THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Committee Item
INFORMATION

- **Board of Directors**
  One Water and Adaptation Committee (OWA)

7/8/2025 Board Meeting

6e

Subject

Introduction to the CAMP4W Assessments and Initial Assessment of Pure Water

Executive Summary

In April 2025, the Metropolitan Water District of Southern California's Board of Directors approved the Climate Adaptation Master Plan for Water (CAMP4W) Five-Year Implementation Strategy. The Implementation Strategy integrates water resources, climate considerations, and financial planning to facilitate Metropolitan's continued reliability and resilience in the face of change and uncertainty.

CAMP4W comprises multiple components that together form a living master planning program. The assessments of project under CAMP4W framework only identify and characterize potential projects, programs, and portfolios that would help meet the time-bound targets and policy goals outlined in the CAMP4W Five-Year Implementation plan. Implementation timelines in the plan anticipated CAMP4W assessments for at least four major projects in 2025, including Pure Water, Sites Reservoir, Delta Conveyance Project, and Metropolitan's Water Efficiency Program.

To familiarize the Board with the assessment process, staff first completed an initial assessment of Pure Water. This item presents the staff's initial evaluation of the Pure Water Southern California (Pure Water) project. This assessment (Attachment 1) should be considered preliminary and pre-decisional. The Pure Water project was assessed according to six criteria: reliability, resilience, financial sustainability & affordability, adaptability & flexibility, equity, and environmental co-benefits. The assessment strengthens decision-making on project investments through greater transparency and more holistic and uniform analyses. Recommendations for action on specific investments will be brought to the Board separately, when and as appropriate.

In the upcoming months, staff will bring further assessments of Sites Reservoir, Delta Conveyance Project, and Metropolitan's Water Efficiency Program, both alone and in combination with each other.

Fiscal Impact

None

Applicable Policy

By Minute Item 53436, dated April 8, 2025, the Board approved the Climate Adaptation Master Plan for Water Five-Year Implementation Strategy.

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

Not applicable

7/2/2025

Elizabeth Crosson *Date*
Chief Sustainability, Resilience and Innovation Officer

7/2/2025

Deven Upadhyay *Date*
General Manager

Attachment 1 – Pure Water Southern California Preliminary Assessment

Ref# sri12701267

Metropolitan Water District of Southern California CAMP4W Preliminary Assessment

June 2025

Metropolitan is committed to meeting its mission in the face of a changing climate by developing projects and programs that advance Time-Bound Targets, consistent with the Board's priorities. This comprehensive assessment is a key part of the Climate Decision-Making Framework and will be used to support Board deliberations on which projects and programs Metropolitan should pursue.

Project/Program/Portfolio at a Glance

Title of Project/Program/Portfolio

Pure Water Southern California

Status (planning/design/implementation) and Date

Conceptual Planning & Design/June 2025

Capacity (if applicable)

150 mgd (155,000 AFY) at full buildout

Capital Cost:

$8.1 Billion (Phase 1: $6.4 Billion; Phase 2: $1.7 Billion)

Operation/Maintenance or Ongoing Cost:

$309 Million/year (Phase 1: $228 M/yr, Phase 2: $81 M/yr)

Description and how the project/program/portfolio supports water supplies, reliability and/or delivery

Pure Water Southern California (Pure Water) is a partnership between Metropolitan and the Los Angeles County Sanitation Districts (Sanitation Districts) to beneficially reuse cleaned wastewater currently discharged to the ocean from the Sanitation Districts' A.K. Warren Water Resource Facility (Warren Facility) in Carson. The project at full buildout includes the construction of an AWPF, over 50 miles of large diameter pipeline from Carson to La Verne, six pump stations, nine service connections, and various recharge facilities. The project creates a new sustainable water supply by creating 155,000 acre-feet per year (AFY) or 150 mgd of purified water by 2040, making it one of the largest regional programs of its kind in the world. Purified water would be used to recharge the West Coast, Central, and Main San Gabriel groundwater basins and supplement supplies at two of Metropolitan's existing treatment plants. This is envisioned to be accomplished in two phases. Phase 1 would deliver 115 mgd by 2035 and Phase 2 would deliver an additional 35 mgd of DPR by 2040. Metropolitan is evaluating the potential staging of Phase 1 deliveries to better address anticipated supply gaps, reduce the cost impacts of the program, as well as allow for an earlier delivery of purified water by 2033. The project creates a new regional water supply to balance local water supplies with imported Colorado River and State Water Project supplies, both of which are facing increased stress and long-term uncertainty during increasing climate variations and institutional agreements and are vulnerable to seismic events. As such, the project would increase Metropolitan's water supply reliability and regional water security by diversifying the regional supply portfolio, reducing reliance on imported water, increase operational flexibility, and enhance regional and cross-state partnerships.

