and non-potable uses; or that involve integration into Metropolitan's existing distribution system.

and new wellhead treatment facilities to be installed on existing extraction wells. The Chino Basin Program also would allow for integration with Metropolitan's existing Rialto Feeder for exchange/water transfers to increase flows in Northern California when needed. Water introduced into the Rialto Feeder would be used by Metropolitan to meet demands instead of SWP water from Northern California, thereby making water available for environmental needs in the Bay-Delta. To achieve this, the wells and wellhead treatment facilities would be used to transfer up to 50,000 AFY of groundwater from the Chino Groundwater Basin into Metropolitan's Rialto Feeder to replace imported water from the SWP (Inland Empire Utilities Agency 2025).

Pure Water San Diego is a potable reuse project in development by the City of San Diego. The City of San Diego is currently constructing an advanced water treatment facility to produce 30 MGD of purified water for DPR use. This is the first phase in its multi-year program which will ultimately provide one-third of the City of San Diego's water supply. This purified water will be pumped to the Miramar Reservoir in the northern part of the city, blended with imported water and locally sourced water via surface water augmentation, and treated again at the Miramar Water Treatment Plant before distribution. Phase 1 of this program will begin producing purified water in 2026, with a production of approximately 7.5 MGD and then ramping up to 30 MGD as associated infrastructure comes online. In Phase 2, the City of San Diego will expand the initial 30 MGD project to 83 MGD, which is expected to be completed by 2035 (City of San Diego 2025).

The **Purified Water Replenishment Program** is a proposed potable reuse project by Eastern Municipal Water District (EMWD). EMWD currently produces approximately 49 MGD of recycled water from four recycled water treatment plants, primarily for non-potable uses such irrigation and agriculture. The Purified Water Replenishment Program would include blending purified water from a new advanced water treatment facility with recycled water from the four existing recycled water treatment plants for IPR purposes to recharge the San Jacinto groundwater management zone of the Hemet-San Jacinto Groundwater Basin. It is anticipated that about 2,000 AFY of purified water would be produced and blended with 2,000 AFY of recycled water and recharged into the San Jacinto groundwater management zone. The long-term yield of this project is anticipated to be a total recharge rate of 15,000 AFY (EMWD 2025).

As proposed, Pure Water would increase recycled water use in California by 155,000 AFY. This corresponds to an increase of about 33 percent of recycled water use within Metropolitan's service area and about 22 percent within the state as a whole. Thus, implementation of Pure Water would represent a significant increase in recycled water use both nationally and within the state and would provide a step forward toward meeting the current recycled water policy objectives and goals established by the SWRCB and the Governor.

2.5 FUTURE INTEGRATION AND DEVELOPMENT

2.5.1 Regional Integration

Other projects are being planned in Southern California that could potentially be integrated with Pure Water in the future, thereby enhancing the operational flexibility and reliability of these facilities and improving recycled water distribution across the region. To accommodate the anticipated increase in regional recycled water use, the northern 14 miles of the backbone pipeline, Pure Water's main conveyance facility, currently is anticipated to have a larger diameter than the remainder. This design

would allow for the possibility of a future integrated system, supporting regional goals for securing high-quality, climate-resilient, local water supplies for Southern California.

Two notable projects—Pure Water Los Angeles and the East-West Conveyance Pipeline—are under consideration for potential integration with Pure Water. However, both projects are in the earlier stages of planning and development, and their timeline for implementation is uncertain. Neither project is essential to the successful construction and operation of Pure Water, which would have independent utility regardless of whether Pure Water Los Angeles or the East-West Conveyance Pipeline are ever pursued. As such, these two projects are discussed below for informational purposes only. To the extent these projects do proceed, they will be subject to their own, separate environmental review processes.

2.5.1.1 Pure Water Los Angeles

Formerly known as Operation NEXT and Hyperion 2035, Pure Water Los Angeles is a water reuse program being developed by the City of Los Angeles. It aims to increase and further diversify the City's local supplies and support the transition to 70 percent local water. Pure Water Los Angeles would modernize the Hyperion Water Reclamation Plant's treatment process to treat potentially up to 272 MGD of wastewater. This treated water would be further purified at a new advanced water purification facility to create potentially up to 230 MGD of advanced treated water for beneficial reuse through IPR and potentially DPR. The scope of Pure Water Los Angeles includes, but is not limited to, construction of advanced water purification facilities, water conveyance pipelines, pumping stations, storage facilities, and flow control stations. It also encompasses upgrading existing water system infrastructure, as well as the development of treatment facilities, injection wells, production wells, and monitoring wells to support groundwater recharge and extraction capacities within the Central and San Fernando groundwater basins. The Pure Water Los Angeles Master Plan was completed in December 2024 and a Programmatic EIR for the project is anticipated to be completed by June 2026 (LADWP 2025).

Pure Water Los Angeles and Pure Water share a common objective: maximizing the beneficial reuse of a valuable water resource that is currently being discharged into the ocean. While each system is independently designed to provide significant regional benefits, the potential future integration of the two systems could further enhance water supply reliability, operational flexibility, and long-term resiliency by expanding delivery capacity to a larger service area.

A potential point of integration between Pure Water Los Angeles and the Pure Water conveyance system could enable the transfer of purified water from both systems to the proposed East-West Conveyance Pipeline, as discussed below. Metropolitan and the City of Los Angeles will continue to assess the feasibility and the potential benefits of integrating the two systems, as applicable. Should future conditions support such an initiative, appropriate environmental review would be undertaken for associated modifications at that time.

2.5.1.2 East-West Conveyance Pipeline

A portion of Metropolitan's service area depends solely on the SWP for imported water supplies. The disparity of impacts from the recent drought was the result of limitations in Metropolitan's current distribution system that restrict the movement of CRA water and supplies stored within Diamond Valley Lake and other storage facilities from reaching the SWP-dependent areas located on the west side of Metropolitan's service area. Metropolitan has committed to ensuring equitable access to Metropolitan's

water supply and storage assets by building infrastructure, increasing local supply availability, expanding partnerships, and advancing water use efficiency. On August 16, 2022, Metropolitan's Board approved a resolution that committed Metropolitan to reconfiguring and expanding its existing infrastructure portfolio to provide sufficient access for SWP-dependent areas to the integrated system of water sources, conveyance and distribution, and storage.

One potential action to improve the flexibility of Metropolitan's system is to provide a pipeline to convey water supplies from the east side to the west side of Metropolitan's service area. This would improve the availability of water supplies for the three west-side SWP-dependent member agencies, which include the Los Angeles Department of Water and Power (LADWP), Calleguas MWD, and Las Virgenes MWD. Potential existing water supplies that could be conveyed by the pipeline include those from the CRA, Diamond Valley Lake, other storage from the east side of Metropolitan's service area, and treated water supplies from the Weymouth and Diemer WTPs, as well as possibly from Pure Water. The potential for the integration of a future East-West Conveyance Pipeline with Pure Water will continue to be explored by Metropolitan. If future conditions appear to warrant integration, appropriate environmental review would be undertaken for associated modifications at that time.

2.5.2 Treated Water Augmentation

In addition to potential future integration of Pure Water with related water infrastructure projects, there is the possibility of developing DPR for delivery directly into the drinking water system as part of a later phase of Pure Water. As discussed above, this is referred to as treated water augmentation, or TWA, and represents one form of DPR. The other is raw water augmentation, or RWA, which is being proposed as a part of Pure Water and therefore is analyzed in this EIR.

TWA would potentially reduce the amount of conveyance infrastructure and pumping energy required for Pure Water, since more local connections could be made directly to the drinking water distribution system, as opposed to constructing facilities with larger capacities to convey purified water either to groundwater recharge facilities or to Metropolitan's WTPs. However, there are significant regulatory and operational challenges associated with TWA that would need to be considered to ensure a safe and reliable water supply. For example, Metropolitan would need to evaluate ways to address response time between detection of water quality issues and corrective action, potential pumping challenges through existing gravity pipelines, real-time monitoring technologies, contingency plans for emergencies, and potable demands in existing feeders near the backbone pipeline.

Metropolitan is developing a comprehensive approach to evaluate the feasibility and viability of TWA, recognizing that it represents an emerging treatment concept with no existing projects currently utilizing TWA in California (Metropolitan 2024). While state regulations address both RWA and TWA implementation pathways, TWA presents additional technical complexities due to direct integration into the drinking water system without the treatment plant barrier that RWA provides. This means TWA requires a more extensive demonstration of reliability and safety measures, which makes RWA more readily achievable in the near term. In addition, depending on the location, nature, and capacity of any proposed TWA facilities, there could be additional costs associated with implementation of TWA for Pure Water.

Metropolitan's evaluation process will include assessing technical, operational, and financial considerations beyond those currently being analyzed for RWA (Metropolitan 2024). The scope and timeline for completing this evaluation will be further defined as initial studies progress. If future

conditions appear to warrant integration of TWA, appropriate environmental review would be undertaken for associated modifications at that time.

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3.0 PROJECT NEEDS, BENEFITS, AND OBJECTIVES

This chapter discusses the needs for and benefits of Pure Water in light of the increasing constraints and challenges Metropolitan is facing with respect to both imported and local water supplies. This chapter then sets forth the specific objectives that have been established for Pure Water as required under CEQA Guidelines Section 15124(b).

3.1 NEEDS FOR PURE WATER

As discussed in Chapter 2, *Project Overview and Background*, Metropolitan imports water from the Colorado River via the CRA and from the Bay-Delta via the SWP for distribution to its member agencies. Metropolitan's member agencies also rely on several local sources for water supply. Despite the diversity of water supplies in Metropolitan's portfolio and its support of water conservation measures, Metropolitan faces several challenges in continuing to provide adequate, reliable, and high-quality supplemental water supplies for Southern California.

3.1.1 Water Supply Reliability and Constraints

3.1.1.1 Colorado River

Approximately 20 to 25 percent of Southern California's water supply currently is conveyed through the Colorado River. The Colorado River originates in the Rocky Mountains and is fed primarily by precipitation that occurs throughout the Colorado River Basin, which extends from southwestern Wyoming to the Gulf of California. The Colorado River Basin historically has experienced large variations in annual hydrologic conditions, specifically related to snowpack and rainfall levels and the resulting runoff. From 2000 to 2004, the Basin experienced five consecutive years of significantly below-average precipitation and runoff. Since then, while precipitation levels have been near normal on average, runoff levels have been less than average, indicating a potential shift in the precipitation-to-runoff relationship where less runoff is generated from a given amount of precipitation (Metropolitan 2021). This has resulted in a 22-year drying trend and, as of February 2025, Lake Mead and Lake Powell, the two primary storage reservoirs along the Colorado River, were both at 35 percent of capacity (USBR 2025a). While variations in annual hydrologic conditions within the Colorado River Basin historically have been buffered through a large volume of storage, the reduced storage at Lake Mead and Lake Powell leaves less of a buffer for future periods of reduced precipitation.

Metropolitan gets its Colorado River water pursuant to a water service contract with the USBR. The USBR delivers water to Lower Basin contractors, including Metropolitan, with releases from Lake Mead (Metropolitan 2021). Currently, operations of Lake Mead and Lake Powell are determined by USBR's 2007 Interim Guidelines. Those guidelines expire on December 31, 2025, and USBR is developing the next set of guidelines in the Post-2026 environmental impact statement (USBR 2025b). While Metropolitan's rights are established in its contract with USBR, how much water will be available for delivery in the future will be affected by those guidelines. Metropolitan is working to secure its Colorado River supply in negotiations to develop a consensus among the seven Colorado River Basin states on operations of the Colorado River system reservoirs. Until that happens and the Post-2026 environmental impact statement process is finalized, there is significant uncertainty about whether there will be years in which Metropolitan's Colorado River supply will be reduced.

An additional potential impediment to Colorado River water supplies is the presence of quagga mussels, an invasive species which was discovered in 2007 in Lake Mead and has rapidly spread downstream to the Lower Colorado River. The presence and spawning of quagga mussels in the Lower Colorado River and in reservoirs located in Southern California pose an immediate threat to water systems. Although the introduction of these species into drinking water supplies does not typically result in violation of drinking water standards, invasive mussel infestations have been known to clog intakes and water conveyance systems, in addition to causing environmental damage (Metropolitan 2021).

3.1.1.2 State Water Project

Approximately 30 percent of water deliveries to Metropolitan's service area is conveyed through the SWP. SWP supplies originate in the Feather River watershed and are conveyed to Southern California via export pumps in the South Delta and the California Aqueduct (Metropolitan 2021). Annual water supplies vary greatly depending on hydrologic conditions. For example, below-average precipitation in 2020 resulted in Metropolitan receiving only 20 percent of its SWP-contracted water supplies. For calendar year 2021, the SWP allocation decreased from an initial allocation of 10 percent to 5 percent based on ongoing dry conditions. In 2022, for the first time in the history of the SWP, the initial allocation was zero percent. This drought sequence was then followed in 2023 by the first 100 percent allocation in nearly 20 years, equivalent to over 1.9 million AF allocated to Metropolitan. As of February 2025, the allocation stands at 35 percent (DWR 2025).

Declines in the Bay-Delta's ecosystem are caused by several factors, including channelization of waterways, land reclamation and habitat reduction, climate change, introduction of invasive species, predation of native fish species, urban and agricultural discharge, and changing ecosystem food supplies. This has led to a series of water supply restrictions, including water quality objectives and biological regulations established by the SWRCB, the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), and the National Marine Fisheries Service (NMFS). SWP long-term average supply reliability has decreased from 71 percent of total contracted supplies in 2005 to 56 percent in 2023 largely due to such regulatory restrictions (DWR 2024a; DWR 2024b).

3.1.1.3 Groundwater

Groundwater pumping represents more than 35 percent of Southern California's drinking water, making replenishment and storage programs for groundwater basins critically important. Metropolitan's service area overlies numerous groundwater basins, most of which rely on artificial recharge to sustain groundwater pumping, and some of which are threatened by seawater intrusion and contamination. In Los Angeles County, many of these groundwater basins are adjudicated, meaning that pumping rights are established and overseen by a court-appointed watermaster.

Groundwater basins and local reservoirs dropped to very low operating levels due to record low precipitation in Southern California in 2016. More than 62 percent of the groundwater basins in Metropolitan's service area were below their operating range during this time (Metropolitan 2021). Due to greater precipitation in 2017, 2019, 2023, and 2024, the groundwater basins have begun to recover, but remain below healthy storage levels. Current groundwater pumping in the Metropolitan service area is approximately 1.1 million AFY (Metropolitan 2023). However, more than 8 percent of these basins are experiencing declines in storage levels and approximately 48 percent are below their established operating ranges despite back-to-back wet years in 2023 and 2024.

Maintaining groundwater storage levels within a basin's operating range is key to sustaining groundwater supplies and preventing loss of groundwater pumping capability. Although Metropolitan does not own or manage groundwater basins in Southern California, it plays a critical role as the region's supplemental water supplier by helping replenish the basins and financially supporting groundwater recovery projects. Metropolitan also pre-delivers water to groundwater basins before a member agency has a demand for the water when Metropolitan has large amounts of supply and storage capacity is limited, allowing the member agency to purchase the delivered water on a long-term schedule. Although this type of program does not hold stored water for Metropolitan, it does provide water resource management flexibility (Metropolitan 2021).

During wet years in which imported supplies are available in quantities over and above what is needed for regional demands and groundwater replenishment, Metropolitan stores surplus water supplies in its surface reservoirs. Conversely, in dry years where available imported supplies are below what is needed for regional demands and groundwater recharge, water supplies must be withdrawn from Metropolitan storage programs to meet those demands. If conditions are severe enough that water supply is insufficient from both imported sources and Metropolitan storage programs, then replenishment water cannot be delivered to the local agency groundwater basins and those basins may reach levels that result in the reduction of groundwater pumping available to meet regional demands. These challenging supply conditions are also likely to coincide with years of lower natural groundwater replenishment from precipitation, further affecting local agency groundwater basin levels (Metropolitan 2021).

3.1.1.4 Seismic Events

Both the CRA and California Aqueduct cross the San Andreas Fault in Southern California prior to reaching Metropolitan's service area. While water deliveries have not been affected by seismic activity to date, a strong earthquake (magnitude 7.8 or greater) along the San Andreas Fault system could severely damage the CRA and/or the California Aqueduct, potentially causing protracted outages of the facilities and the subsequent halt of the flow of imported water. Potential outages are estimated to range from a few months to up to five years, as follows:

- Colorado River Aqueduct: 2 to 6 months (recovery of 80 percent capacity) or 3 to 5 years (recovery of 100 percent capacity)
- California Aqueduct East Branch: 12 to 24 months
- California Aqueduct West Branch: 6 to 12 months (Metropolitan 2017, 2018, 2020)

In the aftermath of such an event, Metropolitan's service area would need to rely entirely on local supplies, surface storage in reservoirs, and groundwater while repairs are being made to the facilities. Adequate local supply available during a seismic outage was estimated to range from 1 to 1.2 million AF (Metropolitan 2021). Since recycled water projects such as Pure Water are assumed to be 100 percent available during a seismic outage, Pure Water could increase local supplies by up to 15 percent during a seismic emergency. Increasing the effective local supply available during the emergency could reduce pressure on Metropolitan's emergency storage reserves (Metropolitan 2023).

Pure Water also could improve the seismic resilience of the region by enhancing and maintaining the storage level in groundwater basins before a major seismic event, and by providing a reliable, local supply of high-quality water for groundwater replenishment and for RWA throughout the emergency. During an emergency, the region would rely heavily on groundwater production, which Pure Water

would support. Purified water from Pure Water would be available to keep water flowing as replenishment water to the groundwater basins to maintain production throughout the emergency. Using additional local groundwater and RWA during an emergency would allow Metropolitan to move what imported water is available to the areas where it is needed most (Metropolitan 2023).

3.1.1.5 Climate Change

Climate change is projected to impact supplies on the Colorado River, SWP, and other local agency supplies that rely on annual hydrology and the water cycle. For example, the Colorado River Basin's natural flow decreased by roughly the volume of Lake Mead during the 2000-2021 megadrought, increased aridification in snowpack regions resulting in water losses has occurred at roughly twice the rate of non-snowpack regions, and present-day natural flows have declined by over 10 percent due to warming associated with human activities (Metropolitan 2024). In Southern California, less stormwater is percolating into groundwater basins from too much rain at some times and not enough rain at others (Metropolitan 2023). It is anticipated that climate change will continue to exacerbate water supply constraints through a variety of factors such as reduction in Sierra Nevada snowpack, prolonged drought periods, changes in runoff pattern and amount, and rising sea levels resulting in impacts such as seawater intrusion into coastal groundwater basins and erosion of levees in the Bay-Delta (Metropolitan 2021). While conservation and recent above-average snowpack in the Upper Colorado River Basin mitigated immediate effects of the recent megadrought, reduced inflow into the Colorado River system due to drought and climate change is anticipated to be an ongoing concern (Metropolitan 2024). In addition, projected warmer temperatures in Southern California would increase water requirements for plant life and landscapes, as well as increase evaporation rates in reservoirs (Metropolitan 2016).

Climate change also has the potential for other adverse effects on the water supply system. Aging infrastructure may be more vulnerable to extreme storm events, and the number and scale of capital improvement projects is anticipated to increase to respond to changing circumstances. Constraints on hydropower from fluctuating water flows and climate vulnerabilities of the electrical grid (e.g., strain during extreme heat events, shutdowns during high wind events) may also affect electrical power generation and access (Metropolitan 2024). Water conservation, storage, and innovation will be required to meet these climate challenges and to address future water shortages caused by dramatic swings in annual hydrologic conditions.

3.1.2 Integrated Water Resources and Climate Adaptation Planning

Metropolitan has conducted long-range planning for its water resources portfolio since the mid-1990s using an IRP process. The IRP serves as Metropolitan's long-term, comprehensive water resources strategy to provide member agencies with a reliable and affordable water supply. After its first adoption in 1996, the IRP has been updated approximately every five years to adapt to changing conditions that affect water resource reliability. While past IRPs incorporated uncertainties based on annually variable hydrologic conditions, the current IRP process explicitly plans for a wide range of uncertainties through scenario planning by integrating available water resources data and impacts from climate change into demand models.

3.1.2.1 Regional Needs Assessment

Phase 1 of the 2020 IRP provided a Regional Needs Assessment, adopted by Metropolitan's Board in April 2022, which identifies significant threats facing Southern California's water supply reliability

through successive qualitative and quantitative analysis steps (Metropolitan 2022). Through a collaborative process that involved the Board and the public, Metropolitan identified future uncertainty in water reliability due to major drivers such as climate change, demographic and economic changes, water use efficiency, regulations, and local supply development. The planning process explored and quantified potential water supply reliability outcomes through 2045 under the following four different planning scenarios:

- Scenario A: Low Demand, Stable Imports
- Scenario B: High Demand, Stable Imports
- Scenario C: Low Demand, Reduced Imports
- Scenario D: High Demand, Reduced Imports

No scenario should be regarded as "most likely" or "preferred" as each scenario has entirely plausible outcomes relative to each other. It is important to note that current water supply conditions are like those envisioned under Scenario D. Under Scenario A, no additional water is needed. For the remaining scenarios, Metropolitan would need between 100,000 AF and 650,000 AF of new annual core water supply, which consists of water supply that is generally available and used every year to meet demands under normal conditions. If the new core supply is not developed, regional reliability targets for the region would not be met, which would increase pressure on imported water supplies and increase the likelihood of future net shortages in water supply (Metropolitan 2022).

Consistent with the findings of the Regional Needs Assessment, Metropolitan is implementing a multi-faceted approach to address future net shortages by drawing on a combination of the following: additional core supply; additional flexible supply (supply that is implemented on an as-needed basis and may or may not be available for use each year); additional storage capacity; and distribution system flexibility. Pure Water would add 155,000 AFY to Metropolitan's core supply, which would help reduce the likelihood of future net shortages and contribute to regional reliability targets (Metropolitan 2023).

3.1.2.2 Climate Adaptation Master Plan for Water

The completion and Board approval of the Regional Needs Assessment and observed changes in climate trends and changing hydrology signaled the increasing need to integrate climate adaptation into planning for the future. In February 2023, Metropolitan's Board directed staff to integrate water resources, climate, and financial planning into a Climate Adaptation Master Plan for Water (CAMP4W). Specifically, CAMP4W includes: (1) climate and growth scenarios; (2) time-bound targets for addressing the needs identified in the Regional Needs Assessment and other policy goals; (3) a framework for climate decision making and reporting; (4) policies, initiatives, and partnerships; and (5) business models and funding strategies. CAMP4W will increase Metropolitan's understanding of the climate risks to water supplies, infrastructure, operations, workforce, and financial sustainability and will develop decision-making tools and long-term planning guidance for adapting to climate change to strengthen Metropolitan's ability to fulfill its mission. CAMP4W is intended to provide Metropolitan's Board with the tools and information to assess projects and make decisions on how and when, or if, they should be implemented (Metropolitan 2025).

3.2 BENEFITS OF PURE WATER

Implementation of Pure Water would provide regional benefits to all Metropolitan member agencies by replacing portions of current and future imported deliveries with purified water as well as increasing Metropolitan's storage. Regional benefits include: (1) maintaining local water supplies and improving resilience to climate change; (2) reducing reliance on imported water; and (3) improving regional reliability in Metropolitan's service area. These benefits are discussed below.

3.2.1 Maintaining Local Water Supplies and Improving Resilience to Climate Change

A major source of water supply in Metropolitan's service area is groundwater, which is dependent on both natural recharge and imported water replenishment. Over the past 30 years, Metropolitan has delivered an average of 213,000 AFY of imported water for groundwater recharge in Metropolitan's jurisdiction or service area; however, groundwater replenishment deliveries have not been made in sufficient quantities or in a consistent manner to maintain basin groundwater levels within the operating range established by the watermaster for each groundwater basin. Several factors have contributed to this deficit, including drought conditions, regulatory restrictions, and replenishment purchase patterns. Region-wide drought conditions have reduced the availability of imported replenishment water. Local drought conditions have resulted in increased groundwater demand and reduced natural replenishment. Groundwater storage has dropped by over 1 million AF since 2000. Climate change is expected to result in increased variability and unpredictability related to precipitation and evapotranspiration, both of which affect regional and local water supplies. Natural groundwater recharge and the availability of imported replenishment water could become increasingly diminished because of reduced precipitation and increased evapotranspiration at the local and regional level.

Pure Water would help maintain local water supplies by recharging groundwater basins, thus sustaining groundwater levels and maintaining groundwater as a major local source of potable water. Compared to water supply sources such as local stormwater and imported water, the water supplied by Pure Water would be climate-resilient because it is not dependent upon stormwater runoff and capture, nor is it subject to climate or hydrologic variations. Since the purified water supply would be separate from the hydrologic cycle, Pure Water would be able to deliver purified water under all weather conditions and produce water supplies outside of natural systems that could be adversely affected by climate change. Protections against drought and climate change introduce a water security benefit not available with any other Metropolitan water sources (Metropolitan 2023).

3.2.2 Reducing Reliance on Imported Water

Metropolitan currently provides wholesale water services to its 26 member agencies, relying on a combination of water resources from the Colorado River and SWP, reduction in demand through local resources and conservation, and an integrated conveyance and distribution system. Metropolitan faces many challenges to meet the anticipated demands of its member agencies, including long-term drought in both the Northern California and Colorado River watersheds, climate change, regulatory and environmental restrictions, changing hydrological and biological conditions in the Bay-Delta, regulatory uncertainty along the Colorado River, and unresolved issues with the development of a Delta Conveyance initiative. These challenges can result in variable and severe water delivery restrictions.

Pure Water would help ensure a reliable supply of water in the face of these ongoing and increasing uncertainties because it would be part of Metropolitan's integrated core supply in the same way that the SWP and CRA are part of Metropolitan's service. Therefore, Pure Water would offer significant regional benefits for Metropolitan and all of the southwestern United States. While Pure Water would help to maintain groundwater production, as discussed above, it also would help to prevent a strain on regional water supply reserves, as well as complement other Metropolitan initiatives by providing reliable replenishment supplies that free up imported water for the environment or to be placed in storage as a drought buffer.

In addition, imported supplies historically have provided water for the region's storage portfolio for use in years when normal water supplies are scarce. With Pure Water supplying replenishment water, Metropolitan would have added flexibility to capture and store more imported water during wet years, both within and outside of its service area. Implementation of Pure Water could free up to 155,000 AFY of capacity in the existing Metropolitan conveyance, distribution, and storage systems, and would thus provide Metropolitan greater flexibility on directing the water to where it is needed the most (Metropolitan 2023).

3.2.3 Improving Regional Reliability in the Service Area

Pure Water would improve regional reliability of water supplies by lowering the risk of net shortages, increasing reliability during a seismic or extreme weather event that could disrupt current water deliveries, and increasing system-wide operational flexibility. By becoming part of Metropolitan's core water supply, Pure Water would reduce the risk of regional net shortages, which occur when all available supplies, including accessible storage, are depleted and there remains unmet demand from Metropolitan's member agencies. Pure Water would also benefit the Metropolitan service area in the event of a catastrophic earthquake by increasing the opportunities to ensure that water supplies are maintained in the region. The CRA and California Aqueduct cross the San Andreas Fault and could be severely damaged as result of a strong earthquake. The extent of damage from this type of event could potentially cause protracted outages of the CRA and California Aqueduct, halting the flow of imported water. In the aftermath of such an event, the region would need to rely entirely on local supplies such as Pure Water, surface storage in reservoirs, and groundwater production while repairs are being made to imported water facilities. Pure Water would be located on the coastal side of the San Andreas Fault with the nearest Pure Water facilities more than 20 miles away from the fault, which could make the water produced from Pure Water available during a major earthquake event along the San Andreas Fault and significantly improve the seismic resilience of the region.

With a service area spanning 5,200 square miles in six Southern California counties, Metropolitan has built an integrated conveyance and distribution system to ensure consistent supplies, reliability, and flexibility throughout the region. The interconnected nature of the system means that Metropolitan can address constraints in one area of the system for the benefit of the entire system. For example, at any time, one area could be served exclusively from one supply source, while another area could be served by a blend of water sources. The need to change the water sources may arise either from the unavailability of a water resource, a water quality issue related to a resource, rehabilitation of aging facilities, or other reasons. The integration of its water resources and system flexibility is fundamental to Metropolitan's wholesale water service. Pure Water would provide an additional local water supply source, thus increasing the options available to meet demands throughout Metropolitan's service area. It would also free up capacity in the existing conveyance, distribution, and storage systems for increased flexibility for capturing and conveying water supplies. The additional (i.e., freed up) imported water

resulting from demands met by Pure Water would also increase Metropolitan's water resource portfolio, including through bolstered storage within and outside of Metropolitan's service area (Metropolitan 2023).

3.3 OBJECTIVES FOR PURE WATER

Consistent with the needs for and benefits of Pure Water as discussed above, the following objectives have been established for this program:

- Provide a new high-quality local water source that is reliable, cost-effective, and climate-resilient to help meet regional water demands, with expedited or phased deliveries of such supplies where feasible;
- Diversify Metropolitan's water supply portfolio, increase regional operational flexibility, and provide opportunities for improved coordination and potential future integration with other water supply and distribution systems;
- Contribute to improving water supply resiliency and overall water quality of local groundwater basins;
- Provide advanced water purification to maximize beneficial reuse of wastewater that would otherwise be discharged into the ocean, while maintaining compliance with water quality requirements for ocean discharge;
- Further statewide goals of increasing use of recycled water as a sustainable, environmentally sound water source for indirect and direct potable reuse;
- Reduce reliance on imported water supplies and provide greater resilience of local water supplies; and
- Increase the locally available water supply to protect against seismic events impacting imported water supplies and other service disruptions.

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4.0 PROJECT PHASING AND DETAILED DESCRIPTION

CEQA Guidelines Section 15124(c) requires an EIR to include a "general description of the project's technical, economic, and environmental characteristics." In addition, CEQA Guidelines Section 15124(d) requires a statement "briefly describing the intended uses of the EIR," including "a list of the agencies that are expected to use the EIR in their decision making" and "a list of permits and other approvals required to implement the project," to the extent they are known.

To that end, this chapter first reviews the anticipated phasing for Pure Water, which is pertinent to the discussion that follows. This chapter then provides a detailed description of Pure Water's facilities and components and the associated construction and operational activities, followed by a more general discussion of the economic and fiscal aspects of the program. This chapter then concludes with a summary of those agencies Metropolitan anticipates would rely on this EIR in making discretionary decisions related to Pure Water and the permits and approvals likely to be required to advance the program.

4.1 PHASING

To meet Pure Water's ultimate production capacity of 150 MGD, construction and operation of its facilities and components are anticipated to occur in two primary phases. Phase 1 would focus on production and conveyance of up to 115 MGD of purified water; Phase 2 would focus on production and conveyance of the remaining 35 MGD of purified water. These phases are described below and summarized in **Table 4-1**.

4.1.1 Phase 1

Phase 1 would involve construction of key Pure Water facilities and components, including: (1) the Warren Facility improvements, the AWP Facility, and certain ancillary facilities, all of which would be located at the Joint Treatment Site; (2) the backbone conveyance system, which includes a 39-mile backbone pipeline stretching from the City of Carson to the City of Azusa, pump stations, and service connections; (3) spreading facilities and injection wells at groundwater recharge sites in the West Coast, Central, and Main San Gabriel groundwater basins; (4) DPR facilities at the Weymouth WTP in the City of La Verne and associated conveyance facilities; and (5) facilities to serve non-potable end uses predominantly in the South Bay. Additionally, the Workforce Training Center would be constructed during this phase to promote workforce development and employment at the earliest practicable time. Lastly, several existing Sanitation Districts support facilities that are currently within the footprint of the AWP Facility would be demolished and rebuilt elsewhere within the Warren Facility during this phase.

Construction of Phase 1 facilities is anticipated to start in 2027 and be completed by 2035.

4.1.1.1 Initial Delivery Subphase

To expedite production and delivery of purified water to the region, Metropolitan would develop an Initial Delivery Subphase as part of Phase 1. This subphase would focus on treating up to 30 MGD to IPR standards and would involve construction of (1) a portion of the AWP Facility and required ancillary

facilities and (2) approximately 14 miles of the backbone conveyance system (Reaches 1 and 2[1]). This water would be delivered for non-potable uses via service connections in and around the cities of Carson and Long Beach and for IPR purposes via groundwater recharge in the West Coast and Central groundwater basins. The Workforce Training Center and new Sanitation Districts support facilities also would be constructed as part of the Initial Delivery Subphase.

Construction of these Initial Delivery facilities is anticipated to start in 2027 and be completed by 2033.

4.1.1.2 Continuation of Phase 1

Construction would proceed through the remainder of Phase 1 on an ongoing basis with expansion of the AWP Facility to produce approximately 85 MGD of additional water treated to IPR standards for a total of 115 MGD of purified water. The Warren Facility improvements, approximately 25 miles of the backbone conveyance system (Reaches 3 to 8), and groundwater recharge facilities also would be completed during the remainder of this phase. In addition, facilities would be constructed at the Weymouth WTP to further treat 25 MGD of the output from the AWP Facility to DPR standards. IPR water would be conveyed from a point near the terminus of the backbone pipeline to these DPR treatment facilities via the existing Azusa Pipeline. To accomplish this, the Azusa Pipeline would be retrofitted and certain associated conveyance structures, including pipelines, interconnections, and pump stations, would be constructed.

Construction of these remaining Phase 1 facilities is anticipated to start between 2029 and 2032 (depending on the component) and be completed by 2035.

4.1.2 Phase 2

Phase 2 would involve expansion of the AWP Facility to produce approximately 35 MGD of additional water for a total of 150 MGD of purified water. Phase 2 also would include construction of additional DPR treatment facilities, which could be located at one of three locations: the AWP Facility, the Weymouth WTP, or a satellite location.

If DPR treatment facilities are located at the AWP Facility, then all 150 MGD of the AWP Facility's output would be purified to DPR standards. Of this, 90 MGD would be delivered along the backbone pipeline for IPR purposes and non-potable uses, while the remaining 60 MGD would be delivered to the Weymouth WTP for DPR purposes. In contrast, if the DPR treatment facilities are located at the Weymouth WTP or a satellite location, then the AWP Facility would treat 150 MGD to IPR standards, and approximately 60 MGD of that water would be further purified to DPR standards at the Weymouth WTP or satellite location. For the purposes of analysis in this EIR, it is assumed that any Phase 2 DPR treatment facilities would be located at the AWP Facility.[2]

Regardless of the location of the Phase 2 DPR treatment facilities, all three options for DPR treatment would require conveyance of 60 MGD of purified water from the AWP Facility through the backbone

[1] The backbone pipeline is comprised of a total of eight reaches as shown in Figure 2-3.
[2] Phase 2 DPR treatment is assumed to be located at the AWP Facility because that option would involve the greatest amount of treatment to DPR standards and associated operational requirements and impacts. Additionally, it is the only option the location of which is currently known and thus able to be analyzed.

pipeline to the Weymouth WTP for integration into Metropolitan's system. This would require construction of an entirely new pipeline, referred to as the DPR pipeline, and another pump station.

Construction of Phase 2 facilities is anticipated to start in 2035 and be completed in 2040.

Table 4-1
PHASING SUMMARY

Program Component	Construction Schedule	Operations	
		Purified Water Volume and Standard	Start Date
Phase 1			
Initial Delivery Subphase			
AWP Facility and Ancillary Facilities (approx. 30 MGD)	2027 through 2033	30 MGD Total (IPR Only)	2033
Workforce Training Center			
Backbone Conveyance System (Reaches 1-2)			
Recharge Facilities			
Non-potable Water Facilities			
Sanitation Districts Support Facilities			
Continuation of Phase 1			
AWP Facility and Ancillary Facilities (approx. +85 MGD)	2029 through 2035	115 MGD Total (90 MGD IPR & 25 MGD DPR)	2035
Warren Facility Improvements			
Backbone Conveyance System (Reaches 3-8)			
Recharge Facilities			
DPR Treatment Facilities at Weymouth WTP			
Azusa Pipeline Retrofit			
Phase 2			
AWP Facility and Ancillary Facilities (+35 MGD)	2035 through 2040	150 MGD Total (90 MGD IPR & 60 MGD DPR)	2040
DPR Treatment at AWP Facility, Weymouth WTP, or Satellite Location			
DPR Pipeline			

4.1.3 Adjustments to Phasing Schedule

As with any project of this size, it is possible that the phasing for Pure Water may need to be adjusted to accommodate various construction, operational, or financial constraints as work progresses. In particular, it is anticipated that the two main phases for Pure Water may be further divided into various stages that are pursued over a longer period of time. Nonetheless, for purposes of this EIR the environmental analysis focuses on Pure Water's final buildout capacity of 150 MGD to assess the full scope of potential construction and operational impacts. Likewise, modeling of potential impacts conservatively assumed that construction of its facilities and components would occur on a more compressed schedule than noted above, since a longer schedule would be expected to reduce various impacts. Where relevant, the issue of phasing is addressed in more detail in Chapter 5, *Environmental Impact Analysis*, as part of the analysis of potential impacts for specific environmental resource categories.

If adjustments are made to the phasing schedule after Pure Water is approved, they will be assessed in accordance with the criteria set forth in PRC Section 21166 and CEQA Guidelines Sections 15162, 15163, 15164, and 15168 to determine whether any additional environmental review and analysis are required.

4.2 FACILITIES AND COMPONENTS

Different levels of detail and information exist for the various facilities and components that would be part of Pure Water. In general, there currently is more certainty with respect to the proposed location, design, construction, and operation of the AWP Facility and backbone pipeline, and less certainty with respect to the proposed pump stations and service connections associated with the backbone conveyance system and with the recharge, DPR, non-potable water, and Sanitation Districts support facilities. As a result, this EIR assesses potential environmental impacts at different levels depending on the available information.

4.2.1 Joint Treatment Site

As indicated earlier, the Joint Treatment Site would include improvements to the Warren Facility, a new AWP Facility, and a new Workforce Training Center. It would occupy portions of the existing Warren Facility and adjacent property also owned by the Sanitation Districts. The Joint Treatment Site would be located near the southwestern limits of the City of Carson, generally bounded by Interstate 110 (I-110) to the west, Main Street to the east, Lomita Boulevard to the south, and Sepulveda Boulevard to the north (except for the Workforce Training Center, which would be immediately north of Sepulveda Boulevard). Residential land uses are generally located to the north and south of the Joint Treatment Site, commercial land uses are generally located to the east, and industrial and commercial land uses are located to the west. The boundaries of the Joint Treatment Site, the Warren Facility and proposed improvements, the AWP Facility, and the Workforce Training Center are shown on **Figure 2-2**.

Although mostly vacant now, the location of the proposed AWP Facility was formerly an oil refinery owned by Fletcher Oil and Refining Company, which terminated operation in 1992. The Sanitation Districts acquired the property in 2000 and, in 2007, assumed responsibility for remediation of the soil and groundwater at the site, which was necessary due to contamination with petroleum products. Based on the progress of site remediation to date, the Los Angeles Regional Water Quality Control Board (Los Angeles Regional Board) determined that no further action is needed for the top 30 feet of soil. A Covenant and Environmental Restriction was executed and recorded by the Sanitation Districts to limit the use of the site to commercial/industrial applications, such as Pure Water. The Sanitation Districts are now proceeding with remediation of the soil that is greater than 30 feet below the ground surface and known sources of contaminated groundwater. Remediation activities for the soil greater than 30 feet below ground surface and groundwater are expected to continue through construction and operation of the AWP Facility.

4.2.1.1 Warren Facility Improvements

Development of Pure Water would require that certain improvements be made at the Warren Facility. The Warren Facility is a wastewater treatment facility with a permitted annual average daily flow capacity of 400 MGD. It consists of wastewater treatment facilities, a laboratory, equipment maintenance and storage, energy recovery, solids processing, and administrative and field office facilities. The Warren Facility currently provides primary and secondary treatment of wastewater for approximately 3.5 million people or an average of approximately 250 MGD of wastewater. Primary treatment involves a series of steps that removes coarse materials and suspended solids to produce primary effluent. The primary effluent is then pumped to the secondary treatment process, which removes suspended and dissolved organic matter. The secondary effluent, or cleaned wastewater, is then disinfected before it is discharged to the ocean through a network of tunnels and outfall pipes that

extend two miles offshore and 200 feet deep into the Pacific Ocean. This cleaned wastewater would serve as the source of water that would be purified by the AWP Facility.

The primary and secondary treatment processes at the Warren Facility produce biosolids, which undergo centrifuge dewatering to separate the liquid from the solids. The solids are stored in silos before being transported offsite for land application, composting, or landfilling. The remaining liquid, called centrate, returns to the Warren Facility's headworks where it undergoes primary and secondary treatment again. The repeated treatment processes produce levels of nitrogen in the cleaned wastewater that are higher than optimal for purification at the AWP Facility.

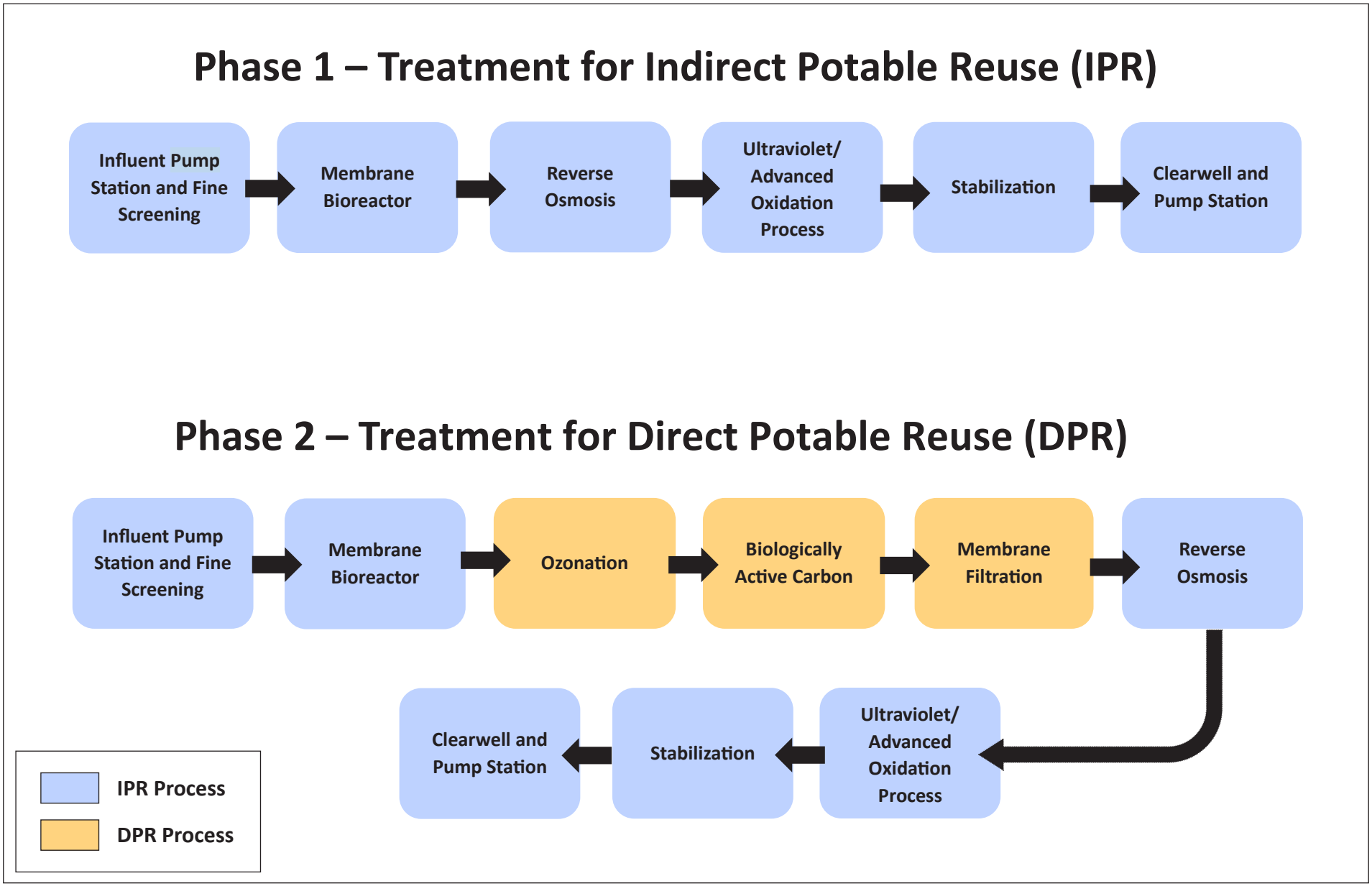
Accordingly, as part of Pure Water, the Sanitation Districts would add sidestream centrate treatment to the Warren Facility's existing treatment process to reduce the amount of nitrogen in the centrate and, in turn, in the cleaned wastewater going to the AWP Facility. Sidestream centrate treatment reduces nitrogen in the centrate by using microorganisms to remove nitrogen from the centrate; using specialized bacteria to convert ammonia to nitrogen gas; using membranes to separate the treated water from the solids; and adding chemicals to the centrate to precipitate out various nutrients. The sidestream centrate treatment system would be located within the limits of the Joint Treatment Site, northwest of the AWP Facility (refer to Warren Facility Improvements on **Figure 2-2**), and would be powered by renewable energy that is currently generated at the Warren Facility. Ancillary facilities that would be required to operate the sidestream centrate treatment system include a centrate pump station and conveyance piping, process air compressors and conveyance ducting, chemical/nutrient supply and conveyance piping, building(s) for electrical facilities and blowers, treated centrate conveyance piping, and associated electrical and chemical equipment and instrumentation.

In addition to the sidestream centrate treatment system, yard piping would be installed within the Warren Facility to facilitate use of purified water for non-potable applications, such as industrial/treatment and irrigation uses. Yard piping would consist of new 8- to 12-inch diameter pipelines that would distribute the purified water from the AWP Facility to various locations around the Warren Facility. Minor modifications may be required to connect the new piping to existing facilities and structures.

4.2.1.2 AWP Facility

The cleaned wastewater produced at the Warren Facility would undergo advanced water purification via the treatment processes described below. The processes are discussed in sequential order and are depicted on **Figure 4-1**. A proposed site plan of the AWP Facility and its proposed phasing are presented as **Figure 4-2** and a three-dimensional rendering of the AWP Facility is provided as **Figure 4-3**.

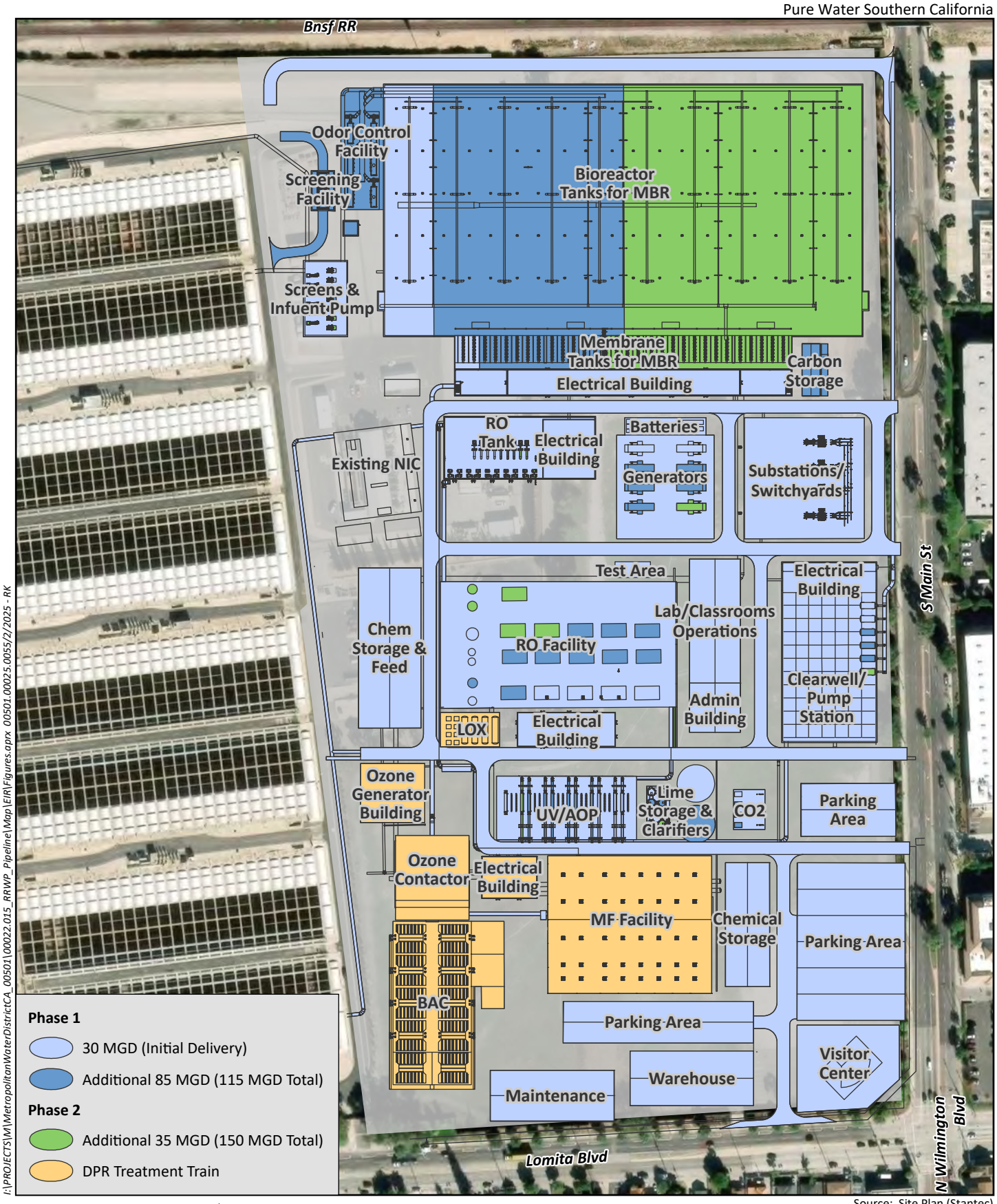
As discussed earlier in Section 4.1, implementation of Pure Water would be divided into two main phases. Among other proposed work, Phase 1 would involve purification of up to 115 MGD of cleaned wastewater at the AWP Facility. Phase 2 would involve expansion of the AWP Facility to purify an additional 35 MGD, bringing the total output of the AWP Facility to 150 MGD. Phase 2 also could include the construction of additional treatment facilities at the AWP Facility to enable purification of all 150 MGD to DPR standards. Facilities and the treatment processes for IPR and DPR at the AWP Facility are described below.