Portfolio view and additional potential companion projects/programs/portfolios

Pure Water, as an early implementation project, not only provides enhanced system flexibility to improve supply reliability in the near term but also provides long-term reliability by developing infrastructure and new supplies to meet increased demand and offset existing supply deterioration due to climate change. The early implementation of Pure Water allows for integration with Metropolitan's Drought Mitigation Action Portfolio Category 1 Projects (including Diamond Valley Lake to Rialto Interconnection and Sepulveda Feeder Pump Station #2), strengthening the reliability of the region's water supplies and benefiting State Water Dependent Areas in the near term. Pure Water also provides opportunities for integration with longer-term projects in the Drought Mitigation Action Portfolio such as the East West Conveyance Pipeline for increased operational flexibility. In addition, there are opportunities to coordinate with other regional projects including Pure Water Los Angeles. The addition of new surface storage projects would further strengthen the Project benefits through the storage of purified water during wet years for use in dry years.

Summary of Assessment and Staff Recommendation

Each criteria and attribute presented on the following pages includes a description of the quantitative and qualitative measures relevant to the proposed project or programs, as well as Metropolitan staff's recommendation.

Notes to Reader:

Summary of assessment, ratings, and recommendations will be added in the Final Assessment in November.

The assessment information provided herein represents an initial or preliminary assessment of the project based on information available as of June 25, 2025. Project information is based on the information presented in the Draft Environmental Impact Report (DEIR) currently undergoing public review through July 14, 2025, with a focus on the 150 mgd project at full buildout. Financial information is based on the 2023 program cost estimates. Program cost and schedule information will be updated in the coming months and will be incorporated into the Final Assessment in November. Water resources modeling results are also preliminary and do not yet account for impacts from the Sites Reservoir and Delta Conveyance projects and will therefore need to be updated for the Final Assessment in November.

What Time-Bound Targets Does the Project/Program/Portfolio Address?

Boxes with check marks (✓) indicate that the project/program/portfolio advances a Time-Bound Target.

Summary of Assessment and Staff Recommendation *(see footnote on Page 2 for ranking guidelines)*

See the following pages for a detailed assessment across each Evaluative Criteria category.

Map or Location Information Related to the Project, Program or Portfolio

Detailed Project Description

Pure Water Southern California (Pure Water) is a proposed partnership between The Metropolitan Water District of Southern California (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, producing enough water to meet the annual needs of over 500,000 households throughout Southern California. The 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.

Pure Water is anticipated to be implemented in two primary phases. Phase 1 would provide up to 115 mgd of purified water for indirect potable reuse (IPR) and direct potable reuse (DPR). Phase 2 would provide an additional 35 mgd of DPR. Phase 1 would be operational by 2035, with potential initial staged deliveries available as early as 2033. Phase 2 would be operational by 2040.

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. The Advanced Water Purification Facility (AWPF) would be constructed at the Joint Treatment Site located just east of the existing treatment structures at the Warren Facility. Distribution of purified water produced at the AWPF would require construction of a new backbone conveyance system consisting of approximately 39 miles of pipeline, two additional pump stations along the backbone pipeline, and multiple service connections. The backbone pipeline would be divided into eight segments or "reaches" extending from the Warren Facility in the City of Carson to the San Gabriel Canyon Spreading Grounds in the City of Azusa. Approximately 25 miles of the southern portion of the conveyance pipeline would be 7 feet in diameter, with the capacity to convey approximately 150 mgd. The remainder would be up to 9 feet in diameter, with the capacity to convey up to 300 mgd, allowing for potential future integration with other water delivery systems (i.e., Pure Water Los Angeles). The upsizing of the pipe to 9 feet in diameter is expected to be the financial responsibility of LADWP and will require LADWP's approval but is assumed as part of the project in this assessment. The two pump stations along the backbone pipeline would be located in the Whittier Narrows area and near the Santa Fe Spreading Grounds. Service connections to provide water to users along the route would be located at various points along the alignment.

Approximately 90 mgd of Pure Water's total deliveries would be used for non-potable reuse (NPR) and IPR purposes, specifically groundwater recharge. Purified water from the AWPF would be distributed along the backbone pipeline to various recharge facilities, including spreading grounds and injection wells, located in the West Coast, Central, and Main San Gabriel basins. Most of the recharge facilities needed for Pure Water already exist. However, it is anticipated that new injection wells and spreading basins may need to be constructed as part of the program. Metropolitan is also partnering with Los Angeles County to pursue acquisition of an existing rock pit for conversion to a dedicated pure water recharge basin in the Main San Gabriel Basin. All recharge facilities, whether they exist or proposed, would require new connections to the backbone pipeline.