PURE WATER SOUTHERN CALIFORNIA

AWP Facility Process Flow Diagram

Figure 4-1



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Source: Site Plan (Stantec)

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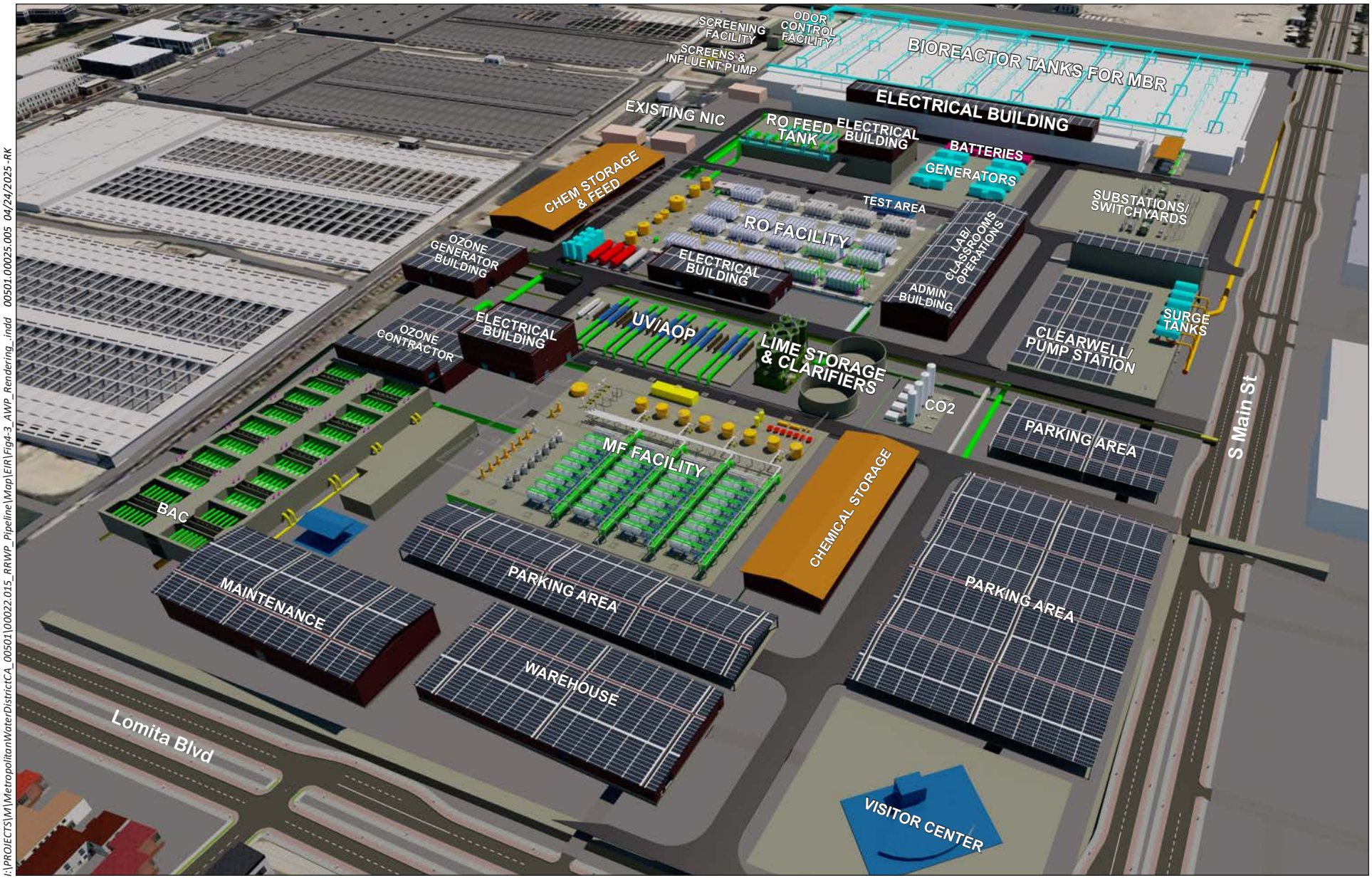
PUREWATER SOUTHERN CALIFORNIA

AWP Facility Site Plan and Phasing

Figure 4-2



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PUREWATER SOUTHERN CALIFORNIA

AWP Facility 3D Rendering

Figure 4-3

IPR Treatment Process

Influent Pump Station and Fine Screening

The first stage of the advanced water purification process involves pumping the cleaned wastewater from the Warren Facility to a centralized fine screening facility. Once the cleaned wastewater enters this stage of the advanced water purification process, it is referred to as influent for the purposes of Pure Water. The fine screening facility would screen out any remaining solid waste materials from the influent that might have been left over from the primary and secondary treatment processes at the Warren Facility. The screened-out materials would be compacted and dewatered, and the dewatered screenings would then be collected and hauled offsite for disposal. The remaining influent would be pumped to the next stage of the purification process. The influent pump station would be approximately 6,800 square feet (SF) with a height of 20 feet above grade. The screening facility would be approximately 3,700 SF with a height of 22 feet above grade.

Membrane Bioreactor

After fine screening, the influent would go through additional treatment consisting of a membrane bioreactor (MBR) process. MBR systems consist of tanks that use microorganisms and membrane filters to clean water. The bioreactors convert undesirable organic matter into harmless constituents and the membrane filters prevent passage of suspended solids, bacteria, and other organisms. The constituents filtered out of this process would be sent back for treatment at the Warren Facility while the resulting water, called MBR filtrate, would go to the next stage of treatment, which is reverse osmosis (RO). The MBR system would be approximately 426,600 SF extending to a depth of approximately 30 feet below ground surface.

Metropolitan Grace F. Napolitano Innovation Center – Membrane Bioreactor System

The bioreactor and membrane tanks would be covered, and off-gas from the tanks would be directed to an odor control facility that would be constructed adjacent to the tanks. The odor control facility would treat the sulfides, odors, and volatile organic compound (VOC) emissions that are generated from the MBR process as well as odors from the influent pump station and screening facility. The odor control facility would be approximately 12,000 SF with a height of 35 feet above grade.

Reverse Osmosis

As discussed above, the MBR process produces MBR filtrate, which would undergo RO as the next stage of purification. The MBR filtrate would be conveyed by high-pressure pumps to the RO system. The RO system would consist of multiple racks containing various components, including valves, membranes, instrumentation, and pumps to push the MBR filtrate through the RO system. The RO system would remove dissolved constituents and microscopic materials from the water and eliminate more than 99 percent of impurities, including total organic carbon, total dissolved solids, total nitrogen, viruses, bacteria, pesticides, and pharmaceuticals. The RO facility would be approximately 105,500 SF with a height of 45 feet above grade.

Metropolitan Grace F. Napolitano Innovation Center – Reverse Osmosis Train

The RO process would result in a stream of water with impurities called RO concentrate and a stream of water without these impurities called RO permeate. The RO permeate would serve as influent for the next stage of purification, which is ultraviolet/advanced oxidation. The RO concentrate would be blended with the Warren Facility's cleaned wastewater and discharged to the ocean via the existing Warren Facility outfall system. The Sanitation Districts have conducted a study to confirm that this discharge would comply with current regulatory requirements (Sanitation Districts 2022).

Ultraviolet/Advanced Oxidation Process

The RO permeate produced from the RO process would be treated with an ultraviolet/advanced oxidation process (UV/AOP) to remove trace chemical compounds that may remain through the previous phases of water purification. The UV/AOP provides pathogen and chemical control by using UV light in combination with an oxidant to break down contaminants that can pass through the RO system. UV light could be provided by low or medium pressure UV lamps, while oxidation could be provided by the addition of sodium hypochlorite or hydrogen peroxide. The UV/AOP facility would be approximately 31,800 SF with a height of 30 feet above grade.

Stabilization

After undergoing RO and UV/AOP, the purified water would require stabilization due to its low levels of calcium, pH, and alkalinity to reduce its corrosive nature on facilities. Typical stabilization can include use of lime, calcium chloride, or sodium hydroxide, followed by the addition of carbon dioxide for final alkalinity and pH adjustment.

After stabilization, chlorine would be added to the purified water, which would then be directed to a clearwell for storage before being pumped to the backbone pipeline. The clearwell and associated pump

station are described below after the DPR treatment process as these facilities are required after both IPR and DPR treatment.

DPR Treatment Process

DPR treatment at the AWP Facility would be developed during Phase 2 and would include the addition of ozonation, biologically activated carbon (BAC) filtration, and membrane filtration (MF). The DPR treatment process would be integrated within the IPR process, specifically between MBR and RO, which would alter the sequence of treatment and would purify all water to DPR standards. **Figure 4-1** depicts the sequence for the IPR and DPR treatment processes.

Ozonation

The first step of the DPR treatment process consists of ozonation, which involves the addition of ozone between the MBR and RO systems to oxidize and eliminate contaminants. To accomplish this, MBR filtrate would be conveyed from the MBR tanks to basins where ozone would be added to the MBR filtrate. The ozone basin facility would be approximately 22,200 SF with a total height of 21 feet (7 feet below grade and 14 feet above grade). Ozone would be produced onsite by converting liquid oxygen into ozone via ozone generators. Excess ozone would be treated through ozone destruct units where it would be converted to oxygen gas before it is released back into the atmosphere.

Biologically Activated Carbon

After the ozonation process, the water would be conveyed to the BAC filtration system. The BAC filters would contain carbon to remove organic matter from the water prior to the next stage of treatment, MF. The BAC filtration system would be approximately 54,800 SF with a total height of 30 feet (12 feet below grade and 18 feet above grade).

Each filter would be backwashed approximately once per week to remove collected materials. Waste from the washing cycle would be collected in tanks and either pumped for discharge back to the Warren Facility headworks or sent back to an earlier stage in the Pure Water purification system for additional treatment.

Membrane Filtration

Following BAC filtration, the water would be conveyed to a pressurized MF system. The MF system consists of racks with membrane filters where the water is transmitted through the filters to further remove organic matter and particles. This process produces MF filtrate. The MF filtrate would be conveyed to the RO system, followed by UV/AOP and stabilization as described earlier for IPR treatment. The MF facility would be approximately 80,600 SF with a total height of 64 feet (21 feet below grade and 43 feet above grade). The MF filtrate also would be used to backwash the membrane filters. The backwash waste would be collected in backwash equalization basins and either be

Metropolitan Grace F. Napolitano Innovation Center – Membrane Filters

discharged to the ocean via the existing Warren Facility outfall system or sent back to the MBR process for additional treatment.

Clearwell and Pump Station

Following the treatment processes for IPR and DPR, chlorine would be injected into the purified water before being directed to a clearwell. The clearwell would consist of a structure where the purified water would be temporarily stored to achieve residual chlorine contact time, primarily for disinfection requirements, before being pumped out of the AWP Facility to the backbone pipeline. The clearwell would consist of an approximately 46,800-SF concrete structure extending to a depth of approximately 30 feet below grade. It would hold approximately 10 million gallons of water. A pump station consisting of six 3,500- to 4,000-horsepower (hp) pumps would be located adjacent to the clearwell and would pump purified water from the clearwell into the backbone pipeline for conveyance to its ultimate delivery points. The pump station is anticipated to be approximately 8,100 SF with a total height of 36 feet (20 feet below grade and 16 feet above grade).

Ancillary Facilities

A number of ancillary facilities would be necessary to support the water purification process and the overall Pure Water program, as described below.

Chemical Systems

Chemicals would be required for the water purification and stabilization processes, as well as for membrane cleaning. These chemicals would include phosphoric acid, supplemental carbon, sodium hypochlorite, liquid ammonium sulfate, anti-scalant, sulfuric acid, caustic, and citric acid. Storage of these chemicals would be located at different areas within the AWP Facility depending on use. Chemical storage facilities would be designed for 7 to 14 days of storage, depending on space limitations, and would be located under a canopy for weather protection. Storage tanks at the chemical storage facilities would be installed on slabs at grade with secondary containment sized to contain the largest volume of one tank.

Electrical Facilities

Power for the AWP Facility would be provided by Southern California Edison (SCE), which would construct two new 66-kilovolt (kV) transmission lines that would connect to two new substations located along the eastern side of the AWP Facility. The substations would consist of step-down transformers to convert the 66-kV class power supply to 12kV to 15 kV. Power from the substations would be distributed throughout the Joint Treatment Site using distribution switchyards, which would be located next to the substations, and electrical duct banks. The power supply from the distribution switchyards would run through electrical duct banks and connect to electrical buildings, which would house the switchgear, motor control centers, and power panels, among other electrical equipment. These electrical facilities would power various treatment processes, the pump station, and the electrical buildings. The Sanitation Districts' existing electrical infrastructure and renewable energy could also be used to power the sidestream centrate treatment.

In addition to the electrical facilities for the treatment processes, up to eight 4-megawatt (MW) diesel generators would be located next to the distribution switchyards to provide emergency backup power to critical equipment. Additionally, two 2-MW battery packs, which would draw power from onsite solar

panels, would be placed next to the emergency backup generators and would power site lighting and provide uninterrupted power supply for the AWP Facility's control system.

Solar panels also would be installed on rooftops of facilities with roofs or canopies, which are anticipated to include the parking and maintenance facilities, warehouse, administration building, clearwell, ozone buildings, and electrical buildings. The solar panels are estimated to total approximately five acres in area and generate 1.5 MW of power.

Non-potable Water Facilities

Yard piping, consisting of new 8- to 12-inch diameter pipelines, would be installed to facilitate use of purified water for non-potable applications, such as industrial/treatment and irrigation uses.

Administration/Operations/Laboratory/Classrooms Facility

A new facility housing the administration, operations, laboratory, and classroom functions would serve as the central hub for day-to-day management and operations. The proposed facility would provide primary workspaces, support spaces, laboratory testing modules, and classrooms for the administration, operations, and laboratory staffing groups. The proposed facility is anticipated to consist of one or two 2-story buildings totaling approximately 51,000 SF.

Maintenance Facility

A new maintenance facility would provide dedicated workspace, support space, and shop space to perform maintenance and repair activities for the process controls and maintenance staffing groups. The proposed facility is anticipated to be a single story totaling approximately 21,600 SF.

Warehouse

A new warehouse would provide consolidated delivery and storage space for equipment, tools, and supplies. The space would primarily consist of an open room with aisles of industrial storage racks with maneuvering space for forklifts, scissor lifts, and cranes. The proposed warehouse is anticipated to be a single story totaling approximately 24,000 SF.

Parking Facilities and Electric Vehicle Charging Stations

Parking at the AWP Facility would be located onsite in several new parking facilities and would provide parking space for 150 to 200 vehicles. The parking facilities would include canopy covers, on top of which would be located solar photovoltaic systems. Electric vehicle (EV) charging stations would be installed under the canopies and would include approximately 100 level-2 (10 kilowatt [kW]/charger) and 15 level-3 (150 kW/charger) charging stations. Additional parking space would be available at other locations throughout the AWP Facility for staff access and would be assessed during the detailed design phase.

Visitor Center

A new visitor center would provide indoor and outdoor gathering spaces for a variety of purposes, including community and school groups. The proposed facility would include a flexible welcome center designed to accommodate a wide variety of uses and group sizes, making it adaptable for different purposes. This includes a reconfigurable layout that allows the center to support activities such as

school field trips, community meetings, conferences, and workshops, while also featuring multi-functional spaces for added versatility. The two-story, approximately 30,400 SF building would include a reception area, multi-media lobby, multipurpose room, and meeting room. The outdoor spaces would provide interactive, landscaped gardens for learning and a new integrated outdoor amphitheater would provide outdoor space for large groups.

4.2.1.3 Workforce Training Center

As part of Pure Water, a Workforce Training Center would be constructed and operated to provide space to support career development and hands-on training in a variety of skilled trades and technical fields. These could include comprehensive training for construction, water operations, and general trades certification needs. The proposed Workforce Training Center building is anticipated to be a single story totaling approximately 26,000 SF. It would consist of a lobby, offices, meeting spaces, classrooms, and workshops. Onsite parking needs, including designated EV parking spaces, would be assessed during the design phase. The Workforce Training Center would be located on the north side of Sepulveda Boulevard and would occupy approximately 2 acres within an approximately 10-acre area currently leased from the Sanitation Districts by International Plant Growers, a plant nursery business. Metropolitan would coordinate with the Sanitation Districts and International Plant Growers and situate the Workforce Training Center at a location that minimizes disruption to the nursery.

Proposed Workforce Training Center – Potential Training Opportunities

4.2.2 Backbone Conveyance System

The backbone conveyance system would consist of the backbone pipeline, associated pump stations, service connections, and other appurtenances to convey purified water from the AWP Facility in the City of Carson up to the existing San Gabriel Canyon Spreading Grounds in the City of Azusa (**Figures 4-4a** through **4-4c**). Recharge and non-potable water facilities that would connect to the backbone pipeline via service connections are discussed below in Sections 4.2.3 and 4.2.5, respectively.

4.2.2.1 Backbone Pipeline

The backbone pipeline would consist of a 7- to 9-foot diameter cement mortar-lined welded steel pipe that would extend approximately 39 miles through the cities of Carson, Long Beach, Lakewood, Cerritos, Bellflower, Norwalk, Downey, Santa Fe Springs, Pico Rivera, Whittier, Industry, Baldwin Park, Irwindale, Duarte, and Azusa, as well as unincorporated portions of Los Angeles County. Due to its length, the backbone pipeline has been divided into eight reaches to facilitate design and construction of Pure

Water (**Figure 2-3**). The pipeline would be buried via open trench or tunnel construction methods[3] under public roadways and in properties situated along the San Gabriel River that currently are held or owned by SCE, LADWP, Los Angeles County Flood Control District (LACFCD), U.S. Army Corps of Engineers (USACE), and private parties.

Purified water would be pumped into the backbone pipeline via the pump station located at the AWP Facility. From this pump station, the pipeline would extend north along Main Street, east along Sepulveda Boulevard, north along Alameda Street, east along Del Amo Boulevard, north along Paramount Boulevard, east along South Street, north along Palo Verde Avenue, and then generally follow the San Gabriel River to the San Gabriel Canyon Spreading Grounds. Land uses along the backbone alignment include residential uses, industrial uses, commercial uses, business park uses, medical facilities, schools, parks and other recreational facilities (e.g., the San Gabriel River Trail), the San Gabriel River channel, groundwater recharge basins and flood control facilities, agricultural uses (e.g., nurseries), extractive (i.e., mining) uses, railroad right-of-way (ROW), and roadway/freeway ROW.

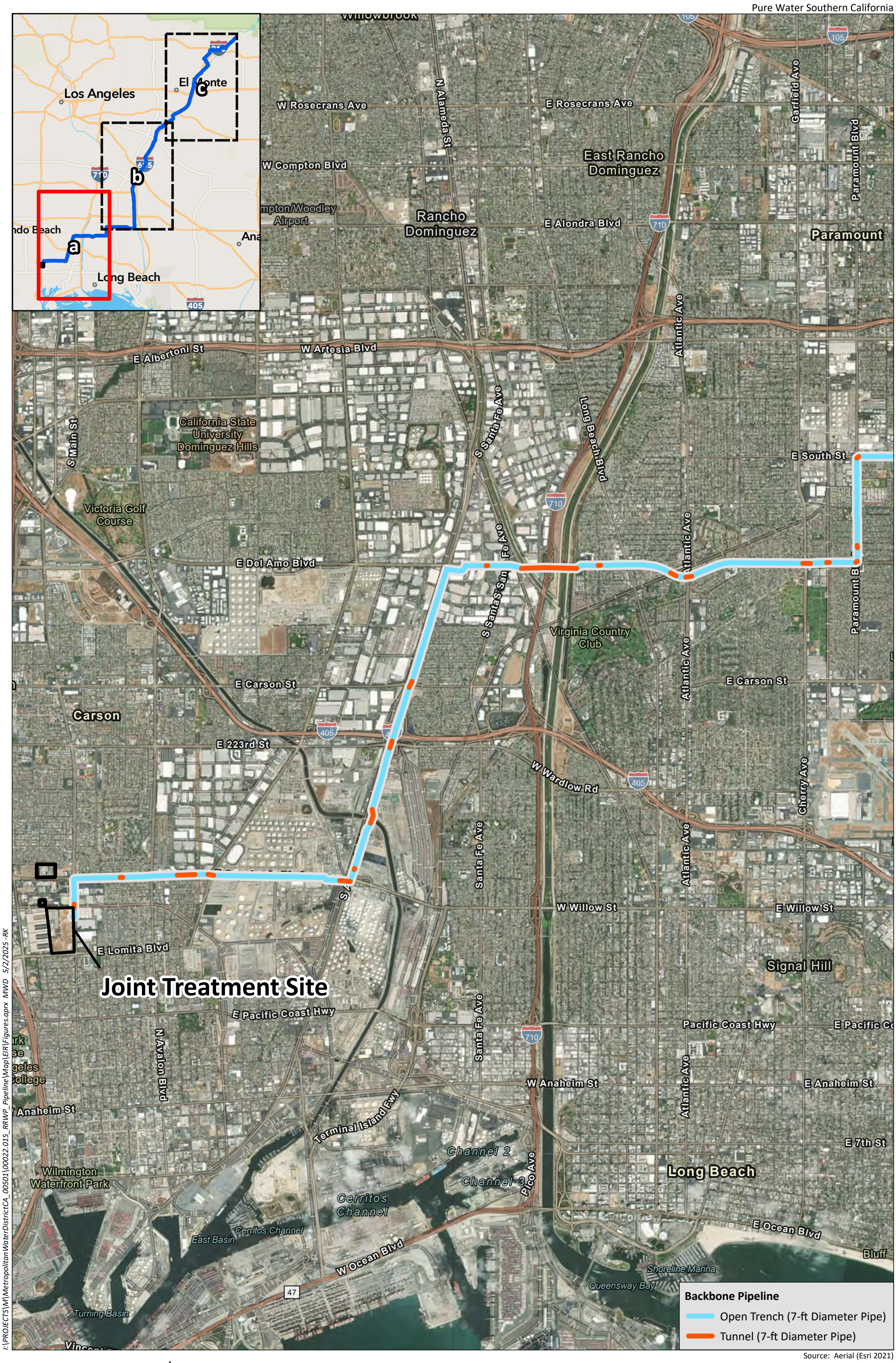
The southern approximately 25 miles of the backbone pipeline would be 7 feet in diameter (with the capacity to convey approximately 150 MGD), while the northern approximately 14 miles would be up to 9 feet in diameter (with the capacity to convey up to approximately 300 MGD) to accommodate potential future regional integration of water delivery systems as discussed earlier in Chapter 2, *Project Overview and Background* (**Figures 4-4a** through **4-4c**). If future conditions appear to warrant integration, appropriate environmental review would be undertaken for associated modifications to the backbone pipeline at that time.

Appurtenant facilities along the backbone pipeline would include air release/vacuum valves, isolation valves, meters, pump wells, blow-off structures, access ways (e.g., maintenance holes), fiber optic duct banks and associated vaults, cathodic protection, and other necessary appurtenances. Air release/vacuum valves allow air into or out of the pipeline during dewatering or filling of pipe to control air pressure in the pipe. These facilities are typically located in above-ground enclosures that are less than five feet tall and five feet wide. Isolation valves regulate flow to a particular area and are typically located in below-ground vaults and are less than 40 feet deep and 35 feet wide. Meters typically are used to monitor and control water usage in a pipeline and are located at the pump stations or in below-ground vaults. The vaults are typically less than 40 feet deep and 25 feet wide. Pump wells and blow-off structures are used to dewater the pipeline into natural waterways, sewers, and storm drains when a shutdown of the pipeline is necessary and can provide access points for routine maintenance or pipeline inspection. Fiber optic duct bank(s) also would be installed either within the main pipe trench or alongside the pipeline to provide network communications for instrumentation monitoring, control, security, and potentially leak detection. Most of these facilities are typically located within buried equipment vaults and would not be visible or accessible to the public. Access ways typically provide access for maintenance, inspections, and repairs and are spaced at regular intervals along the pipeline.

4.2.2.2 Pump Stations

Three new pump stations would pump the purified water through the backbone pipeline from the AWP Facility in the City of Carson to the San Gabriel Canyon Spreading Grounds in the City of Azusa. The first pump station is part of the AWP Facility and is discussed in Section 4.1.2. The second (Whittier Narrows Pump Station) and third (Santa Fe Pump Station) are part of the backbone conveyance system and

[3] Pipeline construction methods are described in more detail in Section 4.3.2.1.



Source: Aerial (Esri 2021)

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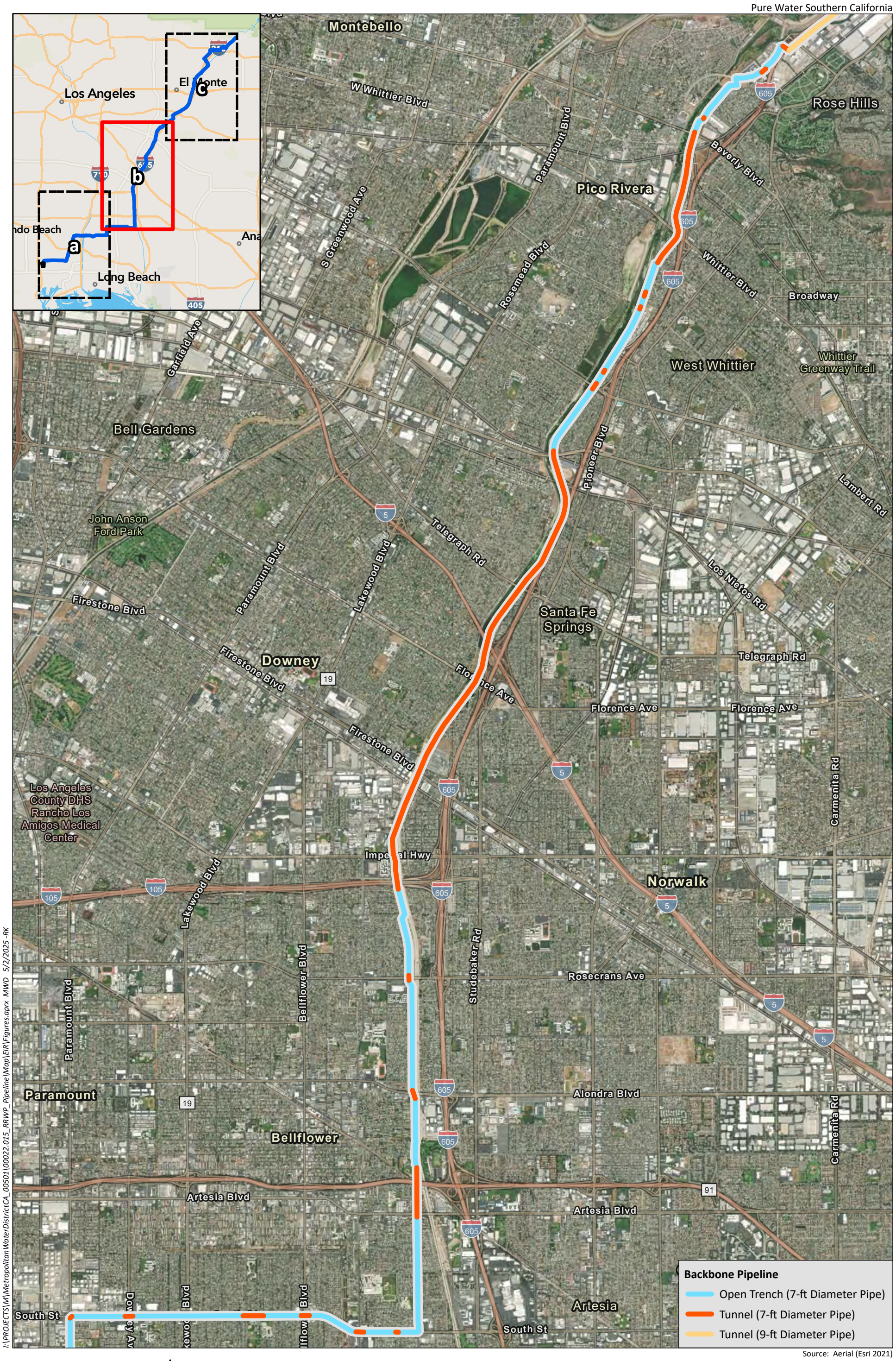
PURE WATER SOUTHERN CALIFORNIA

Backbone Pipeline

Figure 4-4a



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Source: Aerial (Esri 2021)

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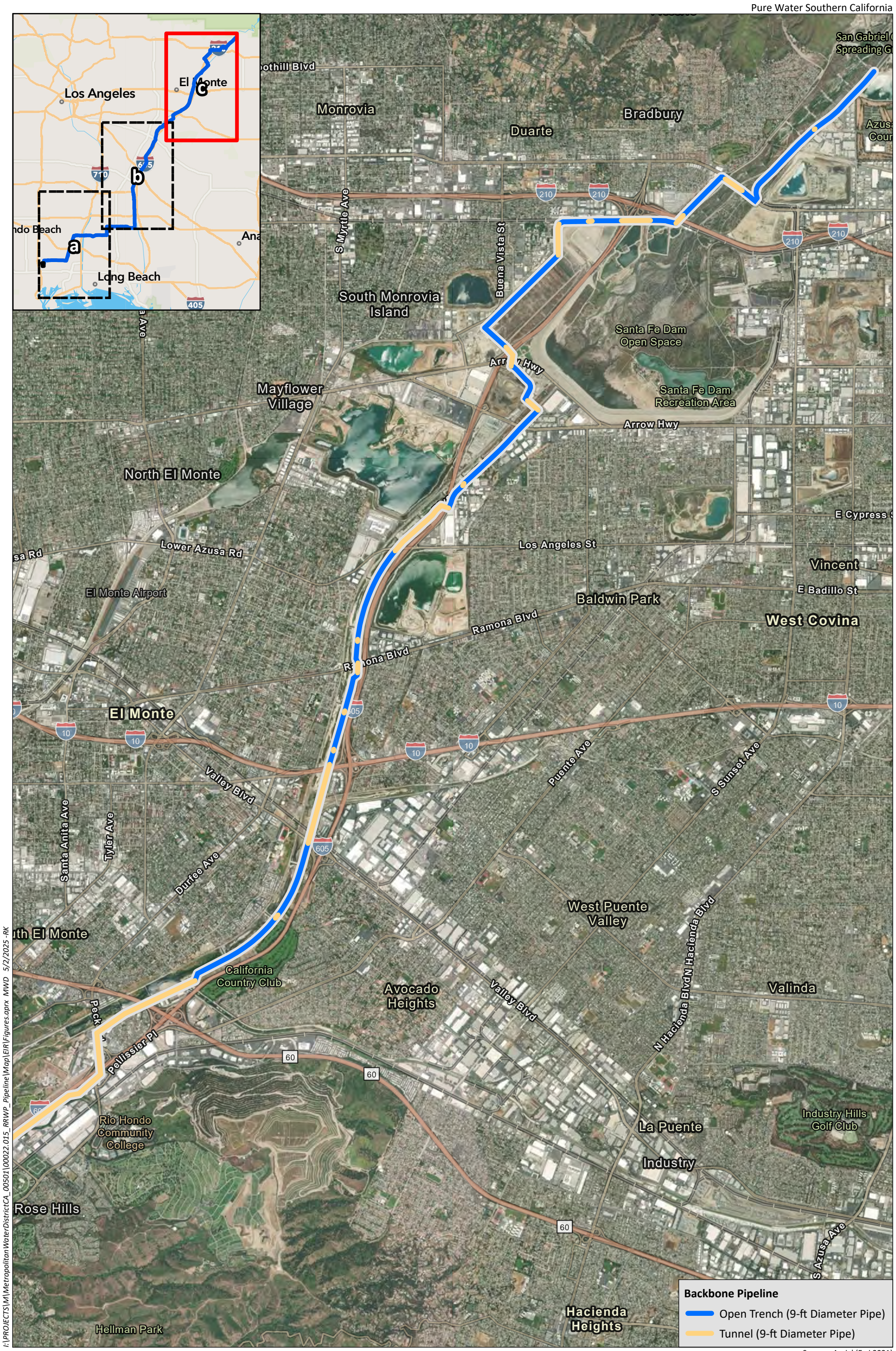
PUREWATER SOUTHERN CALIFORNIA

Backbone Pipeline

Figure 4-4b



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Source: Aerial (Esri 2021)

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PUREWATER SOUTHERN CALIFORNIA

Backbone Pipeline

Figure 4-4c

described below. As with the AWP Facility pump station, the Whittier Narrows and Santa Fe pump stations would have backup power, which could include a dual feed from the appropriate electricity purveyor or emergency diesel generators.

Although the specific site of the Whittier Narrows Pump Station would be identified during design, its general location would be near Whittier Narrows and would be located in the City of Whittier, City of Industry, City of Pico Rivera, or unincorporated Los Angeles County. The Whittier Narrows Pump Station would have a capacity of 150 MGD and would pump purified water to the Santa Fe Pump Station.

The specific site of the Santa Fe Pump Station also would be identified during design. The pump station would be near the Santa Fe Spreading Grounds and would be located in the City of Irwindale, City of Baldwin Park, City of Duarte, or City of Azusa. The Santa Fe Pump Station is anticipated to have two pump sets (A and B) and a total capacity of approximately 100 MGD, subject to final location of the proposed pump station. Set A, with a capacity of approximately 40 MGD, would pump purified water north to the San Gabriel Canyon Spreading Grounds and Set B, with a capacity of approximately 60 MGD, would pump purified water east to the Weymouth WTP.

Although the sites for these two pump stations have not yet been identified, they would be located as close as possible to the backbone pipeline. Based on conceptual-level design, each pump station is expected to be located on an approximately 5- to 11-acre site and would include a main pump area consisting of a building that would house the pumps and motors; an electrical room; surge tanks and air compressors; an administrative area; above-grade surge tanks to regulate flow to the pumps; clearwell tanks; a dechlorination facility that would remove chlorine from potential overflow before discharging offsite; valve and meter vaults; a potential emergency backup generator for temporary power; and a minimum 6-foot-high wall or perimeter security fence. An electrical substation is anticipated to be required for each pump station and would be located on an approximately 1-acre site either at the same location as the pump station or at a nearby offsite location. Each substation would have electrical transformers, power poles and overhead powerlines, and a minimum 6-foot-high wall or perimeter security fence surrounding the substation.

The need for additional pump stations and flow control structures along the backbone pipeline would depend on further hydraulic evaluation of the backbone conveyance system, final pump station locations, and final selection of the DPR pipeline alignment. If additional facilities are required, they would be analyzed for potential environmental impacts at the appropriate time.

4.2.2.3 Service Connections

The backbone pipeline would deliver purified water for various uses along the pipeline alignment, including IPR, DPR, and non-potable applications. Metropolitan would provide metered service connections at various locations along the backbone pipeline to enable agencies to obtain water for these uses. Service connections for this purpose generally consist of smaller-diameter lateral pipelines connecting to the backbone pipeline. These lateral pipelines would have a below-grade isolation valve vault followed by a separate flow meter vault. Downstream of the meter vault, additional lateral pipelines would connect the meters to new or existing facilities, which would be developed, constructed, and managed by the agencies to receive water. Details regarding the location, size, and length of these lateral pipelines are unknown at this time. Once more detailed information is known regarding these facilities, additional environmental review would be conducted to assess potential impacts.

4.2.3 Recharge Facilities

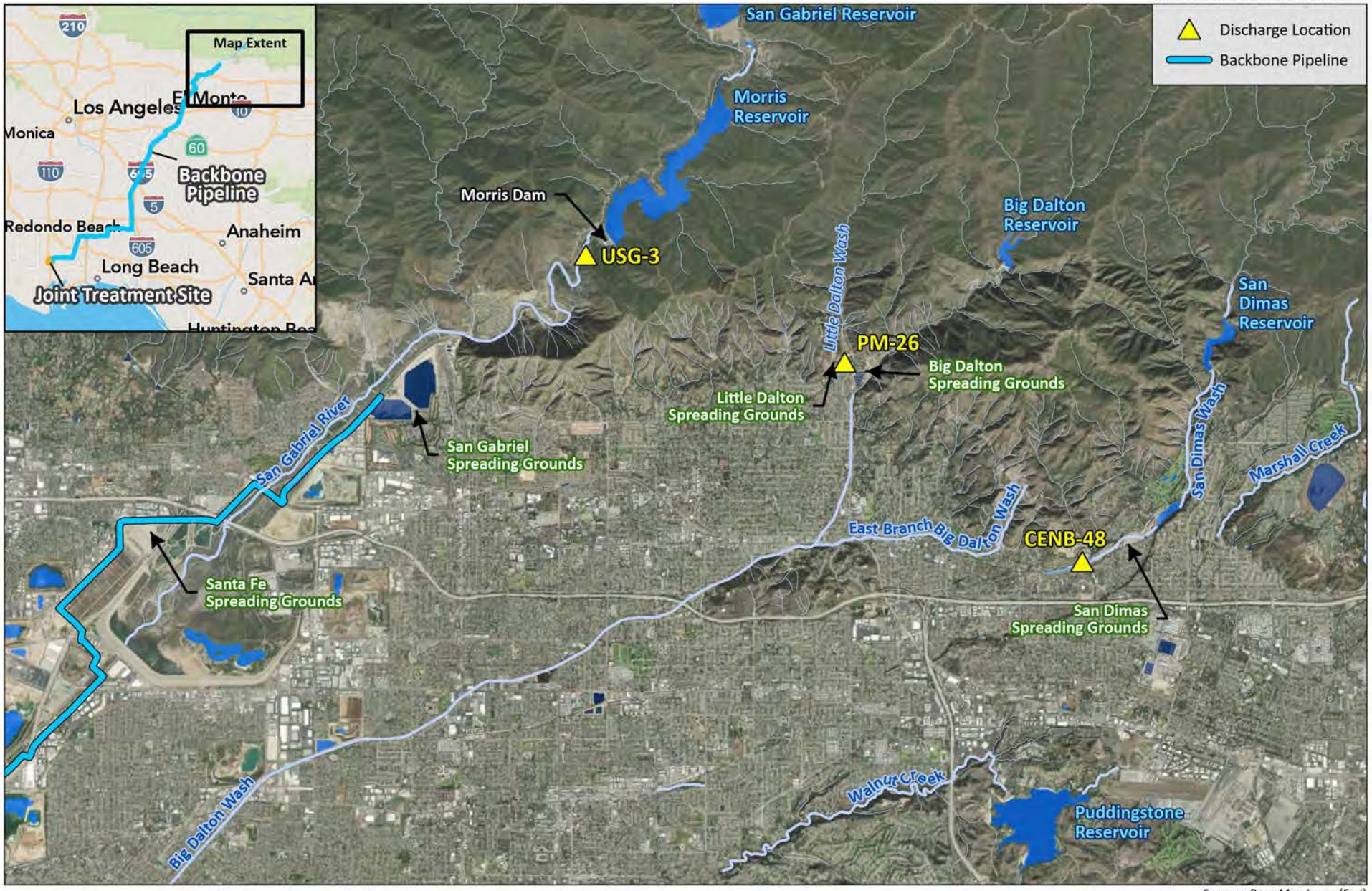
Los Angeles County Department of Public Works – Rio Hondo Spreading Grounds

Purified water would be used to recharge groundwater basins via existing and proposed spreading facilities and injection wells. Spreading facilities include large basins that are designed to hold water while it percolates into the underlying groundwater basin while injection wells are wells that typically deliver water directly into the groundwater basin. The groundwater basins that would receive the purified water include the West Coast Basin, Central Basin, and Main San Gabriel Basin (**Figure 2-1**). Pure Water would discharge into existing spreading facilities within these basins, including the Rio Hondo, San Gabriel Coastal, Santa Fe, and San Gabriel Canyon spreading grounds and via existing injection wells in the West Coast Basin. Additional new recharge facilities also are proposed, and details such as type of facility (spreading facility or injection well), size, number, and location are in the conceptual planning phase. All recharge facilities, either existing or proposed, would require a new connection to the backbone pipeline. Additional environmental review would be conducted to assess potential impacts associated with the use of existing facilities and installation of new facilities once more detailed information is known.

Groundwater replenishment in the Main San Gabriel and Central basins provided by Pure Water would substantially replace the need for imported water for groundwater recharge in these basins. As a result, Metropolitan anticipates reducing or suspending deliveries at three service connections where imported water currently is provided for groundwater replenishment in these basins. The three service connections are CENB-48, PM-26, and USG-3 (**Figure 4-5**). Service connection CENB-48 discharges into the Central Basin and is discussed in more detail in Section 4.2.3.2. Service connections PM-26 and USG-3 discharge into the Main San Gabriel Basin and are discussed in more detail in Section 4.2.3.3. Although information regarding average imported water deliveries to these basins is provided below, current water deliveries at these locations are not completed on a regular schedule, the frequency and quantity of deliveries vary each year, and there have been years when no water deliveries were completed. Once more detailed information is known regarding potential changes in deliveries at these service connections, additional environmental review would be conducted.

4.2.3.1 West Coast Basin

The West Coast Basin is located in the southwestern part of the Los Angeles Coastal Plain, underlying the service areas of the following Metropolitan member agencies: West Basin MWD, City of Los Angeles, City of Torrance, and City of Long Beach. Existing recharge facilities within the basin include two seawater intrusion barriers, the West Coast Basin Barrier in the cities of Manhattan Beach and Hermosa



Source: Base Map Layer (Esri)

PUREWATER SOUTHERN CALIFORNIA

Reduced Imported Water Discharge Locations

Figure 4-5

Beach, and the Dominguez Gap Barrier along the Dominguez Channel in the cities of Wilmington and Carson. Pure Water would recharge up to 9,000 AFY into the West Coast Basin via up to 14 new injection wells proposed by the Water Replenishment District (WRD) that would be located in the City of Carson (**Figure 2-1**), and would serve all of the existing and potential future demands for the West Basin MWD's recycled water needs.

4.2.3.2 Central Basin

The Central Basin is located in the central part of the Los Angeles Coastal Plain, underlying the service areas of the following Metropolitan member agencies: Central Basin MWD, West Basin MWD, City of Compton, City of Los Angeles, and City of Long Beach. Natural replenishment of groundwater in the Central Basin occurs largely from surface flow and underflow of the San Gabriel River in the Whitter Narrows area, as well as from rainfall. Intentional replenishment of groundwater is accomplished by capturing and spreading water at the Rio Hondo Spreading Grounds and San Gabriel Coastal Spreading Grounds in the City of Pico Rivera (**Figure 2-1**). Both are owned and operated by the Los Angeles County Department of Public Works (LACPW) and accommodate stormwater runoff, urban runoff, imported water purchased from Metropolitan (discussed further below), and recycled water purchased from the Sanitation Districts. Recharge in the Central Basin from imported and recycled water also occurs in association with the Alamitos Gap Seawater Barrier Project, which comprises 43 injection wells located near the Los Angeles-Orange County line about two miles inland from the mouth of the San Gabriel River. Pure Water would recharge approximately 9,000 AFY into the Central Basin via 4 new aquifer storage and recovery wells proposed by the City of Long Beach and via existing spreading basins at the Rio Hondo and San Gabriel Coastal spreading grounds.

Service Connection CENB-48

Metropolitan currently provides groundwater recharge from imported water into the Central Basin via service connection CENB-48. The discharge point is located adjacent to the San Dimas Wash, southwest of the San Dimas Canyon Spreading Grounds in the City of San Dimas. From this location, the discharged water extends to the San Gabriel Coastal and Rio Hondo Spreading Grounds to ultimately recharge the basin. Over the past 25 years, an average of approximately 9,800 AFY of imported water has been released by Metropolitan from CENB-48 into the San Dimas Wash. As discussed earlier, Metropolitan anticipates reducing or suspending these releases and replacing them, either fully or partially, with purified water via aquifer storage and recovery wells and injection wells.

4.2.3.3 Main San Gabriel Basin

The Main San Gabriel Basin is located in the eastern part of Los Angeles County, underlying the service areas of the following Metropolitan member agencies: Upper San Gabriel MWD, Three Valleys MWD, and City of San Marino. Natural replenishment of groundwater in the Main San Gabriel Basin occurs largely from rainfall and runoff from the San Gabriel Mountains, which are located immediately to the north. Intentional replenishment of groundwater is accomplished by capturing and spreading water at 17 spreading basins, 16 of which are owned and operated by LACPW and 1 of which is owned and operated by the California-American Water Company. The Santa Fe Spreading Grounds and San Gabriel Canyon Spreading Grounds are two of the largest spreading basins in the Main San Gabriel Basin (**Figure 2-1**). Both are owned and operated by LACPW and accommodate stormwater runoff, urban runoff, and imported water purchased from Metropolitan. Pure Water would recharge approximately 57,000 AFY into the Main San Gabriel Basin via the existing spreading basins at the Santa Fe Spreading

Grounds and San Gabriel Canyon Spreading Grounds, as well potential new spreading facilities or injection wells.

Service Connection PM-26

Metropolitan currently provides groundwater recharge from imported water into the Main San Gabriel Basin via service connection PM-26. The discharge point is located in the City of Glendora at the northeastern end of the Little Dalton Spreading Grounds, which directly recharges the basin. Over the past 25 years, an average of approximately 1,100 AFY of imported water has been released by Metropolitan from service connection PM-26 into the Little Dalton Spreading Grounds. As discussed earlier, Metropolitan anticipates reducing or suspending these releases and replacing them, either fully or partially, with purified water via spreading basins.

Service Connection USG-3

Metropolitan also provides groundwater recharge from imported water into the Main San Gabriel Basin via service connection USG-3. The discharge point is located along the San Gabriel River, south of Morris Reservoir and north of the City of Azusa in the unincorporated portion of Los Angeles County. Over the past 25 years, an average of approximately 30,000 AFY of imported water has been released by Metropolitan from service connection USG-3 into the San Gabriel River. Metropolitan anticipates reducing or suspending these releases and replacing them, either fully or partially, with purified water via spreading basins as described above.

4.2.4 DPR Facilities

As discussed earlier in Section 4.1.1, Phase 1 would include DPR treatment facilities at the Weymouth WTP. These facilities and the associated conveyance system are described in more detail below. Phase 2 would include DPR treatment facilities at either the AWP Facility, the Weymouth WTP, or a satellite location. For purposes of this EIR, Phase 2 DPR treatment was analyzed at the AWP Facility, which is described earlier as part of the Joint Treatment Site discussion in Section 4.2.1. However, if Phase 2 DPR occurs at the Weymouth WTP, additional facilities would be required, and construction and operation of these facilities would undergo subsequent environmental review. These facilities are described below in Section 4.2.4.2. If DPR treatment occurs at a satellite location, DPR treatment facilities similar to those at the Weymouth WTP would be developed and subsequent environmental review would be required. As such, potential DPR treatment at a satellite location is not discussed further in this section.

4.2.4.1 DPR Facilities – Phase 1

Weymouth WTP

Phase 1 DPR treatment facilities would be developed at the Weymouth WTP to further treat 25 MGD of purified water for DPR purposes. The facilities would be located on the southern portion of the Weymouth WTP site (**Figure 4-6**) and would consist of a UV reactor building (including workspace and control room), disinfection facilities, a treated water storage tank, and pumps. The DPR-quality water would be introduced into the drinking water supply system by blending with other water supply sources or directing it to the headworks of the Weymouth WTP for additional treatment through conventional drinking water treatment processes.

Azusa Pipeline and Pump Stations

To convey the purified water from the backbone pipeline to the Weymouth WTP, Metropolitan would utilize the existing 30-inch diameter Azusa Pipeline. The Azusa Pipeline is owned and operated by the San Gabriel Valley MWD and currently conveys SWP water from the Devil Canyon Afterbay in the San Bernardino Mountains west for approximately 38 miles to the San Gabriel Canyon Spreading Grounds. With implementation of Pure Water and its delivery of purified water to the San Gabriel Canyon Spreading Grounds, imported water from the SWP via the Devil Canyon Afterbay would no longer be required, thus allowing the Azusa Pipeline to be available for use.

Approximately 25 MGD of purified water from the AWP Facility would be conveyed via the backbone pipeline to the Azusa Pipeline to its ultimate DPR treatment location at the Weymouth WTP. To accomplish this, the Azusa Pipeline would be retrofitted and two new 30-inch-diameter pipelines, each approximately 1.4 miles long, would be constructed to connect the Azusa Pipeline to the backbone pipeline and to the Weymouth WTP (**Figure 4-7**).

Two new pump stations would be required to pump the purified water from the backbone pipeline to the Weymouth WTP. It is anticipated that one pump station would be located adjacent to the northern portion of the backbone pipeline and the second would be located in the City of Glendora. Each pump station is expected to be located on an approximately 3-acre site and would contain facilities and components similar to those described for the backbone conveyance pump stations, but at a smaller scale.

4.2.4.2 DPR Facilities – Phase 2

Phase 2 DPR treatment facilities could be located at the Joint Treatment Site, the Weymouth WTP, or a satellite location. As discussed earlier, only Phase 2 DPR treatment at the Weymouth WTP is described below. These Phase 2 DPR treatment facilities could include a combination of various treatment processes such as ozonation, BAC, UV, and/or MF, as described earlier in Section 4.2.1.2. The treatment facilities would be developed to further treat 60 MGD of purified water for DPR purposes. The facilities also would be located on the southern portion of the Weymouth WTP site (**Figure 4-6**) and could consist of water treatment and disinfection, facilities, a workspace and control room, a treated water storage tank, and a pump station. As with Phase 1 DPR treatment, the Phase 2 DPR-quality water would be introduced into the drinking water supply system by blending with other water supply sources or directing it to the headworks of the Weymouth WTP for additional treatment through conventional drinking water treatment processes.

DPR Pipeline and Pump Station

Regardless of the ultimate Phase 2 DPR treatment location, up to 60 MGD of purified water would be conveyed to the Weymouth WTP for integration into Metropolitan's system. To convey this water, a new 54-inch-diameter pipeline, called the DPR pipeline, would be constructed between the northern portion of the backbone pipeline and the Weymouth WTP[4]. A conceptual alignment was identified and

[4] The capacity of the existing Azusa Pipeline is 25 MGD, which would not be sufficient to convey the 60 MGD planned for DPR use in Phase 2. The Azusa Pipeline could remain operational in Phase 2 to provide redundancy, or the new DPR pipeline could be constructed to convey a smaller amount of water (approximately 35 MGD), with the Azusa Pipeline continuing to convey 25 MGD. The analysis in this EIR conservatively assumes that the DPR pipeline would be sized to convey the full 60 MGD.

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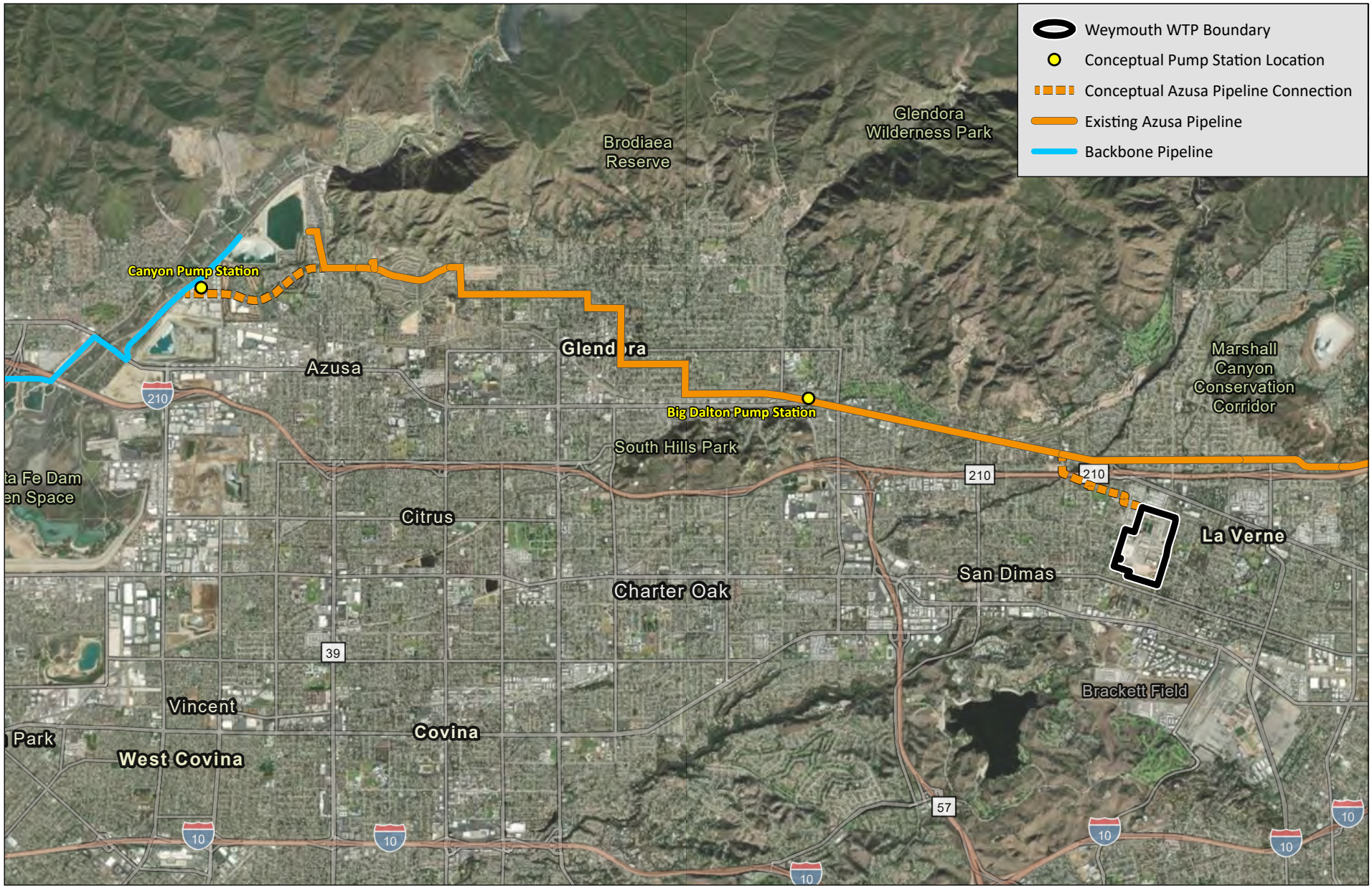
Source: Base Map Layers (ESRI, 2013)

PUREWATER SOUTHERN CALIFORNIA

Phase 1 DPR Treatment Site

Figure 4-6



Source: Base Map Layer (Esri)

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PUREWATER SOUTHERN CALIFORNIA

Azusa Pipeline Retrofit Alignment

Figure 4-7

is anticipated to route south along Irwindale Avenue, east along Arrow Highway, and north along Wheeler Avenue in the cities of Azusa, Irwindale, Covina, Glendora, San Dimas, and La Verne (**Figure 4-8**). An additional pump station also would be required along the DPR pipeline and is expected to be located along Arrow Highway in the City of San Dimas. The pump station would contain facilities and components similar to those described for the backbone conveyance pump stations, but at a smaller scale. The exact location of the pipeline and pump station would be determined at a later time and would require subsequent environmental review.

4.2.5 Non-potable Water Facilities

Approximately 25 MGD of purified water would be used by water agencies, including West Basin MWD and LADWP, for non-potable end uses as described below. These water agencies would connect to the backbone pipeline via service connections provided by Metropolitan at key locations along the alignment. While Metropolitan would install the service connections, the water agencies would be responsible for facilities to connect these service connections to their systems.

Part of West Basin MWD's distribution system, referred to as the South System, extends approximately one mile from the proposed backbone pipeline. To facilitate a connection between the backbone pipeline and the South System, a new service connection would be constructed in the vicinity of the intersection of Alameda Street and Del Amo Boulevard in the City of Carson. The new service connection would use purified water to service existing non-potable demands in West Basin MWD's service area.

Part of LADWP's distribution system, referred to as the Harbor Loop System, extends approximately 0.7 mile from the proposed backbone pipeline. To facilitate a connection between the backbone pipeline and the Harbor Loop System, a new service connection would be constructed in the vicinity of the intersection of Sepulveda Boulevard and Avalon Boulevard in the City of Carson. The purified water would be used to supplement existing non-potable supplies within the Harbor Loop System.

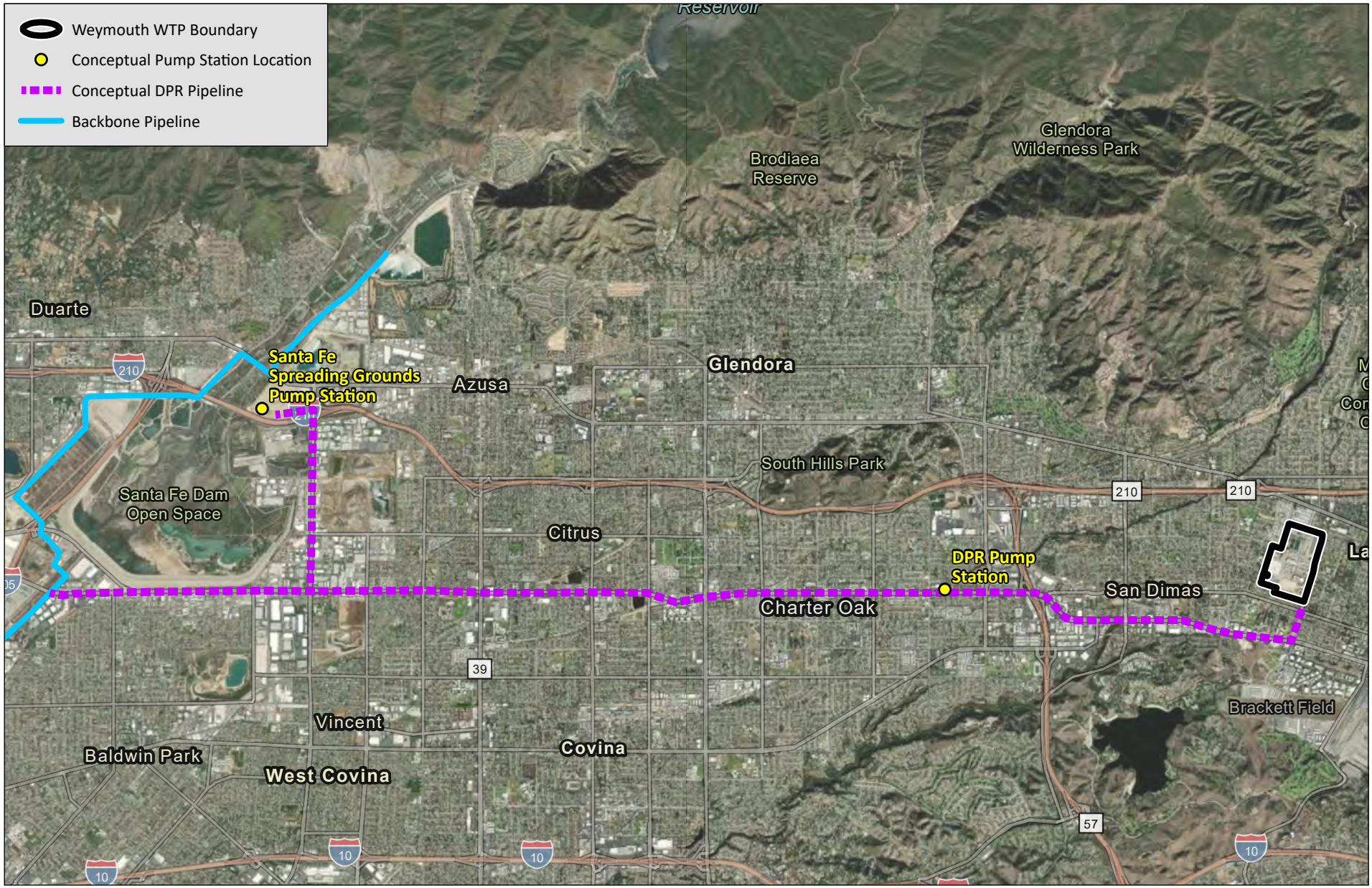
In addition to non-potable uses by these agencies, purified water would also be used as utility and irrigation water at the Warren Facility and AWP Facility, as well as other potential nearby uses. Refer to Section 4.2.1.1 for a description of these facilities. Offsite users in the nearby area that would receive purified water for irrigation purposes are expected to include the Wilmington Athletic Complex, Carriage Crest Park, and Sanitation Districts-owned land on the north side of Sepulveda Boulevard. The offsite distribution system would consist of 4- to 8-inch diameter pipelines that would be located within public roadways and on Sanitation Districts-owned property.

Service connections and associated facilities for non-potable water uses are in the conceptual planning phase and would require additional environmental review once more details are known.

4.2.6 Sanitation Districts Support Facilities

While the site where the AWP Facility would be located is mostly vacant, there are several existing Sanitation Districts support facilities within its footprint that would be demolished and rebuilt elsewhere within the Warren Facility. These support facilities include a warehouse with outdoor storage space; an outdoor grit, screenings, and sewer cleanings handling area (pit); and a Secondary Treatment Area Research Facility.

The new proposed warehouse would be approximately 18,000 SF with dedicated space for offices, a loading dock, and an additional 25,000 SF of outdoor storage. This would provide adequate spacing for



Source: Base Map Layer (Esri)

PURE WATER SOUTHERN CALIFORNIA

Conceptual Phase 2 DPR Pipeline Alignment

Figure 4-8

not only existing supplies and equipment but also for storing materials needed to support operation of the odor control facility and MBR associated with Pure Water's treatment process. These materials include new odor control fans, rotating equipment, and pumps. The proposed grit, screenings, and sewer cleanings handling station would replace the existing pit and would be an indoor two-level facility with a ground-level offloading area, a below-grade level containing dewatering containers, truck ramps, and a pump station. The proposed grit, screenings, and sewer cleanings handling station would also be equipped with odor control measures such as a foul air recovery system and treatment station and would have air curtains at roll-up doors to keep odors inside the station. The Secondary Treatment Area Research Facility is used to conduct bench-scale and pilot-scale testing of various technologies, such as MBR, to evaluate new technologies and optimize operation of the secondary treatment process. The research area consists of various structures and containers to house equipment, instruments, chemicals, and tools, as well as workspaces and offices. The proposed research facility would include similar features as those in the existing Secondary Treatment Area Research Facility.

All the new Sanitation Districts support facilities would be located in vacant or underutilized areas in the northeastern portion of the Warren Facility. These facilities are in the early planning stage and would require additional environmental review once more details are known.

4.3 CONSTRUCTION AND OPERATION

4.3.1 Joint Treatment Site

As described earlier, the Joint Treatment Site would consist of the Warren Facility improvements, AWP Facility, and the Workforce Training Center. Construction and operational activities associated with these facilities are discussed below.

4.3.1.1 Construction

Because construction activities at the Joint Treatment Site would vary over Phase 1 and Phase 2, description of these activities is presented by phase. On average, construction activities are anticipated to employ approximately 250 to 300 workers per day for Phase 1, and approximately 150 to 200 workers per day for Phase 2.

Phase 1

Oil Well Plugging and Abandonment

The portion of the Joint Treatment Site where the AWP Facility would be constructed includes eight existing oil wells varying in depth from 3,300 to 3,900 feet. Of these wells, six are plugged and two are idle.[5] The two idle wells would be plugged and abandoned prior to the start of construction at this location. Plugging and abandoning the wells would entail excavating around each well to expose the top of the well casing, cutting the casing to approximately 5 to 10 feet below the surface, and filling the casing with cement or bentonite, as specified by the City of Carson and the California Department of Conservation's Geologic Energy Management Division (CalGEM). The six wells that are already plugged

[5] In California, an idle well is a well that has not been used for two years or more and has not yet been properly plugged and abandoned. The two idle wells at the AWP Facility site are each comprised solely of the subsurface well casing, which is capped within 5 feet of the ground surface. There are no above-ground features, such as pumps or derricks.

would be inspected for leaks and would be re-plugged to current standards if any leaks are detected. Additionally, the well casings of all eight wells may have to be cut and re-plugged at a lower depth if treatment facilities with deep foundations are constructed over them. For these wells, a ventilation system would be installed on top of each well casing to allow for monitoring. All necessary permits and approvals would be obtained from the City of Carson and CalGEM prior to start of the work.

Demolition, Clearing and Grubbing, and Utility and Facility Relocation

Demolition of existing structures and pavement, clearing and grubbing of ground cover, and relocation of existing utilities and facilities would be required at the Joint Treatment Site prior to grading and excavation. Demolition would include the Sanitation Districts' existing warehouse building with outdoor storage space, an outdoor grit, screenings, and sewer cleanings handling area, a Secondary Treatment Area Research Facility, stormwater facilities, and pavement. The site would then be cleared by removing vegetation and surface debris and grubbed to remove roots and underground systems in the soil. The existing infrastructure that currently is remediating the soil greater than 30 feet below ground surface and groundwater (as described in Section 4.2.1) would be protected in place to the extent feasible and removed only after the Los Angeles Regional Board issues a "No Further Action" letter for cleanup of the deep soil and groundwater. Other utilities requiring relocation would be relocated to their new locations onsite at the Joint Treatment Site. If unidentified subsurface structures or utilities are encountered, they would be removed and relocated, as appropriate. The Sanitation Districts support facilities would be relocated elsewhere within the Warren Facility.

Mass Excavation and Contaminated Soil Removal

Preparation of the Joint Treatment Site for construction of Pure Water facilities includes excavating, filling, and grading the site. Most of the mass excavation for the ultimate buildout of the Joint Treatment Site is expected to occur during this phase. The soil would be balanced onsite to the extent feasible to minimize import and export of material. Approximately 552,000 cubic yards of soil would be excavated during this phase. Approximately 110,000 cubic yards of this amount would be hauled offsite to a landfill, and the remaining 442,000 cubic yards would be used as fill to regrade the site. Due to the history of the site as an oil refinery, a portion of the excavated soil may be contaminated to the extent that it would need to be hauled offsite and disposed of in compliance with applicable regulatory requirements. Refer to Section 5.7, *Hazards and Hazardous Materials*, for an analysis of potential environmental impacts associated with this material.

Structural Excavation and Foundation Preparation

Following mass excavation at the Joint Treatment Site, additional structural excavation would be required to prepare the site for foundations required for all buildings, treatment processes, and electrical facilities. In comparison to mass excavation, structural excavation is more precise and localized. The volume of structural excavation material in Phase 1 would be approximately 99,000 cubic yards, which would be balanced onsite.

Yard Piping Installation

Prior to the development of above-grade structures at the Joint Treatment Site, below-grade piping, including major treatment process piping, flow diversion piping, electrical duct banks, and other utility piping (e.g., for drinking and non-potable water uses), would be installed. This would involve digging

trenches, placing and connecting piping, and backfilling the trenches. During this phase, it is anticipated that yard piping for the full 150 MGD IPR treatment facilities would be installed.

Above-grade Facility Construction and Equipment Installation

The majority of above-grade facilities at the Joint Treatment Site would be constructed during Phase 1 (**Figure 4-2**). This would entail installing concrete structures, structural steel, process equipment, above-grade process piping, electrical equipment, instrumentation, utilities, and roofing and exterior cladding. Facility structures would be constructed to their ultimate buildout size, but only equipment required for Phase 1 would be installed.

Paving and Ground Cover

Upon completion of construction of above-grade facilities, the remaining site areas, including areas for vehicular and pedestrian access and parking lots, would be paved with asphalt or concrete, while other areas would be landscaped or hardscaped. Paved areas would total approximately 460,000 SF while landscaped and hardscaped areas would total approximately 43,000 SF.

Storm Drain Relocation

Construction of DPR treatment facilities at the Joint Treatment Site would require relocation of approximately 1,200 feet of the existing Panama Avenue Drain, a 10-foot by 12-foot reinforced concrete box storm drain owned and maintained by LACPW. Currently, the Panama Avenue Drain runs through the southern part of the AWP Facility site where several DPR treatment process facilities would be located. To accommodate these facilities, the storm drain would be relocated to the eastern (Main Street) and southern (Lomita Boulevard) edges of the Joint Treatment Site. Relocation is planned to occur toward the second half of Phase 1 construction, after which the Phase 2 facilities would be constructed.

Phase 2

Structural Excavation and Foundation Preparation

Additional structural excavation would be required in Phase 2 to prepare the site for additional structure foundations, primarily associated with DPR facilities. The volume of structural excavation in Phase 2 would be approximately 154,000 cubic yards. As indicated earlier, it is anticipated that a portion of the excavated soil (approximately 31,000 cubic yards) may be contaminated to the extent that it would need to be hauled offsite and disposed of in compliance with applicable regulatory requirements. Refer to Section 5.7 for an analysis of potential environmental impacts associated with this material. Approximately 43,000 cubic yards would be used as structural backfill with the remainder (approximately 80,000 cubic yards) to be hauled offsite for disposal.

Yard Piping Installation

Additional below-grade yard piping would be required in Phase 2, primarily for DPR treatment facilities. Yard piping would include treatment process piping, flow diversion piping, and electrical duct banks. This work would involve digging trenches, placing and connecting piping, and backfilling the trenches.

Above-grade Facility Construction and Equipment Installation

Additional above-grade facilities at the Joint Treatment Site, including expanded bioreactor and membrane tanks and DPR facilities, would be constructed during Phase 2 (**Figure 4-2**). This would entail installing concrete structures, structural steel, process equipment, above-grade process piping, utilities, and roofing and exterior cladding.

Paving and Ground Cover

Asphalt and concrete paving required as part of Phase 2 construction would total approximately 58,000 SF. Areas not utilized for vehicular or pedestrian access or parking would be landscaped or hardscaped. Landscaping could involve tree plantings, installation of California-friendly gardens, and/or drought-tolerant groundcover. Hardscaping could include permeable and/or recycled materials.

4.3.1.2 Operation

Operation of the Joint Treatment Site would be phased as processes associated with Phases 1 and 2 come online. Operational activities for both phases would include administrative services; inspections; maintenance of facilities, structures, and equipment; operation of treatment, pumping, and electrical facilities and equipment; storage of materials and equipment; delivery, storage, and management of treatment chemicals; monitoring of water quality; and management of residual wastes. Most administrative services, inspections, maintenance activities, and deliveries would occur during regular working hours. Treatment processes, water quality monitoring, pumping, and management of residual wastes would occur continuously throughout the day and night, as needed.

To operate the fully built-out Joint Treatment Site (i.e., Phases 1 and 2), approximately 194 staff would be required, which would consist of administrative staff, maintenance staff, operations staff, chemists, and public outreach staff. In addition to operational staff, the visitor center at the AWP Facility is anticipated to receive up to 40 (with an average of 10) visitors per day, consisting mainly of community and school groups, and the Workforce Training Center is anticipated to serve approximately 31 trainees per day. Additional visits to the Joint Treatment Site would include an average of up to 31 chemical deliveries per day via truck.

The Workforce Training Center would provide space to support career development and hands-on training in a variety of skilled trades and technical fields. These could include comprehensive training for construction, water operations, and general trades certification needs. Operational activities associated with the Workforce Training Center would include administrative services, training, inspection, maintenance, and deliveries of materials and equipment for training.

Pure Water would implement various safeguards to ensure proper operation and protection of water quality. Prior to entering the purification process at the AWP Facility, the cleaned wastewater from the Warren Facility would be monitored for water quality as part of the Sanitation Districts' source control program. In addition to 24-hour staffing of the Warren Facility and AWP Facility, all treatment process components would have a fully automated control system with a programmable logic controller that monitors and operates the respective treatment process based on flows, pressures, levels, and water quality parameters. The system would monitor and alert operators of abnormal conditions with alarms and notifications. In addition, in the event of operational need, the AWP Facility could divert flows to Warren Facility's headworks or the outfall, or stop receiving flows from the Warren Facility. Although

the AWP Facility would have built-in operational features that minimize redundancy needs, critical facilities and components would have redundant capacity.

In addition to the safeguards described above, Metropolitan would develop an online monitoring and response plan, utilizing Supervisory Control and Data Acquisition (SCADA) systems, to provide sufficient features and assurances that any foreseeable malfunction could be promptly identified and appropriate responses taken. Critical control points as well as parameters for alert limits and corrective actions would be identified. The AWP Facility would include water quality and process monitoring instruments to monitor various parameters and ensure that each system is operating correctly. If a malfunction occurs at the AWP Facility that results in off-specification water flowing into the clearwell, the clearwell would divert the water to the Warren Facility's outfall structure instead of being pumped to the backbone pipeline.

Finally, critical facilities and components of the entire Joint Treatment Site would have backup power for essential functions and equipment. This would include a dual power feed from the appropriate electricity purveyor or emergency diesel generators.

4.3.2 Backbone Conveyance System

The backbone conveyance system would consist of the backbone pipeline, associated pump stations, service connections, and other appurtenances. Construction and operational activities associated with these facilities are discussed below.

4.3.2.1 Construction

Backbone Pipeline

As indicated earlier, the backbone pipeline has been divided into eight reaches to facilitate design and construction (**Figure 2-3**). Construction would utilize a variety of methods based on the characteristics of each portion of the pipeline alignment. These methods would include both open-cut trenching and tunneling (**Figures 4-4a** through **4-4c**). Open-cut trenching would occur for a majority of the backbone pipeline within public roadways and ROWs along the San Gabriel River. This method of construction typically involves excavating a trench, installing pipe, backfilling the trench, and restoring the disturbed ground area to pre-existing conditions. Pipe installation with the open-cut trenching method would occur by placing

Open-Cut Trench Pipeline Construction – Representative Photo

segments of steel pipe within the trench and then welding them together. Construction zones for trenching activities would generally be up to 90 feet in width, including a trench up to 18 feet wide. Typical trench depths are expected to be up to 21 feet deep; however, deeper trench depths are anticipated at select locations to facilitate crossing under existing utilities or structures. Additionally, wider construction zones may be required at deeper trench depth locations to accommodate a wider excavation area and equipment access.

To the extent feasible, tunneling methods would be used to minimize impacts to the Los Angeles and San Gabriel rivers, natural and improved channels and waterways, transportation systems (intersections, freeways, and railroads), sensitive environmental resources, existing infrastructure, and areas with limited ROWs. Tunneling methods would include traditional tunneling or other trenchless methods, such as pipe jacking and microtunneling. Each of the tunneling methods would involve excavation of a launching shaft and a receiving shaft. The launching shaft would be located at the beginning of the tunneled segment at which equipment is placed and begins tunneled excavation in a horizontal direction. The receiving shaft would be located at the end of the tunneled segment from which the equipment is retrieved. The excavated tunnel diameter would range from 8.5 feet to 15 feet depending on size of pipe and type of tunneling method. The depth of the tunnel could vary; however, most tunneled areas currently are anticipated to be 45 feet deep or shallower.

Traditional tunneling methods would be used for longer tunneled segments of pipe and would utilize either a closed-face, open-face, or tunnel shield tunnel boring machine. A closed-face tunnel boring machine is required for soft ground tunneling below groundwater. It operates by excavating the tunnel through use of a cutting head, conveying excavated material out of the tunnel, and placing a precast concrete liner within the tunnel as ground support behind the excavation. Welded steel pipe is then installed within the concrete liner and the annular space between the pipe and tunnel lining is backfilled with grout. An open-face or tunnel shield tunnel boring machine can be used in dry soils with reasonable stability where it could employ a cutter head, digger arm, or road header to excavate the ground. In some dry and stable soils, steel ribs and timber lagging could also be used as ground support for the excavation in lieu of a precast concrete liner prior to installation of the steel carrier pipe and backfilling of the space between the liner and the pipeline.

Tunnel Boring Machine – Representative Photo

Microtunneling and pipe jacking would be used for shorter segments of pipe. Microtunneling is used below groundwater and uses a microtunnel boring machine to excavate the ground using a pumped slurry that counterbalances the groundwater pressure and pumps spoils to the surface. The ground is supported using a casing pipeline string that is jacked into the ground behind the microtunnel boring machine. The final carrier pipe is installed within the casing pipe, which can be steel or concrete and has

a diameter that is approximately two feet larger than the final pipeline (i.e., 9-foot diameter for the 7-foot pipeline and 11-foot diameter for the 9-foot pipeline).

For crossings above groundwater in stable soils, pipe jacking could be used. Similar to microtunneling, a pipe jacking shield excavates the ground while a casing pipeline is jacked in place behind the excavation. Since pipe jacking is performed in dry, stable conditions, the excavation is done with an open cutterhead or mechanical excavator at the face, and spoils are transported to the surface with conveyor belts or haul carts.

Depending on the construction method, most reaches would typically employ no more than 100 workers per day.

Temporary construction staging and storage areas would be required along the pipeline alignment to support these construction activities. The staging and storage areas would have various uses, but generally would include installation of construction trailers, temporary utility connections, equipment and materials storage, stockpiling of soil, and construction employee parking. To the extent feasible, previously disturbed sites would be selected based on availability during final design or at the time that construction is ready to proceed. Site preparation for the staging and storage areas would include clearing and grading, minor excavation for utility connections, fencing, and possible gravel placement. Longer tunnel sections may require intermediate shaft sites for maintenance or ventilation along the length of the alignment and would require similar construction activities as staging and storage areas.

After construction, temporarily disturbed areas would be restored to original conditions, which could include repaving, re-establishment of curb and gutter, and landscaping. Restoration would proceed as construction areas are completed for each reach of the pipeline.

Pump Stations

Construction activities associated with the pump station located at the AWP Facility are described earlier in Section 4.2.1.2. Construction activities associated with the Whittier Narrows Pump Station and Santa Fe Pump Station would involve the purchase of properties to accommodate the pump station and associated electrical substation facilities. If the properties include existing development, demolition of the structures would be required as the initial construction activity. Subsequent construction activities would include site preparation (e.g., asphalt removal, clearing, and grubbing) and grading; structural excavation, trenching for pipes, and foundation development; structure construction and installation; installation of pumps, valves, instrumentation and electrical equipment; paving and fence installation; and architectural coatings. Construction also would involve the installation of offsite pipelines to connect the pump station facilities to the backbone pipeline. Similarly, if the electrical substation is located offsite from the pump station, installation of electrical utilities, likely through new easements, would be required to connect the substation to the pump station facilities.

Service Connections

Service connections to connect the backbone pipeline to recipient water agencies' facilities would include construction of smaller-diameter lateral pipes and turnout and meter structures. Construction of these facilities would include site preparation and grading, excavation and trenching, installation of pipe, turnouts and meters, valves, backfilling, and site restoration. The trench size for these facilities would vary based on the size of the interconnecting lateral pipe, but would generally be up to 18 feet wide for the pipe and 36 feet wide for the turnout and meter structures. The trench depths are expected to be

similar to those of the backbone pipeline for the interconnecting pipe and would be up to 10 feet deeper for the turnout and meter structures to accommodate access, structure foundation, and sump pumps.

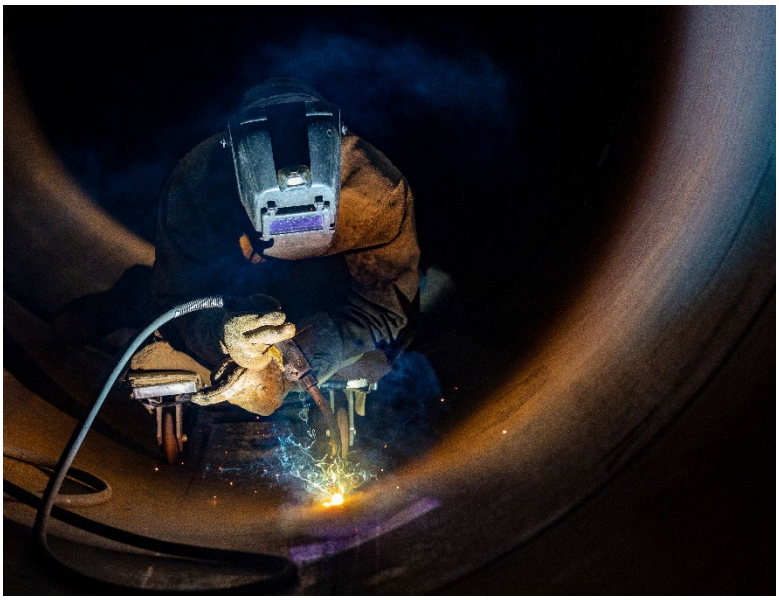
To accommodate the interconnecting pipe, trenchless methods would be used, to the extent feasible, to minimize impacts to rivers, natural and improved channels and waterways, transportation systems, sensitive environmental resources, and areas with limited ROWs, similar to the backbone pipeline. The turnout and meter structures would be constructed by Metropolitan, while the interconnecting lateral pipes would be developed, constructed, and managed by the recipient water agencies.

4.3.2.2 Operation

Backbone Pipeline

Operational activities for the backbone pipeline include water quality sampling and patrolling of access and patrol roads and public streets for visual inspection of above-ground ancillary facilities and for security purposes. Operational activities also would consist of dewatering, inspection, and maintenance for the pipeline and appurtenant facilities, as well as inspection, grading, and maintenance for the easement areas and patrol roads, primarily along the San Gabriel River.

Prior to dewatering of the backbone pipeline, the Los Angeles Regional Board would be notified and the necessary discharge permits would be obtained. Dewatering would occur periodically to facilitate internal inspection, maintenance, and repair of the pipe and appurtenant facilities, as appropriate. The pipeline would initially be drained by gravity to the extent feasible. In areas of the pipe that cannot be drained by gravity, the water would be pumped out. Discharges associated with dewatering would be directed to storm drains, drainage channels, or street gutters. In locations where dewatering would occur in public streets, Metropolitan would coordinate with the local jurisdiction for traffic control measures. Additionally, the released water would be monitored regularly, and sandbags and other erosion control devices would be placed as required to prevent traffic hazards or other dangerous conditions from developing. All water would eventually be discharged into an improved drainage facility or dissipated in a manner that does not cause damage or erosion. Where necessary, the water would be dechlorinated prior to discharging into drainageways.



Welding Repair – Representative Photo

Following the dewatering activities, inspection, maintenance, and repair work, if necessary, would occur. Inspection activities would generally include walking the interior of the pipeline to inspect the condition of the lining, identify areas of corrosion, and conduct measurements of the thickness of the steel pipeline. Inspection activities could also include walking the exterior of the pipeline and inspecting the appurtenances. Maintenance and repair activities could include localized lining repairs, removal of corrosion, replacement of valves and appurtenances, and, if necessary, welding repair of joints. As with dewatering, if these activities are located within public streets, Metropolitan would coordinate with the local jurisdiction for traffic control measures.

Dewatering, inspection, maintenance, and repair activities could occur around the clock to minimize downtime of the pipeline. Daytime work is preferred where practical; however, if nighttime work is required, Metropolitan would obtain any necessary permits and appropriate notification to the local jurisdiction and/or impacted residents would occur at least 24 hours in advance.

Pump Stations

Operational activities for the Whittier Narrows Pump Station and Santa Fe Pump Station would include operation of pumps and electrical facilities; inspection, maintenance, and repair of facilities, structures and equipment; and occasional grading for stormwater management and erosion control. The pump stations would be monitored and operated from a regional operational control center with no regular onsite staff. Regular patrolling of the facilities would occur for visual inspections and security purposes.

Service Connections

Operational activities for the service connections would include inspection, maintenance, and repair of facilities, structures, and equipment. The service connections are anticipated to be unmanned facilities where the equipment would normally be monitored from a regional operational control center. Regular patrolling of the facilities would occur for visual inspections and security purposes.

4.3.3 Recharge Facilities

Purified water would be used to replenish groundwater basins via spreading facilities and injection wells. Construction and operational activities associated with these facilities are discussed below.

4.3.3.1 Construction

Piping would be constructed from service connections along the backbone pipeline to discharge locations at new and existing spreading facilities and injection well sites. The piping would be constructed mostly by trenching, with tunneling in certain areas to minimize impacts to rivers, natural and improved channels and waterways, transportation systems, sensitive environmental resources, and areas with limited ROWs, similar to the backbone pipeline.

At the spreading facilities, a concrete headwall with wingwalls and a velocity dissipating structure would be constructed at each new pipe discharge location. Grading of existing and proposed recharge basins may be needed to properly distribute the new discharge flow from Pure Water within the basin. At new injection well sites, construction would involve property acquisition for the new wells. If the properties include existing development, demolition of the structures would be required as the initial construction activity. Subsequent construction activities would include site preparation; drilling the wells; installation of well casings; construction of well equipment pads; installation of piping, pump, and valving; and site restoration.

There are no anticipated construction activities associated with reducing or suspending imported water deliveries at PM-26, CENB-48, and USG-3.

4.3.3.2 Operation

Operational activities associated with the spreading facilities would include water discharges into the spreading facilities and inspection, maintenance, and operation of flow control structures and valves. To ensure proper function and infiltration, the recharge basins may require periodic maintenance such as cleaning of facilities and structures, mowing of vegetation, erosion repair, and loosening, aerating, or replacing soils to ensure proper water infiltration.

Operational activities for the injection wells would include operation of the wells and inspection, maintenance, and repair of facilities and equipment associated with the wells. Potential redevelopment of the wells, which would include similar activities as those described above for construction of the wells, could also be required. The injection wells are anticipated to be unmanned facilities where the equipment would normally be monitored from a regional operational control center. Regular patrolling of the facilities would occur for visual inspections and security purposes.

As described in Section 4.2.3, existing recharge activities would be reduced or suspended at PM-26, CENB-48, and USG-3 as a result of Pure Water. Operational impacts associated with biological resources and hydrology and water quality are discussed further in Sections 5.2, *Biological Resources,* and 5.8, *Hydrology and Water Quality*, respectively.

4.3.4 DPR Facilities

Construction and operation information for DPR facilities at the AWP Facility are incorporated into the discussion presented above in Section 4.3.1 for the Joint Treatment Site. Construction and operation of DPR facilities at a satellite location would be similar to that presented below for the DPR facilities at Weymouth WTP. Therefore, as indicated earlier, there is no separate discussion regarding construction and operational activities associated with the satellite location.

4.3.4.1 Construction

Construction activities associated with both Phase 1 and Phase 2 DPR facilities at the Weymouth WTP would include potential demolition of existing structures; site preparation, including asphalt removal, clearing, and grubbing; structural excavation; trenching for pipes, sectionalizing valve structures, and flow meter structures; foundation development; grading; structure construction and installation; paving and fence installation; and architectural coating.

The Azusa Pipeline would be retrofitted using a combination of trenchless methods and spot repairs involving trench excavation. The new pipelines connecting the Azusa Pipeline to the backbone pipeline and the Weymouth WTP would be installed primarily via trenching methods, with jack-and-bore methods used to cross under I-210. Construction of the pump stations associated with this pipeline could include purchase of property to accommodate the pump station and potential demolition of existing structures if the property is developed. Additional construction activities would include site preparation and grading; structural excavation, trenching for pipes, and foundation development; structure construction and installation; paving and fence installation; and architectural coatings. Construction also could involve the installation of offsite pipelines to connect the pump station facilities to the Azusa Pipeline.

Construction activities associated with the DPR pipeline would include open-cut trenching along roadways and public ROWs with potential trenchless construction at intersections. Pump station construction could include purchase of property and potential demolition of existing structures if the property is developed; site preparation and grading, structural excavation, trenching for pipes, and foundation development; structure connection and installation; paving and fence installation; and architectural coatings. Construction also could involve the installation of offsite pipelines to connect the pump station facilities to the DPR pipeline.

4.3.4.2 Operation

Operation for both Phase 1 and Phase 2 DPR facilities at the Weymouth WTP would be integrated with the existing operational activities at the site. These activities include inspection, maintenance, and operation of facilities, structures, and equipment; storage of equipment and materials; delivery, storage, and management of treatment chemicals; and monitoring of water quality. As with regular operational activities at the Weymouth WTP, inspections, maintenance activities, and deliveries would occur during regular working hours. Treatment processes and water quality monitoring could occur around the clock depending on need. All processes would comply with applicable regulatory permits.

For the Azusa Pipeline and DPR pipeline, operational activities include maintenance and repair, if necessary, of facilities, structures, and equipment. Regular patrolling of the facilities would occur for visual inspections and security purposes

Operational activities for the pump stations along the Azusa Pipeline and DPR pipeline would include operation of pumps and electrical facilities; inspection, maintenance, and repair of facilities, structures and equipment; and occasional grading for stormwater management and erosion control. The pump stations would be monitored and operated from a regional operational control center with no regular onsite staff. Regular patrolling of the facilities would occur for visual inspections and security purposes.

4.3.5 Non-potable Water Facilities

Non-potable water facilities include service connections that would connect the backbone pipeline to potential users for non-potable applications, including West Basin MWD and LADWP. In addition, the Warren Facility, AWP Facility, and other nearby uses would also utilize non-potable water for utility and irrigation purposes. A description of the construction and operation of the non-potable water facilities associated with the Warren Facility and AWP Facility are integrated with the overall discussion of construction and operation of the Joint Treatment Site in Section 4.3.1. A description of the construction and operational activities for the non-potable water facilities associated with the backbone pipeline is provided below.

4.3.5.1 Construction

Construction of the non-potable water facilities would typically involve excavating a trench, installing pipe, constructing turnout and meter structures, backfilling the trench, and restoring the disturbed ground to pre-existing conditions. The size and depth of the construction area would vary based on the specific non-potable water facility. These facilities are anticipated to be located within public roadways and on Sanitation Districts-owned property.

4.3.5.2 Operation

Operational activities for non-potable water uses would include maintenance of facilities, structures, and equipment. Regular patrolling of the facilities would also occur for visual inspections and security purposes.

4.3.6 Sanitation Districts Support Facilities

4.3.6.1 Construction

Construction of the Sanitation Districts support facilities would involve demolition of existing structures and pavement, followed by site preparation and grading of the new areas where these facilities would be located. Trenching would be required to install utilities and additional grading would be needed to prepare the site for foundations required for all structures. After the foundation, work would continue with building enclosures, roofing, interior construction, utility hookups, interior and exterior finishes, and asphalt paving for access roads and parking.

4.3.6.2 Operation

Operation of Sanitation Districts support facilities would include loading and unloading of materials in the warehouse; handling of materials at the grit, screenings, and sewer cleanings handling station; and testing activities at the Secondary Treatment Area Research Facility. At the grit, screenings, and sewer cleanings handling station, trucks would back down the inclined truck ramp to unload grit, screenings, and digester cleanings collected from the wastewater treatment process and sewer cleanings collected from sewer cleaning activities throughout Los Angeles County into large dewatering containers. The liquids in the dewatering containers would drain to the wet well of the pump station and then pump to the sewer. Hose bibbs would be provided at the station for vehicle and ground washdown. The station would also have a building for trucks to decant liquids prior to dumping solids into the dewatering containers. Full dewatering containers would be transported to and dumped at a landfill. The grit cleaning station would be a self-serve facility, but the Sanitation Districts' heavy equipment operators

would support materials handling operations as needed. The grit, screenings, and sewer cleanings handling station is expected to be similar to the current operation and handle approximately 25 tons of solids waste per day. The new research facility would be used to test different technologies, equipment, processes, and other physical, chemical, and biological applications associated with wastewater treatment. Daily activities at this facility would include sampling, analysis, pilot operations and maintenance, inspection, and data collection. Approximately 10 staff would be working at the new research facility, which is consistent with the number working at the existing research facility.

4.4 ECONOMIC AND FISCAL

The estimated capital cost associated with full buildout of the Pure Water program is $8.113 billion. This estimate includes program management, design services, construction, and equipment costs, as well as costs associated with property acquisition, community benefits, and mitigation measures. The estimated operations, maintenance, and repair costs associated with the full program total $228 million per year. These estimates are in 2023 dollars, without escalation. **Table 4-2** provides a rough breakdown of these estimated costs by phase and subphase.

Table 4-2
COSTS FOR PURE WATER

Phase/Subphase	Capacity (MGD)	Capital[1]	Annual OMR
Initial Delivery	30	$1.991 billion	$62 million
Additional IPR/DPR	85	$4.397 billion	$166 million
Total Phase 1	**115**	**$6.388 billion**	**$228 million**
Additional DPR	35	$1.725 billion	$81 million
Total Phase 2	**150**	**$8.113 billion**	**$309 million**

[1] 2023 dollars without escalation.
OMR = operations, maintenance, and repair costs

Costs for Pure Water may be funded through a combination of rates and charges, grants, loans, third-party contributions, or other financing mechanisms. For Metropolitan, any program costs not covered by outside funding sources could be recouped in a variety of ways. In October 2023, Raftelis prepared a report that identified three potential approaches to cost recovery: utilize Metropolitan's existing rate structure, create a new fixed charge, or establish a direct investor model (Raftelis 2023). Subsequently, Metropolitan staff generated two additional approaches for consideration: create a new volumetric surcharge or adopt a general obligation ad-valorem property tax. Metropolitan has not made any decision on how best to recover its program costs, which could involve a combination of the approaches listed above or a different cost recovery approach altogether.

While implementing Pure Water would require a significant financial commitment, it would provide a host of economic benefits that extend well beyond Metropolitan's service area. In August 2021, the Institute for Applied Economics of the Los Angeles County Economic Development Corporation (LAEDC) completed a study commissioned by Metropolitan that analyzed the projected economic and fiscal impact of both construction expenditures and ongoing activity associated with Pure Water (LAEDC 2021). In April 2025, LAEDC reviewed and updated its earlier study at Metropolitan's request (LAEDC 2025).

According to the updated study report, construction of Pure Water's facilities and components is expected to generate over $15.1 billion in total economic output and support approximately 75,660 job-

years[6] across the Southern California region, including 43,700 job-years directly to the program and another 31,950 job-years through indirect and induced effects. The total supported labor income associated with Pure Water is estimated to be over $6 billion. These jobs would span numerous industry sectors, including engineering, manufacturing, construction, finance, and management. In addition, it is estimated that construction of Pure Water would contribute $719.4 million in state and local tax revenue and over $1.4 billion in federal tax revenue (LAEDC 2025).

Pure Water also would have a recurring positive impact on the regional economy once construction is completed. The updated study report indicates that annual operations and maintenance activities are expected to generate over $640 million in total economic output and support approximately 2,460 job-years across the Southern California region, with the total supported labor income estimated at nearly $239 million. Furthermore, these activities would contribute over $48 million in state and local taxes and over $57 million in federal taxes each year (LAEDC 2025).

All this said, Pure Water is first and foremost about ensuring Southern California has the water its needs. As acknowledged by LAEDC, "This innovative program will create a new, locally sourced, climate-resilient water supply, reducing reliance on imported water, and enhancing regional water security." As such, Pure water "will provide significant benefits beyond the economic impact of its construction and ongoing operations" (LAEDC 2025).

4.5 DISCRETIONARY ACTIONS, PERMITS, AND APPROVALS

If this EIR is certified, Metropolitan, the Sanitation Districts, and other public agencies will review, consider, and rely on the information in this EIR prior to taking discretionary action with respect to Pure Water, such as issuing approvals, permits, or licenses; entering into construction contracts or agreements; or providing grants, loans, or other forms of financial assistance.

Construction and operation of Pure Water also would require real property acquisitions in the form of temporary and permanent rights from public agencies, private utilities, and private landowners. Temporary rights such as temporary easements, leases, licenses, and permits would be required for temporary use of property for construction activities. Permanent rights, such as fee interests, permanent easements, and lease agreements would be required for treatment facilities, pipelines, pump stations, and recharge facilities. **Table 4-3** lists potential permits and approvals that may be required for Pure Water.

Table 4-3
ANTICIPATED PERMITS AND APPROVALS

Agency/Entity	Permit/Approval
Federal	
U.S. Army Corps of Engineers	Temporary/Permanent Easement
	Clean Water Act Section 404 Nationwide Permit
	Rivers and Harbors Act Section 10 Permit
	Rivers and Harbors Act Section 408 Permit

[6] One job-year refers to a worker working full time for that year. In analyzing the total economic impacts of a multi-year development project, employment impacts are typically expressed in job-years rather than the number of jobs. This is because many associated positions are sustained over multiple years over the development period.