During Phase 1, up to 25 mgd of the AWPF's output would be further purified at new DPR treatment facilities constructed at the Weymouth Water Treatment Plant (WTP) for raw water augmentation (RWA). These facilities would include disinfection facilities, a treated water storage tank, and pumps. Purified water from the AWPF would be conveyed via the backbone pipeline to the western-most portion of the existing Azusa Pipeline, owned and operated by the San Gabriel Valley Municipal Water District. This water then would be pumped eastward through the Azusa Pipeline to Weymouth WTP. Moving recycled water through the Azusa Pipeline would require construction of two additional pump stations, one located adjacent to the northern portion of the backbone pipeline and the second located in the City of Glendora. In addition, the Azusa Pipeline would be retrofitted and two new 30-inch pipelines connecting it to the backbone pipeline and Weymouth WTP would be installed. Metropolitan's existing Yorba Linder Feeder can also be used to convey DPR treated water to the Diemer WTP. This water could be blended with other raw water sources at both the Weymouth and Diemer WTPs to augment water supplies.

During Phase 2, AWPF output would be further purified at new DPR treatment facilities located at the AWPF, Weymouth WTP, or a satellite location. If located at the AWPF, the DPR treatment facilities would include ozonation, biologically activated carbon filtration, and membrane filtration. The DPR treatment process would be integrated into the IPR process, specifically between MBR and RO. As a result, the AWPF's entire 150 mgd output would be treated to DPR standards. If located at Weymouth WTP or a satellite location, these DPR facilities would likely be like those described for the AWPF, but they would be sized to treat only 60 mgd to DPR standards. Regardless of the DPR treatment location, this purified water would be conveyed to Weymouth and Diemer WTPs for integration into Metropolitan's system. To do so, 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. An additional pump station also would be required along this pipeline. Water treated to DPR standards could also be directly integrated into Metropolitan's distribution system for treated water augmentation (TWA). Additional testing and studies have been planned to further evaluate its feasibility for implementation.

Map or Location Information Related to the Project, Program or Portfolio

Project Map

Assessment

<table>
<tr><th>Evaluative Criteria</th><th>Attributes</th><th>Assessment</th><th>Value</th></tr>
<tr><td rowspan="2">Reliability
Supply Performance
Equitable Reliability
Note to Reader: The following narrative is a preliminary analysis of Pure Water and the modeling as well as analysis would be revised based on updated modeling scenarios by November 2025. An updated narrative will be included in the Pure Water final CAMP4W Assessment Form (pertains to questions 1&2).</td><td>1. To what extent does it help meet regional supply reliability objectives under changing climate conditions?</td><td>Pure Water plays a vital role in enhancing regional water supply reliability amid changing climate conditions by addressing vulnerabilities and building long-term resilience.
The Integrated Water Resources Simulation (IRPSIM) modeling results indicate that Pure Water has a positive impact on Metropolitan’s regional reliability and the addition of supply reduces the probability and magnitude of future shortages in both Scenarios C and D. The IRPSIM modeling for this project did not include additional proposed projects mentioned in question 4 below.
<table><tr><th colspan="3">Scenario C
Probability of Shortage</th></tr><tr><th>Forecast Year</th><th>Base</th><th>Pure</th></tr><tr><td>2030</td><td>1%</td><td>1%</td></tr><tr><td>2035</td><td>3%</td><td>0%</td></tr><tr><td>2040</td><td>5%</td><td>0%</td></tr><tr><td>2045</td><td>8%</td><td>2%</td></tr></table><table><tr><th colspan="3">Scenario D
Probability of Shortage</th></tr><tr><th>Forecast Year</th><th>Base</th><th>Pure</th></tr><tr><td>2030</td><td>4%</td><td>4%</td></tr><tr><td>2035</td><td>10%</td><td>8%</td></tr><tr><td>2040</td><td>38%</td><td>31%</td></tr><tr><td>2045</td><td>69%</td><td>54%</td></tr></table>For Scenario C, by 2045 the probability of shortage is reduced by 6% and eliminated almost entirely. The potential maximum magnitude of shortage is also reduced from 377 TAF to 106 TAF in 2045. Looking at reliability benefits through the life of the forecast, the analysis indicates that Pure Water has the potential to offset 575 TAF of cumulative shortage from 2025-2045. While Pure Water reduces the probability of shortage in Scenario C, there is also a 13% increase in the chance of having unmanaged water by 2045.