Agency/Entity	Permit/Approval
U.S. Fish and Wildlife Service	Endangered Species Act Section 7 or Section 10 Consultation
U.S. Environmental Protection Agency (delegated to State Water Resources Control Board in California)	Clean Water Act Section 401 Water Quality Certification
	Construction General Permit Order 2022-0057-DWQ
	Industrial General Permit Order 2014-0057-DWQ (amended by Orders 2015-0122-DWQ and 2018-0028-DWQ)
	General Construction and Project Dewatering Permit Order R4-2018-0125
	NPDES Discharge Permit Modification
	Waste Discharge Requirements
	Water Reclamation Requirements
State	
California Department of Conservation, Geologic Energy Management Division	Permits to plug oil wells
California Department of Fish and Wildlife	California Fish and Game Code Section 1602 Streambed Alteration Agreement
	California Endangered Species Act Section 2080.1 or Section 2081 Consultation
California Department of Transportation	Encroachment Permit
	Transportation Permit for Oversize/Overweight Loads
State Water Resources Control Board Division of Drinking Water	Water Supply Permit or Water Supply Permit Amendment
	Title 22 Engineering Report – IPR/NPR
	Title 22 Engineering Report – DPR
	Operations and Optimization Plan, Startup Plan, Test Protocols, and Tracer Study
Regional	
Los Angeles County Metropolitan Transit Authority	Property and Easement Acquisition/License Agreements
South Coast Air Quality Management District	Permits to Construct and Operate
Southern California Edison	Temporary/Permanent Easement
Union Pacific Railroad	Property and Easement Acquisition/License Agreements
Local	
Los Angeles County Department of Public Works	Panama Avenue Storm Drain Relocation Permit
Los Angeles County Department of Public Works, Flood Control District	Temporary/Permanent Easement
Los Angeles County Sanitation Districts	Industrial Waste Discharge Permit
Los Angeles Department of Water and Power	Temporary/Permanent Easement
Municipal – The municipalities listed below may require a variety of permits, such as:	
City of Azusa	Encroachment Permit, Traffic Control Permit, Haul Permit, Grading Permit, Hazardous Waste Permit, Building Department Permit, Fire Protection System Permit, Certificate of Occupancy
City of Baldwin Park	
City of Bellflower	
City of Carson	
City of Cerritos	
City of Covina	
City of Downey	

Agency/Entity	Permit/Approval
City of Duarte	
City of Glendora	
City of Industry	
City of Irwindale	
City of La Verne	
City of Lakewood	
City of Long Beach	
City of Norwalk	
City of Pico Rivera	
City of San Dimas	
City of Santa Fe Springs	
City of Whittier	
County of Los Angeles	

4.6 REFERENCES

Institute for Applied Economics of the Los Angeles County Economic Development Corporation (LAEDC). 2025. Metropolitan Water District: Pure Water Southern California – An Updated Economic Impact Study. April.

Institute for Applied Economics of the Los Angeles County Economic Development Corporation (LAEDC). 2021. Metropolitan Water District: Regional Recycled Water Program – An Economic Impact Study. August.

Los Angeles County Sanitation Districts (Sanitation Districts). 2022. Pure Water Southern California RO Concentrate Ocean Discharge Compliance Assessment. October 18.

Raftelis. 2023. Pure Water Southern California Conceptual Costs Recovery Alternatives. October 3.

ATTACHMENT B:
PROJECT LABOR AGREEMENT

- Paragraph 55 of Metropolitan's General Conditions Standard Specification Document
- Article 14 and Attachment D of the Project Labor Agreement
- Project Labor Agreement Annual Report

Engineer, incompetent, disorderly or who violates safety requirements or Metropolitan's substance abuse policy, or is otherwise unsatisfactory, and shall not again employ such discharged person on the work except with the consent of the Engineer. Such discharge shall not be the basis of any claim for compensation or damages against Metropolitan or any of its employees.

51. Employment of Labor. — (a) No convict labor shall be directly employed by the Contractor or any subcontractor in the performance of any work done under this contract.

(b) In the employment of labor for the performance of this contract, Metropolitan desires that the Contractor and all subcontractors shall, wherever possible, give first consideration to residents who reside within Metropolitan's service area.

52. Substance Abuse Policy. — Metropolitan maintains a zero tolerance policy against illegal drug and unauthorized alcohol use in the workplace. This policy extends to contractors, subcontractors and vendors who work on Metropolitan property or any place where Metropolitan business is transacted. It is a violation of the zero tolerance policy to manufacture, distribute, dispense, use, possess, sell, trade, and/or offer for sale alcohol, or illegal drugs, in the workplace. Entering Metropolitan property constitutes consent to searches and inspections. If an individual is suspected of violating this policy, he or she may be asked to submit to a search or inspection at any time.

53. Safety and Protection. — (a) The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

(1) All persons on the work site or who may be affected by the work;

(2) All the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

(3) Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.

(b) The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and of underground facilities and utility owners when prosecution of the work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in Paragraphs (a)(2) or (a)(3) of Article 53 caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the work, or anyone for whose acts any of them may be liable, shall be remedied by the Contractor (except damage or loss attributable to the acts or omissions of Metropolitan or its consultants or anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor or any subcontractor, supplier, or other person or organization directly or indirectly employed by any of them). The Contractor's duties and responsibilities for safety and for protection of the work shall continue until such time as Metropolitan has accepted the work.

54. Laws, Regulations, Permits and Licenses. — (a) The Contractor shall give all notices applicable to furnishing and performing the work. The Contractor and his or her agents and employees shall comply with all such applicable laws and regulations in effect or that may become effective before completion of this contract.

(b) If the Contractor performs any work that is contrary to laws or regulations, the Contractor shall bear all claims, costs, losses, and damages caused by, arising out of, or resulting therefrom; however, it shall not be the Contractor's primary responsibility to make certain that the specifications and drawings are in accordance with laws and regulations, but this shall not relieve the Contractor of his or her obligations under Paragraph 19(c).

(c) Except as otherwise explicitly provided elsewhere in the specifications, all permits and licenses necessary to the prosecution of the work shall be secured by the Contractor at his or her own expense; and the Contractor shall pay all taxes properly assessed against his or her equipment or property used or required in connection with the work.

(d) Metropolitan will not be liable for the Contractor's failure to obtain, maintain, and comply with all required permits and licenses. All fines and fees assessed by the regulatory agencies as a result of said failures shall be the Contractor's responsibility. In the event Metropolitan is assessed with any fines or fees by a regulatory agency related to the Contractor's failure to obtain, maintain, and comply with all required permits and licenses, the amount of fees or fines will be deducted from the Contractor's earnings.

55. Employment of Indentured Apprentices. — The Contractor shall comply with the provisions of Section 1777.5 of the California Labor Code relating to employment of indentured apprentices on public works.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

PROJECT LABOR AGREEMENT

Note: the following pages are extracted from the Project Labor Agreement, including Article 14 Apprentices and Attachment D listing Pure Water as a covered project under the PLA

Section 12.2 Drug and Alcohol Testing Policy. The Parties shall adopt the Drug and Alcohol Testing Policy attached hereto as Attachment C, which is the exclusive Drug and Alcohol Testing Policy for Covered Projects.

ARTICLE 13

TRAVEL AND SUBSISTENCE

Section 13.1 Travel expenses, travel time, subsistence allowances and/or zone rates, and parking reimbursements shall not be applicable to work under this PLA, except to the extent provided for in Applicable Prevailing Wage Laws. Parking for employees covered by this PLA shall be provided by the Contractor(s) according to the provisions of the applicable Master Agreement(s).

ARTICLE 14

APPRENTICES

Section 14.1 Importance of Training. The Parties recognize the need to maintain continuing support of the programs designed to develop adequate numbers of competent workers in the construction industry, the obligation to capitalize on the availability of the local work force in the area served by Metropolitan, and the opportunities to provide continuing work on Covered Projects for Local Workers and Transitional Workers. To these ends, and consistent with any laws or regulations, the Parties will facilitate, encourage, and assist Local Workers and Transitional Workers in enrolling in and progressing through Apprenticeship Programs and/or apprenticeship readiness programs in the construction industry that lead to participation in Apprenticeship Programs. Metropolitan, the Project Labor Coordinator, other Metropolitan consultants, the Contractors, and the Councils and Unions, will work cooperatively to identify, or establish and maintain, effective programs and procedures for persons interested in entering the construction industry and which will help prepare them for the entry into Apprenticeship Programs.

Section 14.2 Use of Apprentices.

(a) The Parties agree to cooperate in referring and employing Apprentices up to the maximum percentage allowed by the State Labor Code or applicable federal law, and the standards of each Apprenticeship Program. The minimum ratios for Apprentice to journeyperson hours worked shall be in compliance, at a minimum, with the applicable provisions of the State Labor Code relating to utilization of

Apprentices. Metropolitan, unless otherwise required by law, shall encourage such utilization and, both as to Apprentices and the overall supply of experienced workers, the Project Labor Coordinator will work with the Councils, Apprenticeship Programs, and Contractors to assure appropriate and maximum utilization of Apprentices and the continuing availability of both Apprentices and journeypersons, especially Local Workers and Transitional Workers.

(b) The Parties will comply with all applicable laws and regulations in the request for dispatch and employment of Apprentices.

(c) The Parties agree that Apprentices will not be dispatched to Contractors working under this PLA unless there is a journeyperson or other Contractor employee working on the Project where the Apprentice is to be employed who is qualified to assist and oversee the Apprentice's progress through the program in which he/she is participating. Apprentices must be supervised and utilized in accordance with all applicable Federal and State laws.

(d) Metropolitan's Workforce: The Councils and Metropolitan agree to partner with and utilize local MC3 apprenticeship readiness programs as a pipeline of Local Workers and Transitional Workers for direct employment with Metropolitan in construction, maintenance, and other related apprenticeship opportunities.

ARTICLE 15

PRE-JOB CONFERENCE

Section 15.1 Each Contractor is required to conduct a pre-job conference with the Unions not less than six (6) working days prior to commencing work on each Covered Project. The purpose of the conference will be to, among other things, convey craft manpower needs, the schedule of work for the Covered Project, the Covered Project's rules, and propose Union work assignments.

Section 15.2 The Project Labor Coordinator may work with the Prime Contractor and Councils to facilitate the scheduling of all pre-job conferences, but ensuring each Contractor conducts a pre-job conference in accordance with this PLA is the responsibility of the Prime Contractor.

Section 15.3 All work assignments shall be disclosed by each Contractor at the pre-job conference. Should there be Covered Work that was not previously assigned at a pre-job conference, or additional Covered Work be added to the scope of the

ATTACHMENT D – COVERED PROJECT LIST

1. Badlands Tunnel Surge Tank Construction

Scope: Install 15-foot-high by 40-foot-diameter surge tank at south end of Badlands Tunnel, install altimeter valves and large check valves, and install a pipe connection to Inland Feeder

Location: Moreno Valley

County: Riverside

2. Colorado River Aqueduct (CRA) Housing Projects

Scope: This project replaces a total of 75 employee houses across the CRA pumping plants and includes the construction of two maintenance buildings and two storage facilities. Multiple construction contracts may be awarded to construct these facilities.

Location: CRA Pumping Plants

County: San Bernardino and Riverside

3. Colorado River Aqueduct (CRA) Transformers Construction

Scope: Replace the 69 kV and 230 kV transformers at the 5 CRA pumping plants. Procurement of the transformers and bridge cranes are Metropolitan Furnished Equipment under a separate procurement contract.

Location: CRA Pumping Plants

County: San Bernardino and Riverside

4. Copper Basin Reservoir Discharge Valve Rehabilitation

Scope: Rehabilitate the discharge structure at the Copper Basin Reservoir on the Colorado River Aqueduct.

Location: Unincorporated San Bernardino

County: San Bernardino

5. Diemer Filter Rehabilitation

Scope: Rehabilitate all 48 filters at the Diemer Water Treatment Plant by replacing the filter media, surface wash system and underdrains; modifying flow distribution flumes; and raising and replacing the existing troughs.

Location: Yorba Linda

County: Orange County

6. Garvey Reservoir Rehabilitation

Scope: The Garvey Reservoir Rehabilitation project includes replacing the existing floating cover and reservoir liner, modifying the inlet and outlet reservoir facilities, upgrading the water quality lab building, improving facility erosion controls, and replacing valves in the junction structure.

Location: Monterey Park

County: Los Angeles

7. Jensen Solids Mechanical Dewatering

Scope: Modify the piping and valves in Jensen Solids Pump Room No. 2 and install motor operated knife valves in Jensen Solids Pump Room No. 1.

Location: Granada Hills

County: Los Angeles

8. CRA Conduit Structural Protection

Scope: Provide crushed aggregate pads for crane set up and turn around areas adjacent to and above the cut and cover conduit and either install reinforced concrete protective slabs over the road crossings or realign roads away from the conduit at several locations

Location: CRA

County: San Bernardino and Riverside

9. Lake Perris Seepage Recovery Conveyance Pipeline

Scope: Construction of a new water conveyance pipeline from Perris Dam to the Colorado River Aqueduct.

Location: Perris

County: Riverside

10. CRA Sump System Rehabilitation Completion

Scope: This project will replace or repair corroded piping and pipe supports, replace isolation valves, replace access platforms and ladders, and construct new access platforms.

Location: CRA

County: San Bernardino and Riverside

11. Lakeview Pipeline Stage 2 Relining

Scope: Complete permanent repairs to approximately 3.7 miles of pipeline between the Inland Feeder Pressure Control Facility and the Lake Perris Control Facility.

Location: Riverside

County: Riverside

12. Orange County Right of Way and Infrastructure Protection Project - Stages 2 & 3

Scope: The projects will address access limitations, erosion-related improvement work, and security needs along the surface of Metropolitan's pipelines right-of-way.

Location: Orange County

County: Orange County

13. Mills Finished Water Reservoir Rehabilitation & Mixing Improvements

Scope: Rehabilitate finished water reservoir liners and floating covers with rainwater removal systems, rehabilitate slide gates, install new drop gates, and replace reservoir instrumentation security elements.

Location: Riverside

County: Riverside

14. CRA Storage Buildings

Scope: This project will replace sheds at Hinds, Eagle Mountain, and Iron Mountain Pumping Plants with new storage buildings. The new buildings will be insulated metal storage buildings with roll up doors, entrance doors, electrical outlets, lights, ventilation, asphalt paving around the building perimeter, and a concrete slab and driveway.

Location: CRA Pumping Plants

County: San Bernardino and Riverside

15. San Gabriel Tower Seismic Upgrade

Scope: Seismically retrofit the San Gabriel Tower and make modifications to the Morris Dam connection and other related facilities along the Upper Feeder.

Location: Unincorporated LA County

County: Los Angeles

16. Sepulveda Feeder PCCP Rehab – Reach 1

Scope: Rehabilitate approximately 4.7 miles of prestressed concrete cylinder pipe (PCCP) portions of the Sepulveda Feeder.

Location: Los Angeles

County: Los Angeles

17. Sepulveda Feeder PCCP Rehab – Reach 2

Scope: Rehabilitate approximately 3.8 miles of prestressed concrete cylinder pipe (PCCP) portions of the Sepulveda Feeder.

Location: Los Angeles

County: Los Angeles

18. SBVMWD Foothill Pumping Station

Scope: Construction of new interties between the Inland Feeder and Citrus Reservoir and Pump Station. Includes new connecting pipes, isolation valves and vault structures, and installation of new electrical and control components for valve operation

Location: Highland

County: San Bernardino

19. CRA Pumping Plant Utilities

Scope: This project replaces utilities at the CRA pumping plant villages. May be split into more than one construction contract.

Location: Various

County: Riverside

20. Diamond Valley Lake Apprenticeship Training Facility

Scope: This project includes the construction of a training facility at Diamond Valley Lake

Location: Hemet

County: Riverside

21. Hinds Pumping Plant Discharge Valve Platform Replacement

Scope: This project will replace the discharge valve pit platforms in nine discharge valve pits at the Hinds Pumping Plant.

Location: Desert Center

County: Riverside

22. Diemer Chemical System & Tank Farm Upgrades

Scope: This project upgrades the chemical system and tank farm at the Diemer water treatment plant.

Location: Yorba Linda

County: Orange

23. CRA 6.9kV Cables – Units 6-9

Scope: This project replaces 6.9 kV-rated, 3 conductor paper insulated, lead covered (PILC) power cables for units 6 to 9 throughout the Colorado River Aqueduct's five pumping plants with 15 kV-rated, 750 kcmil, 3-conductor, polyethylene-sheathed PILC cables.

Location: Multiple aqueduct pumping plants

County: San Bernardino and Riverside

24. Foothill HEP Seismic Upgrade

Scope: This project is to rehabilitate electrical, instrumentation, mechanical, and structural components of the Foothill Feeder Hydroelectric Plant.

Location: Castaic

County: Los Angeles

25. Inland Feeder – Rialto Pipeline Intertie

Construction of a new intertie pipeline and isolation valve and vault between the Inland Feeder and the Rialto Feeder

Location: San Bernardino

County: San Bernardino

26. Jensen Finished Water Reservoir Rehabilitation & Mixing Improvements

This project will rehabilitate finished water reservoir liner and floating cover with rainwater removal system at the Finished Water Reservoir No. 2, along with modification to inlet structure, support system, effluent weir pump system, plant domestic water system connection, and reservoir gates.

Location: Granada Hills

County: Los Angeles

27. Mills Control System Replacement

Scope: This project replaces the control system at the Mills Water Treatment Plant

Location: Riverside

County: Riverside

28. CRA Desert Region Security Improvements

This project includes physical security improvements at all five Colorado River Aqueduct Pumping Plant facilities and the Camino Switching Station.

Location: Various

County: Riverside

29. Pure Water Southern California

Scope: The Pure Water Southern California Program includes the construction of a phased 150 MGD advanced purification center adjacent to the Los Angeles County Sanitation Districts Joint Water Pollution Control Plant in Carson, up to 60 miles of large diameter pipeline to the San Gabriel Valley, and appurtenant facilities for indirect and direct potable reuse. Work could include both conventional Design/Bid/Build and collaborative delivery project implementation methods.

Location: Carson

Counties: Los Angeles

30. Diamond Valley Lake Wave Attenuator – Stage 2

Scope: Replacement of the existing wave attenuator at Diamond Valley Lake to accommodate greater variations in water levels. Includes demolishing and removing the existing wave attenuator and furnishing and installing a post-tension concrete floating wave attenuator system.

Location: Hemet

County: Riverside

31. Wadsworth Bypass *

Scope: Pipeline with isolation valve to connect the Wadsworth Pump Plant discharge line to the Eastside Pipeline to allow continuous pumping from the Diamond Valley Lake forebay.

Location: Hemet

County: Riverside

32. Perris Valley Pipeline Tunnels *

Scope: Constructing approximately 3,000 linear feet of 97-inch diameter welded steel pipe micro-tunneling and cut and cover including connecting adit tunnel and four shafts.

Location: Riverside County

County: Riverside County

33. Second Lower Feeder – Reach 3B *

Scope: The work consists of rehabilitation of approximately 19,000 linear feet of prestressed concrete cylinder pipe (PCCP) and removing portions of existing PCCP, installing Metropolitan-furnished and Contractor-furnished steel liner pipe, rehabilitating three existing isolation valve structures and two service connections, and installing and removing Palos Verdes Reservoir temporary bypass lines.

Location: Various

County: Los Angeles

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Report

Engineering Services Group

- **Project Labor Agreement Update**

Summary

The attached report provides a summary of actions taken and updated results of Metropolitan's Project Labor Agreement, adopted in October 2022; the report includes details on contractor implementation associated with the Construction Careers Pipeline Program, outreach to apprenticeship readiness programs, outreach to the small business community, local and transitional hiring metrics, labor compliance, and reporting on financial impacts of the PLA.

Purpose

This report highlights outreach and implementation efforts to support the Project Labor Agreement (PLA) objectives and to report on the metrics compared to the goals stated in the PLA, for employment of local and transitional workers on Metropolitan's PLA-covered projects. This is the third annual report and covers the period from October 2024 through June 2025. Below is a summary of board actions that led to the approval of the amendment of the PLA to add covered projects.

Related Board Action(s)/Future Action(s)

By Minute Item 52738, dated March 8, 2022, the Board authorized the General Manager to negotiate a PLA pursuant to various terms and guiding principles communicated during previous oral reports and board discussions.

By Minute Item 53004, dated October 11, 2022, the Board approved the negotiated PLA to be used as a bid condition on contracts that are listed as part of an attachment to the PLA and authorized an agreement with Parsons Constructors Inc. for the administration of the PLA.

By Minute Item 53848, dated November 19, 2024, the Board authorized the General Manager to amend the PLA to add four new projects and approve the amended PLA's use as a bid condition for the newly added projects.

Attachments

Attachment 1 – Project Labor Agreement Annual Report – September 2025

Date of Report: September 8, 2025

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Project Labor Agreement Annual Report

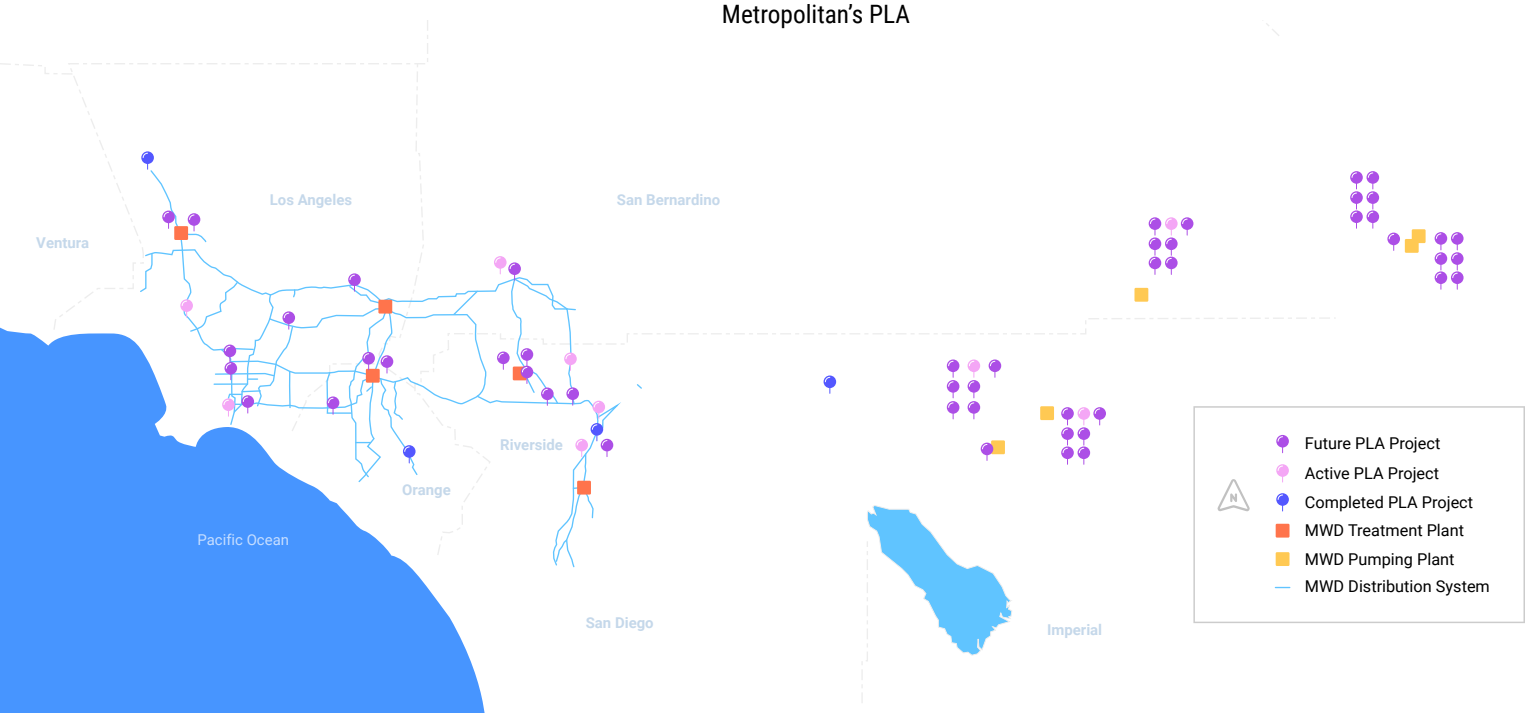
September 2025

Pictured on the cover: Work on the Second Lower Feeder PCCP Rehabilitation Project, February 2025

Inside Cover Photo: Wadsworth Pumping Plant Eastide Pipeline Intertie Project, April 2024

Contents

Figure 1: Projects Covered by Metropolitan's PLA



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Introduction

Deven Upadhyay
Metropolitan Water District of Southern CA

Ernesto Medrano
Los Angeles and Orange Counties Building and Construction Trades Council

Albert Duarte
San Bernardino-Riverside Building and Construction Trades Council

Carol Kim
San Diego County Building and Construction Trades Council

Joshua Medrano
Tri-Counties Building and Construction Trades Council

Welcome to the Metropolitan Water District of Southern California's 2025 Project Labor Agreement (PLA) annual report. This report tells a story in numbers, photos and words about the programs, projects, and community partner activities associated with the landmark PLA, authorized by Metropolitan's Board of Directors in October 2022.

The main driver behind the PLA is regional investment. Metropolitan's PLA has a 60 percent goal of employing local workers, and a 15 percent goal of employing transitional workers who overcome challenges to begin a career in construction. The PLA currently includes 39 projects and programs identified by Metropolitan in the five-year term of the PLA. Together these projects account for 90 percent of Metropolitan's planned construction contract expenditures over the next several years and total nearly $1 billion.

Four projects have completed construction since the PLA's inception, with three projects having been completed after the publication of the 2024 PLA Annual Report. All of the projects that have completed construction have exceeded the local and transitional worker participation goals set in the PLA.

One of the main benefits of the PLA is the ability to cultivate a diverse workforce supported by a spirit of labor harmony with our building partners. The PLA's Construction Careers Pipeline Program (CCPP) increases opportunities for individuals from underrepresented communities to pursue careers in the construction industry. The CCPP connects Metropolitan's contractors and signatory union partners with graduates from Apprenticeship Readiness Programs (ARPs), which train students using the North America's Building Trades Unions' recognized multi-core craft curriculum (MC3) training. The CCPP also creates opportunities for veterans in partnership with the nationally recognized Helmets to Hardhats Program.

This report details PLA-related community workforce achievements, individual success stories, and business development victories from the past year as a result of Metropolitan's staff's close oversight and administration. The words of Metropolitan's labor partners give life to the tangible impacts in the construction community fostered by the PLA and the economic and workforce benefit brought to the nearly 19 million people we serve in Southern California.

Labor-Management PLA Meeting, November 2024

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Construction Careers Pipeline Program

Inland Feeder Rialto Pipeline
Intertie, February 2026

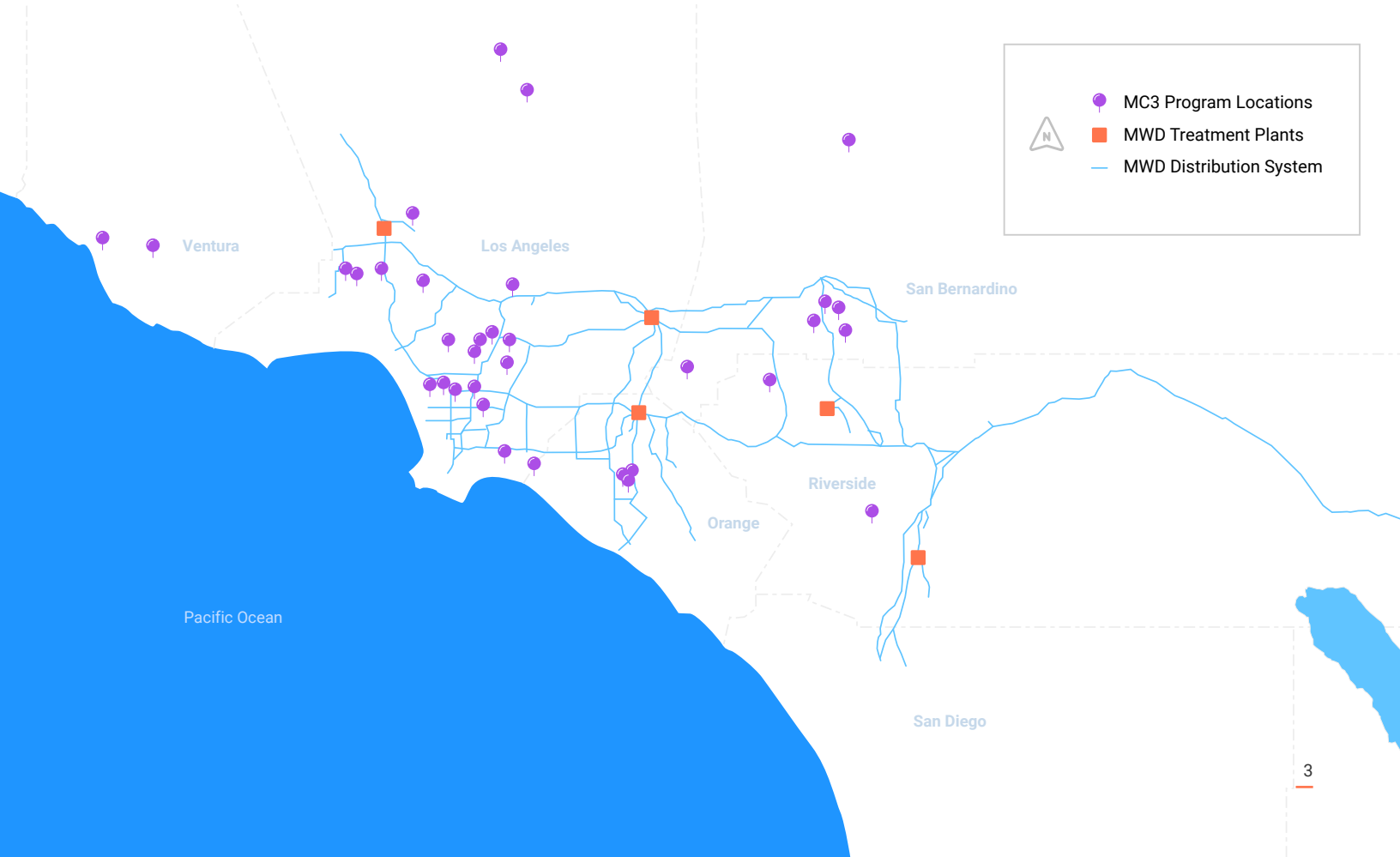
The PLA recognized a need to support non-traditional pathways to construction and established the CCPP to open doors for local and transitional workers interested in a construction career. We work in partnership with ARPs to identify potential candidates for interview by contractors working on Metropolitan projects.

Metropolitan partners that include San Bernardino's Cajon High School and Arroyo Valley High School award MC3 certifications to students in their construction education programs. Metropolitan finds opportunities to engage high school students in our service area with events like the Construction Career and Apprenticeship Resource Fair, which was attended by hundreds of high school students with the goal of introducing them to trade unions and other industry partners.

Construction Careers Pipeline Placements

The success of our outreach efforts is measured by the placement of five MC3 graduates on PLA projects. The graduates were able to launch their union-construction careers because of the PLA and chance to work with Metropolitan contractors. Two graduates highlighted in the 2024 PLA Annual Report have completed their assignments on Metropolitan projects and are continuing to advance their careers in construction through placements by the unions on projects outside of Metropolitan.

Figure 2: MC3 Program Locations



Ramon Sanchez
Steve P. Rados, Inc., Laborers Local 1184

Ramon is a laborer apprentice hired by Steve P. Rados, Inc. (Rados), the general contractor for Metropolitan's Inland Feeder Badlands Tunnel Surge Protection project. Ramon graduated from the San Bernardino Community College District's MC3 program and was later sponsored into Laborers Local 1184.

Although Ramon has prior experience in the construction industry, he credits SBCCD's MC3 program for reinforcing his foundational knowledge and introducing new skills that deepen his understanding and allow him to stay current with industry standards and practices. He is grateful for the opportunity that Rados has given him to both apply and showcase his skills on-site, while also gaining hands-on experience under the guidance of other journeypersons from this trade. He looks forward to advancing his career in the construction trades, with the goal of progressing from an apprentice to a journeyperson. Above all, a career in the construction trades has helped him progress towards his personal goals of purchasing a home soon and being better able to support his family.

Matthew Dill
Power Engineering, Co.

Matthew Dill is the general foreman for Power Engineering, Co. on the Diamond Valley Lake Wave Attenuator Replacement Stage 2 project; he has been in the construction industry for over 20 years. As a U.S. Army veteran, Matthew saw first-hand how experience in the military brought valuable skills, discipline, and experience that seamlessly transfer to the construction industry. As general foreman, Matthew oversees all aspects of the wave attenuator replacement project and plays a critical role in managing the day-to-day field operations to replace and rehabilitate wave attenuators at Diamond Valley Lake.

Matthew emphasized two core tenets that closely align between the armed forces and the construction trades: pride in one's work and a commitment to safety. In both environments, he noted that taking ownership of your duties and maintaining high standards not only reflects personal integrity but also contributes to the success of the entire team. Likewise, a strong safety culture is essential for protecting lives and ensuring that everyone returns home safely at the end of the day.

Delia Olivas Alvarez
Capital Industrial Coatings, Long Beach Job Corps

Delia Olivas Alvarez is a painter apprentice hired by Capital Industrial Coatings, a subcontractor to Rados, on the Inland Feeder Badlands Tunnel Surge Protection project. Metropolitan referred Delia to the subcontractor from Long Beach Job Corps, a career training and education program for low-income students between 16 and 24 years old. Delia completed her pre-apprenticeship training in painting and registered with the Painters Local 1036 union. She appreciates her Long Beach Job Corps mentor Juan Ortiz, also a member of Painters Local 1036, for his support of her education and advocacy.

Capital Industrial Coatings is a company committed to employee retention and has long-term plans to develop Delia as an accomplished union painter. Beyond opportunities on Metropolitan projects, Capital is working with Delia to obtain the necessary credentials to work on other contracts they have at various refineries in Southern California.

Employment of new apprentices, specifically apprentices that have worked less than 15 percent of the hours needed to complete their apprenticeship, is a cornerstone of the CCPP. Identifying this pool of new apprentices is supported using the LCP Tracker software. This software allows PLA administration staff to easily identify new apprentices that have completed less than 15 percent of their required hours for the state-approved apprenticeship program.

Metropolitan staff worked with MC3 programs and labor union partners to find candidates best suited for apprenticeship positions on various Metropolitan projects and helped candidates with resume and interview preparation. Since the PLA was adopted, 25 new apprentices have started their construction careers on Metropolitan projects within a month of registering in a state-approved apprenticeship program.

In addition to the five workers referred by Metropolitan for apprenticeship positions, payroll records indicate there have been 20 workers employed on Metropolitan projects within a month of enrolling in apprenticeship programs. Many were immediately dispatched to a Metropolitan project upon enrollment in their apprenticeship programs. Each of these workers have some of their earliest apprenticeship hours on Metropolitan projects, with many beginning their entire construction career with us.

Metropolitan's signatory union partners' dispaching of transitional workers exceeded goals set by the PLA. Here is how the hiring process works. When contractors request labor from the union halls, they do so via a worker dispatch form specific to the PLA's community workforce needs. The unions use this to prioritize workers in Metropolitan's service area as well as those who qualify as transitional workers, whenever possible.

Another category of transitional workers are veterans. Metropolitan is currently tracking 18 veterans through contractor payroll records. Like new apprentices, all veterans qualify as transitional workers across all PLA projects. Veterans have been identified through on-site staff worker interviews as well as through contractor efforts to employ existing veteran employees on Metropolitan projects.

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CCPP Community Outreach Update

Resource Fair, January 2024

Metropolitan continues to meet with ARPs, as well as other community partners providing construction outreach and education, in order to achieve the CCPP's community goals. This outreach includes participation at ARP events, organizing industry days for students and the public in our service area, and coordination with union leadership.

Partnership Highlights

October 9, 2024 – Riverside: Staff attended the fall Industry and Labor Advisory meeting for Alvord Unified School District's MC3 programs to provide input and guidance for strengthening the success of their workforce education programs for the building and construction industry.

October 10, 2024 – Riverside: Staff attended the San Bernardino/Riverside Trades Council meeting to discuss collaboration on the Inland Empire Career and Apprenticeship Resource Fair hosted by Metropolitan on February 28, 2025.

October 11, 2024 – Riverside: Staff attended the Norte Vista High School Career Event to share information with more than 100 students interested in entering a building trade following graduation. Information was presented about Metropolitan's PLA and the benefits and opportunities available as graduates of Norte Vista's MC3 program.

October 21, 2024 – Virtual: Metropolitan hosted the San Bernardino/Riverside Construction Workforce Development Roundtable, which featured community engagement, and industry, labor and education collaboration on construction career workforce development efforts in the Inland Empire with the goal to attract underserved populations to pursue careers in the construction industry.

October 23, 2024 – Virtual: Staff made a presentation to the Inland Empire Veterans Employment Committee about Metropolitan's PLA and placement opportunities for military veterans on Metropolitan construction projects.

October 29, 2024 – San Bernardino: Staff attended the Annual Career and Technical Education (CTE) Partners Convening meeting hosted by the San Bernardino County Board of Education to showcase the successes of CTE Pathway programs, including MC3 programs in the county. There was an opportunity to discuss industry standards, local labor market demands and improvements to the MC3 program.

November 5, 2024 – Virtual: Staff participated in a meeting with Build California and networked with construction industry professionals to identify partnership opportunities. Participants focused on ways to engage and activate the next generation of workers and bring greater awareness about the benefits and career opportunities in construction and local training programs.

November 12, 2024 – San Bernardino: Staff visited the San Bernardino Employment Resource Center to discuss partnership opportunities related to Metropolitan's PLA and veterans entering the work force.

November 13, 2024 – Los Angeles: A Labor/Management Collaboration Meeting was hosted at Metropolitan headquarters with all PLA signatory unions invited. Staff presented progress reports on current and upcoming PLA projects. Meeting co-chairs John Bednarski, Metropolitan's Assistant General Manager and Ernesto Medrano, Executive Secretary for the Los Angeles and Orange Counties Building and Construction Trades Council addressed the union attendees.

November 19, 2024 – Virtual: Staff attended the bi-monthly meeting of the American Indian Construction Apprenticeship Initiative to share information related to Metropolitan's PLA and discuss the tribes' MC3 programs and opportunities to educate Native Americans on training for entering a building trade apprenticeship program.

December 11, 2024 – Los Angeles: Staff attended the Maxine Waters EPC Net@Work Roundtable to discuss barriers for participation in programs and develop ways to overcome them.

December 12, 2024 – San Bernardino: Staff addressed the graduating cohort of SBCCD MC3 program and spoke about opportunities to work on Metropolitan PLA projects and other trade opportunities. Inland Empire Building and Construction Trades Council leader Albert Duarte joined the discussion.

December 12, 2024 – San Bernardino: Staff visited the San Bernardino County School Superintendent to establish a partnership related to construction CTE Programs, including MC3.

January 8, 2025 – Virtual: Metropolitan hosted the San Bernardino/Riverside Construction Workforce Development Roundtable collaborating on the Construction Career and Apprenticeship Resource Fair planned for February 28, 2025.

January 30, 2025 – San Bernardino: Staff attended the Construction Advisory Summit "Be a Part of the Future!" along with union leadership, Apprenticeship Readiness Fund and SBCCD.

February 4, 2025 – North Hollywood: Staff had a site tour of the North Hollywood Youth Build Program, which provides construction training to at-risk youth, and discussed potential partnership and placement opportunities on Metropolitan PLA projects.

February 6, 2025 – Hemet: Staff participated in the Evening with Industry held by the Hemet Unified Schools District. The event highlighted construction career pathway programs, including MC3 programs, giving industry members a chance to engage with high school students who are interested in a building trade apprenticeship program.

February 13, 2025 – Riverside: Staff spoke at the San Bernardino/Riverside Trades Council meeting about Metropolitan's PLA and the Inland Empire Career and Apprenticeship Resource Fair hosted by Metropolitan.

February 28, 2025 – San Bernardino: Metropolitan hosted its second Annual Construction Career and Apprenticeship Resource Fair at California State University San Bernardino. The event was held in partnership with the San Bernardino County Board of Education, the San Bernardino/Riverside Building Trades Council, and the San Bernardino County Workforce Development Board. More than 400 high school students and community members attended to learn about construction career readiness, along with employment opportunities and apprenticeship programs in construction.

February 19, 2025 – San Bernardino: Staff attended the Caltrans Heavy Equipment Trades Academy Contactor's Day, where information about the program and its certifications were shared, and attendees were given the opportunity to observe trainees demonstrate their skills in operating heavy equipment.

March 7, 2025 – San Bernardino: Staff attended the San Bernardino Valley College Open House celebrating the grand opening of the new 114,000-square-foot Applied Technology Building, which will house the college's MC3 program.

Metropolitan General Manager Deven Upadhyay address Labor-Management Meeting, November 2024

March 10, 2025 – Selma: Staff toured the new state-of-the-art Central Valley Training Center, and learned about their MC3 program, including program content, funding, collaboration with the local building trades council and political officials, community engagement and placements.

March 17, 2025 – Virtual: Staff presented information to the Inland Empire Veterans Employment Committee about Metropolitan's PLA and placement opportunities for military veterans on Metropolitan construction projects.

March 20, 2025 – Riverside: Staff co-presented with leadership from the San Bernardino-Riverside Construction and Building Trades Council to students at Ramona High School. The presentation included information about opportunities in the construction industry, apprenticeship programs, and Metropolitan's PLA placement opportunities for MC3 graduates.

March 20, 2025 – Virtual: Staff met with the Long Beach Job Corps to learn about their education programs. Staff met with instructors, reviewed new apprenticeship placement processes, and received a list of candidates for upcoming potential apprenticeship placements.

April 9 & 10, 2025 – Huntington Beach: Staff attended the Construction Industry Education Design Build Competition for Southern California, sponsored by the Western States Carpenters Union. Hosted at Golden West College in Huntington Beach, the competition was attended by 39 high schools and community college construction career pathway program and required students to design and build a more than 96-square-foot structure.

April 11 & 12, 2025 – Ontario: Staff participated as judges in the 2025 SkillsUSA State Leadership & Skills Contest for Middle School, High School and Community College students who came from throughout California to compete in construction design, welding, job interviews and extemporaneous speaking.

April 24, 2025 – Riverside: Staff attended the Riverside Unified School District's CTE Pathways Showcase for students in the construction pathway. Students demonstrated their skills in designing and building a small structure and engaged in one-on-one discussions about their plans to enter a trade apprenticeship program.

April 25, 2025 – Riverside: Staff met with Albert Duarte of the San Bernardino-Riverside Construction and Building Trades Council to review PLA details and implementation of CCPP and included apprenticeship placement strategies and further collaboration with MC3 programs and Metropolitan contractors.

Metropolitan's Native American/Alaskan Native Employee Association and the California Indian Manpower Consortium (CIMC) on a tour of the CRA to educate on construction careers at Metropolitan and assist the CIMIC with their development of an ARP

May 7, 2025 – Los Angeles: Staff attended the Maxine Waters EPC Spring Net@Work Roundtable. Community, industry, and labor partners discussed their MC3 program, barriers for participation, program needs and placement opportunities.

May 21, 2025 – Cajon: Metropolitan participated in the Cajon High School Trades Day where more than 25 industry, labor, and community partners engaged with students interested in a construction trade career.

June 10, 2025 – El Monte: Staff toured the Southern California Pipe Trades' A&J Training Facility in El Monte, visiting classrooms and training labs. They met with instructors and union management and witnessed the semi-finals of the apprenticeship competition.

June 23, 2025 – San Bernardino: Staff attended an MC3 cohort graduation for SBCCD students who were partnered with the Anti-Recidivism Coalition that offers education to previously incarcerated individuals.

June 30, 2025 – Colton: Project Labor Coordination team met with Center for Employment Training Colton at their facilities to learn about their trade programs, including a welding program, a green building construction program, and an upcoming Operating Engineers program.

July 23, 2025 - Virtual: Project Labor Coordinator team co-hosted a virtual "round table" event with the San Bernardino-Riverside Construction and Building Trades Council attended by labor unions and MC3 programs leaders in the Inland Empire to go over Metropolitan's PLA and facilitate meeting each other, sharing information about MC3 training and union apprenticeship programs.

Learning about the Pure Water Southern California project

Program Spotlight: San Bernardino Community College District

One of Metropolitan's early partners under the PLA CCPP is SBCCD, that offers an ARP to prepare participants to enter and succeed in state-approved apprenticeship programs. These programs are often the gateway to a career in the building and construction trades and path to middle-class jobs. The SBCCD offers a five-week, 32 hours per week program and was created in 2020 to address the need to increase the diversity of apprenticeship candidates in San Bernardino and Riverside Counties.

The SBCCD's ARP current grant focuses on preparing formerly incarcerated people who have faced barriers to employment in the construction industry. Stacy Garcia, manager of workforce development believes that "San Bernardino is heavily populated with people who need second chances and opportunities. I had a family member who tragically died at 19. He needed a second chance and if he would have been provided with this type of program, maybe he would still be with us today."

SBCCD partners with community-based organizations for cohort enrollment, such as the Anti Recidivism Coalition. This organization has a mission to empower formerly and currently incarcerated people by providing a support network and comprehensive reentry services. Marc Anthony Garcia, a recent program graduate says, "This program has helped me overcome barriers to reenter the workforce. I'm doing this not for myself, but for my family's future."

Future grants are expected to focus on other underserved populations, including, but not limited to women, people of color, and transitioning veterans.

The Anti-Recidivism Coalition offers education to previously incarcerated people

S4

Local & Transitional Worker Data

Transitional Worker Ramon Sanchez at the Inland Feeder Badlands Tunnel Surge Protection project

A Focus on Local Workers
Transitional Workers

Metropolitan places the highest importance on ensuring that its investments in water infrastructure benefit the community it service in a meaningful way. In addition to workforce goals for local residents, the PLA emphasizes participation by transitional workers. This 15 percent hiring goal targets individuals facing employment barriers or requiring assistance beginning their construction careers. The PLA defines transitional workers as any individual qualifying for one or more of the following categories:

- Veteran
- Apprentice with less than 15 percent of the work hours required for completion of a union apprenticeship program
- No high school diploma or general education diploma
- Homeless now or recently homeless within the past year
- Former foster youth
- Custodial single parent
- Experiencing unemployment (defined as receiving unemployment benefits for at least three months)
- Current recipient of government cash or food assistance benefits
- Documented income at or below 100 percent of Federal Poverty Level
- Formerly incarcerated
- Graduate of ARP/MC3 program

Contractor Workforce Data

PLA projects currently exceed the goals set for local and transitional worker employment as indicated in Figure 3. The data reflects information submitted by contractors on certified payroll records through June 2025.

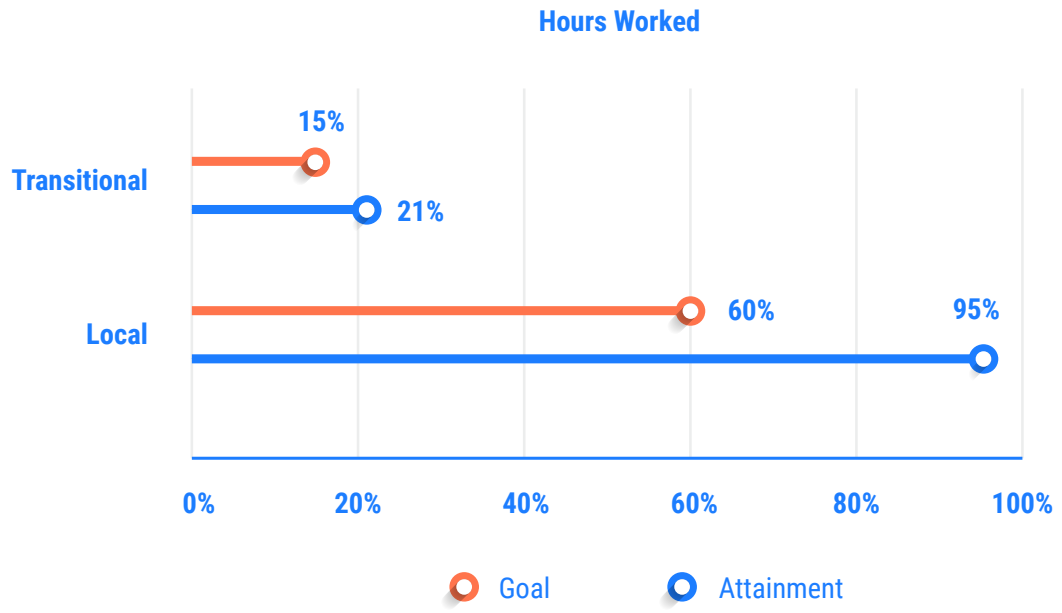

Figure 3: Local and transitional worker hours on PLA Projects exceeding contractual goals

Key Callouts

- Craft workers received an estimated $38,708,467.69 in wages and benefits and worked 453,225.32 reported hours on Metropolitan PLA projects.
- Local workers received an estimated $36,612,384.89 in wages and benefits and worked 433,151.81 reported hours on Metropolitan PLA projects.
- Transitional workers received an estimated $8,290,091.18 in wages and benefits and worked 97,429.20 reported hours on Metropolitan PLA projects.
- Note that one can be both a local and transitional worker; they are not mutually exclusive.

Eagle Mountain Pumping Plant Storage Buidling Replacement project, with similar projects also at Hinds and Iron Mountain Pumping Plants

S5

SBE & DVBE Outreach

Assistant General Manager Water & Technical Resource John Bednarski addresses a MetWorks audience there to learn about contracting opportunities, October 2024

Total hours worked by identified SBE, DVBE, DBE, MBE, and WBE firms constitute nearly 14% of all craft hours worked on PLA projects.

Metropolitan's Business Outreach Program has a demonstrated history of commitment to partnering with Small Businesses Enterprises and Disabled Veteran Business Enterprises (SBEs/DVBEs) over the last two decades. Metropolitan has invested more than $1.5 billion in its partnership with SBEs/DVBEs, providing tools and networking opportunities to promote opportunities with Metropolitan and its affiliates.

Metropolitan continues efforts to partner with SBEs/DVBEs and grow its network of partners. Every year, the Project Labor Coordinator team asks the signatory unions for current lists of signatory contractors that qualify as SBE, DVBE, or other similar certifications.

Contractors with 25 or fewer employees at the time they are awarded a PLA covered contract may first employ three of their existing employees before requesting a worker from the union hiring hall. This provision, known as the alternative core employee model, differs from the typical core employee procedure for other non-union contractors which requires every other worker to be a union dispatch. In addition to those contractors already qualifying as SBE and/or DVBE, Metropolitan is also committed to growing engagement with firms that qualify as Minority Business Enterprises, Disadvantaged Business Enterprises and Women Business Enterprises.

The list of known SBE and/or DVBE contractors who have worked on Metropolitan PLA projects include:

- Connor Concrete Cutting & Coring
- Crescent Diving
- Crosstown Electrical & Data, Inc.
- Dean's Certified Welding
- **Dinamic Mod Construction**
- Don H. Mahaffey Drilling Co.
- EG Montanez Construction, Inc.
- Environmental Construction Group
- Erosion Control Experts
- GeoX, Inc.
- GGG Demolition
- Global Transloading LLC
- Guida Surveying
- Infrastructure Quality Consulting
- Inland Overhead Door Company
- J & H Drilling Co dba M R Drilling
- Landmark Surveying Solutions
- Leed Electric
- Matrix Environmental
- MBI Excavation
- MDB General Engineering, Inc.
- Miller Equipment Co., Inc.
- Monzon & Sons Enterprises
- Premier Consultant Services
- Robcar dba Hudson Safe T Lite Rentals
- Smithson Electric
- **Southwest Chlorination**
- V & E Tree Service, Inc.
- WGJ Enterprises, Inc. dba PCI

The PLA allows qualifying SBE/DVBE companies with 25 or fewer workers to first employ three core employees per craft before hiring from the union hall. The SBE/DVBE contractors listed in bold above were able to qualify for the alternative core employee model. This list includes both union-signatory and non-union contractors.

Small business contractor Bill Holmes

Small Business Spotlight: Southwest Chlorination

Southwest Chlorination successfully completed disinfection work at the Perris Valley Pipeline Interstate 215 project during a shutdown shutdown. They are one of the small businesses that successfully applied the core employee flex option in Metropolitan's PLA. Owner Bill Holmes worked closely with staff to complete all necessary labor compliance and PLA documentation for union review .

Bill has worked in pipeline chlorination for 38 years and worked under Metropolitan's PLA for the first time on the Perris Valley Pipeline Interstate 215 Crossing. He enjoyed being able to explore his company's relationship with union participation under a PLA, while also staffing the project entirely with core workers. Two of Bill's sons were employed as craft laborers on this project. He credits Metropolitan's team for his success in navigating the state and union requirements. He appreciated the ability to work with Laborers Local 1184, and the chance to ensure that his family, the heart of his small business, was able to work with Metropolitan.

Key Business Outreach Program Events & Engagement

March 2–8, 2025 – Los Angeles: Staff participated in a panel discussion on the power of mentorship to elevate careers at the National Association of Women in Construction "Together We Rise" event.

March 6, 2025 – Montebello: Staff participated in the Society of American Military Engineers Inaugural Industry Day, which brought various federal, state, and local government agencies together to network with small businesses.

March 6-9, 2025 – Carlsbad: John Bednarski, Metropolitan Assistant General Manager, presented at the Western Winter Workshop where Metropolitan also had an exhibit to share workforce development successes with industry partners. The Workshop connected key decisionmakers for major capital project delivery organizations and public owners.

March 20 & May 30, 2025 – Los Angeles: Staff launched "The Bench" initiative, which connects small businesses with larger primes in a mentor-protégé program. Two program sessions have been hosted to-date.

Well attended labor-management PLA meeting invites collaboration

S6

Contractor Onboarding & Engagement

Metropolitan supports its contractors and their subcontractors throughout the stages of a PLA-covered contract. Staff work with contractors from contract award through project completion to achieve compliance with all requirements. The team reviews the PLA requirements, facilitates introductions with union and training partners, and coordinates PLA pre-job conferences.

The pre-job conference is the cornerstone for maintaining the PLA's spirit of labor harmony between the signatory parties. Contractors are required to detail craft staff needs, work schedule and project rules. They also must propose union work assignments at the pre-job conference. The contractor and their subcontractors review the work they will perform and the unions with which they will partner . This allows for an open dialogue between unions and contractors to better understand which unions' workforces will be performing each portion of work on a PLA project, all prior to work commencing.

As of June 2025, there have been 58 pre-job conferences for PLA projects (see Figure 4). Typically, there are several pre-job conferences hosted for each PLA contract as project work progresses to allow new subcontractors to meet this contract provision as the project moves toward completion. Each contractor performing covered work, regardless of their contract value or time spent on the project, is required to assign their work and meet with the signatory unions at a PLA pre-job conference.

Figure 4: PLA Pre-job Conference Tracking

Project	Number of Pre-job Conferences
Perris Valley Pipeline Interstate 215 Crossing	11
Second Lower Feeder Prestressed Concrete Cylinder Pipe (PCCP)	8
Wadsworth Pumping Plant Eastside Pipeline Intertie	6
Foothill Hydroelectric Power Plant Seismic Upgrade	6
Colorado River Aqueduct Conduit Structural Protection	4
Hinds, Eagle Mountain, and Iron Mountain Pumping Plants Storage Buildings	4
Inland Feeder Rialto Pipeline Intertie	5
Inland Feeder Badlands Tunnel Surge Protection Facility	3
Sepulveda Feeder Pump Station Project	4
Diamond Valley Lake Floating Wave Attenuator Remplacement	1
Allen-McColloch Pipeline PCCP 2024 Urgent Relining	6
Total Pre-job Conferences	**58**

Labor Compliance & Prevailing Wage Monitoring

Metropolitan's construction contracts are publicly funded and subject to all applicable state requirements, including the proper payment of prevailing wages. Site observations are compared to certified payroll records to verify data is reported accurately.

The PLA establishes worker payment requirements that may be greater than those on a typical public works contract. Contractors working under the PLA are required to pay craft workers according to the current prevailing wage rates, rather than the rates set by a public contract's bid advertisement date. The PLA also requires contractors to comply with the labor rates set forth in the appropriate union's master labor agreement. Between these three sources, craft workers on Metropolitan PLA projects are required to receive the highest pay rate.

Figure 4 illustrates the noted difference in the earliest required wage rates from the time the PLA became effective, 2022-2, and the current applicable wage rates, 2025-1, at the time of writing. Example crafts and classifications with uniform rates throughout Southern California have been selected from contractor payroll records.

Craft	Classification	2022-2 Rate (When PLA became effective)	2025-1 Rate (Current as of report writting)
Laborer	Group 1	$65.19	$71.69
Carpenter	Pile Driver, Derrick Bargeman, Rockslinger, Bridge or Dock Carpenter, Cable Splicer	$71.45	$77.95
Teamster	Group 3	$69.20	$75.46
Operating Engineer	Group 4	$87.25	$95.29
Cement Mason	Cement Mason, Curb and Gutter Machine Operator; Clary and Similar type of screed Operator	$69.10	$73.52

Work on the Second Lower Feeder PCCP Rehabilitation Project, February 2025

S7

PLA Financials & Construction Update

Drone view of the Inland Feeder Badlands Surge Protection Project

PLA Administration Cost

Analysis of Metropolitan expenditures by our PLA administration consultant, as well as expenditures by in-house staff, indicates that PLA administration costs are 0.83% of total construction expenditures through June 2025.

These costs include direct administration, and extensive outreach and training to apprenticeship readiness programs and the small business community. A cost of 1% of total construction cost is the general metric for PLA administration, which is budgeted on a project-by-project basis at contract award.

Seven Ongoing PLA Projects

SECOND LOWER FEEDER PCCP REHABILITATION REACH 3B

Start Date: February 2, 2023
Prime Contractor: J.F. Shea Construction, Inc.
Contract Value: $68,847,000
Small Business Enterprise Goal: 10%
Duration: 650 working days

Project Scope: The project consists of the rehabilitation of approximately 19,000 linear feet of PCCP including excavation, access portals and the removal of some existing PCCP; installing Metropolitan and contractor-furnished steel liner pipe, and modifying pipeline appurtenant structures; rehabilitating three existing isolation valve structures and two service connections; and installing and removing the Palos Verdes Reservoir temporary bypass lines.

Location: Various locations in Los Angeles County
Progress to Date: 96%

WADSWORTH PUMPING PLANT EASTSIDE PIPELINE INTERTIE

Start Date: February 2, 2023
Prime Contractor: Steve P. Rados, Inc.
Contract Value: $18,200,000
Small Business Enterprise Goal: 20%
Duration: 350 working days

Project Scope: The project consists of installation of approximately 600 linear feet of 96-inch-diameter pipeline, construction of a valve structure, relocation of transformer and switchgear, and other appurtenant work.

Location: Riverside County
Progress to Date: 97%

HINDS, EAGLE MOUNTAIN AND IRON PUMPING PLANTS STORAGE BUILDINGS

Start Date: July 31, 2023
Prime Contractor: J.F. Shea Construction, Inc.
Contract Value: $16,490,000
Small Business Enterprise Goal: 25%
Duration: 550 working days

Project Scope: The project consists of the replacement of sheds at Hinds, Eagle Mountain and Iron Mountain Pumping Plants with new storage buildings that are insulated and include enhanced features.

Location: Colorado River Aqueduct pumping plants across San Bernardino and Riverside Counties
Progress to Date: 73%

SEPULVEDA PUMP STATIONS – PROGRESSIVE DESIGN BUILD

Start Date: September 23, 2023
Prime Contractor & Designer: J.F. Shea Construction, Inc. & Tetra Tech, Inc.
Project Delivery Method: Progressive Design Build
Contract Value Estimate: $9,800,000 (NTE for Phase 1)
Small Business Enterprise Goal: 25%
Estimated Construction Completion Date: Fall 2027

Project Scope: This project consists of building two 30-cfs pump stations, conveyance pipelines, and associated supporting infrastructure at the Metropolitan-owned Venice and Sepulveda sites to reverse the flow of water and bypass the existing pressure control facilities.

Location: Los Angeles County
Progress to Date: 15% (Phase 1)

Inland Feeder-Rialto Pipeline Intertie skilled workforce

INLAND FEEDER – RIALTO PIPELINE INTERTIE

Start Date: March 12, 2024
Prime Contractor: Steve P. Rados, Inc.
Contract Value: $15,681,000
Small Business Enterprise Goal: 20%
Duration: 410 working days

Project Scope: The project consists of furnishing and installing approximately 250 linear feet of 96-inch diameter welded steel pipe; construction of a valve structure; installation of Metropolitan-furnished valves; removal and disposal of pipe coating material containing PCBs, and other appurtenant work.

Location: San Bernardino County
Progress to Date: 96%

INLAND FEEDER BADLANDS TUNNEL SURGE PROTECTION

Start Date: December 11, 2023
Prime Contractor: Steve P. Rados, Inc.
Contract Value: $18,840,000
Small Business Enterprise Goal: 20%
Duration: 370 working days

Project Scope: The project consists of constructing approximately 200 linear feet of 8-foot diameter steel pipe, an approximate 430,000-gallon surge tank, 84-inch diameter Metropolitan-furnished butterfly valve, control system, various electrical improvements, and other appurtenant work.

Location: Riverside County
Progress to Date: 96%

DIAMOND VALLEY LAKE FLOATING WAVE ATTENUATOR

Start Date: March 12, 2024
Prime Contractor: Power Engineering Construction
Contract Value: $7,842,856
Small Business Enterprise Goal: 15%
Duration: 400 working days

Project Scope: The project consists of rehabilitating and relocating the existing floating wave attenuator including removal and replacement of damaged post tension cables; repair of spalled concrete; replacement of timber walers; installation of anchor blocks and lighting; demolition of an existing dock; and installation of a new floating wave attenuator.

Location: Riverside County
Progress to Date: 80%

Inland Feeder Shutdown,
February 2025

Completed PLA-Covered Projects

Four PLA projects have been completed to-date and exceeded the local and transitional worker goals established in the PLA. One project, the Allen-McColloch Pipeline PCCP 2024 Urgent Relining, finished at nearly 100% local worker participation. The final participation numbers are included in the table below.

Project	General Contractor	Final Local Participation (60% Goal)	Final Transotional Participation (15% Goal)
Colorado River Aqueduct Counduit Structural Protection	Granite Construction	88.26%	27.98%
Allen-McColloch Pipeline PCCP 2024 Urgent Relining	J.F. Shea Construction, Inc.	99.84%	23.14%
Foothill Hydroelectric Power Plant Seismic Upgrade	West Valley Investment Group, Inc.	97.15%	22.23%
Perris Valley Pipeline Interstate 215 Crosing	J. W. Fowler	87.05%	22.92%

Upcoming PLA-Covered Projects

EAGLE MOUNTAIN AND JULIAN HINDS PUMPING PLANT UTILITY REPLACEMENT

Small Business Enterprise Goal: 25%
Duration: 350 working days

Project Scope: The project consists of the replacement of existing potable and non-potable water distribution piping systems; replacement of the existing wastewater system, access holes, excavation in cobbles, boulders, and granitic bedrock; surface restoration; replacement of the existing asphalt pavement including grading and drainage improvements; roadway striping; disinfection; hydrotesting; abatement of hazardous materials.

Location: Riverside County

ROBERT B. DIEMER WATER TREATMENT PLANT FLUOROSILICIC ACID TANK FARM IMPROVEMENTS

Small Business Enterprise Goal: 25%
Duration: 490 working days

Project Scope: The project consists of rehabilitation of the fluorosilicic acid (FSA) tank farm, which includes demolition of the existing tank farm and canopy structure; construction of a new FSA tank farm and canopy; abatement and removal of lead and asbestos containing materials; and construction of a temporary FSA chemical feed system.

Location: Orange County

GARVEY RESERVOIR REHABILITATION, STAGE 1

Small Business Enterprise Goal: 7%
Duration: 550 working days

Project Scope: The project consists of replacing the existing membrane liner and floating cover system; seismic retrofit of the outlet tower, relocation of an inlet structure, installation of a new electrical duct bank, and replacement of mechanical and electrical equipment.

Location: Los Angeles County

Construction on the DVL wave attenuator

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

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Robert B. Diemer Water Treatment Plant in Yorba Linda will receive site improvements in upcoming PLA-covered projects

ATTACHMENT C:
GRANT RESOLUTIONS

- Excerpt from State Assembly Bill No. 179 for State Funding ($80 Million)
- USBR WaterSMART: Water Recycling and Desalination Planning Grant Resolution No. 9338 ($5 Million)
- USBR Large-Scale Water Recycling Program Grant Resolution No. 9366 ($99 Million)
- USBR Large-Scale Water Recycling Program Grant Resolution No. 9367 ($26 Million)

Excerpt from AB 179 for State Funding

(J) $750,000 to fund a study and development of model plan for worker wellness centers for transit agencies throughout the state.

(2) To be allocated by the Employment Training Panel as follows:

(A) $1,000,000 to the City of Chino, Chino City Council for the Chino Valley Chamber of Commerce for the Upskill Chino Valley to expand services.

SEC. 208. Section 19.58 is added to the Budget Act of 2022, to read:

SEC. 19.58. (a) (1) The amounts appropriated pursuant to this section reflect legislative priorities.

(2) Notwithstanding any other law, allocations pursuant to this section are exempt from the personal services contracting requirements of Article 4 (commencing with Section 19130) of Chapter 5 of Part 2 of Division 5 of Title 2 of the Government Code, from Part 2 (commencing with Section 10100) of Division 2 of the Public Contract Code, and the State Contracting Manual, and are not subject to the approval of the Department of General Services, including the requirements of Chapter 6 (commencing with Section 14825) of Part 5.5 of Division 3 of the Title 2 of the Government Code.

(3) If an item number for the appropriate department for a state entity does not exist, and such an item number is required in order to make the specified allocations, the Department of Finance may create an item number for this purpose.

(4) Unless otherwise specified in this section, funds allocated pursuant to this section shall be available for encumbrance through June 30, 2024, and expenditure until June 30, 2026.

(5) The designated state entities in this section shall be permitted to use up to 5 percent of the amount in each allocation for administrative costs.

(b) The amounts specified in paragraphs (1) to (6), inclusive, are hereby appropriated from the General Fund as follows:

(1) To be allocated to the California Natural Resources Agency as follows:

(A) $10,000,000 for Redondo Beach Wetlands Restoration.

(i) These funds shall be for the City of Redondo Beach for wetlands restoration.

(B) $5,000,000 for the Natural History Museums of Los Angeles County renovation and expansion of the La Brea Tar Pits and Museum site.

(2) To be allocated to the Wildlife Conservation Board as follows:

(A) 40,000,000 for San Joaquin Valley Floodplain Restoration.

(i) These funds shall be for the River Partners for the development and delivery of multi-benefit floodplain reconnection and habitat restoration projects in the San Joaquin and Tulare Basins. Eligible expenditures may include, but are not limited to, acquisition, planning and permitting, and scientific research supporting project implementation, including ground-based geophysics, habitat restoration benefitting dwindling wildlife, and habitat maintenance.

(B) $67,000,000 for watershed climate resilience grants through the Cascades and High Sierra Upper Watersheds Program.

(i) These funds shall support competitive grants to improve watershed protection and climate resiliency including, but not limited to, streamflow enhancement.

(C) $67,000,000 for watershed climate resilience grants through the land acquisition and habitat enhancement program.

(i) These funds shall support competitive grants to improve watershed protection and climate resiliency in Southern California including, but not limited to, streamflow enhancement.

(3) To be allocated to the Department of Water Resources as follows:

(A) $66,500,000 for watershed climate resilience grants.

(i) These funds shall be provided as grants to water agencies and other public agencies for drought resilience and identification and assessment of climate risks on a watershed basis.

(ii) These funds shall be prioritized in areas with greatest risk or potential to reduce environmental conflicts. Funds may be used for longer-term planning and resilience projects, including but not limited to, watershed climate risk assessment, streamflow improvement projects, streamflow measurement and remote sensing to establish baseline conditions and monitor project performance, water use efficiency projects with verifiable demand reduction, infrastructure to improve regional flexibility to address drought conditions, and conjunctive use and management between multiple water supply sources.

(4) To be allocated to the State Water Resources Control Board as follows:

(A) $5,000,000 for water refilling stations at schools.

(B) $90,000,000 for water recycling projects that produce potable recycled water to supplement drinking water supplies.

(i) $80,000,000 shall be allocated directly to the Metropolitan Water District of Southern California in one lump sum payment no later than January 1, 2024, to support the design of a large-scale regional recycled water project that: (1) purifies treated wastewater supplied by the County Sanitation Districts of Los Angeles County that can replenish groundwater basins and provide a new water supply for industrial and residential uses,
(2) can produce up to 150 gallons of new water supply per day, and (3) advances potable reuse treatment technology.

(ii) $10,000,000 shall be for the planning, design, and construction of the Euclid Avenue Recycled Water System Expansion Project in the City of Ontario.

(5) To be allocated to the California Environmental Protection Agency as follows:

(A) $500,000 for the water energy nexus registry.

(6) To be allocated to the Department of Parks and Recreation as follows:

(A) $75,000,000 for the statewide parks programs.

(B) $25,000,000 for outdoor equity grants.

(c) The amounts specified in subdivisions (1) to (4), inclusive, are hereby appropriated from the Greenhouse Gas Reduction Fund as follows:

(1) To be allocated to the State Air Resources Board as follows:

(A))$10,000,000 for financial incentives to reduce mobile and stationary sources of criteria air pollutants or toxic air contaminants consistent with community emissions reduction programs developed pursuant to Section 44391.2 of the Health and Safety Code.

(i) Up to $10,000,000 may be used for the development of new community emission reduction programs.

(2) To be allocated to the Department of Community Services and Development as follows:

(A) $15,000,000 for the Low-Income Weatherization Program to support weatherization services for low-income farmworkers.

(3) To be allocated to the Ocean Protection Council as follows:

(A) $37,500,000 for implementation of Chapter 236 of the Statutes of 2021 (SB 1).

(i) The funds shall be available for state operations or local assistance.

(ii) The Ocean Protection Council shall work in collaboration with the State Coastal Conservancy to implement this funding. The Council shall structure these funds to maximize leveraging of any available federal funding.

(4) To be allocated to the State Coastal Conservancy as follows:

(A) $37,500,000 to protect communities and natural resources from sea-level rise.

(i) These funds shall be administered through the Climate Ready Program with priority given to projects that adapt public infrastructure along the coast including urban waterfronts, ports, and ecosystems.

SEC. 209. Section 39.00 of the Budget Act of 2022 is amended to read:

SEC. 39.00. The Legislature hereby finds and declares that the following bills are other bills providing for appropriations related to the Budget Bill within the meaning of subdivision (e) of Section 12 of Article IV of the California Constitution: AB 129, AB 144, AB 146, AB 151, AB 152, AB 156, AB 157, AB 158, AB 160, AB 162, AB 165, AB 166, AB 170, AB 171, AB 181, AB 182, AB 183, AB 184, AB 185, AB 186, AB 187, AB 188, AB 189, AB 190, AB 191, AB 192, AB 193, AB 194, AB 195, AB 196, AB 197, AB 198, AB 199, AB 200, AB 201, AB 202, AB 203, AB 204, AB 205, AB 206, AB 207, AB 208, AB 209, AB 210, AB 211, AB 212, AB 213, SB 120, SB 121, SB 122, SB 123, SB 124, SB 125, SB 126, SB 127, SB 128, SB 130, SB 131, SB 132, SB 133, SB 134, SB 135, SB 136, SB 137, SB 138, SB 140, SB 141, SB 143, SB 145, SB 148, SB 149, SB 150, SB 153, SB 161, SB 163, SB 164, SB 180, SB 181, SB 182, SB 183, SB 184, SB 185, SB 186, SB 187, SB 188, SB 189, SB 190, SB 191, SB 192, SB 193, SB 194, SB 195, SB 196, SB 197, SB 198, SB 199, SB 200, SB 201, and SB 202.

SEC. 210. Section 39.10 is added to the Budget Act of 2022 to read:

SEC. 39.10. In addition to this act, the Budget Act of 2022 consists of the following statutes:

(a) Chapter 43 of the Statutes of 2022 (Senate Bill No. 154)

(b) Chapter 45 of the Statutes of 2022 (Assembly Bill No. 178)

SEC. 211. Section 99.50 of the Budget Act of 2022 is amended to read:

RESOLUTION 9338

RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA IN SUPPORT OF ITS PROPOSAL FOR FUNDING UNDER THE WATERSMART: WATER RECYCLING AND DESALINATION PLANNING FUNDING ANNOUNCEMENT FOR THE METROPOLITAN WATER DISTRICT'S PURE WATER SOUTHERN CALIFORNIA LARGE SCALE WATER RECYCLING FEASIBILITY STUDY PROPOSAL

WHEREAS, the U.S. Bureau of Reclamation (Reclamation) is requesting proposals from sponsors to facilitate project development under the Title XVI Program, The Desalination Construction Program, and the Large-Scale Water Recycling Program through the WaterSMART: Water Recycling and Desalination Planning December 2022 funding announcement R23AS00076; and

WHEREAS, the submittal of a proposal for grant funding by Metropolitan has been determined to be exempt from the California Environmental Quality Act (CEQA) under Section 15378(b)(4) of the State CEQA Guidelines.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of The Metropolitan Water District of Southern California that the Board supports the proposal, the Metropolitan Water District's Large Scale Water Recycling Feasibility Study, under Reclamation's WaterSMART: Water Recycling and Desalination Planning December 2022 funding announcement R23AS00076.

BE IT FURTHER RESOLVED that Metropolitan's Board authorizes Metropolitan's General Manager or his/her designee to accept grant funding of up to $5,000,000.

BE IT FURTHER RESOLVED that Metropolitan's Board delegates' legal authority to Metropolitan's General Manager to enter into an agreement with Reclamation, subject to the approval of the General Counsel, relevant to receipt of the requested Water Recycling and Desalination Planning grant.

BE IT FURTHER RESOLVED that Metropolitan is capable of providing the amount of funding and/or in-kind contributions specified in the funding plan.

BE IT FURTHER RESOLVED that if selected for funding, Metropolitan will work with Reclamation to meet established program deadlines.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California at its meeting held March 14, 2023.

Lois Fong-Sakai

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

RESOLUTION 9366

RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA IN SUPPORT OF ITS APPLICATION FOR FUNDING UNDER THE WATERSMART LARGE-SCALE WATER RECYCLING PROGRAM

WHEREAS, the U.S. Bureau of Reclamation ("Reclamation") requested applications from sponsors to facilitate project development under the Large-Scale Water Recycling Program ("LSWRP") for projects with an estimated cost of over $500 million that meet the requirements of the LSWRP authorized by the Infrastructure Investment and Jobs Act of 2021; and

WHEREAS, the Metropolitan Water District's Pure Water Southern California Program is eligible for the USBR grant funding pursuant to the Act's guidelines and published eligibility guidelines; and

WHEREAS, in November 2023, The Metropolitan Water District of Southern California ("Metropolitan") submitted an application for grant funding to support planning and design for Pure Water Southern California ("LSWRP Application"), an action that was determined to be exempt from the California Environmental Quality Act ("CEQA") under Section 15378(b)(4) of the State CEQA Guidelines.

WHEREAS, in May 2024, Reclamation notified Metropolitan of Reclamation's intent to award Metropolitan up to $99,199,096 in federal grant funds.

WHEREAS, prior to an award, Reclamation requires Metropolitan to adopt a resolution verifying: (i) the identity of the Metropolitan official with legal authority to enter into an agreement, (ii) the board of directors, governing body, or appropriate official has reviewed and supports the application submitted, and (iii) that Metropolitan will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

NOW, THEREFORE, BE IT RESOLVED that the Metropolitan Board of Directors ("Board") reviewed and supports the LSWRP Application.

BE IT FURTHER RESOLVED that, subject to board approval of a grant or cooperative agreement, Metropolitan's General Manager or his/her designee will have the legal authority to enter into that agreement.

BE IT FURTHER RESOLVED by the Board that Metropolitan's General Manager or his/her designee will work with Reclamation to meet established program deadlines for entering into a grant or cooperative agreement.

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California at its meeting held November 19, 2024.

Lois Fong-Sakai

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

RESOLUTION 9367

RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA IN SUPPORT OF ITS APPLICATION FOR FUNDING UNDER THE WATERSMART LARGE-SCALE WATER RECYCLING PROGRAM

WHEREAS, the U.S. Bureau of Reclamation ("Reclamation") requested applications from sponsors to facilitate project development under the Large-Scale Water Recycling Program ("LSWRP") for projects with an estimated cost of over $500 million that meet the requirements of the LSWRP authorized by the Infrastructure Investment and Jobs Act of 2021; and

WHEREAS, the Metropolitan Water District's Pure Water Southern California Program is eligible for the USBR grant funding pursuant to the Act's guidelines and published eligibility guidelines; and

WHEREAS, in May 2024, The Metropolitan Water District of Southern California ("Metropolitan") submitted an application for grant funding to support planning and design for Pure Water Southern California ("LSWRP Application"), an action that was determined to be exempt from the California Environmental Quality Act ("CEQA") under Section 15378(b)(4) of the State CEQA Guidelines.

WHEREAS, in November 2024, Reclamation notified Metropolitan of Reclamation's intent to award Metropolitan up to $26,273,759 in federal grant funds.

WHEREAS, prior to an award, Reclamation requires Metropolitan to adopt a resolution verifying: (i) the identity of the Metropolitan official with legal authority to enter into an agreement, (ii) the board of directors, governing body, or appropriate official has reviewed and supports the application submitted, and
(iii) that Metropolitan will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

NOW, THEREFORE, BE IT RESOLVED that the Metropolitan Board of Directors ("Board") reviewed and supports the LSWRP Application.

BE IT FURTHER RESOLVED that, subject to board approval of a grant or cooperative agreement or, if an agreement is already in place, an amendment thereto, Metropolitan's General Manager or his/her designee will have the legal authority to enter into, as applicable, the agreement or amendment.

BE IT FURTHER RESOLVED by the Board that Metropolitan's General Manager or his/her designee will work with Reclamation to meet established program deadlines for entering into a grant or cooperative agreement.

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California at its meeting held November 19, 2024.

Lois Fong-Sakai

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

ATTACHMENT D:
DRAFT EIR GHG IMPACT ANALYSIS

- Draft EIR Section 5.0 Environmental Impact Analysis
- Draft EIR Section 5.6 Greenhouse Gas Emissions
- PWSC BNR Net N_2O Emissions Estimate Considering Ocean Nitrogen Discharge (LACSD, March 2025)
- Pure Water Greenhouse Gas Emissions Consistency with the Metropolitan Climate Action Plan Analysis (Rincon Consultants Inc., June 2024)

5.0 ENVIRONMENTAL IMPACT ANALYSIS

This chapter provides a detailed discussion and analysis of the potential environmental impacts associated with Pure Water, organized alphabetically by environmental resource category. For each environmental resource category, this discussion is divided as follows: (1) environmental setting/existing conditions; (2) regulatory framework; (3) significance thresholds; (4) environmental commitments; (5) impact analysis; (6) level of significance before mitigation; (7) mitigation measures; and (8) level of significance after mitigation.

5.0.1 Terminology

Environmental Setting/Existing Conditions – The environmental setting and existing physical conditions pertinent to the environmental resource category being addressed. Existing conditions at the time of NOP publication are used as the baseline for analysis of potential impacts, unless the EIR identifies a different baseline in the specific resource category section.

Regulatory Framework – The applicable plans, policies, regulations, and permitting requirements established by those federal, state, and local agencies with jurisdiction over Pure Water.

Significance Thresholds – The levels at which potential environmental impacts from implementation of Pure Water are determined to be significant. To assess significance, Metropolitan uses the impact criteria set forth in Appendix G of the CEQA Guidelines, supplemented where necessary with other applicable and appropriate criteria.

Environmental Commitments – Those measures that have been incorporated as part of Pure Water at the outset as part of responsible design and environmental stewardship. Environmental commitments are considered part of Pure Water as proposed, similar to its physical design features.

Impact Analysis – The analysis of the direct and reasonably foreseeable indirect potential impacts associated with implementation of Pure Water. Short-term impacts generally are associated with construction of Pure Water. Long-term impacts generally are associated with operation of Pure Water.

Level of Significance Before Mitigation – The level of significance of potential environmental impacts before adoption of any mitigation measures for Pure Water.

Mitigation Measures – Those measures that will be adopted and implemented to avoid, reduce, compensate, or otherwise mitigate any potentially significant environmental impacts associated with Pure Water.

Level of Significance After Mitigation – The level of significance of potential environmental impacts after adoption of mitigation measures for Pure Water.

5.0.2 Analytical Approach

The format, scope, and content of this chapter follows the requirements set forth in CEQA Guidelines Sections 15125 through 15126.4, and the reader generally is directed to those sections for more detail on such requirements. However, two areas regarding the analytical approach used to assess the potential environmental impacts of Pure Water are further discussed below.

5.0.2.1 Level of Analysis: Program vs. Project

As noted in Chapter 4, *Project Phasing and Detailed Description,* different levels of detail exist for the various facilities and components that would be part of Pure Water. In general, there currently is more detail and certainty with respect to the AWP Facility and the backbone pipeline, and less detail and certainty with respect to the proposed pump stations and service connections associated with the backbone conveyance system and recharge, DPR, non-potable water, and Sanitation Districts support facilities. As a result, this EIR assesses potential environmental impacts at different levels depending on the available information.

Specifically, for each environmental resource category, potential impacts first are analyzed on a program-level basis for Pure Water as a whole. This analysis takes a broader and more regional perspective, based on the anticipated location and overall footprint of the Pure Water facilities and components. Potential impacts then are further analyzed on a project-level basis for those facilities and components for which there is sufficient information. This analysis is more detailed and focused and is intended to fully assess potentially significant impacts associated with specific facilities, components, and activities.

In accordance with CEQA, those Pure Water facilities and components for which a project-level analysis has been completed would be subject to potential approval and implementation following certification of this EIR. In contrast, those facilities and components for which only a program-level analysis has been completed may require additional or supplemental environmental review and analysis prior to approval and implementation (PRC Section 21166; CEQA Guidelines Sections 15162-15164, 15168).

5.0.2.2 Reduction of Potential Impacts: Environmental Commitments vs. Mitigation Measures

For Pure Water, there are essentially two ways potential environmental impacts are being addressed.

The first way is through the incorporation of up-front measures that Metropolitan would undertake to protect the environment as part of Pure Water design and responsible environmental stewardship. In this EIR, such up-front measures are referred to as "environmental commitments" and are designated with the letters "EC." These environmental commitments generally encompass those legal requirements and standard practices that Metropolitan would follow for any project of this nature and scope (such as a Storm Water Pollution Prevention Plan), as well as actions driven by Metropolitan's own plans, policies, and directives (such as its Climate Action Plan [CAP]). For each resource category, these environmental commitments are described prior to the analysis of potential impacts. As with Pure Water's physical design features, and unless otherwise noted in the analysis of each resource category, these commitments are factored into the assessment of whether and to what extent Pure Water would have potentially significant impacts without mitigation.

The second way is through the adoption and implementation of feasible mitigation measures to reduce the potential impacts of Pure Water as currently proposed. In this EIR, such mitigation measures are designated with the letters "MM" and encompass measures specific to Pure Water to mitigate potential impacts not addressed through project design and environmental commitments. For each resource category, these mitigation measures are described following the analysis of potential impacts and then are used to assess whether and to what extent Pure Water would have potentially significant impacts even with mitigation.

It is important to note that while the distinction between environmental commitments and mitigation measures is relevant for analytical purposes, it does not alter the ultimate determination and conclusion of whether Pure Water would have potentially significant impacts with respect to any given resource category. All environmental commitments and mitigation measures identified in this EIR will be incorporated into the proposed mitigation monitoring and reporting program for Pure Water and thus will be fully enforceable if Pure Water is approved (CEQA Guidelines Section 15097).

5.0.3 Stewardship Programs, Plans, and Initiatives

As just noted, Pure Water would include specific environmental commitments and mitigation measures to address anticipated impacts of the program, both as designed and as built. Beyond this, Metropolitan has programs, plans, and initiatives aimed at fulfilling its mission to provide "its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way." In addition, Metropolitan and the Sanitation Districts are working together to ensure Pure Water is pursued in a manner that is sensitive to the communities that would be most affected by this program. The discussion below briefly summarizes those stewardship programs, plans, initiatives, and actions that are most pertinent to Pure Water. Where relevant to the environmental analysis, they are further discussed in later sections of this chapter.

5.0.3.1 Climate Action Plan

In May 2022, Metropolitan adopted a comprehensive CAP, which set a path to achieve the state's target goal of reducing greenhouse gas (GHG) emissions by 40 percent below 1990 levels and reaching carbon neutrality by 2045. The CAP sets targets and strategies for reducing GHG emissions from Metropolitan's operations, including the conveyance, storage, treatment, and delivery of water throughout its 5,200 square-mile Southern California service area. Pure Water was analyzed and included in the CAP through CAP Measure WC-6, which calls for the implementation of advanced technology systems to increase Metropolitan-owned recycled and groundwater recovery systems to maintain local water supply. Specifically, the CAP analyzed the construction and operational GHG emissions estimated from Pure Water, including up to 40 miles of pipelines, three pump stations, and groundwater recharge activities. (Metropolitan 2022).

5.0.3.2 Climate Adaptation Master Plan for Water

Metropolitan is developing a Climate Adaptation Master Plan for Water (CAMP4W) to address the challenges presented by climate change. CAMP4W takes a holistic approach that considers both water supply needs and financial constraints. CAMP4W is focused on expanding Metropolitan's water resource portfolio and improving the resilience and reliability of its system, while ensuring that investments are made with an eye toward affordability and financial sustainability. Once adopted, CAMP4W would provide a roadmap guiding Metropolitan's future selection and investment in various capital projects, including Pure Water, as it confronts the new climate reality in the years ahead (Metropolitan 2025a).

5.0.3.3 Sustainability, Resilience, and Innovation Initiatives

In addition to its CAP and CAMP4W, Metropolitan has other initiatives focused on environmental stewardship that are overseen and managed by its Office of Sustainability, Resilience, and Innovation. These include initiatives aimed at transitioning Metropolitan's fleet to zero emission vehicles; identifying and pursuing alternative sources of green energy; promoting innovative approaches to local water

supply development and conservation; supporting research, evaluation, and pilot studies of water- and energy-saving technologies; managing and mitigating fire risks associated with Metropolitan's operations; and providing education and training to staff on ways to deliver more sustainable infrastructure (Metropolitan 2025b). These initiatives are expected to help inform and guide implementation of Pure Water as it moves forward.

5.0.3.4 Envision Framework and ASCE Standard for Sustainable Infrastructure

The Institute for Sustainable Infrastructure (ISI) is an education and research nonprofit established in 2010 by the American Public Works Association, the American Society of Civil Engineers (ASCE), and the American Council of Engineering Companies. ISI's core mission is to "help communities around the world build sustainable, resilient, and equitable civil infrastructure" (ISI 2025a). In 2011, ISI published the first version of Envision, a framework and rating system aimed at helping agencies and professionals plan, design, and deliver such infrastructure. The Envision framework has been updated twice since then and a third update is expected in 2028 (ISI 2025b). In support of ISI's mission, ASCE published the Standard Practice for Sustainable Infrastructure, ASCE/COS 73-23 in October 2023. This first-of-its-kind standard "provides guidance for infrastructure owners to develop and implement sustainable solutions throughout a project's entire life cycle" (ASCE 2023). Metropolitan and the Sanitation Districts intend to seek Envision verification for Pure Water and to follow ASCE/COS 73-23 where appropriate.

5.0.3.5 Workforce Development

As noted in prior chapters, Metropolitan and the Sanitation Districts plan to establish a Workforce Training Center as part of the Joint Treatment Site in the City of Carson, which would provide education, training, and certification in a wide variety of trades. This center would offer career pathways related to Pure Water, as well as opportunities across the broader water supply, wastewater management, and treatment sectors. In addition, Pure Water would be constructed under a Project Labor Agreement, which would ensure fair wages, offer robust training, and prioritize hiring local and transitional workers.

5.0.3.6 Community Improvements and Benefits

In carrying out their missions, Metropolitan and the Sanitation Districts recognize the importance of being mindful of and respectful to the communities in which they operate. As such, these agencies have taken an expansive approach to addressing the potential impacts of Pure Water on surrounding communities. Indeed, many of the environmental measures and actions being proposed go beyond the minimums required to address program needs and CEQA mandates.

For example, construction at the Joint Treatment Site would require eight on-site oil wells to be plugged or replugged. However, as part of Pure Water, the Sanitation Districts also are planning to pursue closure of four other oil wells (three active and one idle) located within its property boundary, even though it is not necessary for construction or operation at the Joint Treatment Site. Closure of these wells would eliminate a potential source of pollution and represent a benefit to those who live and work in proximity to the Warren Facility.

As another example, to mitigate potential GHG emissions associated with Pure Water, at least 1.5 MW of solar panels and 115 EV charging stations would be installed at the Joint Treatment Site. But in addition, Metropolitan and the Sanitation Districts are exploring other ways to further offset GHG emissions above that required by CEQA. These might include utilizing onsite renewable energy sources during construction and operation of facilities at the Joint Treatment Site, purchasing renewable energy

credits during operation of Pure Water, planting additional trees and vegetation within the footprint of its facilities and components, and incorporating other green features into the program.

Lastly, Metropolitan and the Sanitation Districts are exploring potential development of a community benefits program. Though voluntary, these types of programs are common for large infrastructure projects and are intended to offset economic, social, or other effects that are not addressed under CEQA or through compliance with other laws, rules, and regulations. Such funds can be and often are used in support of environmentally friendly projects, such as local parks, recreational facilities, and green spaces.

5.0.3.7 Outreach Charter and Good Neighbor Guidelines

Fostering an inclusive community outreach program is an integral part of Pure Water. Metropolitan and the Sanitation Districts have established an outreach charter with an emphasis on engaging underserved communities. As part of this charter, Metropolitan and the Sanitation Districts are committed to listening to, communicating with, and involving residents and community members in the development and implementation of Pure Water.

Metropolitan and the Sanitation Districts also are committed to following "good neighbor guidelines" for Pure Water when undertaking work in areas that may impact neighborhoods, homes, and businesses. This includes communicating potential impacts, responding to inquiries in a timely manner, and maintaining an active dialogue with affected communities, both before and during construction. It also includes collaborating with local communities to minimize the impact of such work and restoring impacted areas to their original condition or better.

5.0.4 References

American Society of Civil Engineers (ASCE). 2023. Standard Practice for Sustainable Infrastructure (73-23). October.

Institute for Sustainable Infrastructure (IS). 2025a. About the Institute for Sustainable Infrastructure. Available at: About ISI – Institute for Sustainable Infrastructure.

Institute for Sustainable Infrastructure (ISI). 2025b. About Envision. Available at: About Envision – Institute for Sustainable Infrastructure.

The Metropolitan Water District of Southern California (Metropolitan). 2025a. Addressing Climate Change. Available at: MWD | Addressing Climate Change.

The Metropolitan Water District of Southern California (Metropolitan). 2025b. Overview of Sustainability, Resilience & Innovation.

The Metropolitan Water District of Southern California (Metropolitan). 2022. Climate Action Plan. May.

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5.6 GREENHOUSE GAS EMISSIONS

This section addresses the potential greenhouse gas (GHG) emissions impacts of Pure Water. The following discussion includes a description of existing conditions, a summary of applicable laws and regulations, and an evaluation of potential impacts. As noted at the beginning of this chapter, potential impacts associated with construction and operation of Pure Water's facilities and components have been analyzed at the program level. The potential impacts associated with certain facilities and components are further analyzed at a project level where sufficient information is available.

The chart below identifies those Pure Water facilities and components for which a project-level analysis is being provided as part of this section.

GREENHOUSE GAS EMISSIONS LEVEL OF ANALYSIS	
Components	**Project Level?**
Joint Treatment Site	
• AWP Facility	Yes
• Warren Facility Improvements	Yes
• Workforce Training Center	Yes
Backbone Conveyance System	
• Backbone Pipeline	Yes
• Backbone Pump Stations[1]	Yes
• Service Connections	No
DPR Facilities (for Weymouth or Satellite Location)	No
Recharge Facilities	No
Non-potable Water Facilities	No
Sanitation Districts Support Facilities	No

[1] While the specific locations for the pump stations are currently not known, they are analyzed at the project-level for this GHG analysis since GHG impacts are not location-specific.

The program-level analysis is based on readily available, general information derived from applicable resources and planning documents. The project-level analysis further considers and is based on the information, data, assumptions, and methodologies presented in the Air Quality, Greenhouse Gas Emissions, and Energy Technical Report prepared for the Joint Treatment Site and backbone conveyance system (HELIX 2025; Appendix B).

5.6.1 Existing Conditions

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. Climate change is the result of numerous, cumulative sources of GHG emissions contributing to the "greenhouse effect," a natural occurrence that takes place in Earth's atmosphere and helps regulate the temperature of the planet. GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include, but are not limited to, the following (USEPA 2024a):

- **Carbon Dioxide (CO_2).** Carbon dioxide is the primary form in which carbon exists in the

atmosphere and is produced primarily by fossil fuel combustion, forest clearing, biomass burning, and some non-energy production processes, such as cement production.

- **Methane.** Methane is a hydrocarbon that is a primary component of natural gas. Methane emissions are generated by the anaerobic decomposition of organic matter in biological systems and are generated mainly by agricultural activities (e.g., rice cultivation, enteric fermentation in animals, decomposition of animal wastes), decomposition of municipal solid wastes, wastewater treatment, production and distribution of natural gas and petroleum, incomplete fossil fuel combustion, and coal mining.

- **Nitrous Oxide.** Nitrous oxide is a compound released primarily by agricultural soils (due to the application of fertilizers, manure deposition, and production of nitrogen-fixing crops), fossil fuel combustion, wastewater treatment, waste incineration, and biomass burning.

- **Hydrofluorocarbons.** Hydrofluorocarbons are primarily used as replacements for ozone-depleting substances in refrigeration, air conditioning, insulating foams, and aerosol propellants and are emitted through wear, faulty maintenance, and/or leakage over the lifetime of these products.

- **Perfluorocarbons and Sulfur Hexafluoride.** Perfluorocarbons and sulfur hexafluoride are emitted primarily by industrial processes such as aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting.

Different types of GHGs have varying global warming potentials. The global warming potential of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its global warming potential. Carbon dioxide has a 100-year global warming potential of one. By contrast, methane has a global warming potential of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).[1]

Anthropogenic activities since the beginning of the Industrial Revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the concentration of GHGs in the atmosphere that trap heat. Since the late 1700s, estimated concentrations of CO_2 in the atmosphere have increased by 49 percent, primarily due to human activity (USEPA 2024b). GHG emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of Sierra Nevada snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018). For additional background information and context on GHG emissions and climate change, refer to Appendix B of the EIR.

[1] The IPCC's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2022 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the IPCC's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

5.6.2 Regulatory Framework

This section describes the plans, policies, and regulations related to GHG emissions that are applicable to Pure Water. A more detailed discussion of the regulatory framework pertaining to GHG emissions is provided in Appendix B of the EIR.

5.6.2.1 Federal

Federal Clean Air Act

The federal Clean Air Act does not specifically regulate GHG emissions; however, the United States Supreme Court in the case of *Massachusetts v. U.S. Environmental Protection Agency, et al.,* 549 U.S. 497 (2007) determined that GHGs are air pollutants that can be regulated under the federal Clean Air Act. Currently, there are no federal regulations that set ambient air quality standards for GHGs.

5.6.2.2 State

Legislation and Executive Orders

California continues to lead the global effort of mitigating and adapting to climate change through progressive legislative and executive direction. Such actions have established a series of increasingly stringent GHG emissions reduction goals and targets intended to help reduce and reverse the effects of global climate change. These goals and targets include the following:

- **Senate Bill (SB) 32.** SB 32 serves as an update to the emissions reduction target codified under AB 32, the California Global Warming Solutions Act of 2006 (Health & Safety Code section 38500 *et seq*.). Signed into law in 2016, SB 32 establishes a statewide GHG emissions reduction target of 40 percent below 1990 levels by 2030.

- **Executive Order (EO) B-55-18.** On September 10, 2018, the governor issued EO B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter.

- **Assembly Bill (AB) 1279**. Signed into law in 2022, AB 1279 (The California Climate Crisis Act; Health & Safety Code section 38562.2) declares the policy of the state is both to achieve net zero GHG emissions as soon as possible, but no later than 2045, and maintain net negative GHG emissions thereafter and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels.

California Air Resources Board 2022 Scoping Plan

On December 15, 2022, CARB adopted the 2022 Scoping Plan. The 2022 Scoping Plan sets a target of reducing emissions to 85 percent below 1990 levels by 2045 and outlines a technologically feasible, cost-effective, and equity-focused path to achieve carbon neutrality by 2045. As with previous scoping plans, the 2022 Scoping Plan does not provide project-level thresholds of significance. Instead, it recommends local governments implement climate strategies consistent with the 2022 Scoping Plan Appendix D: Local Actions (CARB 2022). The 2022 Scoping Plan also assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan.

CEQA Guidelines Requirements for Analysis of GHG Emissions

CEQA Guidelines Section 15064.4(a) indicates public agencies should make a careful judgment in determining the significance of GHG emissions under CEQA. Public agencies shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. A public agency shall have discretion to determine, in the context of a particular project, whether to quantify GHG emissions resulting from the project and/or rely on a qualitative analysis or performance-based standards.

Additionally, CEQA Guidelines Section 15064.4(b) states that lead agencies should focus GHG analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change when determining the significance of a project's GHG emissions. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national, or global emissions. A lead agency's analysis should consider a timeframe that is appropriate for the project and also must reasonably reflect evolving scientific knowledge and state regulatory schemes.