For Scenario D, the probability of shortage is reduced from 69% to 54% by 2045 and the potential magnitude of shortage is reduced from 1.4 million acre-feet (MAF) to 1.3 MAF in 2045. Pure Water has the potential to offset 1 MAF of cumulative shortage through the life of the forecast. Additionally, the probability that Metropolitan’s total storage will dip below 1 MAF, which is typically the storage level at which a regional water supply allocation is triggered, is reduced by 11% in 2045 with Pure Water.
Diversifying and Augmenting Regional Water Sources: Pure Water would deliver an average of 155,000- AFY (150 mgd) of purified water from a new regional climate-resilient source, reducing reliance on imported supplies from the Colorado River and State Water Project (SWP). Pure Water’s consistent, year-round production enhances Metropolitan’s ability to maximize storage and manage supply variability.
Enhancing Groundwater Recharge: Pure Water replenishes the region’s three major groundwater basins—West Coast, Central, and Main San Gabriel—which serve as critical buffers during dry years. This enables Metropolitan to store water during wet periods and recover it during dry or high-demand periods, improving both seasonal and long-term water management. These groundwater basins, underlying the Southern California region, that underlie the region provide an annual average supply of approximately 1.2 MAF. Natural recharge of the groundwater basins is supplemented by active recharge of the basins with captured stormwater, recycled water, and imported water to support this level of annual production. Pure Water, which delivers up to 155,000 AFY, contributes an average of 93,000 AFY for groundwater recharge and non-potable uses, thereby enhancing the sustainability of regional groundwater basins and increasing reliability under changing climate conditions. As of mid-2025, the usable groundwater in storage is approximately 3.0 MAF (about 38% of the basin capacity), with 20% of the basins still below their operational ranges despite recent favorable hydrologic conditions. Pure Water is projected to raise groundwater levels by up to 24 feet and increase storage by 500,000 AF, a 6% boost in regional capacity by providing a new local supply—helping to maintain production during droughts, reduce pumping costs by maintaining higher water table levels or avoiding the need for deeper wells under overdraft conditions. This increase in groundwater storage will help avoid loss of groundwater production during dry years under Scenarios C and D in the 2020 Integrated Resources Plan.</td><td></td></tr>
<tr><td>2. To what extent does it advance equitable supply reliability?</td><td>Pure Water advances equitable water supply by delivering a climate-resilient and sustainable supply that enhances overall reliability for all agencies. The benefits of Pure Water can be examined by region:
1. SWP Dependent Agencies served by Jensen – Delivering Pure Water supplies to West Basin Metropolitan Water District (MWD) and Los Angeles Department of Water and Power (LADWP) would help bolster their local supply, thus reducing demands for imported supply via Jensen. However, this benefit is only realized if Pure Water Los Angeles is constructed.
2. SWP Dependent Agencies served by Rialto Pipeline – Pure Water would provide supplies to help meet untreated replenishment demand from Central Basin MWD, Upper San Gabriel MWD, and Three Valleys MWD. By using Pure Water supplies to meet this replenishment demand, State Water Project (SWP) supplies could be preserved for State Water Project Dependent Areas (SWPDAs), particularly in years where supplies are limited. However, it should be noted that replenishment demands are often the first to be foregone in times of limited supply. Pure Water could allow for continued replenishment delivery in dry years.
3. Central Pool (Weymouth/Diemer WTPs) - Pure Water would also deliver additional treated replenishment supplies to West Basin MWD and the City of Long Beach, increasing its local groundwater supplies and thus reducing demands on the Central Pool. The direct potable reuse (DPR) component would also add an overall supply delivered to the Central Pool. The additional supply in the Central Pool could be delivered to the SWPDAs during drought operations via Weymouth and Diemer WTPs using the Greg Ave Pump Station and the Sepulveda Pump Station. The additional supply to the Central Pool would improve reliability for many agencies and provide another source of supply that could be routed to SWPDAs in times of limited supply.
Pure Water would also free up capacity in the existing conveyance, distribution, and storage systems and thus help increase flexibility by capturing and conveying water supplies. Increasing system flexibility helps Metropolitan better manage supplies during times of limited supplies, by allowing Metropolitan to redirect limited SWP supplies to the most critical needs and allowing Metropolitan to use available conveyance infrastructure more flexibly (e.g. moving Colorado River water or stored supplies to SWPDAs).</td><td></td></tr>
</table>