CEQA Guidelines Section 15183.5(b) states public agencies may choose to analyze and mitigate significant GHG emissions in a plan for the reduction of GHG emissions or similar document, and such a plan may be used in a cumulative impacts analysis of GHG emissions. Pursuant to CEQA Guidelines Section 15183.5(b)(1), the plan for the reduction of GHG emissions should:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and
- Be adopted in a public process following environmental review.

Consistent with CEQA Guidelines Sections 15064(h)(3) and 15130(d), CEQA Guidelines Section 15183.5(b)(2) states a plan for the reduction of GHG emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used for later projects in the cumulative impacts analysis for GHG emissions. An environmental document that relies on a GHG reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not already incorporated into the project or otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable, notwithstanding the project's compliance with the specified requirements in the plan for the reduction of GHG emissions, an EIR must be prepared for the project.

5.6.2.3 Local

South Coast Air Quality Management District

Pure Water is located within the jurisdiction of the SCAQMD. In December 2008, SCAQMD adopted a threshold of 10,000 MT of CO_2 per year for industrial facilities with respect to projects where SCAQMD is the lead agency (SCAQMD 2008). However, SCAQMD's threshold is not applicable to Pure Water because SCAQMD is not the lead agency for the project under CEQA. In addition, Metropolitan has adopted a qualified CAP that enables streamlining of GHG emissions analyses pursuant to CEQA Guidelines Section 15183.5(b)(2), as discussed further in the following subsection.

The Metropolitan Water District of Southern California Climate Action Plan

In May 2022, Metropolitan adopted a CAP and certified the associated EIR. The CAP sets targets for reducing GHG emissions from Metropolitan's operations, including the conveyance, storage, treatment, and delivery of water to its 26 member agencies. The CAP informs policy and planning decisions and establishes a feasible and implementable way to reach its GHG emissions reduction target. As outlined in Section 1.1 of Metropolitan's CAP, the CAP meets all the required elements of a qualified GHG emissions reduction plan and is in compliance with CEQA Guidelines Section 15183.5(b)(1) (described previously in Section 5.6.2.2 of this EIR).

Metropolitan used an emissions inventory and forecast to provide a basis for establishing targets for future GHG reductions. Metropolitan established a 2030 target of 40 percent below 1990 levels for GHG emissions reduction to achieve consistency with SB 32 and a 2045 target of carbon neutrality consistent with AB 1279, which codifies the state's goal of achieving carbon neutrality by 2045 that was initially set forth in EO B-55-18. Metropolitan is tracking its GHG emissions annually using a carbon budget approach. The carbon budget is analogous to a tank with a set capacity, or a total mass emission cap, between emissions level in 2005 and carbon neutrality in 2045. All the emissions from Metropolitan's operations go into this "tank" each year. The total capacity of the "tank" is Metropolitan's total emissions budget, and over time that "tank" fills up. As long as Metropolitan operations produce fewer GHG emissions than can fit in the tank, the identified targets will be achieved regardless of emissions produced during any particular year. Metropolitan's total carbon budget was calculated in Section 4.3 of the CAP and is based on the total emissions that can be generated between 2005 and 2045 while still achieving Metropolitan's 2030 and 2045 GHG emissions reduction targets (Metropolitan 2022). Additionally, Metropolitan is committed to preparing annual CAP progress reports to track GHG emissions against the carbon budget as well as a CAP update every five years to achieve carbon neutrality by 2045.

The CAP includes a suite of 42 GHG emissions reduction measures that would reduce Metropolitan's GHG emissions and achieve carbon neutrality while also providing improved infrastructure reliability, increased energy resiliency, and decreased costs associated with energy procurement and maintenance. GHG reduction measures included in the CAP include, but are not limited to, phasing out natural gas combustion, converting to a zero-emissions vehicle fleet, using alternative low-carbon intensity fuels, utilizing low-carbon and carbon-free electricity, improving energy efficiency, increasing waste diversion, and increasing water conservation and local water supplies (Metropolitan 2022).

The Metropolitan Water District of Southern California Greenhouse Gas Inventory

As part of Metropolitan's ongoing CAP implementation and monitoring efforts, annual GHG inventory updates are maintained. **Table 5.6-1** provides the results of the latest year for which a complete inventory is available (Metropolitan 2024). In 2022, Metropolitan's GHG emissions totaled 336,560 MT of CO_2e.

Table 5.6-1
METROPOLITAN 2022 GREENHOUSE GAS EMISSIONS BY SCOPE

Scope	Sector	2012 MT CO_2e [1]
Scope 1	Mobile Emissions	6,315 (2%)
	Stationary Emissions	1,324 (<1%)
	SF_6/HFC Emissions	53 (<1%)
Scope 2	Electricity	312,206 (93%)
	Transmission and Distribution Losses	5,922 (2%)
Scope 3	All other Indirect Emissions	10,740 (3%)
	Total	**336,560**

Source: Metropolitan 2024
[1] Percentages may not total 100 due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

Pure Water as Included in Metropolitan's Climate Action Plan

Pure Water was analyzed and included in the CAP as the Regional Recycled Water Program (RRWP) through CAP Measure WC-6, which calls for the implementation of advanced technology systems to increase Metropolitan-owned recycled and groundwater recovery systems to maintain local water supply. Specifically, the CAP analyzed the RRWP as including construction and operation of an Advanced Water Treatment Plant (synonymous with the AWP Facility currently proposed), approximately 40 miles of pipelines, three pumping stations, and groundwater injection sites. Construction emission estimates in the CAP included emissions from construction equipment fuel consumption, labor travel, and temporary electric power usage. Operational emissions included an analysis of both electricity use and process emissions due to the consumption of carbon supplement and nitrous oxide (N_2O) generation. Emissions associated with electricity were modeled within the CAP assuming 100 percent of electricity purchased would be from the retail market. With the implementation of SB 100, GHG emissions from electricity consumed at the Advanced Water Treatment Plant would be gradually reduced to ultimately zero MT of CO_2e by 2045. Process N_2O is generated as an unintended by-product of nitrification and denitrification during the treatment of wastewater. The CAP assumed a carbon supplement, such as glycerin-based MicroC-2000, would be added to the cleaned wastewater to support both denitrification and biological phosphorus removal. The oxidation of the supplemental carbon would result in the release of CO_2. Construction and operational emissions estimated for the RRWP are presented in Tables 28 through 31 of Appendix B to the CAP. These tables have been reproduced below as **Tables 5.6-2** through **5.6-5**. For additional details regarding these estimates, please refer to the CAP.

Table 5.6-2
TOTAL CONSTRUCTION EMISSIONS FOR RRWP (I.E., THE PURE WATER PROJECT) REPORTED WITHIN THE CAP

System	Absolute Emissions (MT CO_2e)
Advanced Water Treatment	10,895
Pipelines	70,506
Pump Stations	633
Well Facilities	383
Total	**82,417**
6 Year Annual	13,736

Source: Metropolitan CAP Appendix B Table 28
MT = metric tons; CO_2e = carbon dioxide equivalent

Table 5.6-3
PROCESS OPERATIONAL EMISSIONS FOR RRWP REPORTED WITHIN THE CAP

System	Process Emissions (MT CO_2e per Year)
Process N_2O	5,340
MicroC-2000	22,271

Source: Metropolitan CAP Appendix B Table 29
MT = metric tons; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide

Table 5.6-4
ELECTRICITY EMISSIONS OVER TIME FOR RRWP OPERATIONS REPORTED WITHIN THE CAP

Year	Emissions (MT CO_2e per Year)
2031	84,090
2035	60,064
2040	30,032
2045	-

Source: Metropolitan CAP Appendix B Table 30
MT = metric tons; CO_2e = carbon dioxide equivalent

Table 5.6-5
OVERALL ESTIMATED RRWP EMISSIONS REPORTED WITHIN THE CAP

Year	Emissions (MT CO_2e)
2025 (construction)	13,736
2030 (construction)	13,736
2035 (operational)	87,675
2040 (operational)	57,643
2045 (operational)	27,611

Source: Metropolitan CAP Appendix B Table 31
MT = metric tons; CO_2e = carbon dioxide equivalent

5.6.3 Significance Thresholds

The following criteria from Appendix G of the CEQA Guidelines are used to determine the significance of impacts of Pure Water as related to GHG emissions. Pure Water would have a significant impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The determination of significance is governed by CEQA Guidelines 15064.4, entitled "Determining the Significance of Impacts from Greenhouse Gas Emissions." CEQA Guidelines 15064.4(a) states, "[t]he determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to … [use a quantitative model or qualitative model]". In turn, CEQA Guidelines 15064.4(b) clarifies that a lead agency should consider "Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project."

CEQA Guidelines Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), as long as any threshold chosen is supported by substantial evidence (see CEQA Guidelines Section 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (CEQA Guidelines Section 15130). It is noted that the CEQA Guidelines were amended in March of 2010 in response to SB 97 to specify that compliance with a GHG emissions reduction plan renders a cumulative impact less than significant (CEQA Guidelines Section 15183.5(b)).

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183.5(b) allows a lead agency to make a finding of a less-than-significant impact for cumulative GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

Metropolitan's CAP, adopted May 10, 2022, is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5. Projects consistent with an applicable local qualified GHG reduction plan are eligible for streamlined GHG analysis. The CAP identifies actions to reduce Metropolitan's carbon footprint in accordance with California's goals to cut GHG emissions by 40 percent from 1990 levels by 2030 and achieve complete carbon neutrality by 2045. Projects which are consistent with the CAP would therefore be consistent with statewide GHG reduction goals for 2030 and 2045. Therefore, this analysis determines the significance of GHG impacts based on consistency with Metropolitan's CAP.

5.6.4 Environmental Commitments

As described in Section 5.0.2.2, ECs represent up-front measures that Metropolitan would undertake as part of responsible design and environmental stewardship. The ECs relevant to this environmental resource category are listed below and are considered within the impact analysis to determine the extent of potential impacts prior to mitigation; however, to remain conservative, GHG-EC-1 through GHG-EC-3 were not quantified in the calculations presented in Section 5.6.5.

GHG-EC-1 **Onsite Renewable Energy.** Metropolitan shall install photovoltaic solar panels with a total power rating of at least 1.5 megawatts at the Joint Treatment Site.

GHG-EC-2 **Electric Vehicle Charging.** Metropolitan shall install 100 Level 2 and 15 Level 3 electric vehicle chargers at the Joint Treatment Site.

GHG-EC-3 **Energy Recovery.** Metropolitan shall install inter-stage pumps in the reverse osmosis system to reduce energy use. Metropolitan shall also install Energy Recovery Devices on the concentrate pumping systems to recover energy.

GHG-EC-4 **Biogenic Carbon Supplement.** Metropolitan shall add a biogenic carbon supplement, such as glycerin-based MicroC-2000 manufactured by Environmental Operating Solutions, Inc., to support both denitrification and biological phosphorus removal at the Advanced Water Purification (AWP) Facility.

5.6.5 Impact Analysis

5.6.5.1 Topic 1: GHG Emissions

Would Pure Water generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Program-Level Analysis

The level of detail provided in this analysis corresponds to the specificity of the project description. Given the programmatic nature of Pure Water, the available information does not support precise emissions calculations. As a result, a quantitative assessment would be speculative and is not provided. Instead, this analysis relies on a qualitative approach (CEQA Guidelines Sections 15064.4, 15146, 15145, 15004). To ensure a meaningful environmental assessment, each subsequent discretionary project evaluated under this EIR will undergo its own independent CEQA review. These future analyses will incorporate more detailed, site-specific evaluations as project designs are refined and additional data become available.

As outlined in Section 1.1 of Metropolitan's CAP, the CAP meets the requirements of CEQA Guidelines Section 15183.5(b)(1) for a qualified GHG emissions reduction plan (Metropolitan 2022). As a result, pursuant to CEQA Guidelines Section 15064.4, 15183.5(a), and 15183.5(b), Metropolitan can streamline the CEQA review of its projects using the GHG emissions analysis completed for the CAP if the proposed project is consistent with the adopted CAP. Therefore, this analysis relies on the streamlining provisions of CEQA Guidelines Section 15183.5 to determine whether Pure Water would generate GHG emissions that may have a significant impact on the environment by evaluating whether Pure Water would be consistent with the CAP. Pure Water would be consistent with the CAP if its emissions are within Metropolitan's carbon budget and it incorporates applicable reduction measures from the CAP.

The carbon budget is how Metropolitan monitors if it is meeting the targets established by the CAP and demonstrating consistency with California regulations including SB 32 and AB 1279. Section 6.0, Implementation and Monitoring, of the CAP details the implementation strategy and monitoring plan to maintain accuracy and adapt to changing conditions. The CAP requires Metropolitan to prepare annual progress reports, including updating the carbon budget, to demonstrate successes and areas for continued improvement. Metropolitan will update the CAP every five years to capture new research developments and identify new, adapted, or expanded strategies. Refinements to emissions forecasts are anticipated and planned for within the CAP.

The CAP also includes a number of strategies and measures to reduce GHG emissions. Those strategies and measures applicable to Pure Water and how Pure Water would comply are described below:

CAP Strategy 3: Use alternative fuels to bridge the technology gap to zero-emission vehicles and equipment.

> In accordance with **GHG-EC-1** and **GHG-EC-2**, Pure Water would include installation of 100 EV charging stations and 1.5 MW of onsite solar panels. Additionally, mitigation measure **AQ-MM-2** requires the use of alternative fueled construction equipment as practical. Therefore, Pure Water would be consistent with CAP Strategy 3 calling for the use of alternative fuels.

CAP Measure Energy Efficiency-5: If the proposed RRWP is ultimately constructed, install an inter-stage pumping system on the reverse osmosis brine stream to reduce energy use.

> In accordance with **GHG-EC-3**, the RO system would include inter-stage pumps between the first and second stages as well as between second and third stages for improved operational performance to reduce energy use. Energy Recovery Devices would also be installed on the concentrate pumping systems to recover energy and have been included in the conceptual design for the facilities plan. As such, Pure Water would be consistent with CAP Measure Energy Efficiency-5.

CAP Measure Water Conservation-6: Implement advanced technology systems to increase Metropolitan-owned recycled and groundwater recovery systems to maintain local water supply (e.g., proposed RRWP).

> CAP Measure Water Conservation-6 calls for Metropolitan's implementation of advanced technology systems to increase recycled and groundwater recovery systems. Pure Water would utilize an AWP system, which is an advanced technology system, to substantially increase the amount of local water available, including through groundwater recharge and recovery.

CAP Strategy 6: Metropolitan has also committed to emission reduction measures to incentivize more sustainable commutes in its CAP. Existing Metropolitan programs include public transit subsidies, carpool and vanpool incentives, bike to work support, flexible schedules and telecommuting, and the emergency ride home program. These programs would be expanded to employees at the Joint Treatment Site. As such, Pure Water would be consistent with the following CAP Strategy 6 measures:

- **CAP Measure Employee Commute-1:** Expand subsidized transit commute program to reduce employee commute miles.

- **CAP Measure Employee Commute-2:** Expand employee use of carbon-free and low carbon transportation by providing education programs on the benefits of commute options including public transportation, EV/ZEV options, and vanpools.

- **CAP Measure Employee Commute-4:** Continue to offer benefits to employees who use alternative modes of transportation (e.g., public transportation, bikes).

Based on this information, Pure Water would be consistent with Metropolitan's qualified CAP. Impacts related to GHG emissions would be **less than significant**.

Project-Level Analysis

Pure Water would generate GHG emissions during construction and operation. CEQA Guidelines Section 15064.4(a) states that a lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Therefore, GHG emissions are estimated for the components of Pure Water analyzed at the project level for the GHG analysis (AWP Facility, Warren Facility improvements, Workforce Training Center, backbone pipeline, and backbone pump stations).

Construction Emissions

Construction emissions for the components of Pure Water analyzed at the project level for this GHG analysis were estimated using the methods and assumptions described in Appendix B and are provided below.

Joint Treatment Site

Construction would require the use of equipment throughout the Joint Treatment Site for the full term of construction. Construction would be completed in two phases, generally encompassing clearing, demolition of existing structures and pavements, hazardous soils removal, excavation, above-grade construction, and paving. Approximately 53,705 cubic yards of debris would be generated as a result of clearing and demolition of existing structures and pavement and would be hauled away. The volume of mass excavation would be approximately 552,000 cubic yards of soil for Phase 1 and approximately 154,000 cubic yards for Phase 2. It is assumed that 20 percent, or approximately 141,000 cubic yards, of the soil excavated would be classified as hazardous and require export for disposal at a Class II landfill. The rest of the excavated soil would be reused on site.

The results of the calculations for construction-related GHG emissions of the Joint Treatment Site are shown in **Table 5.6-6**. The data are presented as the total anticipated emissions by construction activity.

Table 5.6-6
JOINT TREATMENT SITE CONSTRUCTION GHG EMISSIONS

Construction Activity	Emissions (MT CO_2e)
Phase 1: 30 MGD (Initial Delivery)	
Clear & Grub, Utility Relocation, Shop Demo & Waste Haul Off	283
Hazardous Soils Removal	528
Mass Excavation & Haul Off	718
Structural Excavation and Foundation Prep	175
Yard Piping	162
Above Grade Facilities, Equipment, and Site Improvements	2,369
Roofing & Exterior Cladding	95
Paving & Striping	219
Phase 1: Additional 85 MGD (115 MGD Total)	
Above Grade Facilities, Equipment, and Site Improvements	2,255
Paving & Striping	69
Storm Drain Culvert	46
Roofing & Exterior Cladding	50
Phase 2: Additional 35 MGD (150 MGD Total)	
Hazardous Soils Removal	64
Structural Excavation, Haul Off, and Foundation prep	137
Yard Piping	109
Process Equipment Set and Above Grade Process Piping Installation	1,099
Roofing & Exterior Cladding	13
Paving	24
Total Construction Emissions	**8,415**

Note: Modeling data are provided in Appendix B

MT = metric tons; CO_2e = carbon dioxide equivalent; MGD = million gallons per day

Backbone Conveyance System

Backbone Pipeline

Construction of the backbone pipeline would result in temporary increases in GHG emissions generated from both off-road equipment operating onsite and on-road vehicles (worker commute, haul truck, and vendor delivery vehicles) traveling offsite. Construction of the backbone pipeline would include open trenching, pipe jacking, and tunneling methods, which would generally involve site preparation, excavation, pipe installation, backfilling, and repaving (where required). The results of the calculations for backbone pipeline construction-related GHG emissions by year are shown in **Table 5.6-7**. Given the backbone pipeline includes numerous overlapping construction activities across the eight reaches, the data are presented as the total anticipated emissions for each year.

Table 5.6-7
BACKBONE PIPELINE CONSTRUCTION GHG EMISSIONS BY YEAR

Year	Emissions (MT CO_2e)
2026	1,995
2027	11,060
2028	13,304
2029	12,773
2030	19,220
2031	8,411
2032	2,496
Total Construction Emissions	**69,259**

Note: Modeling data are provided in Appendix B
MT = metric tons; CO_2e = carbon dioxide equivalent

Pump Stations

Construction of the backbone pump stations (Sante Fe Pump Station and Whittier Narrows Pump Station) would result in temporary increases in GHG emissions generated from both off-road equipment operating onsite and on-road vehicles traveling offsite. Construction is expected to require demolition, site preparation, grading, above-ground building construction, paving, and architectural coatings.

The results of the calculations for construction-related GHG emissions of the backbone pump stations are shown in **Table 5.6-8**. The data are presented as the total anticipated emissions by construction activity.

Table 5.6-8
BACKBONE PUMP STATION CONSTRUCTION GHG EMISSIONS

Construction Activity	Emissions (MT CO_2e)
Santa Fe Pump Station	
Demolition	82
Site Preparation	67
Grading	254
Building Construction	454
Paving	32
Architectural Coatings	2
Whittier Narrows Pump Station	
Demolition	78
Site Preparation	69
Grading	254
Building Construction	459
Paving	32
Architectural Coatings	2
Total Construction Emissions	**1,784**

Note: Modeling data are provided in Appendix B. Totals may not add due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

Summary of Construction Emissions

The combined results of the GHG emissions calculations for construction at the Joint Treatment Site, backbone pipeline, and backbone pump stations are shown in **Table 5.6-9**.

Table 5.6-9
TOTAL CONSTRUCTION GHG EMISSIONS

Project Component	Emissions (MT CO_2e)
Joint Treatment Site (Table 5.6-6)	8,415
Backbone Pipeline (Table 5.6-7)	69,259
Backbone Pump Stations (Table 5.6-8)	1,784
Total Construction Emissions	**79,458**

Note: Modeling data are provided in Appendix B

MT = metric tons; CO_2e = carbon dioxide equivalent

Operational Emissions

Joint Treatment Site

Operational sources of GHG emissions at the Joint Treatment Site would include electricity consumption, nitrification/denitrification, carbon supplementation, mobile sources, and stationary sources. Specifically, electricity would be required for operation of equipment (e.g., treatment process pumps, mixers, blowers, and product water conveyance pumps) and facilities (e.g., lighting and heating, ventilation, and air conditioning systems). N_2O is generated as an unintended by-product of nitrification and denitrification during the treatment of wastewater. Pure Water is also expected to reduce the nitrogen load discharged to the ocean and the associated N_2O emissions (Sanitation Districts 2025). Inclusion of the ocean discharge component is consistent with CEQA Guidelines sections 15064(d), in general, and 15064.4(a), specifically, to fully consider and account for Pure Water's GHG impact. A carbon supplement, such as glycerin-based MicroC-2000 manufactured by Environmental Operating Solutions, Inc. (EOSi), would be added to support both denitrification and biological phosphorus removal. The oxidation of the supplemental carbon would result in the release of CO_2; however, this associated GHG footprint would be reduced or eliminated by using supplemental carbon derived from biogenic[2] sources. The "biobased content" of supplemental carbon products can be independently verified by the United States Department of Agriculture's BioPreferred® Program. Several supplemental carbon products have already been certified under BioPreferred® as 100 percent biogenic. As Pure Water would use biobased carbon supplements, if needed based on the nitrogen content of the water, the associated CO_2 emissions do not need to be included in the Scope 1 emission reporting in accordance with IPCC Guidelines (Jacobs 2024). As such, emissions associated with use of supplemental carbon, such as MicroC-2000, are not included in the totals for Pure Water emissions for the purposes of this CEQA analysis.

[2] Biogenic CO_2 refers to CO_2 released from organic matter like plants and animals, essentially part of the natural carbon cycle, while non-biogenic CO_2 comes from fossil fuels, which are carbon sources that have been stored underground for millions of years and are not considered part of the active carbon cycle, meaning burning them adds new carbon to the atmosphere, significantly contributing to climate change; essentially, biogenic CO_2 is considered "recycled" carbon while non-biogenic CO_2 is "new" carbon to the atmosphere.

Mobile sources would include worker/trainee commutes trips, visitor trips, and vendor delivery trips. Stationary sources would include eight backup generators at the AWP Facility that would each be operated for testing/maintenance no more than 1 hour in any single day and up to 30 hours per year. Additional details are provided in Appendix B.

Operational GHG emissions generated by full buildout capacity of 150 MGD from the Joint Treatment Site are shown in **Table 5.6-10**. The data are presented as annual emissions for the year 2036 by source type.

Table 5.6-10
JOINT TREATMENT SITE ANNUAL OPERATIONAL GHG EMISSIONS (2036)

Source	Emissions (MT CO_2e)
Electricity Consumption	55,338
Nitrification/Denitrification	41,668
Mobile	1,012
Stationary	393
Supplemental carbon (biogenic)[1]	15,717
Total Joint Treatment Site Operational Emissions	**98,412**

Note: Total may not add due to rounding. Modeling data are provided in Appendix B

MT = metric tons; CO_2e = carbon dioxide equivalent

[1] Not included in total.

Backbone Conveyance System

Backbone Pipeline

Following construction, the backbone pipeline would not generate emissions or consume energy. There would be some minimal operations including ongoing inspection and maintenance activities associated with the pipeline (e.g., light-duty vehicle trips for patrolling and inspection, minor grading of patrol roads), but emissions or energy consumed would be negligible.

Pump Stations

GHG emissions associated with operation of the backbone pump stations (Sante Fe Pump Station and Whittier Narrows Pump Station) would be generated by the regular testing of the standby generators (stationary sources) and electricity consumed by the pumps used to convey water. Operational emissions generated by the pump stations are shown in **Table 5.6-11**. The data are presented as the annual emissions for the 2036 buildout year by source type. It should be noted there would be occasional trips made by workers visiting the pump station sites for ongoing operations and maintenance; however, these light-duty vehicle trips would be minimal, thereby resulting in negligible emissions.

Table 5.6-11
PUMP STATION ANNUAL OPERATIONAL GHG EMISSIONS (2036)

Source	Emissions (MT CO_2e)
Backbone Pump Station Stationary	10
Backbone Pump Station Electricity Consumption	17,440
Total Pump Station Operational Emissions	**17,450**

Note: Modeling data are provided in Appendix B
MT = metric tons; CO_2e = carbon dioxide equivalent

Summary of Operational Emissions

The combined results of operational GHG emissions for Pure Water's components analyzed at the project level for this GHG analysis are shown in **Table 5.6-12**. It should be noted that the emissions inventory presented below represents emissions for the first full operational year of 2036. These emissions would lessen over time. For example, emissions associated with electricity consumption would be reduced as SCE's renewables portfolio increases to 100 percent renewable by 2045 per the requirements of SB 100. Additionally, mobile source emissions would be reduced over time as cleaner burning vehicles, or zero-emission vehicles, are added to the fleet mix.

Table 5.6-12
TOTAL OPERATIONAL GHG EMISSIONS

Source	Emissions (MT CO_2e)
Joint Treatment Site Electricity Consumption	55,338
Nitrification/Denitrification	41,668
Joint Treatment Site Mobile	1,012
Joint Treatment Site Stationary	393
Backbone Pump Station Stationary	10
Backbone Pump Station Electricity Consumption	17,440
Total Operational Emissions	**115,861**

Note: Totals may not add due to rounding. Modeling data are provided in Appendix B
MT = metric tons; CO_2e = carbon dioxide equivalent

Emissions Comparison with the CAP

Pure Water was analyzed and included in the CAP as the RRWP. Pure Water's components analyzed at the project level for this GHG analysis remain largely unchanged from what was included in the CAP. Specifically, the CAP analyzed the RRWP as including construction and operation of an Advanced Water Treatment Plant (synonymous with the AWP Facility currently proposed), approximately 40 miles of pipelines, three pumping stations, and groundwater injection sites. A comparison summary of estimated emissions from Pure Water's project-level component construction activities and first full operational year with the corresponding emissions estimates for the RRWP as analyzed in the CAP are included in **Table 5.6-13**. Some of the categories (i.e., Electricity [all sources] and Other) are aggregated for clarity and ease of comparison.

Table 5.6-13
SUMMARY OF PURE WATER EMISSIONS ESTIMATES AND DIFFERENCES

Source	Pure Water as Proposed (MT CO_2e)	CAP RRWP GHG Emissions (MT CO_2e)	Difference in GHG Emissions Totals (MT CO_2e)
Construction			
Backbone Pipeline	69,259	70,506	-1,247
Backbone Pump Stations	1,784	633	1,151
Well Facilities	N/A	383	-383
Joint Treatment Site	8,415	10,895	-2,480
Construction Total	**79,458**	**82,417**	**-2,959**
Operation			
Electricity (all sources)[1]	72,778	84,090	-11,312
Nitrification/Denitrification	41,668	5,340	36,328
Other[2]	1,415	N/A	1,415
Annual Operations Total (1st Full Operational Year)	**115,861**	**89,430**	**26,431**

Source: HELIX 2025

Note: Totals may not add due to rounding.

MT = metric tons; CO_2e = carbon dioxide equivalent; CAP = Climate Action Plan; RRWP = Regional Recycled Water Program; GHG = greenhouse gas; N/A = not applicable

[1] Electricity sources include the Joint Treatment Site electricity consumption and Conveyance Pump Station electricity consumption.

[2] Other includes Mobile, Joint Treatment Site Stationary Combustion, and Conveyance Pump Station Stationary Combustion.

As shown in **Table 5.6-13**, based on a project-level GHG analysis, emissions estimated for Pure Water's components, as currently proposed, vary from what was included in the CAP. This is primarily due to refined assumptions that were not previously available when the CAP was prepared. For example, with the pipeline alignment now known, plus the refined schedule and construction methods, construction emissions previously forecasted were 82,417 MT CO_2e, which are higher than the estimates in this EIR of 79,458 MT CO_2e. Likewise, refined process emissions estimates have been possible based on site-specific nitrogen concentrations and updated IPCC guidance. Where the CAP estimated the RRWP would result in 5,340 MT CO_2e per year from nitrification/denitrification, Pure Water is now estimated to result in 41,668 MT CO_2e per year from the same process.

As part of the ongoing implementation and monitoring efforts, Metropolitan assessed the impact of the updated project-level Pure Water GHG emissions estimates on Metropolitan's carbon budget for consistency with the 2020 CAP (Rincon 2024).[3] The assessment considered three scenarios for the carbon budget GHG emissions forecast based on Metropolitan's 2020 Urban Water Management Plan (UWMP) water demand forecast. The forecasted annual and cumulative emissions across all Metropolitan operations for each of the three future scenarios was revised. The three scenarios are intended to capture the full range of potential future emissions. The scenarios include: a high emission scenario where there are multiple dry years and high operational emissions; an average emission scenario which assumes a single dry year demand level and average operational emissions; and a low

[3] Pure Water's project-level GHG emissions estimates have been refined since completion of Rincon's 2024 report. The refined emissions estimates are lower than what was considered; therefore, the analysis and conclusions in Rincon's 2024 report remain applicable.

emission scenario associated with an average demand year and low operational emissions. The forecast was further adjusted to incorporate SB 100 (mandating 100 percent carbon-free electricity by 2045), which will reduce GHG emissions associated with electricity consumption over time. The cumulative impact on the carbon budget was then evaluated to determine if Metropolitan can reach its emissions targets using its established CAP GHG reduction measures, or if additional GHG mitigation measures are required. This analysis included actual emissions for Metropolitan-wide GHG emissions for the years 2021 and 2022, which were forecasted in the CAP but for which Metropolitan now has actual data.

The starting year for the CAP's carbon budget is 2005 as it is the first year for which Metropolitan has an annual GHG inventory; annual inventories are required to track the carbon budget accurately. Metropolitan was below its milestone budget for the 2005-2022 period. During this period, Metropolitan emitted approximately 5,408,096 MT CO_2e, representing just over half (55 percent) of the maximum emissions budgeted through 2022. The overall carbon budget has 9,252,380 MT CO_2e remaining for the 2023-2045 period. This puts Metropolitan on track to achieve its 2030 GHG emissions reduction target.

It was determined that, with the updated estimates for Pure Water, Metropolitan would remain within its allocated carbon budget through 2030 for all three scenarios. By 2045, Metropolitan would remain under the carbon budget for both the low and average scenarios. As originally found in the CAP, Metropolitan would exceed the carbon budget by 2045 under the highest-emissions scenario without implementing GHG reduction strategies. As listed in the CAP, Metropolitan has strategies to reduce overall GHG emissions by 2,003,695 MT CO_2e using Phase 1 actions under the high emissions scenario. Therefore, the forecasted carbon budget exceedance of 1,522,195 MT CO_2e under the high emissions scenario can be addressed by implementation of the 2020 CAP and Pure Water would be consistent with the CAP through both 2030 and 2045 (Rincon 2024).

In summary, the key takeaways from the comparison of forecasted emissions and impacts of Pure Water on the carbon budget included:

- Before CAP implementation, Metropolitan is projected to reach its 2030 targets under all three emissions forecast scenarios (low, average, and high) analyzed and reach its 2045 targets under both the low and average emissions forecast scenarios.

- With CAP implementation, Metropolitan is projected to reach its 2030 and 2045 targets under all three emission forecast scenarios. That is, implementation of the measures required by the CAP would enable Metropolitan to reach its 2045 targets even under the high emissions forecast scenario.

- As such, while the updated Pure Water GHG emissions estimates are higher than those in the CAP, they are not high enough to affect Metropolitan's ability to achieve its GHG emission reduction targets; therefore, the CAP accommodates Pure Water and its associated project-level GHG emissions. In addition, Pure Water's GHG emissions would be tracked as part of Metropolitan's overall carbon budget with organization-wide CAP measures implemented to reduce Metropolitan's GHG emissions over time such that GHG emissions remain within the carbon budget.

Therefore, Pure Water's project-level components would be consistent with Metropolitan's qualified CAP. Pursuant to CEQA Guidelines Section 15064.4 and 15183.5, Pure Water would not directly or

indirectly generate GHG emissions that may have a significant impact on the environment, and Pure Water would have a **less-than-significant impact**.

5.6.5.2 Topic 2: Conflict with GHG Reduction Plan

Would Pure Water conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Applicable plans, policies, and regulations include Metropolitan's CAP, SB 32, EO B-55-18, the 2022 Scoping Plan, and AB 1279. As discussed under threshold (a), Pure Water would be consistent with Metropolitan's CAP because (1) Pure Water's GHG emissions would be tracked as part of Metropolitan's overall carbon budget with organization-wide CAP measures implemented to reduce Metropolitan's GHG emissions over time such that GHG emissions remain within the carbon budget; and (2) Pure Water would incorporate applicable CAP reduction measures. Also, by being consistent with the CAP, Pure Water would also be consistent with state GHG emission reduction plans, policies, and regulations, such as the 2022 Scoping Plan, SB 32, EO B-55-18, and AB 1279 because the GHG emission reduction targets established by these plans, laws, and policies are incorporated into and consistent with Metropolitan's GHG emissions reduction targets. Therefore, Pure Water would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and **no impact** would occur.

5.6.6 Level of Significance Before Mitigation

Impacts associated with GHG emissions would be **less than significant**. There would be **no impact** associated with conflicts with a GHG reduction plan.

5.6.7 Mitigation Measures

Impacts associated with GHG emissions would be less than significant; therefore, no mitigation is required.

5.6.8 Level of Significance After Mitigation

Impacts associated with GHG emissions would be **less than significant without mitigation**. There would be **no impact** associated with conflicts with a GHG reduction plan without mitigation.

5.6.9 References

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LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

Memorandum

Date: March 3, 2025

To: Connie Christian
Senior Engineer
Wastewater Planning

Through: Bruce Mansell *Bruce Mansell* 3/3/2025
Research Manager
Wastewater Research Section

From: Michael Liu 3/3/2025
Supervising Engineer
Wastewater Research Section

Subject: **PWSC BNR Net N_2O Emissions Estimate Considering Ocean Nitrogen Discharge**

Background

The Districts are collaborating with the Metropolitan Water District of Southern California (MWD) on developing the Pure Water Southern California (PWSC) program ("Project"). To this end, the Planning section is working closely with MWD to prepare the draft Environmental Impact Report (EIR). One component of the EIR includes an evaluation of the Project's greenhouse gas (GHG) emissions; a sub-component of which includes projected N_2O emissions from the Project's Biological Nitrogen Removal (BNR) processes.

Previously, a spreadsheet model was developed to estimate the Project BNR processes' N_2O emissions (DMS-#6914161). Assumptions and key results of the model can be found in Appendices A and B, respectively. System boundary assumed by the model is illustrated in Figure 1.

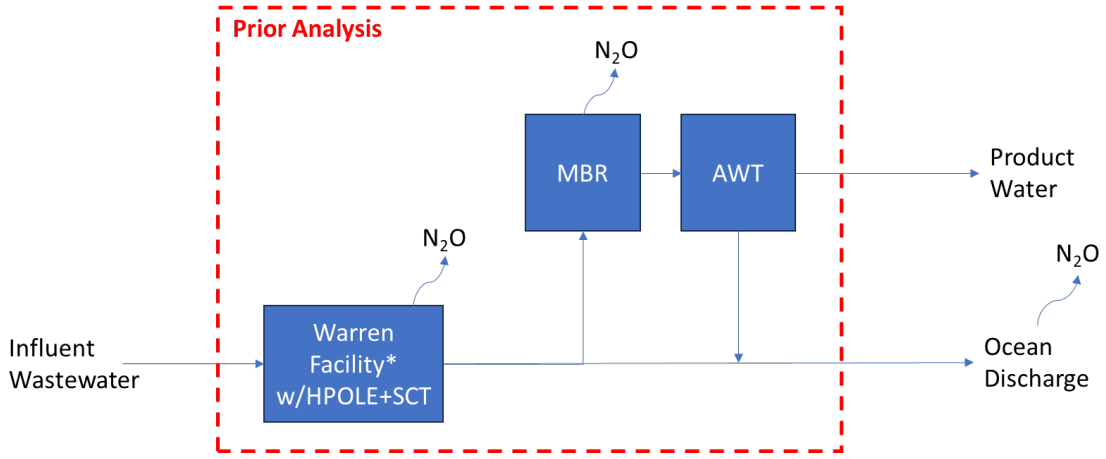


Figure 1. System Boundary for PWSC EIR GHG Emissions (Prior Analysis; DMS-6914161)

The Project is expected to reduce the nitrogen load discharged to the ocean and the associated N_2O emissions significantly. Inclusion of the ocean discharge component is consistent with the CEQA Guidelines sections 15064(d), in general, and 15064.4(a), specifically, to fully consider and account for the Project's GHG impact. This consideration was not included in the prior analysis. This memo amends the prior analysis to include this consideration.

Approach

This analysis will estimate the Project's net impact on N_2O emissions via a 3-step process:

(1) Estimate Warren Facility's N_2O emissions without the Project (Baseline Scenario), as illustrated by Figure 2:

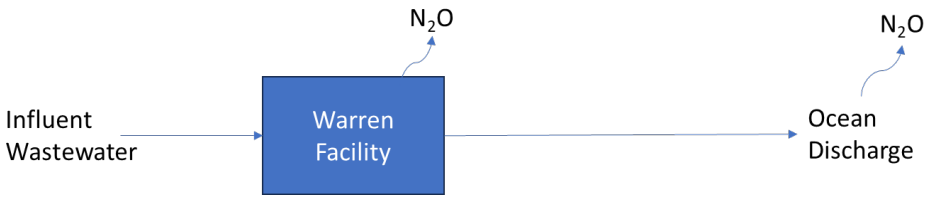


Figure 2 Process Flow Diagram for Baseline Scenario

(2) Estimate Warren Facility's N_2O emissions with the Project (Project Scenario), as illustrated by Figure 3:

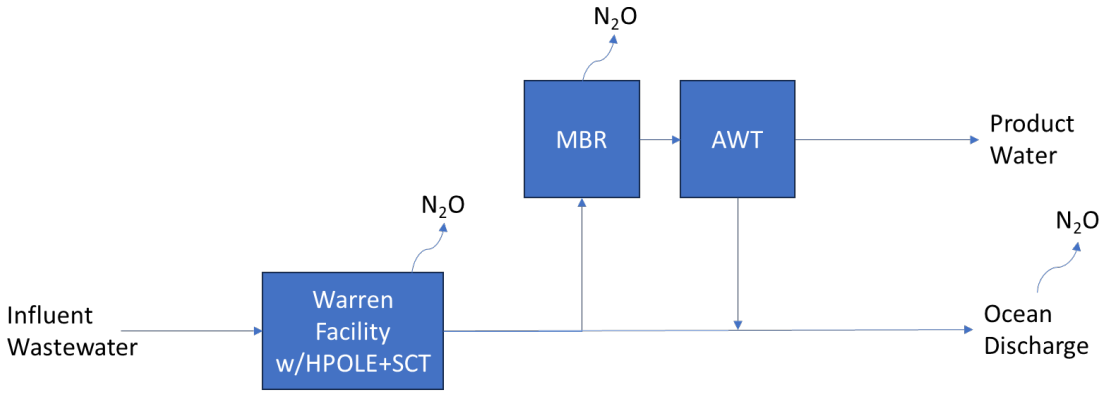


Figure 3 Process Flow Diagram for Project Scenario

(3) Estimate the Project's net impact on N_2O emissions by subtracting (1) from (2).

Results

(1) Baseline Scenario N_2O Emissions

The baseline scenario's N_2O emissions were estimated in the Districts' most recent (2023) Greenhouse Gas Inventory Report (DMS-7366995). The report employed the Local Government Operations Protocol (LGOP) for the estimations. N_2O emissions associated with non-BNR processes were estimated at 2,793 $MTCO_2e$/year, while those associated with effluent discharge were estimated at 36,203 $MTCO_2e$/year for the Warren Facility (Tables 1 and 2). Combined, the baseline N_2O emissions were estimated at approximately 38,996 $MTCO_2e$/year.

Table 1 Estimated GHG Emissions from Process N_2O for Warren WRF (Non-BNR Processes)
(From LACSD's 2023 Greenhouse Gas Inventory Report; Appendix H)

Scope 1 - Wastewater Treatment - Process N_2O (No Nitrification)						
					GHG Emissions (metric tons)	
Facility Name	Device Name	Source Type	Population served	Unit of Measure	N_2O Emissions	CO_2e Emissions
WWRF		Wastewater Facilities	2,635,013	people	10.54005	2,793.11
GHG Emissions (metric tons/year)					10.54	2,793.11

Notes:
LGOP Equation 10.8 - Annual N2O emissions (metric tons CO2e) = ((Population served x F) x EF w/o nit/denit x 10^-6) x GWP

Table 2 Estimated GHG Emissions from Effluent Discharge for LACSD Wastewater Facilities (Warren WRF in red box)
(From LACSD's 2023 Greenhouse Gas Inventory Report; Appendix H)

Yorke ENGINEERING, LLC
www.YorkeEngr.com

GHG Detailed Calculator Worksheet - Wastewater Treatment Emissions

Facility Name:	Los Angeles County Sanitation District
Location:	Whittier, CA
Emission Year:	2023

Legend Format
Table Headings
Data Entry
Dropdown Selection
Calculated Value

Scope 1 - Wastewater Treatment - Process N_2O (Discharge)						
					GHG Emissions (metric tons)	
Facility Name	Device Name	Source Type	Nitrogen Load	Unit of Measure	N_2O Emissions	CO_2e Emissions
WWRF		Wastewater Facilities	47,647	kg N/day	136.61	36,202.90
La Canada WRP		Wastewater Facilities	4	kg N/day	0.01	3.23
Lancaster WRP		Wastewater Facilities	470	kg N/day	1.35	357.40
Long Beach Combined		Wastewater Facilities	460	kg N/day	1.32	349.29
Los Coyotes WRP		Wastewater Facilities	610	kg N/day	1.75	463.85
Palmdale WRP		Wastewater Facilities	163	kg N/day	0.47	123.48
Pomona WRP		Wastewater Facilities	267	kg N/day	0.77	202.97
San Jose Creek East		Wastewater Facilities	998	kg N/day	2.86	758.67
San Jose Creek West		Wastewater Facilities	726	kg N/day	2.08	551.33
Saugus WRP		Wastewater Facilities	116	kg N/day	0.33	88.18
Valencia WRP		Wastewater Facilities	265	kg N/day	0.76	201.12
Whittier Narrows WRP		Wastewater Facilities	240	kg N/day	0.69	182.73
		Wastewater Facilities				
GHG Emissions (metric tons/year)					149.00	39,485.14

Notes:
LGOP Equation 10.9 - Annual N2O emissions (metric tons CO2e) = (N Load x EF effluent x 365.25 x 10^-3 x 44/28) x GWP

(2) Project Scenario N_2O Emissions

A portion of the Project scenario's N_2O emissions was covered by prior analysis (Figure 3; red dotted box). This portion was estimated to be 58,321 MT CO_2e/year (Appendix B)

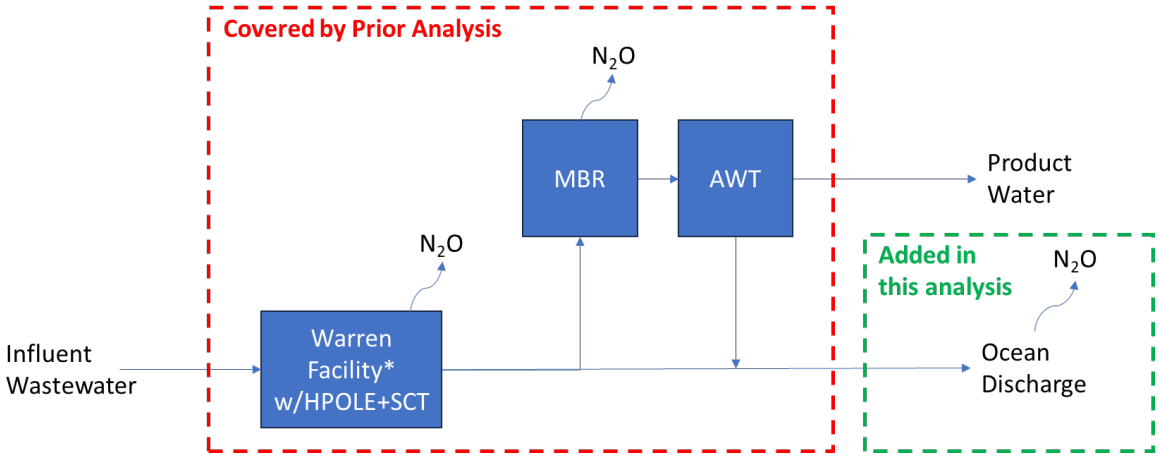


*Figure 3 Process Flow Diagram for Project Scenario *Does not include non-BNR processes*

The additional components considered in this analysis include: (a) the Project's impact on nitrogen discharged to the ocean and associated N_2O emissions (Figure 3, green dotted box); and (b) N_2O emissions associated with non-BNR processes. On (a), another prior analysis, conducted by Jacobs Engineering using process modeling, estimated the Project would reduce ocean nitrogen discharge by 46~49% at the design year (2080); the range reflects the different nitrate rejections expected from the RO process (Jacobs 2022; Table 3):

Table 3 Ocean N Mass Discharged at the Design Year (adapted from DMS-7252795, Table 6-4)

Parameter	Train 1 (Hybrid NdN TMBR)		Train 3 (SMBR)
	Phase 1	Phase 2	Phase 2
Nitrogen Concentration			
MBR, mg-N/L	18.9	18.9	8.5
Ocean Discharge (73% RO removal), mg-N/L	46	50	41
Mass Removal[a]			
RO Removal =73%	42%	49%	58%
RO Removal =90%	39%	46%	57%

[a] Mass based reductions calculated relative to predicted TN discharge from HPOAS process, without HPOLE or AWT pre-treatment, under future loading conditions.

Using data from Tables 2 and 3, the Project Scenario's N_2O emissions associated with ocean discharge were estimated (Table 4).

Table 4 Project Scenario N_2O Emissions from Ocean Discharge

Scenario	Baseline (Effluent Discharge)	Reduction due to Project		Ocean Discharge
	$MTCO_2e$/year	%	$MTCO_2e$/year	$MTCO_2e$/year
73% RO Rejection	36,203	49%	17,739	18,464
90% RO Rejection	36,203	46%	16,653	19,550

On (b), emissions associated with the non-BNR processes for the Baseline Scenario were assumed for the Project Scenario for conservatism. These emissions were summed to estimate the Project Scenario's total N_2O emissions, as summarized in Table 5.

Table 5 Project Scenario N_2O Emissions

Scenario	BNR Processes	Non-BNR Processes	Ocean Discharge	Total
	$MTCO_2e$/year	$MTCO_2e$/year	$MTCO_2e$/year	$MTCO_2e$/year
73% RO Rejection	58,321	2,793	18,464	79,578
90% RO Rejection	58,321	2,793	19,550	80,664

(3) Project's Net Impact on N_2O Emissions

The Project's net impact on N_2O emissions was estimated by subtracting N_2O emissions for the Baseline Scenario from the Project Scenario. Table 6 summarizes the results which showed the Project is expected to increase N_2O emissions by approximately 41,000 to 42,000 $MTCO_2e$ per year.

Table 6 Net Project Impact on N_2O Emissions

Scenario	Baseline Scenario	Project Scenario	Net Project Impact
	$MTCO_2e$/year	$MTCO_2e$/year	$MTCO_2e$/year
73% RO Rejection	38,996	79,578	40,582
90% RO Rejection	38,996	80,664	41,668

Conclusions:

The Project's net impact on N_2O emissions is estimated to be in the range of 41,000 to 42,000 $MTCO_2e$/year.

Appendix A. Spreadsheet Model Assumptions

Facility	Process Area	Parameter	Description	Unit	Value	Basis
Warren Facility	Primary Effluent	Q_{PE}	Flow to Warren Facility Secondary Treatment	mgd	274	SCADA sum of secondary influent flow; 2022 annual average
		$[CHCl3]_{PE}$	Warren Facility PE chloroform concentration	ug/L	14	Average of 9/2021 and 1/2023 samplings
		$[TN]_{PE}$	Warren Facility PE TN concentration (w/o SST)	mgN/L	63.8	HPOLE project data, average (3/21/2022-11/27/2023)
	HPOAS	Q_{HPOAS}	Flow to the HPOAS Trains	mgd	238	Calculated (PE Flow - HPOLE Flow)
		$EF_{HPOAS-C,CHCl3}$	HPOAS (Closed Vent) chloroform emission factor	g/g	0.007	1/2023 sampling, Reactor D
		$LEF_{HPOAS-C,CHCl3}$	HPOAS (Closed Vent) chloform in effluent relative to influent	g/g	0.747	1/2023 sampling, Reactor D
		$EF_{HPOAS-C,N2O}$	HPOAS (Closed Vent) N_2O emission factor	gN/gN	0	No NDN; assumed no N2O generation
		$EF_{HPOAS-O,CHCl3}$	HPOAS (Open Vent) chloroform emission factor	g/g	0.248	1/2023 sampling, Reactor G
		$LEF_{HPOAS-O,CHCl3}$	HPOAS (Open Vent) chloform in effluent relative to influent	g/g	0.419	1/2023 sampling, Reactor G
		$EF_{HPOAS-O,N2O}$	HPOAS (Open Vent) N_2O emission factor	gN/gN	0	No NDN; assumed no N2O generation
	HPOLE	Q_{HPOLE}	Flow to the HPOLE Trains	mgd	36	JTAP2 Task 4 Report (DMS-#6937832), Table ES-2
		$EF_{HPOLE-O,CHCl3}$	HPOLE (Open Vent) chloroform emission factor	g/g	0.15	1/2023 sampling, Reactor H
		$LEF_{HPOLE-O,CHCl3}$	HPOLE (Open Vent) chloform in effluent relative to influent	g/g	0.059	1/2023 sampling, Reactor H
		$EF_{HPOLE-O,N2O}$	HPOLE (Open Vent) N_2O emission factor	gN/gN	0.0066	No data; assumed same as MBR
	Sidestream Treatment	Q_{SST}	Flow to Sidestream Treatment	mgd	4.3	no metering for Pre-CTS centrate; using digested sludge flow (2022 average)
		$[TKN]_{centrate}$	Sidestream treatment Influent TKN concentration	mgN/L	634	2013 Pilot Testing (DMS-#6886757)
		$RE_{SST,TKN}$	Sidestream treatment TIN removal efficiency	g/g	0.68	2013 Pilot Testing (DMS-#6886757)
		$EF_{SST,N2O}$	SST N_2O emission factor	gN/gN	0.0104	DMS-#6886869 with a factor of safety of 2 (DMS-#7431982)
AWPF	MBR	Q_{MBR}	Flow to the (Tertiary) MBR Trains	mgd	180	JTAP 2 Task 1 and 2 Report (DMS-#6937819), Table 2-3
		$[TN]_{SE}$	TN Concentration in Warren Facility SE (w/o SST)	mgN/L	50.9	NIC Demo (NDN-TMBR) project data; 2024 average
		$EF_{MBR,CHCl3}$	MBR chloroform emission factor	g/g	0.1068	Average of 9/2021 sampling
		$LEF_{MBR,CHCl3}$	MBR chloform in effluent relative to influent	g/g	#N/A	No data
		$EF_{MBR,N2O}$	MBR N_2O emission factor	gN/gN	0.0066	PWSC Demo MBR emission factors memo (see DMS-#6984767)
APCD	GAC	$RE_{GAC,CHCl3}$	GAC chloroform removal efficiency	g/g	0	Assumed no CHCl3 removal from GAC (per AQE guidance)
		$RE_{GAC,N2O}$	GAC N_2O removal efficiency	g/g	0	Assumed no N2O removal in GAC
		$CE_{GAC,N2O-NOx}$	GAC N_2O conversion efficiency to NOx	g/g	0	Assumed no N2O to NOx conversion in GAC
	RTO	$RE_{TO,CHCl3}$	TO/RTO chloroform destruction efficiency	g/g	0.98	JTAP 2, Concept Design for Regenerative Thermal Oxidizer (Draft), Table 3
		$RE_{TO,N2O}$	TO/RTO N_2O removal efficiency	g/g	0.95	No data; high conversion efficiency (>99%) reported by Galle et al., (2001)
		$CE_{TO,N2O-NOx}$	TO/RTO N_2O conversion efficiency to NOx	g/g	0.5	Based on Glarborg et al (2018) - see DMS-#6886869
	SCR	$RE_{SCR,NOx}$	SCR NO_x destruction efficiency	g/g	0.95	JTAP 2, Concept Design for Regenerative Thermal Oxidizer (Draft)

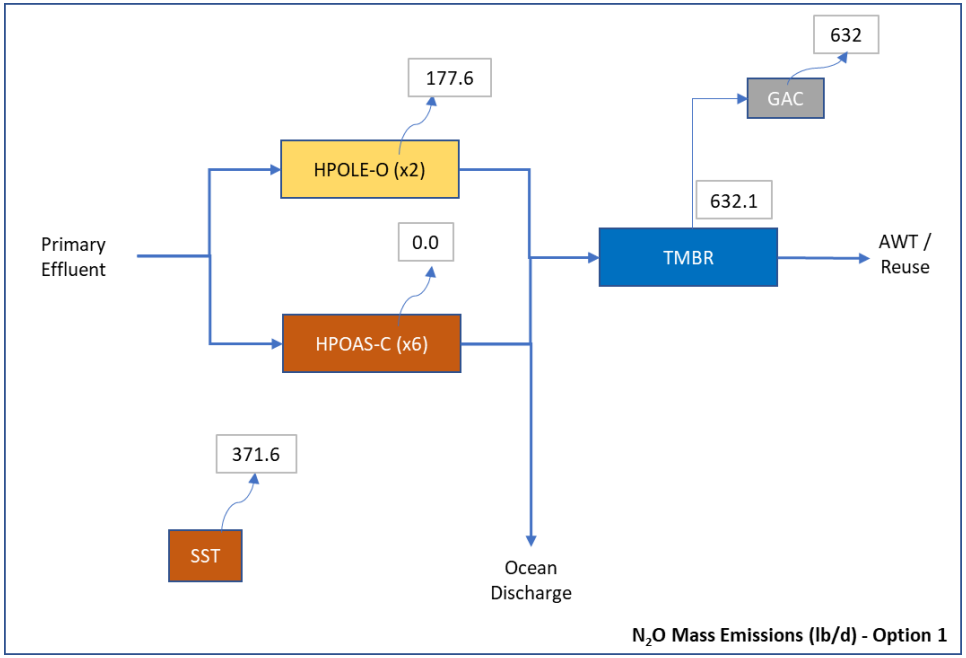
Conversion Factors

N_2O/N_2O-N	1.57	g/g
NO_x/NO_x-N	3.29	g/g
N2O CO2e	298	
lb/MT	2204.62	
day/yr	365.24	

Appendix B. Spreadsheet Model Results (DMS-6014161; Option 1)

N_2O Flux Analysis

Process	In (Aq Phase)			Out (Gas Phase)				
	Q	[TN]	TKN Mass Flux	N2O EF	N2O Mass Flux			
	mgd	mgN/L	lbN/d	gN/gN	lbN/d	lb/d	MT/year	MT CO2e/year
HPOLE-O	36	57.0	17,124	0.66%	113.0	177.6	29.42	8,768
HPOAS-C	238	57.0	113,208	0%	0.0	0.0	0.00	-
HPO Combined	274	57.0	130,332	0.09%	113.0	177.6	29.42	8,768
TMBR	180	40.6	60,950	0.66%	402.3	632.1	104.73	31,209
SST	4.3	634	22,737	1.04%	236.5	371.6	61.56	18,345
Total					751.7	1181.3	195.71	**58,321**



Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012
213-788-4842

June 21, 2024
Project No: 18-06008

Brenda Marines
Metropolitan Water District of Southern California
700 North Alameda Street
Los Angeles, CA 90012
Via email: BMarines@mwdh2o.com

Subject: Pure Water Greenhouse Gas Emissions Consistency with the Metropolitan Climate Action Plan Analysis

Dear Ms. Marines:

The Metropolitan Water District of Southern California (Metropolitan) Pure Water Southern California project (Pure Water, or Project) would be a partnership between Metropolitan and the Los Angeles County Sanitation Districts (Sanitation Districts) to develop and implement a regional recycled water program. The Project would consist of constructing and operating a new Advanced Water Purification (AWP) Facility and associated improvements at a Joint Treatment Site (JTS) in the city of Carson, as well as the construction and operation of an approximately 39-mile backbone conveyance system from the AWP Facility to the existing San Gabriel Canyon Spreading Grounds in the city of Azusa.

The expected greenhouse gas (GHG) emissions associated with the construction and operation of the Project were estimated and included in Metropolitan's 2020 Climate Action Plan (CAP). The emissions from construction and operation were included in the GHG emissions forecast and mitigated through the GHG reduction strategies included in the CAP. Over the several years since the CAP analysis was completed, the assumptions and project specifics for Pure Water have been refined. This report compares the updated GHG emissions estimate from the May 2024, *Pure Water Southern California Air Quality, Greenhouse Gas Emissions, and Energy Technical Report* (2024 Technical Report) to those of the 2020 CAP. This report also assesses the impact of the updated GHG emissions estimate on Metropolitan's carbon budget, as established in the CAP, and determines Metropolitan's ability to reach the 2030 and 2045 targets defined in the CAP with the updated Project GHG emissions estimates included. This report will serve to inform the Project's Environmental Impact Report (EIR) and will also be used to update forecasted emissions as part of Metropolitan's forthcoming 2025 CAP update (scheduled for completion and consideration for adoption in 2027).

Pure Water EIR and CAP Estimated Emissions

Pure Water was included in Metropolitan's CAP as the Regional Recycled Water Program (RRWP). Specifically, the CAP analyzed the RRWP as including construction and operation of an Advanced Water Treatment Plant (synonymous with the AWP Facility described in the 2024 Technical Report), approximately 40 miles of pipelines, three pumping stations, and several new, repurposed, and relocated groundwater injection sites. The 2024 Technical Report estimated construction activities would generate a total of 79,458 metric tons (MT) of carbon dioxide equivalent (CO_2e) and operational activities would generate 142,852 MT CO_2e in the first full year of operations. The CAP estimated total construction emissions would be 82,417 MT CO_2e and the first full operational year emissions to total 111,701 MT CO_2e.

A comparison summary of estimated emissions from all construction activities and the first full operational year from the 2024 Technical Report and CAP are included in Table 1. Some of the categories are aggregated for clarity and ease of comparison (i.e. Electricity [all sources] and Other).

Table 1 Summary of Pure Water Emissions Estimates and Differences

GHG Emissions Source	2024 Technical Report GHG Emissions (MT CO_2e)	CAP GHG Emissions (MT CO_2e)	Difference in GHG Emissions Totals
Construction Total	**79,458**	**82,417**	**-2,959**
Backbone Pipeline	69,259	70,506	-1,247
Pump Stations	1,784	633	1,151
Well Facilities	N/A	383	-383
Joint Treatment Site	8,415	10,895	-2,480
Annual Operations Total (1st Full Operational Year)	**142,852**	**111,701**	**31,151**
Electricity (all sources)*	81,755	84,090	-2,335
Nitrification/Denitrification	52,074	5,340	46,734
MicroC-2000	7,641	22,271	-14,630
Other**	1,382	N/A	1,382

Notes:
MT CO_2e = metric tons of carbon dioxide equivalent
N/A – indicates one of the reports did not include emissions estimates for the category.
* Electricity sources include the Joint Treatment Site electricity consumption and Conveyance Pump Station electricity consumption
**Other includes Mobile, Joint Treatment Site Stationary Combustion, and Conveyance Pump Station Stationary Combustion
Totals may not add due to rounding

The GHG emissions estimates for the Pure Water project have changed compared to those in the CAP due to refined assumptions not previously available during CAP development. For example, with the pipeline alignment now known, plus a refined schedule and detailed construction methods, the 2024 Technical Report provides updated GHG emissions estimates for construction which are 2,959 MT CO_2e lower than forecasted in the CAP. Similarly, with source testing data available from the Pure Water Southern California Demonstration Facility MBR, estimates of GHG emissions generated during the nitrification/denitrification process now rely on site-specific nitrogen concentrations and emission factors, resulting in a refined estimate of process emissions. As shown in Table 1, estimated process emissions from nitrification/denitrification are higher than originally estimated in the CAP, while MicroC-2000 process emissions estimates are lower than in the CAP.

While this static comparison is useful for highlighting differences between the assumptions and single year emissions estimates, the overall impact of the updated GHG emissions estimate for the Project is determined by its effect on Metropolitan's carbon budget, which was developed as part of the CAP. The carbon budget is how Metropolitan determines if it is meeting the targets established by the CAP and demonstrating consistency with California regulations including Senate Bill 32 and Assembly Bill 1279. The following section describes the assumptions, methodology and key findings of a comparison of the updated Pure Water GHG emissions estimates with those of the CAP in terms of Metropolitan's carbon budget through 2045.

Updated Pure Water GHG Emissions Impact on Metropolitan Carbon Budget

As part of the 2020 CAP, Metropolitan developed a forecast estimating future GHG emissions from its operations and construction projects between 2017 and 2045.

Because GHG emissions associated with Metropolitan operations are heavily influenced by water demand and water source, three scenarios were modeled for the GHG emissions forecast based on Metropolitan's 2020 Urban Water Management Plan water demand forecast. The three scenarios are intended to capture the full range of potential future emissions. The scenarios include: a high emission scenario where there are multiple-dry years and high operational emissions; an average emission scenario which assumes a single dry year demand level and average operational emissions; and a low emission scenario associated with an average demand year and low operational emissions. The forecast was further adjusted to incorporate Senate Bill 100 (mandating 100% carbon free electricity by 2045) which is reducing GHG emissions associated with electricity consumption over time. Emissions resulting from the construction and operation of Pure Water were also included in the CAP GHG emissions forecast scenarios. This allows Metropolitan to streamline the GHG analysis in the EIR for Pure Water so long as Project-related emissions were accounted for in the CAP and Metropolitan can meet its overall GHG emission reduction targets.

Metropolitan established GHG emission reduction targets consistent with State goals for key years including 2030 and 2045. The targets were then used to develop a carbon budget through 2045. The carbon budget is the total GHG emissions Metropolitan can emit and still meet its respective targets.

Metropolitan's GHG Emissions Targets

Table 2 summarizes Metropolitan's GHG emission reduction targets as memorialized in the CAP.

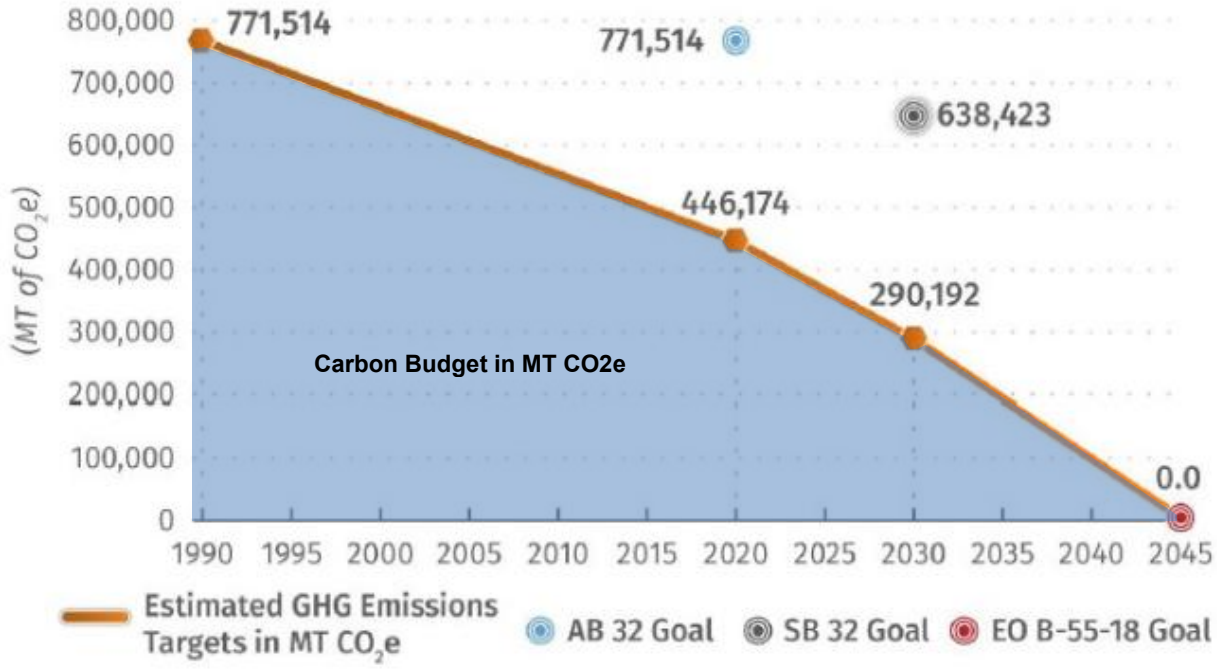
Table 2 Metropolitan GHG Emission Reduction Targets

Target	Per Capita Emissions (MT CO_2e)	Associated Mass Emissions2 (MT CO_2e)	Percent Reduction (Below 1990)
Metropolitan 1990 GHG Emissions	0.0516	771,514	N/A
Minimum Reduction Target for Senate Bill 32 Consistency (40% below 1990 levels)	0.0309	638,423	40%
Metropolitan 2030 GHG Emissions Target	0.0141	290,192	73%
Metropolitans 2045 GHG Emissions Target	0.0000	0	100%
Assembly Bill 1279 GHG Emissions Per Target	0.0000	0	100%

Notes:
MT CO_2e = metric tons of carbon dioxide equivalent

Figure 1 illustrates Metropolitan's target GHG emissions trajectory in terms of mass emissions (MT CO_2e) as described in the CAP. It also highlights the carbon budget which has been developed based on the targets.

Figure 1 Metropolitan GHG Emissions Targets Translated into MT CO_2e



Carbon Budget Overview

To calculate Metropolitan's carbon budget (technically a GHG emissions budget as it incorporates all GHGs normalized to CO_2e), the area underneath Metropolitan's target trajectory is summed. This allows Metropolitan to track overall progress toward their goals with their variable emissions which can change due to water availability. Metropolitan can also create a carbon budget for any time-period by summing the area between any two years, for example between 2005 and 2030. Metropolitan's targets exceed the state targets and are based on a linear reduction in per capita emissions to carbon neutrality in 2045 from the 1990 GHG emissions estimate. The starting year for the carbon budget is 2005 as it is the first year for which Metropolitan has an annual GHG inventory; annual inventories are required to track the carbon budget accurately.

Carbon Budget Status

Metropolitan was below its milestone budget for the 2005-2022 period. During this period, Metropolitan emitted approximately 5,408,096 MT CO_2e, representing just over half (55 percent) of the maximum emissions budgeted through 2022. The overall carbon budget has 9,252,380 MT CO_2e remaining for the 2023-2045 period. This puts Metropolitan on track to achieve its 2030 GHG emissions reduction target due to rapid implementation of its GHG emissions reduction strategy, especially in the procurement of renewable and carbon-free electricity which has resulted in decreased emissions, even in dry years which traditionally resulted in high GHG emissions. The status of Metropolitan's CAP implementation is reported annually. The most recent report can be found here.

Pure Water Emissions Forecasts

In the CAP forecast the following assumptions about Pure Water were made:

- The total construction emissions (82,417 MT CO_2e) were annualized over 6 years since construction was assumed to take place between 2025 and 2030.
- The Project was assumed to become operational in 2031.
- Senate Bill 100 (requiring 100% carbon-free electricity by 2045) was incorporated into the forecast by applying the State-mandated targets to the electricity emission factor for each year for which a mandated Renewable Portfolio Standard (RPS) target had been set and interpolating between the key years.

Since adoption of the CAP, details relating to Project timelines, GHG emissions totals, and other assumptions have been refined. Using the 2024 Technical Report, Rincon updated Metropolitan's overall GHG emissions forecast to quantify the impact of the refined Pure Water emissions estimates on Metropolitan's carbon budget and determine consistency with the CAP. The new assumptions for Pure Water are as follows:

- Total construction emissions (79,458 MT CO_2e) were annualized over 10 years (7,223 MT CO_2e/year) since construction is assumed to begin in 2025 with the full project buildout assumed to become operational in 2036.
- Initial Project delivery phase (30 MGD) assumed to become operational in 2030.
- Phase 1 of the AWP Facility (115 MGD) assumed to become operational in 2032.
- Phase 2 of the AWP Facility (150 MGD) assumed to become operational in 2034.
- Full buildout (150 MGD) assumed to be completed in 2036.
- Conveyance electricity usage was not included in the electricity use and associated emissions estimates until full buildout is complete in 2036.
- Operational emissions were scaled proportional to the MGD associated with the Project phase.
- Senate Bill 100 (requiring 100% carbon-free electricity by 2045) and Assembly Bill 1020 (setting interim targets of 90% carbon-free electricity by 2035, and 95% carbon-free electricity by 2040) were incorporated into the forecast by applying the State-mandated targets to the electricity emission factor for each key year for which a mandated RPS target has been set and interpolating between the key years.

Table 3 summarizes the difference between forecasted, SB-100 and AB-1020-adjusted emissions for the Pure Water project based on the 2024 Technical Report and the estimated Project emissions included in the original CAP forecast.

Table 3 Summary of Pure Water GHG Emissions Estimates for Key Years

Key Year	Adjusted 2024 Technical Report GHG Emissions Forecast (MT CO_2e)	CAP GHG Emissions Forecast (MT CO_2e)	Difference in GHG Emissions Forecasts
2025	7,223	13,736	-6,513
2030	34,556	13,736	+20,820
2035	98,059	87,675	+10,384
2040	81,536	57,643	+23,893
2045	61,097	27,611	+33,486

Notes:
MT CO_2e = metric tons of carbon dioxide equivalent

The updated Pure Water GHG emissions based on the 2024 Technical Report are higher when compared to the CAP for four out of the five key years assessed. The following sections describe the impact of the updated Pure Water GHG emissions on total forecasted GHG emissions, the carbon budget, and Metropolitan's ability to reach its established GHG emissions targets.

Impact of Updated Pure Water GHG Emissions on the Forecast and Carbon Budget

To determine the impact of the updated Pure Water GHG emissions on the overall forecasted GHG emissions and carbon budget, Rincon revised the forecasted annual and cumulative emissions across all Metropolitan operations for each of the three future scenarios. The cumulative impact on the carbon budget was then evaluated to determine if Metropolitan can reach its emissions targets using its established CAP GHG reduction measures, or if additional GHG mitigation measures are required. This analysis includes actual emissions for Metropolitan-wide GHG emissions for the years 2021 and 2022, which were forecasted in the CAP but for which Metropolitan now has actual data.

Table 4 shows the forecasts for annual emissions, cumulative emissions, and the resultant impact on the overall carbon budget with the updated Pure Water data. Table 5 shows the impacts on the carbon budget for key milestone years which align with the state targets that must be met to allow for CEQA streamlining of Metropolitan projects. The forecasted GHG emissions scenarios and carbon budget outcomes shown in Table 4 and Table 5 are prior to any actions taken by Metropolitan through the CAP implementation program. Forecasts are shown for the key years (2020, 2025, 2030, 2035, 2040, and 2045). Additional detail is also provided for the years between 2040 and 2045 as these are the years when the impact on the carbon budget is most visible. Red numbers indicate the carbon budget has been exceeded.

As shown in Table 5, Metropolitan remains within its allocated carbon budget through 2030 for all three scenarios. By 2045, Metropolitan remains under the carbon budget for both the low and average scenarios. As originally found in the CAP, Metropolitan would exceed the carbon budget by 2045 under the highest-emissions scenario without implementing GHG reduction strategies. As listed in the CAP, Metropolitan has strategies to reduce overall GHG emissions by 2,003,695 MT CO_2e using Phase 1 actions under the high emissions scenario. Therefore, the forecasted carbon budget exceedance of 1,522,195 MT CO_2e under the high emissions scenario can be mitigated by implementation of the 2020 CAP and Pure Water would be consistent with the CAP through both 2030 and 2045.

Table 4 Summary of Metropolitan Forecasted Emissions and Carbon Budget Status With Updated Pure Water Emissions Data (before CAP Implementation)

	2020	2025	2030	2035	2040	2041	2042	2043	2044	2045
Annual Emissions Forecast (MT CO_2e)										
Low	231,581	108,783	106,122	174,814	137,620	130,156	122,692	115,227	107,763	100,299
Med	231,581	230,909	215,967	270,388	223,033	213,536	204,038	194,540	185,043	175,545
High	231,581	497,692	465,170	553,902	418,675	405,126	391,576	378,027	364,477	350,928
Cumulative Emissions Forecast (MT CO_2e)										
Cumulative Low	4,767,088	6,116,320	6,678,739	7,596,130	8,358,619	8,488,775	8,611,466	8,726,694	8,834,457	8,934,755
Cumulative Med	4,767,088	6,311,720	7,447,926	8,871,728	10,081,602	10,295,138	10,499,176	10,693,716	10,878,759	11,054,304
Cumulative High	4,767,088	6,738,574	9,155,956	11,928,707	14,292,537	14,697,663	15,089,239	15,467,265	15,831,743	16,182,670
Impact on Total Carbon Budget Drawdown (MT CO_2e)										
Budget Remaining Low	9,893,387	8,544,155	7,981,736	7,064,346	6,301,857	6,171,701	6,049,009	5,933,782	5,826,019	5,725,720
Budget Remaining Avg	9,893,387	8,348,755	7,212,550	5,788,748	4,578,873	4,365,338	4,161,300	3,966,759	3,781,717	3,606,172
Budget Remaining High	9,893,387	7,921,902	5,504,520	2,731,768	367,939	**-37,187**	**-428,763**	**-806,790**	**-1,171,267**	**-1,522,195**

Table 5 Summary of Carbon Budget Targets With Updated Pure Water Emissions Data (Before CAP Implementation)

Target Year	Scenario	Forecasted Carbon Budget Used	Cumulative Carbon Budget Target for Target Year	Forecasted Carbon Budget Remaining
2030	Low	6,678,739	12,577,075	5,898,336
	Medium	7,447,926		5,129,149
	High	9,155,956		3,421,119
2045	Low	8,934,755	14,660,475	5,725,720
	Medium	11,054,304		3,606,172
	High	16,182,670		-1,522,195

Impact on Carbon Neutrality

Within the 2020 CAP, Metropolitan has strategies to reduce its GHG emissions over time and stay within its carbon budget through 2045, consistent with the goals of Senate Bill 32 and Assembly Bill 1279. However, the CAP does not identify specific actions for Metropolitan to achieve carbon neutrality by 2045 and thereafter. To achieve carbon neutrality, Metropolitan will need to identify opportunities to sequester carbon through natural or mechanical systems to offset the GHG emissions which it cannot avoid through decarbonization practices. Process emissions associated with the nitrification/de-nitrification process are an example of difficult-to-reduce emissions that may need to be offset with carbon sequestration strategies. Metropolitan is currently working on identifying carbon sequestration options across its operations as well as external offset opportunities. Metropolitan's forthcoming CAP update (2027) will more specifically address these post-2030 emissions. Consistent with Assembly Bill 1279, the CAP update will identify realistic and defensible strategies to achieve at least an 85% reduction in overall GHG emissions before offsetting remaining emissions to achieve carbon neutrality by 2045. Updated GHG emissions associated with Pure Water increase the total GHG emissions to be reduced, but fit within the framework of the existing CAP.

Conclusion

Key takeaways from this comparison of forecasted emissions and impacts on carbon budget include:

- While the updated Project GHG emissions estimates are higher than in the CAP, they are not high enough to affect Metropolitan's ability to achieve its GHG emission reduction targets.
- Metropolitan is projected to reach its 2030 targets under all scenarios and 2045 targets for both the low and average scenarios, before CAP implementation.
- With CAP implementation, Metropolitan reaches its 2030 and 2045 targets under all scenarios.
- As identified in the CAP, additional strategies and technologies are needed to achieve carbon neutrality, and future CAP updates will more specifically deal with the 2045 target once the 2030 horizon year has passed, consistent with State guidelines.

This report assesses the impact of the updated Pure Water GHG emissions estimates on Metropolitan's carbon budget and consistency with the 2020 CAP. Please reach out if you have any questions regarding this analysis.

Sincerely,
Rincon Consultants, Inc.

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ATTACHMENT E:
DRAFT EIR MITIGATION MEASURES

- Metropolitan's Commitment Letter to LCI
- Excerpts from Table ES-2 of the Draft EIR Executive Summary for Potentially Significant Environmental Impacts in Disadvantaged Communities, Corresponding Mitigation Measures, and Significance After Mitigation

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

October 8, 2025

Natalie Kuffel
LCI Deputy Director of Land Policy,
California Governor's Office of Land Use and Climate Innovation
1400 10th Street
Sacramento, CA 95814

Dear Ms. Kuffel,

RE: Metropolitan's Commitment to Mitigating Environmental Impacts in Disadvantaged Communities from Pure Water Southern California

As part of the CEQA process for Pure Water Southern California (Pure Water), Metropolitan is required to adopt feasible mitigation measures needed to reduce or avoid significant environmental impacts, including impacts to disadvantaged communities. In the event that Metropolitan's Board certifies the Environmental Impact Report (EIR) and approves Pure Water, Metropolitan is committed to implementing the environmental commitments and mitigation measures in the Final EIR and would be committed to do so since the Mitigation Monitoring and Reporting Program is an integral part of the Final EIR.

Metropolitan is committed to implementing the environmental commitments and mitigation measures in disadvantaged communities for impacts that occur in these areas, as set forth in PRC Section 21189.82(c). Specifically, potentially significant impacts that may occur in disadvantaged communities as a result of Pure Water, respective mitigation measures, and level of significance after mitigation, are listed in Table ES-2 of the Draft EIR and enclosed with this letter. These measures would be implemented in and directly benefit the affected disadvantaged communities.

Sincerely,

Mai Hattar

Mai Hattar, PE
Group Manager, Engineering Services
Metropolitan Water District of Southern California

Enc. Excerpts from Table ES-2 of the Pure Water Draft EIR

Excerpts from Table ES-2 of the Pure Water Draft EIR
SUMMARY OF POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND SIGNIFICANCE AFTER MITIGATION

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
5.1 Air Quality					
Consistency with Air Quality Plans	**AQ-EC-1: Diesel Engine Idling.** Idling for a vehicle's primary diesel engine shall be restricted to five minutes or less at any location, except as allowed by California Air Resources Board (CARB) regulation: Title 13 California Code of Regulations (CCR), Division 3, Chapter 10, Section 2485. **AQ-EC-2: Fugitive Dust Control.** The contractor shall comply with South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust), including implementing the Best Available Control Measures (BACM) listed in Table 1 of Rule 403 for all construction activities, the BACM listed in Table 2 of Rule 403 for large operations (50 or more acres of disturbed surface area or earth moving operations of 5,000 cubic yards/day for more than 3 days), and the Contingency Control Measures in Table 3 of Rule 403 when wind speeds, including instantaneous gusts, exceed 25 miles per hour.	Pure Water would result in emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_X; for which the South Coast Air Basin [SCAB] is in nonattainment) during temporary construction and/or concurrent construction and operations that are expected to exceed thresholds. Pure Water would therefore have the potential to result in an increase in the frequency or severity of existing air quality violations or delay the timely attainment of air quality standards specified in the Air Quality Management Plan (AQMP), and thus have the potential to conflict with or obstruct implementation of the AQMP.	Potentially Significant	**AQ-MM-1: Tier 4 Final Off-Road Construction Equipment.** All diesel-fired construction equipment, equal to or greater than 25 horsepower shall meet U.S. Environmental Protection Agency (USEPA) Tier 4 Final standards at a minimum. **AQ-MM-2: Alternative Fuel Construction Equipment.** As practical, on- and off-road vehicles and equipment shall be electrically powered or utilize other alternative fuels. **AQ-MM-3: Onsite Power Sources.** If available, the contractor shall use existing onsite power sources (e.g., power poles) or renewable fuel generators rather than diesel generators. **AQ-MM-4: Electric Vehicle Charging Stations.** Prior to completion of Phase 1 Pure Water construction activities at the Joint Treatment Site, a minimum of 12 electric vehicle charging stations shall be installed at the existing compressed natural gas fueling station owned and operated by the Sanitation Districts at the Warren Facility.	Less than Significant
Criteria Pollutant Emissions	**AQ-EC-1: Diesel Engine Idling** **AQ-EC-2: Fugitive Dust Control**	Pure Water would result in emissions of VOC, NO_X, and carbon monoxide (CO) during temporary construction and/or concurrent construction and operations that are expected to exceed thresholds. Pure Water would therefore have the potential to result in a cumulatively considerable net increase of criteria pollutants for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.	Potentially Significant	**AQ-MM-1: Tier 4 Final Off-Road Construction Equipment.** **AQ-MM-2: Alternative Fuel Construction Equipment.** **AQ-MM-3: Onsite Power Sources.** **AQ-MM-4: Install Electric Vehicle Charging Stations.**	Significant and Unavoidable (Construction Only)
5.2 Biological Resources					
Special-status Species	**GM-EC-1: Environmental Awareness Training.** Prior to construction, the Contractor shall attend an Environmental Awareness Training with Metropolitan's construction management team and designated environmental monitors (i.e., qualified biologist, archaeologist, Native American monitor, paleontologist, hazardous materials specialist, as applicable). An Environmental Awareness Training program shall inform all employees of the sensitive resources known or with potential to occur in the local area; the sensitivity of the area in which they will be working; and environmental measures and requirements to comply with project approvals and environmental permits and regulations.	Pure Water would have the potential to result in a substantial adverse effect on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially Significant	**BIO-MM-1: Riparian Vegetation Monitoring Plan and Water Deliveries Mitigation.** Metropolitan shall prepare a Riparian Vegetation Monitoring Plan for the reach of the San Gabriel River, between USG-3 and Santa Fe Dam, to monitor potential changes to wetland and riparian communities in response to the suspension of water deliveries at USG-3. If the water delivery changes are determined to have resulted in adverse impacts and loss of wetland and riparian habitat along the monitored reach during the monitoring period, additional measures shall be implemented to ensure no net loss of wetland and riparian habitat occurs within the monitoring reach as a result of Pure Water operations.	Less than Significant

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued	**AQ-EC-2: Fugitive Dust Control** **BIO-EC-1: Temporary Construction Fencing.** Prior to construction, to prevent inadvertent impacts to environmentally sensitive areas outside of the approved direct impact area, temporary construction fencing shall be installed at all locations where the project facilities and components occur adjacent to riparian habitat, sensitive natural communities, and aquatic resources, including jurisdictional waters or wetlands. Temporary fencing may also include silt fencing, as appropriate and where determined necessary by the Stormwater Pollution Prevention Plan (SWPPP). A qualified biologist shall monitor the installation of the temporary construction fencing wherever it would abut environmentally sensitive areas. Construction activities shall be restricted to areas within the approved impact limits at all times during construction. **BIO-EC-2: Nesting Bird and Raptor Avoidance.** Trimming, grubbing, and clearing of vegetation shall be avoided during the general avian breeding season (January 15 to July 15 for raptors; February 1 to August 31 for other avian species) to the extent feasible based on schedule considerations and coordination with local agencies. If trimming, grubbing, or clearing of vegetation is proposed during the general avian breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than seven days prior to disturbance of vegetation to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within the survey area, trimming, grubbing, and clearing of vegetation will be allowed to proceed. If active bird nests are confirmed to be present during the pre-construction survey, a buffer zone shall be established by the qualified biologist. Construction activities shall avoid any active nests and buffer zone until a qualified biologist has verified that the young have fledged or the nest has otherwise become inactive. **BIO-EC-3: Nighttime Lighting.** Any artificial nighttime lighting shall be shielded and directed away from native habitat and other sensitive biological resource areas.			Metropolitan shall prepare and implement a Riparian Vegetation Monitoring Plan for the reach of the San Gabriel River between Metropolitan service connection USG-3 and Santa Fe Dam to monitor potential changes to wetland and riparian communities in response to the suspension of water deliveries at USG-3. The monitoring shall also include potential changes to such habitat potentially serving as breeding habitat for the federally and state endangered least Bell's vireo and southwestern willow flycatcher; potential adverse modification of critical habitat for the southwestern willow flycatcher; and potential impacts to habitat for other special-status species, as applicable. The plan shall identify the purpose of the monitoring, monitoring period, monitoring protocols, thresholds for determining if the suspension of water deliveries has resulted in an adverse impact to wetland and riparian habitats within the monitoring area, reporting requirements, and subsequent actions to be taken to ensure that no net loss of wetland or riparian habitat occurs within the monitoring reach as a result of Pure Water operations. If, through implementation of the Riparian Vegetation Monitoring Plan, a significant adverse impact on wetland and/or riparian habitat; breeding habitat for the least Bell's vireo and/or southwestern willow flycatcher; critical habitat for southwestern willow flycatcher; and/or habitat for other special-status species is identified, then Metropolitan shall consult with the U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW), as applicable, to address potential adverse impacts on special-status species and/or adverse modification of critical habitat. Metropolitan shall implement requirements determined through the consultation process, which could include adjusting surface flows, as appropriate, and/or compensation at a minimum 1:1 ratio to ensure no net loss or degradation of wetland and/or riparian habitat, breeding habitat for the least Bell's vireo and/or southwestern willow flycatcher, and/or southwestern willow flycatcher critical habitat. This could occur through one or more of the following: onsite and/or offsite establishment, re-establishment, rehabilitation, and/or enhancement; acquisition and preservation of onsite and/or offsite land demonstrated to support the habitat; and/or purchase of mitigation credits at an approved mitigation bank. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant.	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued	**BIO-EC-4: Invasive Plant Species.** No invasive plant species listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council shall be included in project landscaping or revegetation activities.			**BIO-MM-2**: **Updated Rare Plant Surveys.** A qualified biologist shall conduct updated focused rare plant surveys no more than two years prior to construction activities in direct impact area(s) with suitable habitat. Updated focused rare plant surveys shall be conducted by a qualified biologist prior to the commencement of construction and during the appropriate season(s) to identify the presence or absence of special-status plant species, including locations and numbers, within the direct impact area(s) scheduled for construction within two years. The surveys shall cover all special-status plant species with potential to occur within the direct impact area(s) and shall target, at a minimum, the following special-status plant species found to be absent from the direct impact area(s) during baseline biological surveys but with a high potential to occur in the future given the presence of suitable habitat: Nevin's barberry (federally and state listed endangered, California Rare Plant Rank 1B.1); Parish's gooseberry (non-listed, California Rare Plant Rank 1A), and Sonoran maiden fern (non-listed, California Rare Plant Rank 2B.2). The results of the surveys shall be summarized in a rare plant survey report to be submitted to Metropolitan. If, after the completion of the updated rare plant surveys, it is determined that unavoidable impacts to Nevin's barberry and/or other federally and/or state listed plant species would occur as a result of project implementation, then Metropolitan shall implement mitigation measure BIO-MM-3. If it is confirmed that unavoidable impacts to Parish's gooseberry, Sonoran maiden fern, and/or other non-listed, special-status plant species with a California Native Plant Society California Rare Plant Rank of 1 or 2 could occur, then Metropolitan shall implement mitigation measure BIO-MM-4. **BIO-MM-3: Nevin's Barberry Avoidance, Agency Consultation, and Compensatory Mitigation.** If Nevin's Barberry or other federally and/or state listed plant species are identified within the direct impact area(s) and cannot be avoided, Metropolitan shall consult with USFWS and/or CDFW in accordance with the federal and state Endangered Species Acts. If confirmed present within the direct impact area(s) through the implementation of mitigation measure BIO-MM-2, the locations of Nevin's barberry and other federally and/or state listed plant species shall first be avoided where feasible during final project design based on engineering and constructability considerations. Where avoidance is not feasible, Metropolitan shall consult with the USFWS and/or CDFW, as applicable, to obtain the appropriate approvals and permits authorizing impacts and "take" of the species. Metropolitan or the appropriate federal lead agency for the project shall consult with the USFWS for impacts on federally listed species in accordance with Section 7 or Section 10 of the federal Endangered Species Act and with the CDFW for impacts on state listed species in accordance with Section 2080.1 or Section 2081 of the California Endangered Species Act, as applicable. Impacts on federally and/or state listed plants shall be mitigated either through salvage and translocation onto suitable onsite and/or offsite receptor locations as approved in consultation with the USFWS and/or CDFW, or through offsite preservation of habitat demonstrated to support the species, unless otherwise determined in consultation with the USFWS and/or CDFW. If salvage and translocation are required, a qualified biologist shall prepare a Mitigation Plan that identifies, at a minimum, the goals of the mitigation, responsible parties, timing of mitigation, methods of mitigation	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				implementation, maintenance and monitoring requirements, final success criteria, and contingency measures. Mitigation would include, at a minimum, 1:1 replacement of impacted individuals to ensure no net loss. The Mitigation Plan would be submitted to and approved by the USFWS and/or CDFW, as applicable, prior to the initiation of construction for those facilities and components of the project with impacts on the species. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-4: Parish's Gooseberry and Sonoran Maiden Fern Avoidance and Compensatory Mitigation.** If Parish's Gooseberry, Sonoran Maiden Fern, or other non-listed California Rare Plant Rank 1 and 2 species are identified within the direct impact area(s) and cannot be avoided, Metropolitan shall mitigate impacts. If confirmed present within the direct impact area(s) through the implementation of mitigation measure BIO-MM-2, the locations of Parish's gooseberry, Sonoran maiden fern, and other non-listed California Rare Plant Rank 1 and 2 plant species shall first be avoided where feasible during final project design based on engineering and constructability considerations. Where avoidance is not feasible, Metropolitan shall mitigate the impacts either through salvage and translocation within suitable onsite and/or offsite receptor locations, onsite revegetation (i.e., planting and seeding with locally sourced plant material), or offsite preservation of habitat demonstrated to support the species. If salvage and translocation and/or onsite revegetation is required, a qualified biologist shall prepare a Mitigation Plan for the applicable pipeline reach that identifies, at a minimum, the goals of the mitigation, responsible parties, timing of mitigation, methods of mitigation implementation, maintenance and monitoring requirements, final success criteria, and contingency measures. The minimum mitigation ratio would include 1:1 replacement of impacted individuals to ensure no net loss. The Mitigation Plan shall be submitted to and approved by Metropolitan prior to the initiation of construction for those facilities and components of the project with impacts on the species. **BIO-MM-5: Updated Coastal California Gnatcatcher Surveys.** A qualified biologist shall conduct updated protocol-level surveys for coastal California gnatcatcher no more than two years prior to construction activities where suitable habitat occurs within or adjacent to direct impact area(s). A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(A) Recovery Permit) shall conduct updated protocol-level surveys for coastal California gnatcatcher no more than two years prior to the commencement of construction activities to determine the presence/absence of coastal California gnatcatcher. The surveys shall be conducted in accordance with the current USFWS survey protocol within the direct impact area(s), in areas supporting contiguous suitable habitat that occurs within 500 feet of direct impact area(s) (i.e., within suitable habitat that is not separated from direct impact area[s] by existing developments), and where construction is scheduled to occur within two years. In order to inform the quantification of habitat determined to be occupied by nesting/breeding coastal California gnatcatchers, the surveys shall include mapping the location and estimated	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				extent of any coastal California gnatcatcher nests and associated breeding territories found to overlap the direct impact area(s) and contiguous suitable habitat that occurs within 500 feet of direct impact area(s). The results of the survey shall be summarized in a survey report and submitted to the USFWS within 45 days of completion of the surveys pursuant to survey protocol. If coastal California gnatcatchers are found to occur in the direct impact area(s) or within contiguous suitable habitat that occurs within 500 feet of the direct impact area(s), Metropolitan shall implement the avoidance and minimization measures described in mitigation measure BIO-MM-6 to prevent potential indirect and adverse impacts to nesting/breeding individuals. **BIO-MM-6: Coastal California Gnatcatcher Avoidance and Agency Consultation.** If coastal California gnatcatcher occurs in or within 500 feet of direct impact area(s), Metropolitan shall implement measures to avoid or minimize impacts and, if necessary, consult with the USFWS. If, during the updated protocol-level surveys conducted in accordance with BIO-MM-5, coastal California gnatcatcher is found to be nesting/breeding within direct impact area(s), then the following measures shall be implemented: a. Prior to initiation of direct impacts to habitat occupied by nesting/breeding coastal California gnatcatcher, Metropolitan or the project's federal lead agency shall consult with the USFWS in accordance with Section 7 or Section 10 of the federal Endangered Species Act to obtain take coverage for unavoidable impacts. All Terms and Conditions and Conservation Measures prescribed by the USFWS as part of the consultation process shall be adhered to, which shall include at a minimum and, unless otherwise directed by the USFWS, the following avoidance and minimization measures: i. Removal (i.e., vegetation clearing, crushing, trimming) of coastal California gnatcatcher habitat shall be avoided during the coastal California gnatcatcher breeding season (February 15 through August 31) to the extent feasible; ii. If removal of coastal California gnatcatcher habitat must occur during the coastal California gnatcatcher breeding season, Metropolitan shall retain a qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(A) Recovery Permit) to conduct pre-construction surveys for the coastal California gnatcatcher to determine whether nesting/breeding coastal California gnatcatchers are currently present within the direct impact area(s). Pre-construction surveys shall include a minimum of three surveys, conducted on separate days, beginning no earlier than seven days prior to commencement of construction activities, with the last survey being conducted within 24 hours prior to initiation of work. If coastal California gnatcatchers are not detected during the pre-construction surveys, construction activities shall be allowed to proceed	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				with no additional measures required, so long as the activities are ongoing and do not stop for more than seven days during the coastal California gnatcatcher breeding season. If construction activities stop for more than seven days during the coastal California gnatcatcher breeding season, Metropolitan shall repeat the pre-construction surveys to confirm the continued absence of nesting/breeding coastal California gnatcatchers; iii. If nesting/breeding coastal California gnatcatchers are found to be present during the pre-construction surveys, the qualified biologist shall record the number of individuals, map the location of coastal California gnatcatcher nests observed, estimate the extent of occupied habitat being used as part of breeding territories, and report these numbers and locations to the USFWS. In consultation with the USFWS, the qualified biologist shall establish an avoidance buffer around the nests. The qualified biologist shall monitor the status of the nests, confirm the extent of occupied habitat being used as part of breeding territories, and adjust the avoidance buffer if necessary. No construction activities shall occur within the avoidance buffer until the qualified biologist has determined that nesting activities have ceased (i.e., nestlings have fledged, or the nest is no longer active), or until after August 31; and iv. Metropolitan shall compensate direct impacts to habitat that is found to be occupied by nesting/breeding coastal California gnatcatchers during pre-construction surveys (as described in mitigation measure BIO-MM-5 and potentially updated during monitoring) through implementation of mitigation measure BIO-MM-7 below. If, during the updated protocol-level surveys conducted in accordance with BIO-MM-5, coastal California gnatcatcher is found to be nesting/breeding outside of direct impact area(s) but within contiguous habitat that occurs within 500 feet of direct impact areas(s) (i.e., within suitable habitat that is not separated from direct impact area(s) by existing developments), then the following measures shall be implemented: a. Prior to initiation of construction activities with the potential to generate noise in excess of 60 A-weighted decibels (dBA) as measured from the location of any coastal California gnatcatcher nests, Metropolitan shall implement the following avoidance and minimization measures to prevent potential indirect and adverse impacts to nesting/breeding individuals:	

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Special-status Species, continued				i. Construction activities with the potential to generate noise in excess of 60 dBA as measured from the location of any coastal California gnatcatcher nests shall not be initiated during the coastal California gnatcatcher breeding season (February 15 through August 31) to the extent feasible; ii. If construction activities with the potential to generate noise in excess of 60 dBA as measured from the location of any coastal California gnatcatcher nests must be initiated during the coastal California gnatcatcher breeding season, Metropolitan shall retain a qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(A) Recovery Permit) to conduct pre-construction surveys to determine whether nesting/breeding coastal California gnatcatchers are currently present within contiguous habitat that occurs within 500 feet of the direct work area(s). Pre-construction surveys shall include a minimum of three surveys, conducted on separate days, beginning no earlier than seven days prior to commencement of construction activities, with the last survey being conducted within 24 hours prior to initiation of work. If coastal California gnatcatchers are not detected during the pre-construction surveys, construction activities shall be allowed to proceed with no additional measures required, so long as the activities are ongoing and do not stop for more than seven days during the coastal California gnatcatcher breeding season. If construction activities stop for more than seven days during the coastal California gnatcatcher breeding season, Metropolitan shall repeat the pre-construction surveys to confirm the continued absence of nesting/breeding coastal California gnatcatchers; iii. If nesting/breeding coastal California gnatcatchers are found to be present during the pre-construction surveys, Metropolitan shall conduct noise monitoring to ensure that construction noise does not exceed 60 dBA as measured from the location of active nests. If necessary, noise attenuation measures (i.e., noise walls, sound blankets, etc.) shall be implemented, and/or construction activities shall be adjusted to ensure that no indirect and adverse impacts to nesting/breeding coastal California gnatcatchers occur. As determined by the qualified biologist, if at any time noise cannot be attenuated or construction activities cannot be adjusted to maintain 60 dBA or less as measured from the location of active nests, the construction activities shall be temporarily halted at the nest locations and an avoidance buffer shall be established by the qualified biologist around the nests until the qualified biologist has determined that nesting activities have ceased (i.e., nestlings have fledged, or the nest is no longer active), or until after August 31; and	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				iv. Indirect and adverse impacts to nesting/breeding coastal California gnatcatchers with the potential to result in take of individuals are not authorized and would require consultation with the USFWS in accordance with BIO-MM-6a above, as applicable. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-7: Compensatory Mitigation for Coastal California Gnatcatcher Habitat.** Direct impacts to occupied coastal California gnatcatcher habitat shall be mitigated in consultation with USFWS in accordance with the federal Endangered Species Act. Direct impacts to occupied coastal California gnatcatcher habitat shall be mitigated at a minimum 1:1 ratio for temporary impacts and a minimum 2:1 ratio for permanent impacts. Mitigation may occur through one or more of the following: onsite and/or offsite habitat creation, restoration, and/or enhancement; acquisition and preservation of onsite and/or offsite lands demonstrated to be occupied by the species; and/or purchase of mitigation credits at an approved mitigation bank. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-8: Updated Least Bell's Vireo Surveys.** A qualified biologist shall conduct updated protocol-level surveys for least Bell's vireo no more than two years prior to construction activities where suitable habitat occurs adjacent to direct impact area(s). A qualified biologist shall conduct updated protocol-level surveys for least Bell's vireo no more than two years prior to the commencement of construction activities to determine the presence/absence of least Bell's vireo where suitable habitat occurs adjacent to the direct impact area(s). The surveys shall be conducted in accordance with the current USFWS survey protocol in areas supporting contiguous suitable habitat that occurs within 500 feet of direct impact area(s) (i.e., within suitable habitat that is not separated from direct impact area[s] by existing developments) and where construction is scheduled to occur within two years. The results of the survey shall be summarized in a survey report and submitted to the USFWS within 45 days of completion of the surveys pursuant to survey protocol. If least Bell's vireos are found within contiguous suitable habitat that occurs within 500 feet of direct impact area(s), Metropolitan shall implement the avoidance and minimization measures described in mitigation measure BIO-MM-9 to prevent potential indirect and adverse impacts to nesting/breeding individuals.	