Assessment

Evaluative Criteria	Attributes	Assessment	Value
Reliability Supply Performance Equitable Reliability *Note to Reader: The following narrative is a preliminary analysis of Pure Water and the modeling as well as analysis would be revised based on updated modeling scenarios by November 2025. An updated narrative will be included in the Pure Water final CAMP4W Assessment Form (pertains to questions 1&2).*	3. When will it be operational? What is the useful life of the project/program/portfolio? How will benefits continue beyond the 2045 planning horizon under changing climate conditions?	**Online Date and Phasing**: Pure Water would deliver up to 155,000 AFY (150 mgd) of purified recycled water at full buildout. As an early water supply project, the project is envisioned to be delivered in two phases, with Phase 1 providing up to 118,600 AFY (115 mgd) by 2035 and Phase 2 providing an additional 35 mgd of DPR by 2040. The project team is evaluating the potential to deliver Phase 1 in incremental stages, which would allow Metropolitan to implement Pure Water to support time-bound targets, integrate planning with other Metropolitan and/or regional projects and balance financial impacts. **Useful Life of Facilities**: Pure Water facilities are expected to have a useful life of 100 years or longer. Pure Water includes the construction of an Advanced Water Purification Facility (AWPF), workforce training center and improvements at the Warren Facility; 39-mile Backbone Conveyance System (including two pump stations and multiple service connections); groundwater recharge facilities, and DPR facilities (Phase 2). Pure Water's useful life is based on the type of infrastructure, materials to be used, anticipated construction standards, operational stress, technological innovation, and Metropolitan and Sanitation Districts' rigorous maintenance programs. The industry assumed standard useful life for identified assets includes advanced water purification facilities (up to 40 years), water/wastewater treatment facilities (30-50 years), conveyance pipelines (75-100 years), pumping stations (30-50 years), mechanical and electrical equipment (20 years) and membranes (5-10 years). **Changing Climate Conditions**: The water supply reliability results modeled using IRPSIM (Question 1) only reflect benefits through the forecast year 2045. Continued benefits are anticipated beyond the 2045 horizon based on the useful life of the facilities, but these benefits are not reflected in the provided modeling. The Sanitation Districts' *Climate Change Vulnerability Assessment and Management Plan* highlighted potential climate-related hazards affecting the Warren Facility and due to the co-location of the Pure Water AWPF at this, the same hazards (wildfire, flood, extreme temperatures, drought and high winds) are anticipated to impact the Pure Water facilities. Many of the vulnerabilities posed by these natural phenomena are predicted to be exacerbated by climate change. Drought can be a major concern as decreased frequency of rainfall and resulting inflow and infiltration and reduced wastewater flows can potentially introduce risks to recycled water projects. Strict water conservation measures during droughts can lead to lower wastewater volumes which may limit the amount of water available for recycling. For Pure Water, the region provides a relatively reliable supply source from 4.8 million residents and with strict conservation measures in place the treated wastewater flows are anticipated to remain relatively stable during droughts. In addition, Pure Water as designed will use less than 40% of the current wastewater flows (260 mgd), which are anticipated to increase by 2045 and beyond to a maximum permitted flow of 400 mgd. Metropolitan is currently developing a Climate Risk Assessment for the Pure Water program with an anticipated release date in September 2025. However, the flexibility and adaptability embedded in the design and operations will help Metropolitan provide reliable water supplies throughout the region under numerous climate scenarios beyond 2045.	
	4. Are there additional projects/programs/portfolios that could be added to improve this project/program/portfolio's effectiveness for water supply reliability?	Yes, there are additional Metropolitan or Southern California projects that could be added to improve Pure Water effectiveness for water supply reliability. The IRPSIM modeling for this project did not include the proposed projects below. **East-West Conveyance –** The East-West Conveyance Pipeline is a proposed expansion project of existing infrastructure that aims to provide Metropolitan greater delivery flexibility by moving Colorado River water and stored DVL supplies into the western part of Metropolitan's service area. The raw water East-West Conveyance option would connect the Glendora Tunnel to the San Fernando Tunnel enabling delivery of raw water to the Jensen Water Treatment Plant (WTP), which would improve supply reliability for the western SWPDA. Pure Water is another potential supply that could be conveyed through the East-West Conveyance to Jensen, further improving supply reliability for the region. However, the potential East-West Conveyance Pipeline continues to be explored by Metropolitan. **Pure Water Los Angeles –** The City of Los Angeles' proposed Pure Water Los Angeles project would utilize approximately 230 mgd of advanced treated water from their Hyperion Plant for reuse. The City of Los Angeles is considering a connection to Pure Water's backbone to help enhance the reliability of the entire region. Approximately 