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Special-status Species, continued				**BIO-MM-9: Least Bell's Vireo Avoidance.** If least Bell's vireo occurs within 500 feet of direct impact area(s), Metropolitan shall implement measures to avoid or minimize impacts. If, during the updated protocol-level surveys, least Bell's vireo is found to be nesting/breeding within contiguous habitat that occurs within 500 feet of direct impact area(s) (i.e., within suitable habitat that is not separated from direct impact area[s] by existing developments), then the following measures shall be implemented: a. Prior to initiation of construction activities with the potential to generate noise in excess of 60 dBA as measured from the location of any least Bell's vireo nests, Metropolitan shall implement the following avoidance and minimization measures to prevent potential indirect and adverse impacts to nesting/breeding individuals: i. Construction activities with the potential to generate noise in excess of 60 dBA as measured from the location of any least Bell's vireo nests shall not be initiated during the least Bell's vireo breeding season (March 15 through September 15) to the extent feasible; **ii.** If construction activities with the potential to generate noise in excess of 60 dBA as measured from the location of any least Bell's vireo nests must be initiated during the least Bell's vireo breeding season, a qualified biologist shall conduct pre-construction surveys for least Bell's vireo to determine whether nesting/breeding least Bell's vireo are currently present within contiguous habitat that occurs within 500 feet of the direct work areas. Pre-construction surveys shall include a minimum of three surveys, conducted on separate days, beginning no earlier than seven days prior to commencement of construction activities with the last survey being conducted the day immediately prior to initiation of work. If least Bell's vireos are not detected during the pre-construction surveys, construction activities shall be allowed to proceed with no additional measures required, so long as the activities are ongoing and do not stop for more than seven days during the least Bell's vireo breeding season. If construction activities stop for more than seven days during the least Bell's vireo breeding season, Metropolitan shall repeat the pre-construction surveys to confirm the continued absence of nesting/breeding least Bell's vireos;	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				iii. If nesting/breeding least Bell's vireos are found to be present during the pre-construction surveys, Metropolitan shall conduct noise monitoring to ensure that construction noise does not exceed 60 dBA as measured from the location of active nests. If necessary, noise attenuation measures (i.e., noise walls, sound blankets, etc.) shall be implemented and/or construction activities shall be adjusted to ensure that no indirect and adverse impacts to nesting/breeding least Bell's vireos occur. As determined by the qualified biologist, if at any time noise cannot be attenuated or construction activities cannot be adjusted to maintain 60 dBA or less as measured from the location of active nests, the construction activities shall be temporarily halted at the nest locations and an avoidance buffer shall be established by the qualified biologist around the nests until the qualified biologist has determined that nesting activities have ceased (i.e., nestlings have fledged, or the nest is no longer active), or until after September 15; and iv. Indirect and adverse impacts to nesting/breeding least Bell's vireos with the potential to result in take of individuals are not authorized and would require consultation with the USFWS in accordance with Section 7 or Section 10 of the federal Endangered Species Act to obtain take coverage for unavoidable impacts. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over the resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-10: Updated Southwestern Willow Flycatcher Surveys.** A qualified biologist shall conduct updated protocol-level surveys for southwestern willow flycatcher no more than two years prior to construction activities where suitable habitat occurs adjacent to direct impact area(s). A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(A) Recovery Permit) shall conduct updated protocol-level surveys for southwestern willow flycatcher no more than two years prior to the commencement of construction activities to determine the presence/absence of southwestern willow flycatcher where suitable habitat occurs adjacent to direct impact area(s). The surveys shall be conducted in accordance with the current USFWS survey protocol in areas supporting contiguous suitable habitat that occurs within 500 feet of direct impact area(s) (i.e., within suitable habitat that is not separated from direct impact area[s] by existing developments) and where construction is scheduled to occur within two years. The results of the survey shall be summarized in a survey report and submitted to the USFWS within 45 days of completion of the surveys pursuant to survey protocol. If southwestern willow flycatchers are found within contiguous suitable habitat that occurs within 500 feet of direct impact area(s), Metropolitan shall implement the avoidance and minimization measures described in mitigation measure BIO-MM-11 to prevent potential indirect and adverse impacts to nesting/breeding individuals.	

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Special-status Species, continued				**BIO-MM-11: Southwestern Willow Flycatcher Avoidance.** If southwestern willow flycatcher occurs within 500 feet of direct impact area(s), Metropolitan shall implement measures to avoid or minimize impacts. If, during the updated protocol-level surveys, southwestern willow flycatcher is found to be nesting/breeding within contiguous habitat that occurs within 500 feet of direct impact area(s) (i.e., within suitable habitat that is not separated from direct impact area[s] by existing developments), then the following measures shall be implemented: a. Prior to the initiation of construction activities with the potential to generate noise in excess of 60 dBA as measured from the location of any southwestern willow flycatcher nests, Metropolitan shall implement the following avoidance and minimization measures to prevent potential indirect and adverse impacts to nesting/breeding individuals: i. Construction activities with the potential to generate noise in excess of 60 dBA as measured from the location of any southwestern willow flycatcher nests shall not be initiated during the southwestern willow flycatcher breeding season (May 1 to September 1) to the extent feasible; **ii.** If construction activities with the potential to generate noise in excess of 60 dBA as measured from the location of any southwestern willow flycatcher nests must be initiated during the southwestern willow flycatcher breeding season, a qualified biologist shall conduct pre-construction surveys for southwestern willow flycatcher to determine whether nesting/breeding southwestern willow flycatchers are currently present within contiguous habitat that occurs within 500 feet of the direct work areas. Pre-construction surveys shall include a minimum of three surveys, conducted on separate days, beginning no earlier than seven days prior to commencement of construction activities with the last survey being conducted within 24 hours prior to initiation of work. If southwestern willow flycatchers are not detected during the pre-construction surveys, construction activities shall be allowed to proceed with no additional measures required, so long as the activities are ongoing and do not stop for more than seven days during the southwestern willow flycatcher breeding season. If construction activities stop for more than seven days during the southwestern willow flycatcher breeding season, Metropolitan shall repeat the pre-construction surveys to confirm the continued absence of nesting/breeding southwestern willow flycatchers;	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				iii. If nesting/breeding southwestern willow flycatchers are found to be present during the pre-construction surveys, Metropolitan shall conduct noise monitoring to ensure that construction noise does not exceed 60 dBA as measured from the location of active nests. If necessary, noise attenuation measures (i.e., noise walls, sound blankets, etc.) shall be implemented and/or construction activities shall be adjusted to ensure that no indirect and adverse impacts to nesting/breeding southwestern willow flycatchers occur. As determined by the qualified biologist, if at any time noise cannot be attenuated or construction activities cannot be adjusted to maintain 60 dBA or less as measured from the location of active nests, the construction activities shall be temporarily halted at the nest locations and an avoidance buffer shall be established by the qualified biologist around the nests until the qualified biologist has determined that nesting activities have ceased (i.e., nestlings have fledged, or the nest is no longer active), or until after September 1; and iv. Indirect and adverse impacts to nesting/breeding southwestern willow flycatchers with the potential to result in take of individuals are not authorized and would require consultation with the USFWS in accordance with Section 7 or Section 10 of the federal Endangered Species Act to obtain take coverage for unavoidable impacts. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-12: Updated Burrowing Owl Surveys.** A qualified biologist shall conduct updated protocol-level surveys for burrowing owl the year prior to construction activities where suitable habitat occurs within or adjacent to the direct impact area(s). A qualified biologist shall conduct protocol-level surveys for burrowing owl the year prior to the commencement of construction activities to determine the presence/absence of burrowing owl within or adjacent to direct impact area(s). The surveys shall be conducted in accordance with current guidelines detailed in the CDFW's 2012 Staff Report on Burrowing Owl Mitigation, or subsequently adopted guidelines, for suitable burrowing owl habitat that occurs within the direct impact area(s) and areas within 500 feet that are contiguous with the direct impact area(s) (i.e., the areas are not separated from the direct impact area[s] by developed lands or other habitat that is not suitable for burrowing owl) where construction is scheduled to occur within one year and where an adverse direct or indirect impact could occur to the species as a result construction activities, as determined by the qualified biologist. The results of the survey shall be summarized in a survey report and submitted to Metropolitan prior to the initiation of construction.	

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Special-status Species, continued				**BIO-MM-13: Burrowing Owl Avoidance and Agency Consultation:** If active burrowing owl burrows are found to occur in or within 500 feet of direct impact area(s), Metropolitan shall consult with CDFW and implement measures to avoid or minimize impacts. If, during updated protocol-level surveys, burrowing owl and/or occupied burrowing owl burrows are found to occur within 500 feet of direct impact area(s) (i.e., within suitable habitat not separated from direct impact area[s] by existing developments), then the following measures shall be implemented unless otherwise superseded by updated burrowing owl guidelines adopted by CDFW or measures contained in an incidental take permit (ITP) issued by CDFW: a. Prior to construction, Metropolitan shall retain a qualified biologist to conduct pre-construction surveys for burrowing owl in suitable burrowing owl habitat that occurs within the direct impact area(s) and areas within 500 feet that are contiguous with the direct impact areas (i.e., the areas are not separated from the direct impact area[s] by developed lands or other habitat that is not suitable for burrowing owl) where an adverse direct or indirect impact could occur to the species as a result of construction activities, as determined by the qualified biologist. The pre-construction surveys shall include at least two surveys conducted at least seven days apart, with the first survey occurring no more than 14 days prior to initiating construction activities that might result in a direct or indirect impact to burrowing owl and the second survey occurring no more than 48 hours prior to initiating construction activities that might result in a direct or indirect impact to burrowing owl. The surveys shall be conducted using the methods described in the 2012 CDFW Staff Report on Burrowing Owl Mitigation or subsequently adopted guidelines. If no burrowing owls or occupied burrows are detected during the pre-construction surveys, construction activities shall be allowed to proceed with no additional measures required. If burrowing owls and/or occupied burrowing owl burrows are detected during the pre-construction surveys, then the following additional measures shall be implemented. **b.** If burrowing owls and/or occupied burrowing owl burrows are detected during the pre-construction surveys, the results of the survey, including a Burrow Complex Map, shall be summarized in a survey report and submitted to Metropolitan and CDFW prior to initiating construction activities within 500 feet of burrowing owl locations and/or occupied burrowing owl burrows. The Burrow Complex Map shall show the locations of all burrowing owl sightings, burrowing owl burrow complex(es), and atypical burrows (i.e., culverts, buckled concrete, etc.), and shall label if the sightings were identified as potential burrows, occupied burrows, satellite burrows, areas of concentrated burrows, and/or burrowing owl sign. If a lapse in construction activities occurs for 14 days or longer within 500 feet of burrowing owl sightings or occupied burrows, Metropolitan shall contact the CDFW to determine if updated pre-construction surveys and an updated Burrow Complex Map are required prior to reinitiating construction activities with potential to disturb burrowing owls;	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				c. Construction activities with the potential to result in direct or indirect adverse impacts on burrowing owls shall be avoided within approximately 500 feet of burrowing owls and/or occupied burrowing owl burrows during any time of the year to the extent feasible; d. If construction activities with the potential to result in direct or indirect adverse impacts on burrowing owl cannot be avoided within 500 feet of burrowing owls and/or occupied burrows while burrowing owls are present at any time of the year, the following avoidance measures shall be implemented: i. During the burrowing owl breeding season (February 1 to August 31), an avoidance buffer of approximately 500 feet shall be established around all active burrowing owl nesting, roosting, and satellite burrows or the entire burrow complex. The avoidance buffer shall be delineated using stakes, flags, and/or rope or cord. The method of marking the buffer shall be adjusted if corvids, raptors, or other predators are observed perching on marking materials. The avoidance buffer shall be delineated with different materials than those used to delineate the limits of work. All materials used for delineation of the buffer shall be removed and properly disposed of following completion of construction activities, or when burrowing owls are no longer present and/or using the burrow(s). The distance of the avoidance buffer may be reduced where natural (hills, trees) or artificial (buildings, walls) barriers separate the location of construction activities from the active burrowing owl burrows. The final distance of the avoidance buffer shall be at the discretion of a qualified biologist. ii. During the burrowing owl non-breeding season (September 1 to January 31), an avoidance buffer of approximately 165 feet shall be established around all active burrowing owl wintering or roosting burrows or the entire burrow complex. The buffer shall be delineated using stakes, flags, and/or rope or cord. The method of marking the avoidance buffer shall be adjusted if corvids, raptors, or other predators are observed perching on marking materials. The avoidance buffer shall be delineated with different materials than those used to delineate the limits of work. All materials used for delineation of the buffer shall be removed and properly disposed of following completion of construction activities, or when burrowing owls are no longer present and/or using the burrow(s). The distance of the avoidance buffer may be reduced where natural (hills, trees) or artificial (buildings, walls) barriers separate the location of construction activities from the active burrowing owl burrows. The final distance of the avoidance buffer shall be at the discretion of a qualified biologist.	

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Special-status Species, continued				e. If occupied and/or potentially suitable burrowing owl burrows occur within the direct impact area(s) and cannot be avoided by construction activities, the following measures shall be implemented: i. Construction activities shall avoid direct physical impacts to active burrowing owl nesting, roosting, and satellite burrows or the entire burrow complex during the burrowing owl breeding season (February 1 to August 31), or until a qualified biologist determined that nesting activities have ceased (i.e., nestlings have fully fledged, are feeding independently, and are no longer dependent on the nesting burrow). ii. Burrowing owl exclusion and excavation of potentially suitable burrowing owl burrows present within the direct impact area(s) may be conducted with approval of the CDFW once the burrow or burrow complex has been determined to be inactive, during the burrowing owl non-breeding season (September 1 to January 31), or if conducted during the burrowing owl breeding season (February 1 to August 31), only after the nestlings have fully fledged, are feeding independently, and are no longer dependent on the nesting burrow. Methods of burrow exclusion and excavation shall be determined in consultation with CDFW and may include such methods as: burrow monitoring to confirm status; burrow inspection through the use of camera scoping, trail camera, or alternative methods approved by CDFW; installation of one-way doors at the entrance of burrows to allow burrowing owl and other wildlife to vacate the burrows unharmed; or collapsing of vacated burrows. If direct or indirect adverse impacts cannot be avoided during the review period for burrowing owl as a candidate state endangered species or if burrowing owl is listed as a state endangered species, then Metropolitan shall implement the additional measures below in compliance with the California Endangered Species Act. If the candidate state endangered listing is removed for the burrowing owl and the species does not become listed as a state endangered species, then the additional measures below for the California Endangered Species Act compliance would no longer be required. f. Prior to the initiation of construction activities that could result in direct or indirect adverse impacts on burrowing owl, Metropolitan shall consult with CDFW in accordance with the California Endangered Species Act. If take of burrowing owl is expected, no construction activities with the potential to result in direct or indirect adverse impacts on burrowing owl shall occur until CDFW has authorized such take through an incidental take permit (ITP), as applicable. Metropolitan shall implement any required avoidance, minimization, and mitigation measures prescribed in the ITP, as applicable, beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant.	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				g. Prior to the initiation of construction activities that could result in direct physical impacts to active burrowing owl burrows and nest sites (i.e., destruction of burrows determined to be occupied by wintering, roosting, or nesting burrowing owl), a qualified biologist approved by CDFW shall be retained to help facilitate avoidance and minimization actions during project construction to ensure that burrowing owls are not harmed. The qualified biologist, in coordination with CDFW, shall assist with the implementation of measures to prevent direct take of burrowing owl individuals during construction. The CDFW-approved measures for ensuring the burrows do not support an active nest and individual owls are not entrapped within burrows that occur within the approved construction work areas shall include, at a minimum: burrowing monitoring to confirm nesting status; burrow inspection through the use of camera scoping, trail camera, or alternative methods approved by CDFW; installation of one-way doors at the entrance of burrows to allow burrowing owl and other wildlife to vacate the burrows unharmed; collapsing of vacated burrows; inspection, removal, and/or concealment of pipes, debris/rock piles, and other areas that could attract burrowing owl onto the approved construction work areas; monitoring construction activities; and weekly reporting to CDFW. **BIO-MM-14: Compensatory Mitigation for Burrowing Owls.** Direct impacts to burrowing owl nest sites shall be mitigated in consultation with CDFW in accordance with the California Endangered Species Act. Permanent direct impacts to active burrowing owl nest sites shall be offset through compensatory mitigation which may include, but is not limited to, onsite and/or offsite preservation of burrowing owl habitat demonstrated to support, at a minimum, the number of active burrowing owl nest sites impacted by construction. Lands to be conserved as mitigation for direct impacts shall include: (1) sufficient acreage to support the number of burrowing owl individuals impacted, including adequate territory size and foraging habitat, with fossorial mammals (e.g., California ground squirrel) present; (2) permanent protection through a conservation easement or similar protective instrument for the purpose of conserving burrowing owl habitat and prohibiting activities incompatible with burrowing owl use; (3) preparation and implementation of a Mitigation Land Management Plan to address long-term ecological sustainability and maintenance of the site for burrowing owls; and (4) funding for the long-term maintenance and management of the mitigation land through the establishment of a long-term funding mechanism, such as an endowment. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-15: Updated Bat Habitat Assessment and Bat Surveys.** A qualified biologist shall conduct an updated bat habitat assessment and focused bat surveys no more than two years prior to construction activities where suitable habitat occurs within or adjacent to direct impact area(s).	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				A qualified biologist with experience conducting bat surveys and acoustic monitoring shall conduct an updated habitat assessment and focused bat surveys no more than two years prior to commencement of construction activities to determine whether special-status bat species are currently present within and adjacent to direct impact area(s) and where construction is scheduled to occur within two years. The biologist shall conduct an updated habitat assessment to identify where potential daytime, nighttime, wintering, and hibernation roost sites occur in and within 100 feet of direct impact area(s). Potential roost sites shall be surveyed with the use of acoustic monitoring to identify roosting bats and any maternity roosts. The results of the survey shall be summarized in a survey report and submitted to Metropolitan prior to the initiation of construction. **BIO-MM-16: Bat Roost Avoidance or Exclusion.** If suitable bat roosting habitat is identified in or within 100 feet of direct impact area(s), Metropolitan shall implement the following measures to avoid or minimize impacts to roosting bats. If, during the updated bat habitat assessment, suitable bat roosting habitat is identified in or within 100 feet of direct impact area(s), a qualified biologist shall conduct pre-construction surveys for roosting bats in and within 100 feet of the direct impact area(s) no more than three days (72 hours) prior to trimming or removal of mature trees or initiation of ground-disturbing construction activities. The survey shall include both a daytime and nighttime component, including an evening emergence survey, and shall be conducted with the use of acoustic recognition technology to maximize the detection of bats. If bats are not detected during the pre-construction survey, construction activities shall be allowed to proceed, and no additional measures would be necessary. If bats are detected during the pre-construction surveys, the following measures shall be implemented. a. If bats are detected and determined to be roosting in or within 100 feet of the direct impact area(s) during the bat maternity season (April 15 through August 15), the following avoidance measure shall be implemented: i. A qualified biologist shall flag the active roost site and construction activities within 100 feet of the roost site shall be temporarily halted until after the maternity season (August 16), or until the qualified biologist has determined any young present are self-sufficiently volant (able to fly). b. If bats are detected and determined to be roosting in or within 100 feet of the direct impact area(s) outside of the bat maternity season (August 16 through April 14), the following avoidance measure shall be implemented: **i.** A qualified biologist shall flag the active roost site and construction activities within 50 feet of the roost site shall be temporarily halted until bats are no longer determined to be roosting, as determined by the qualified biologist.	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				c. If an adequate avoidance buffer cannot be provided between an active roost site and required construction activities, then exclusion of roost sites, where feasible, may be conducted with approval of the CDFW. Methods of roost exclusion shall be determined in consultation with CDFW and may include such methods as covering the roost entrance/exit with a bat valve (a flap that allows bat to exit but not reenter) using materials such as mesh, plastic sheeting, or tubes, as prescribed by CDFW. **BIO-MM-17: Updated Crotch's Bumble Bee Surveys.** If Crotch's bumble bee remains a candidate species or its status becomes elevated to a listed species under the California Endangered Species Act, a qualified biologist shall conduct updated protocol-level surveys for Crotch's bumble bee no more than two years prior to construction activities where suitable habitat occurs in direct impact area(s). If the candidate state endangered listing is removed for Crotch's bumble bee and the species does not become listed as a state threatened or endangered species, then this measure and the additional measures below for CESA compliance (BIO-MM-18 and BIO-MM-19) would no longer be required. If Crotch's bumble bee remains a candidate species or its status becomes elevated to a listed species under the California Endangered Species Act, a qualified biologist shall conduct protocol-level surveys for Crotch's bumble bee no more than two years prior to the commencement of construction activities in areas supporting suitable habitat to determine the presence/absence of Crotch's bumble bee in direct impact area(s) where construction may occur within two years. The surveys shall be conducted in accordance with current CDFW guidelines as detailed in the CDFW's Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species, dated June 6, 2023 (currently the USFWS's protocol for the rusty patched bumble bee dated, April 12, 2019), or subsequently adopted guidelines. The results of the survey shall be summarized in a survey report and submitted to Metropolitan prior to initiation of construction activities. If Crotch's bumble bee is found to occur and has potential to be directly or indirectly adversely affected by construction, Metropolitan shall implement the avoidance and minimization measures described in mitigation measure BIO-MM-18. **BIO-MM-18: Crotch's Bumble Bee Avoidance and Agency Consultation.** If Crotch's bumble bee remains a candidate species or its status becomes elevated to a listed species under the California Endangered Species Act, and the species is found to occur within the direct impact area(s), Metropolitan shall consult with the CDFW and implement measures to avoid or minimize impacts.	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				If Crotch's bumble bee remains a state candidate species for listing or is listed as threatened or endangered under the California Endangered Species Act and is found to occur within the direct impact area(s) during the updated protocol-level surveys, then the following measures shall be implemented: a. Prior to initiation of direct impacts to Crotch's bumble bee suitable habitat, Metropolitan shall consult with the CDFW regarding potential effects to the species and, if required by CDFW, obtain take authorization through the issuance of an ITP under Section 2081(b) of the California Fish and Game Code for unavoidable impacts. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over this resource beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. Unless otherwise directed by the CDFW, the following measures shall be implemented: i. Removal (i.e., vegetation clearing, crushing, trimming) of Crotch's bumble bee suitable habitat shall be avoided during the species' flight season (February 1 through October 31) to the extent feasible; ii. If construction activities must occur during the flight season, a qualified biologist shall conduct a pre-construction survey for Crotch's bumble bee queens, gynes, and colonies. The survey shall be conducted no more than 14 days prior to construction during suitable weather conditions in accordance with CDFW's requirements. If the pre-construction survey is negative, no further assessment shall be required, and construction activities shall be allowed to proceed; iii. If an active Crotch's bumble bee nest site is detected, an appropriate avoidance buffer shall be established by the qualified biologist. Construction activities shall avoid any active nest sites until a qualified biologist has verified that the nesting colony is no longer active; and iv. If Crotch's bumble bee is detected but no active nest sites are found, a qualified biological monitor shall be present during vegetation removal activities that are scheduled to occur during the queen flight period (February through March), colony active period (March through September), and/or gyne flight period (September through October). If Crotch's bumble bee is observed within the direct impact area during construction activities, the biological monitor shall immediately stop work activities within the area until the bumble bee freely moves away from the work area.	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Special-status Species, continued				**BIO-MM-19: Compensatory Mitigation for Crotch's Bumble Bee.** Direct impacts to Crotch's bumble bee occupied habitat shall be mitigated in consultation with the CDFW in accordance with the California Endangered Species Act. Direct impacts to Crotch's bumble bee occupied habitat shall be mitigated at a minimum 1:1 ratio. Mitigation may occur through one or more of the following: onsite and/or offsite habitat creation, restoration, and/or enhancement; acquisition and preservation of onsite and/or offsite lands demonstrated to be occupied by the species; and/or purchase of mitigation credits at an approved mitigation bank. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over this resource beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-20: Biological Monitoring Program.** A biological monitoring program shall be implemented to ensure compliance with Pure Water's mitigation measures and to avoid or minimize impacts to sensitive biological resources. A qualified biologist shall monitor vegetation removal and construction activities within or adjacent to sensitive biological resources including riparian habitat, sensitive natural communities, jurisdictional waters and wetlands, and areas where special-status plant and animal species have potential to occur. The biologist shall conduct full-time monitoring during vegetation removal activities and periodic monitoring during all other ground-disturbing activities that occur within or adjacent to sensitive biological resource areas. The biologist shall have the authority to temporarily halt vegetation removal and construction activities and make recommendations to help ensure impact minimization, compliance with the relevant provisions of all environmental permits and regulations, and that work does not take place outside of approved work areas. The qualified biologist shall document all monitoring activities and, at a minimum, send monthly compliance monitoring reports to Metropolitan. In the event that the biologist encounters a non-compliance action, the biologist shall notify Metropolitan's construction manager immediately, and corrective measures shall be implemented, which may require coordination with the USFWS, U.S. Army Corps of Engineers (USACE), CDFW, and/or Regional Water Quality Control Board (Regional Board), as applicable and in accordance with project approvals and permits. **BIO-MM-21: Restoration of Temporary Impact Areas.** Areas of native vegetation that are temporarily disturbed by construction shall be restored to pre-construction conditions. Direct impact area(s) supporting native vegetation that are temporarily impacted by construction shall be restored to pre-construction conditions, including revegetation with a native plant palette, following completion of construction.	

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Sensitive Habitats	**GM-EC-1: Environmental Awareness Training.** **BIO-EC-1: Temporary Construction Fencing.** **BIO-EC-4: Invasive Plant Species.**	Pure Water would have the potential to result in a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially Significant	**BIO-MM-1: Riparian Vegetation Monitoring Plan and Water Deliveries Mitigation.** **BIO-MM-20**: **Biological Monitoring Program.** **BIO-MM-21: Restoration of Temporary Impact Areas**. **BIO-MM-22: Compensatory Mitigation for Sensitive Natural Communities.** *Impacts to sensitive natural communities shall be mitigated at ratios and as described below.* Impacts to alluvial fan sage scrub shall be mitigated at a minimum 1:1 ratio for temporary impacts and a 2:1 ratio for permanent impacts. Mitigation could occur through one or more of the following: onsite and/or offsite habitat creation, restoration, and/or enhancement; acquisition and preservation of onsite and/or offsite land demonstrated to support the habitat; and/or purchase of mitigation credits at an approved mitigation bank. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant.	Less than Significant
Wetlands and Jurisdictional Aquatic Resources	**BIO-EC-1: Temporary Construction Fencing.** **HYD-EC-1: Construction General Permit Storm Water Pollution Prevention Plan.** The contractor shall obtain coverage under the Construction General Permit (CGP) and comply with applicable requirements of the CGP, including, but not limited to, preparation and implementation of site-specific SWPPPs in accordance with the requirements of the State Water Resources Control Board, the CGP, and the Construction BMP [Best Management Practices] Online Handbook developed by California Storm Water Quality Association. The SWPPP shall identify Best Management Practices to eliminate/reduce non-storm water discharges to storm systems and other waters of the U.S., prevent construction pollutants from contacting storm water, limit erosion and sediment transport, and manage erosion and pollutants onsite.	Pure Water would have the potential for a substantial adverse effect on state or federally protected jurisdictional aquatic resources.	Potentially Significant	**BIO-MM-1: Riparian Vegetation Monitoring Plan and Water Deliveries Mitigation.** **BIO-MM-20**: **Biological Monitoring Program.** **BIO-MM-21: Restoration of Temporary Impact Areas**. **BIO-MM-23**: **Compensatory Mitigation for U.S. Army Corps of Engineers Jurisdictional Aquatic Resources.** *Impacts to USACE non-wetland waters of the U.S. shall be mitigated as described, subject to approval.* Impacts to USACE non-wetland waters of the U.S. shall be mitigated at a minimum 1:1 ratio, subject to approval by the USACE during the permitting process, through one or a combination of the following: onsite and/or offsite establishment, re-establishment, rehabilitation, and/or enhancement of waters of the U.S.; and/or offsite purchase of waters of the U.S. credits at an approved mitigation bank or other location deemed acceptable by the USACE. Impacts to non-wetland waters of the U.S. would require a Clean Water Act Section 404 Nationwide Permit prior to impacts. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-24**: **Compensatory Mitigation for Regional Water Quality Control Board Jurisdictional Aquatic Resources.** *Impacts to Regional Board non-wetland waters of the State shall be mitigated at a ratio and as described below, subject to approval.* Impacts to Regional Board non-wetland waters of the State shall be mitigated at a minimum 1:1 ratio, subject to approval by the Los Angeles Regional Water Quality Control Board (Los Angeles Regional Board) during the permitting process, through one or a combination of the following: onsite and/or offsite establishment, re-establishment, rehabilitation, and/or enhancement of waters of the State; and/or offsite purchase of waters of the State credits at an approved mitigation bank or other location deemed acceptable by the Los Angeles Regional Board. Impacts to waters of the State would require a Clean Water Act Section 401 Water Quality Certification, Waste Discharge Requirement permit, or waiver prior to impacts.	Less than Significant

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
				Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant. **BIO-MM-25**: **Compensatory Mitigation for California Department of Fish and Wildlife Jurisdictional Aquatic Resources.** *Impacts to CDFW unvegetated streambed shall be mitigated at a ratio and as described below, subject to approval.* Impacts to CDFW unvegetated streambed shall be mitigated at a minimum 1:1 ratio, subject to approval by the CDFW during the permitting process, through one or a combination of the following: onsite and/or offsite establishment, re-establishment, rehabilitation, and/or enhancement of streambed; and/or offsite purchase of stream credits at an approved mitigation bank, or other location deemed acceptable by the CDFW. Impacts to CDFW streambed would require notification to the CDFW in accordance with California Fish and Game Code Section 1602 prior to impacts. Metropolitan shall comply with any additional measures (e.g., avoidance, conservation) incorporated into any permits or authorizations issued by the regulatory agencies with jurisdiction over these resources beyond what is being proposed under this CEQA analysis to reduce the impact to less than significant.	
5.3 Cultural Resources					
Historical Resources	**GM-EC-1: Environmental Awareness Training.**	Pure Water would have the potential to affect both currently identified historical resources and historical resources that have not yet been identified, which could cause a substantial adverse change in the significance of such resources.	Potentially Significant	**CUL-MM-1: Qualified Archaeologist and Architectural Historian.** Metropolitan shall retain a qualified archaeologist meeting professional standards as defined by the Secretary of the Interior to oversee all aspects of archaeological resource monitoring and treatment as the designated Project Archaeologist. Metropolitan shall also retain a qualified architectural historian meeting professional standards as defined by the Secretary of the Interior to oversee all aspects of built environment resource monitoring and treatment. **CUL-MM-2: Resource Eligibility Determination.** Resources that have not been formally evaluated for significance and that may be disturbed during construction shall be assessed for National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) eligibility. Evaluation for NRHP and CRHR eligibility includes documentation on a State Department of Parks and Recreation form by a qualified archaeologist or architectural historian, as applicable. If found eligible, additional measures, such as Historic American Engineering Record documentation and a data recovery at the archaeological sites shall be implemented in accordance with CUL-MM-3. Any resource considered eligible for NRHP and CRHR listing shall be considered significant. **CUL-MM-3: Cultural Resources Monitoring and Treatment.** The Project Archaeologist, in conjunction with Metropolitan, shall implement cultural resource monitoring and treatment tailored to Pure Water. Cultural resource monitoring and treatment shall address the disposition plans for any cultural material (e.g., cultural features and artifacts) inadvertently discovered during construction activities. Cultural resource monitoring and treatment shall include archaeological monitoring for ground-disturbing activities in areas of moderate to high sensitivity for the presence of buried cultural resources, testing to evaluate the significance of archaeological resources inadvertently discovered, and specific resource-type treatment. Components for archaeological monitoring and treatment are specified below: Archaeological monitoring shall be implemented under the direction of the Project Archaeologist to monitor all ground-disturbing activities, including clearing/grubbing, excavation, and trenching activities, in areas designated as moderate to highly	Significant and Unavoidable

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
				sensitive for buried cultural resources. In areas that are found to be subject to past disturbance to the degree that cultural deposits would not be anticipated or due to soil/geological age, monitoring would be reduced or halted. Archaeological monitoring is not required for areas designated as low sensitivity. Should an inadvertent discovery of an archaeological resource occur during construction, Metropolitan's Project Archaeologist shall develop an archaeological testing plan to assess the inadvertent discovery for significance and, if applicable, prepare and implement a treatment plan. If the potentially significant cultural resource is also determined to be a Tribal Cultural Resource (TCR), the procedures in TCR-MM-3 shall be followed. The testing plan shall describe the methods to be used to evaluate the inadvertent find and shall comply with CUL-MM-2. The treatment plan developed for any significant resource may include one or more of the following: avoidance and preservation; protection such as capping; data recovery; analysis; interpretation; curation; documentation; reparation, rehabilitation, or restoration of the affected environment; methods and protocols for all treatment efforts and the disposition of artifacts; and/or the implementation of off-site mitigation. Upon completing archaeological testing or other treatment activities, the Project Archaeologist shall prepare a technical report to document the results. The technical report shall include the methods and procedures utilized for testing and/or treatment efforts, document the disposition of artifacts, and record all resources on the appropriate California Department of Parks and Recreation forms. The Project Archaeologist shall submit all project-related reports and California Department of Parks and Recreation forms to the appropriate Information Center via the California Historical Resources Information System. Should built environment resources be encountered that have not been previously evaluated, including resources that have reached eligible age for listing on the NRHP or CRHR during the life of the program, the measures specified in CUL-MM-2 shall be implemented. If found eligible, impacts to these resources would be considered significant, and appropriate measures, such as Historic American Engineering Record documentation and/or appropriate treatment measures as determined by a qualified architectural historian, shall be implemented. **CUL-MM-4: Resource Discovery Protocol.** If an archaeological resource is encountered during construction activities, the contractor shall not disturb the resource and shall immediately cease all work within 100 feet of the discovery, notify Metropolitan's construction manager, and protect the discovery area, as directed by the construction manager. The Project Archaeologist shall assess the significance of the discovery per CUL-MM-2 and CUL-MM-3, and the Metropolitan construction manager, in consultation with the Project Archaeologist, shall designate an area surrounding the discovery as restricted. The contractor shall not enter or work in the restricted area until treatment of the discovery is complete and the construction manager provides authorization.	
Archaeological Resources	**GM-EC-1: Environmental Awareness Training.**	Pure Water would have the potential to affect both currently identified archaeological resources and archaeological resources that have not yet been identified, which could cause a substantial adverse change in the significance of such resources.	Potentially Significant	**CUL-MM-1: Qualified Archaeologist and Architectural Historian.** **CUL-MM-2: Resource Eligibility Determination.** **CUL-MM-3: Cultural Resources Monitoring and Treatment.** **CUL-MM-4: Resource Discovery Protocol.**	Significant and Unavoidable

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
5.5 Geology and Soils					
Paleontological Resource or Site or Unique Geologic Feature	**GM-EC-1: Environmental Awareness Training.**	Pure Water would involve ground-disturbing activities in geologic formations with high paleontological potential, which could result in the destruction of unique paleontological resources.	Potentially Significant	**PAL-MM-1: Paleontological Monitoring and Management Plan.** Metropolitan shall retain a qualified paleontologist meeting professional standards as defined by Murphey et al. (2019) to oversee all aspects of paleontological monitoring and management as the designated Project Paleontologist. The Project Paleontologist, in conjunction with Metropolitan, shall develop and oversee the implementation of a Paleontological Monitoring and Management Plan (PMMP) tailored to Pure Water. The PMMP shall require full-time paleontological monitoring of the duration of earthwork and ground-disturbing activities into undisturbed geologic units with high paleontological potential by a paleontological monitor meeting standards as defined by Murphey et al. (2019). In addition, the PMMP shall require that spot checking be conducted during ground-disturbing activities impacting geologic units with low paleontological potential at the surface to determine if older, more sensitive sediments could be impacted at depth and if additional monitoring is required. Testing of sediment samples for microvertebrate fossils where appropriate shall be included in the PMMP. The PMMP shall also address requirements for worker training; steps to follow in the event of a fossil discovery, whether by a paleontological monitor or by a member of the construction staff; assessment and treatment requirements for fossils, including curation, if fossils assessed as unique are encountered; and requirements for final reporting. **PAL-MM-2: Paleontological Resource Discovery.** The paleontological monitor shall conduct monitoring in accordance with the approved PMMP. If a paleontological resource is encountered, the contractor shall immediately cease all work within 50 feet of the discovery, notify Metropolitan's Construction Manager, and protect the discovery area, as directed by the construction manager. The Project Paleontologist shall decide on the validity of the discovery and work with the Construction Manager to designate an area surrounding the discovery as a restricted area. The Contractor shall not enter or work in the restricted area until the Construction Manager provides written authorization. If the Project Paleontologist assesses the paleontological resource as unique, it shall be collected and curated in an accredited repository along with all necessary associated data as detailed in the PMMP.	Less than Significant
5.10 Noise					
Increase in Ambient Noise	**NOI-EC-1: Construction Equipment Proper Working Order.** Construction equipment shall be kept in proper working order for the duration of the construction activities. **NOI-EC-2: Construction Equipment Mufflers and Silencers**. The Contractor shall equip all construction equipment, fixed and mobile, including internal combustion engines, with properly operating and maintained noise mufflers and intake silencers, consistent with the manufacturers' standards.	Pure Water would have the potential to result in the generation of substantial temporary and permanent increases in ambient noise levels in excess of applicable standards.	Potentially Significant	**NOI-MM-1: Noise Control Plan.** A Noise Control Plan(s) shall be prepared to reduce noise at noise-sensitive land uses (NSLUs) from Pure Water's construction. The plan(s) shall be prepared by the contractor and approved by Metropolitan in coordination with applicable local jurisdictions prior to initiation of construction activities. The plan(s) shall include noise control measures to achieve the following standards established for Pure Water, to the extent feasible, and allow for completion of Pure Water in light of necessary work methods and the physical constraints of available work areas: • Noise levels shall be assessed at NSLU structures closest to construction activity. • Short-term construction is defined as construction lasting a total of nine days or fewer at a given location. Long-term construction is defined as work lasting a total of 10 days or more at a given location. • Short-term daytime construction noise shall not exceed 75 time-averaged A-weighed decibels (dBA L_{EQ}; 12-hour).	Significant and Unavoidable (Construction Only)

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
				• Long-term daytime construction noise shall not exceed 60 dBA L_{EQ} (12-hour). • Short-term nighttime construction noise shall not exceed 60 dBA L_{EQ} (12-hour). • Long-term nighttime construction noise shall not exceed 50 dBA L_{EQ} (12 hour). • Ambient noise measurements shall be taken prior to construction. • Construction shall not exceed ambient noise levels of a given construction area by 5 dBA L_{EQ} (12-hour). Noise control measures in the Noise Control Plan could include, but are not limited to, the following: • Providing barriers at least two feet higher than equipment's exhaust pipes and engines to block the line-of-sight between construction activities and nearby NSLUs. Barriers shall be solid and constructed of materials such as masonry, wood, plastic, fiberglass, steel, acoustic blankets or a combination of those materials, with no pronounced cracks or gaps through or below the barrier. • Increasing setback distances between equipment and NSLUs. • Physically shielding stationary noise-generating equipment, such as generators and compressors, from direct line-of-sight to NSLUs. • Using electrical power to run air compressors and similar power tools, in lieu of gas or diesel-powered compressors. • Reducing construction hours within a given 12-hour period. • Scheduling deliveries during daytime hours. • Using noise-producing signals, including horns, whistles, alarms, public address systems, and bells for safety warning purposes only. • Locating designated worker gathering areas and parking areas away from NSLUs. When measured noise levels at the NSLU structures are shown to exceed the above-specified noise levels, additional noise control measures or improvements to noise control measures already in place may be implemented in an effort to achieve the applicable noise standards, to the extent feasible. Noise monitoring shall be performed again to record the achieved level of noise reduction. **NOI-MM-2: Joint Treatment Site Operational Noise Reduction.** Final design for the Joint Treatment Site facilities shall incorporate noise attenuation such that exterior noise levels from operation of the Joint Treatment Site, in combination with existing daytime and nighttime ambient noise levels, do not exceed existing ambient noise levels at the nearest commercial and residential receptors. Daytime is defined as the period between 7:00 a.m. and 10:00 p.m. Nighttime is defined as the period between 10:00 p.m. and 7:00 a.m. A qualified acoustical specialist shall review facility design plans prior to construction to ensure noise reduction measures would achieve compliance with applicable noise standards. If necessary, additional noise attenuation measures, such as higher Sound Transmission Class [STC] enclosures, repositioning of equipment, or an enhanced noise barrier (e.g., concrete enclosures), may be recommended by the acoustical specialist to ensure adequate noise attenuation. Once operation of facilities is	Less than Significant

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
				initiated, noise measurements shall be taken by a qualified acoustical specialist to verify that noise levels generated from facilities comply with applicable noise standards. If noise levels exceed applicable noise standards, additional noise attenuation measures shall be implemented as necessary to achieve the applicable thresholds. **NOI-MM-3: Operational Facility Noise Reduction.** Final design for permanent, aboveground facilities that include operational equipment (excluding the Joint Treatment Site) shall incorporate noise attenuation such that exterior noise levels from each facility to nearby receptors would not exceed the noise limits of the applicable jurisdiction(s). A qualified acoustical specialist shall review facility design plans prior to construction to ensure noise reduction measures would achieve compliance with applicable noise standards. If necessary, additional noise attenuation measures such as higher STC enclosures, repositioning of equipment, or an enhanced noise barrier (e.g., fences, walls, or full enclosure of the facility/equipment), may be recommended by the acoustical specialist to ensure adequate noise attenuation. Once operation of facilities is initiated, noise measurements shall be taken by a qualified acoustical specialist to verify that noise levels generated from facilities comply with applicable noise standards. If noise levels exceed applicable noise standards, additional noise attenuation measures shall be implemented as necessary to achieve the applicable thresholds.	Less than Significant
Vibration	No applicable environmental commitments.	Pure Water would have the potential to result in the generation of excessive groundborne vibration or groundborne noise levels during construction.	Potentially Significant	**NOI-MM-4: Vibratory Roller Vibration Limits.** Vibratory rollers shall not be located within 45 feet of a vibration-sensitive receptor to ensure vibration levels of 0.1 inch per second peak particle velocity (PPV) for human annoyance are not exceeded. Vibratory rollers shall also be located a minimum of 18 feet from a structure that is susceptible to vibration damage to ensure vibration levels of 0.3 PPV are not exceeded. Alternative equipment, such as the use of a plate compactor, handheld compactor, or tamping rammer, would be required within 45 feet of a vibration-sensitive receptor and/or 18 feet from a structure that is susceptible to damage from vibration to reduce vibration impacts. **NOI-MM-5: Tunnel Boring Machine Vibration Limits.** To ensure tunnel boring machines and microtunnel boring machines do not exceed vibration levels of 0.1 inch per second PPV for human annoyance and 0.3 inch per second PPV for a structure that is susceptible to vibration damage, vibration monitoring during construction and/or a site-specific vibration analysis prior to construction shall be required. The site-specific analysis shall identify the vibration potential of the boring activities, soil composition, and distance to receptors and recommend attenuation measures or alternative techniques, such as reducing cutter head torque, thrust, and boring speed, if necessary. **NOI-MM-6: Pile Driving Construction Vibration Limits.** To ensure pile driving does not exceed vibration levels of 0.1 inch per second PPV for human annoyance and 0.3 inch per second PPV for a structure that is susceptible to vibration damage, vibration monitoring during construction and/or a site-specific vibration analysis prior to construction shall be required within 130 feet of a vibration-sensitive receptor and/or within 50 feet of older structures. The site-specific analysis shall identify the vibration potential of the pile driving activities, soil composition, and distance to receptors and recommend attenuation measures or alternative techniques, such as jetting, predrilling, pile cushioning, and use of nonimpact drivers, if necessary.	Less than Significant

Topic	Environmental Commitment(s)	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
5.12 Tribal Cultural Resources					
Tribal Cultural Resources	**GM-EC-1: Environmental Awareness Training.**	Pure Water would have the potential to cause a substantial adverse change in the significance of tribal cultural resources.	Potentially Significant	**CUL-MM-2: Resource Eligibility Determination.** **CUL-MM-3: Cultural Resources Monitoring and Treatment.** **CUL-MM-4: Resource Discovery Protocol.** **TCR-MM-1: Minimization of Impacts to Tribal Cultural Resources.** Metropolitan shall construct Pure Water in a manner that avoids or minimizes physical disturbance of TCRs identified in Appendix K to the extent feasible. Efforts have been made during planning of Pure Water to identify locations where construction activities have the potential to damage known TCRs. Metropolitan shall conduct pre-construction surveys to verify their presence and/or extent and coordinate with the Gabrieleño Band of Mission Indians-Kizh Nation to modify Pure Water construction activities to avoid physically disturbing these resources to the extent feasible. If complete avoidance is not feasible, Metropolitan shall work with the construction contractor to minimize physical disturbance to the TCR(s). **TCR-MM-2: Tribal Monitor.** Metropolitan shall retain a Native American (Tribal) Monitor from or approved by the Gabrieleño Band of Mission Indians-Kizh Nation to monitor construction-related ground-disturbing activities. Tribal monitoring shall occur where ground-disturbing activities would encounter Holocene-age soils (soils present at the time of known human occupation of Southern California). Tribal monitoring shall not occur in areas that are documented as imported fill material or within soils determined to be older than known human occupation of Southern California. The Tribal Monitor shall complete daily monitoring logs that will describe the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials encountered, and any other facts, conditions, materials, or discoveries of significance to the Tribe and provide the logs to Metropolitan. Monitor logs shall identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., as well as any discovered Native American (ancestral) human remains and burial goods. **TCR-MM-3: Unanticipated Discovery of Tribal Cultural Resources.** Should an inadvertent discovery of a TCR occur during construction, the contractor shall not disturb the resource and shall immediately cease all work within 100 feet of the discovery, notify Metropolitan's construction manager, and protect the discovery area, as directed by the construction manager. The tribal monitor and Project Archaeologist shall assess the significance of the discovery, and the Metropolitan construction manager shall designate an area surrounding the discovery as a restricted area. The Gabrieleño Band of Mission Indians-Kizh Nation shall be immediately notified to recover and obtain any inadvertently discovered TCRs. The Contractor shall not enter or work in the restricted area until treatment or recovery of the TCR is complete and the construction manager provides authorization.	Significant and Unavoidable