14 miles of the backbone conveyance pipeline connecting Pure Water's conveyance facilities is anticipated to have increased capacity to accommodate supplies from Pure Water Los Angeles. Additionally, Los Angeles is considering transfers of up to 150 MGD with the proposed East-West Conveyance project. However, without the East-West Conveyance project, the ability for Pure Water Los Angeles to add to Pure Water would be limited to raw water augmentation at Weymouth WTP, up to about 40 mgd. **Reservoir and Pump Back to Metropolitan Feeder –** Pure Water includes the purchase of a gravel pit for groundwater recharge or storage. Pure Water could be expanded to include up to 15,000 AF reservoir in the Main San Gabriel Basin for groundwater recharge and water storage that could be pumped into the Upper Feeder, Middle Feeder, Glendora Tunnel, or the proposed East-West Conveyance Pipeline. This would help to increase the flexibility of Pure Water to provide additional water supply reliability benefits. This potential project is in the early stages of development. Pure Water is also exploring other storage opportunities to maximize the benefits of this project.	
	5. How does this project/program/portfolio improve the water supply reliability of existing projects/programs/systems?	Pure Water leverages existing treatment, conveyance, and delivery systems to distribute recycled water efficiently across the Metropolitan service area. This is in accordance with Metropolitan's Integrated Resource Plan (IRP 2020) to meet regional demand. Treated effluent that would otherwise be discharged to the ocean would be actively used for groundwater recharge and drinking water purposes. Pure Water would free up capacity in Metropolitan's existing conveyance, distribution, and storage systems providing increased flexibility in capturing and conveying water supplies. Pure Water's regional pipeline network allows for the dynamic reallocation of water supplies across the system based on real-time needs, maintenance schedules and emergencies. Pure Water enhances the reliability and effectiveness of the Metropolitan's groundwater storage programs by providing a consistent, regional water supply that supports groundwater recharge and operational flexibility. The project contributes up to 93,000 AFY of purified water for direct recharge into the regional groundwater basins, boosting groundwater recharge. This increases the volume of water stored during wet years, which is essential for both long-term storage and short-term use. The project also enhances drought year reliability by ensuring that more water is available in local groundwater basin storage, through recharging in wet years, thereby improving the reliability of withdrawals during dry years by Metropolitan during droughts and emergencies. Pure Water's integration into the regional system allows Metropolitan to strategically allocate water using local supplies to meet near-term needs while preserving imported water for storage or future use – which improves long-term reliability, and the timing and efficiency of recharge and recovery operations. In addition, the project could free up to 155,000 AFY of demand on the SWP and Colorado River Aqueduct systems. By reducing the volume of imported water that must be conveyed, the project creates operational headroom in SWP pipelines and reservoirs for other uses. Through the recharge of the local groundwater basin with up to 93,000 AFY Pure Water increases local storage capacity, reducing reliance on surface reservoirs and improving seasonal flexibility allowing Metropolitan to store more impacted water during wet years and rely on regional groundwater during dry years. Additionally, Pure Water will help with the following drought reliability projects: **Sepulveda Feeder Pump Project** – The Sepulveda Feeder Pump Project (SFPP) consists of two new pumps stations along the Sepulveda Feeder to enable delivery of treated water from the Common Pool area to the western SWP Dependent Area during drought periods. Stage 1 is currently in design with a capacity of 30 cfs. Stage 2, currently in the planning stage, would expand the project to up to 160 cfs capacity. The SFPP would convey treated Colorado River water and stored DVL water from Weymouth and Diemer. During extended droughts, these supplies could become limited, impacting the ability to use the SFPP. Pure Water would improve local groundwater conditions, which would allow member agencies to use more local supplies during an extended drought period and thus help prolong the availability of Colorado River and DVL supplies. Phase 2 of Pure Water would augment supplies to Weymouth and Diemer WTPs, via raw water augmentation (RWA), providing direct benefit to the SWPDA during drought conditions via the SFPP. **DVL to Rialto –** Metropolitan has also advocated for a suite of projects to better prepare the water conveyance system for Diamond Valley Lake for challenges associated with drought conditions. A series of four planned projects will convey water from DVL to the Rialto Pipeline to serve three agencies within the SWPDA -- the Inland Empire Utilities Agency, Three Valleys Municipal Water District, and Upper San Gabriel Valley District. Pure Water is intended to be a base-loaded supply for recharge. Agencies in the San Gabriel Valley will continue to be able purchase imported water to augment supplies from Pure Water. This drought project will make that water more reliable during drought periods. It should be noted that as of 2024 a bypass pipeline has been constructed to convey water from DVL's Wadsworth Pumping Plant.	

Additional Information

Please describe how the proposed project, program, or portfolio advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.	**Additional Components of Pure Water Not Discussed Above:** Pure Water is exploring storage opportunities to maximize the benefits of this project. The project includes the purchase of a gravel pit for groundwater recharge or storage. In addition, Pure Water could be expanded to include an approximate 15,000-acre feet (AF) reservoir in the Main San Gabriel Basin for groundwater recharge and water storage that could be pumped into the Upper Feeder, Middle Feeder, Glendora Tunnel, or the East-West Conveyance Pipeline. This would help to increase the flexibility of Pure Water to provide additional water supply reliability benefits. This potential project is in the early stages of development. Pure Water is also exploring other storage opportunities to maximize the benefits of this project. The Warren Facility would also see improvements made to its AWP and to existing conveyance infrastructure, which would help to support the expanded operations necessary for Pure Water. An example of this would be the connection of Weymouth WTP via the Azusa Pipeline. This pipeline would convey 25 mgd of purified water from the City of Azusa to Weymouth WTP with the potential to expand further east to allow for additional deliveries beyond the Weymouth WTP. With Pure Water, the Azusa Pipeline would operate in the reverse direction – normally, this pipeline runs from Devil Canyon to the City of Azusa. Projects like the Sepulveda Feeder Pump Project (SFPP) would be fed by Pure Water and allow transfer to SWPDA regions. Which could be made available to these areas during drought emergencies. Pure Water would also allow for planned or expanded recharge basin programs to capture and store water during periods of surplus. These basins could then be utilized to address water supply concerns in times of need. **Plans/Policies and Initiatives:** Pure Water is not a standalone effort—it builds on decades of Metropolitan's planning and initiatives including: • **Integrated Water Resources Plan (IRP)**: Pure Water advances IRP goals of **diversifying water sources** and increasing local supply resilience. • **Supporting Climate Adaptation and Emissions Goals:** Pure Water aligns with Metropolitan's Climate Adaptation Master Plan for Water (CAMP4W) and Climate Action Plan (CAP) by 1) advancing reliable, equitable, and climate-resilient water supplies; and by 2) reducing the energy use and emissions associated with long-distance water imports. In addition, the project lowers groundwater pumping costs and related pumping emissions by raising groundwater water table levels, especially in overdraft scenarios. • **Water Supply Reliability Program**: Enhances reliability through **local control**, **reuse**, and **groundwater replenishment**. • **Conjunctive Use and Cyclic Storage Programs:** The project enhances Metropolitan's storage programs by providing a reliable source or recharge water, increasing stored reserves and improving drought-year reliability. • Pure Water aligns Metropolitan's goals of **infrastructure resiliency and redundancy** by adding redundancy to the regional system by supplementing water supplies to key treatment plants. • Pure Water also supports system-wide flexibility with its regional pipeline network, allowing water to be shifted based on need. **Time Bound Targets** CAMP4W sets strategic goals to ensure **long-term water reliability** under climate stress. Pure Water contributes by: • **Creating a drought-resilient supply**: Produces up to **150 mgd** of purified water, reducing reliance on the State Water Project and Colorado River. • **Supporting carbon neutrality**: Reduces energy-intensive water imports, aligning with Metropolitan's goal of **carbon neutrality by 2045**. • **Enhancing adaptive capacity**: Provides a **flexible, scalable supply** that can be expanded as climate conditions evolve. • **Equitable supply reliability:** Provides access to State Water Project Dependent Areas and increases supply capacity through 2045. **Partnerships/Collaborations** • Strengthening Regional and Cross-State Partnerships: The project encourages collaboration across agencies, jurisdictions and state boundaries to build a more integrated, resilient water system improving system-wide efficiency and reducing duplication of efforts, thereby meeting current and future regional supply reliability objectives. In addition, the project strengthens partnerships by encouraging collaboration with regional and out-of-state partners through shared infrastructure and investments, encouraging coordinated water management across the region, and by fostering shared research, modeling and forecasting tools to better understand and respond to climate impacts on water supply. • Colorado River: Pure Water advances equitable supply reliability along the Colorado River by reducing regional reliance on this over-allocated and drought stressed water source, while ensuring that all communities benefit from a more resilient and locally controlled supply. Pure Water reduces Metropolitan's reliance on imported water via the Colorado River Aqueduct by providing a new regional supply, which enables Metropolitan to stabilize its local supplies, helping ensure equitable access to safe, reliable water regardless of geography or income. The project serves to free up imported water supplies, enabling more flexible water transfers and collaborative drought response among Colorado River Basin states and agencies. • Tribal Partnerships: There are 10 federally recognized member tribes that make up the Colorado River Basin Tribes Partnership and hold a significant amount of quantified and unquantified water rights to the Colorado River and its tributaries. With 20% of Metropolitan's water deliveries being conveyed through the CRA, Pure Water's reduction in imported water supplies provides operational flexibility and may make additional water available to the Lower Basin region during shortages. Pure Water ensures safe, consistent access to water regardless of environmental variability thereby supporting equitable outcomes not just within the Southern California region, but also across state jurisdictions - ensuring equitable access.

Overall Assessment

Overall Assessment Value

Key: Exceptional | Significant | Moderate | Limited | Very Limited | Undetermined or Not Applicable

Ranking Guidelines at the Attribute Level

Defining to which level a project, program or portfolio will deliver CAMP4W objectives for each attribute category.

Exceptional	The project/program/portfolio directly and completely addresses the benefits being assessed by the question/statement.
Significant	The project/program/portfolio directly addresses most elements of the benefits being assessed by the question/statement.
Moderate	The project/program/portfolio only addresses some elements of the benefits being assessed by the question/statement or addresses them indirectly.
Limited	The project/program/portfolio only addresses few or minor elements of the benefits being assessed by the question/statement or provides minor indirect benefits.
Very Limited	The project/program/portfolio does not provide any or very limited benefits to those being assessed by the question/statement.
Undetermined or Not Applicable	The ranking for this project/program/portfolio is not determined at this time or the attribute is not applicable

Assessment

Evaluative Criteria	Attributes	Assessment	Value
Resilience Addresses known risks and vulnerabilities Project, Program or Portfolio's ability to perform under climate impacts	1. How does it perform under identified climate vulnerabilities and hazards (e.g., extreme heat, wildfire, sea level rise, flooding)? **Drought is addressed in Reliability*	Metropolitan identified the primary climate vulnerabilities and hazards with the potential to impact water operations through the development of a draft Local Hazard Mitigation Plan. Additionally, the Sanitation Districts conducted a climate vulnerability assessment for the A.K. Warren Water Resources Facility (Warren Facility) to highlight potential climate-related hazards and documented study findings in the *Climate Change Vulnerability Assessment and Management Plan*. Metropolitan is currently conducting a climate vulnerability risk assessment for Pure Water using the latest data from California's Fifth Climate Assessment. The following hazards have demonstrated the potential to pose a higher risk due to climate change. Pure Water incorporates design features in its facilities to increase survivability against these hazards. • **Extreme Heat:** Existing resilience measures to extreme heat are implemented at the Sanitation Districts' existing facilities at the Warren Facility. Much of the facility is climate controlled and wastewater temperatures are also monitored. The Sanitation Districts has developed a Heat Illness Prevention Program for employees at the Warran Facility as a part of their Environmental Health and Safety Manual. Additionally, shade covers for chemical tanks and high temperature resistant electrical equipment have been employed at the asset level. As the design team advances the Pure Water AWPF design, project design criteria and attributes would similarly adhere to identified compliance requirements and design elements to mitigate extreme heat impacts. Recommendations for facilities include heat blowers for critical equipment and periodic electrical upgrades per the Vulnerability Assessment. These long-term recommendations would help to maintain system reliability at facilities like Warren. In addition, Metropolitan and Sanitation Districts are committed to designing and installing alternative power sources to sustain purified water operations during service interruptions related to extreme heat. The project team is currently evaluating several options for backup power supply, including the construction of two independent substations (one for Sanitation Districts and one for Metropolitan) or an interconnected substation with two separate power lines. In addition, both agencies are also evaluating green power sources to augment the power supply. • **Flood:** The risk of flooding is relatively low at the Warren Facility (and planned AWPF site) and along the 39-mile backbone conveyance alignment, except along the San Gabriel River (https://hazards.fema.gov/nri/map). At the Warren Facility, where the AWPF would be located, the facility includes comprehensive storm drainage systems as well as stormwater storage basins with separate operational procedures to reduce flooding potential. These allow wet weather pumps to relieve plants and discharge flow in the event of storms. The Sanitation Districts staff have developed procedures in the event of a flood with a guideline matrix for catastrophic events. Limited flooding impacts are anticipated along the backbone conveyance pipeline as the assets would be below ground, and pump stations would be designed to protect against flooding. The groundwater recharge sites may be impacted by an in-region flood event, with recharge operation likely to be suspended during major rain events. Treatment and pumping facilities would be designed to prevent flood damage. • **Wildfire:** The Warren Facility is in a densely urbanized area of Carson, Los Angeles County, and falls outside of the Moderate, High, or Very High Fire Hazard Severity Zones per the Fire Hazard Severity Zone Viewer (FHSZ). Pure Water's conveyance system consists mainly of underground pipes and tunnels that would be resistant to the wildfire hazard. Pure Water's treatment and pumping facilities would be situated in urban areas with fire-resistant boundaries to prevent the spread of wildfires into the facilities. All building materials would be designed with fire-resistant materials. Emergency procedures and safety precautions would also be established in the event of a fire. • **Wind:** The risk of severe wind in the Pure Water area is very low (https://hazards.fema.gov/nri/map) as its treatment and pumping facilities are situated in lower wind exposure areas. Warren Facility infrastructure includes wind resiliency measures as identified in site-specific environmental health and safety measures. While facilities are being considered for alternative power supply options like the wildfire response, if power is shut down due to high winds, the inherent operational function of these facilities would also allow for power accommodation related to outages. Pure Water deliveries account for a 92% online factor which accommodates for planned outages and downtime. To address power supply interruptions due to natural or climate related events (e.g. wildfire, wind, or heat), the design of Pure Water facilities would likely include the provision of an alternative power supply (e.g. emergency generators at the Warren Facility, or portable emergency generators) to provide sufficient backup power to maintain operation of critical facilities. If an alternative power supply isn't developed, Metropolitan may need to provide backup water supply for some of the industrial facilities.	
	2. How does it maintain system reliability, including delivery and water quality, under identified climate vulnerabilities and hazards (e.g., extreme heat, wildfire, sea level rise, flooding)? **Drought is addressed in Reliability*	Pure Water has the potential to improve overall system resiliency against climate-change-induced hazards, mainly due to the locally supplied source water (treated wastewater) and its adjacency to main delivery points. Compared to imported supplies, which require lengthy conveyance lines to bring source water to the service area, Pure Water minimizes the exposure of its conveyance and distribution system that could be vulnerable to potential hazards. • **Extreme Heat:** Higher surface temperatures could exacerbate heat waves in urban areas, leading to higher water consumption during these periods. Metropolitan's exposure and vulnerability would likely increase because of the extreme heat hazard, intensified by climate change. Pure Water represents a unique opportunity to invest in local alternatives that would provide additional sources of potable water to aid in extreme heat events. Utilizing Pure Water as a regional supply would supplement the imported water sources that may be susceptible to outages associated with high temperatures. The Pure Water AWPF facilities could shed its power usage for 1-2 days during extreme heat events to avoid blackouts in the region due to extreme heat. Since the AWPF facility doesn't require 24/7 operation, as it doesn't serve water directly to consumers, it could take part in an Emergency Load Reduction Program. • **Flood:** Metropolitan's exposure and vulnerability to flood hazards may increase because of climate change impacts, as was recently demonstrated by the soil cover erosion at CRA siphons and tunnels in recent desert storms. Pure Water is an asset that can hedge the potential risk of imported supplies with a local source less impacted by out-of-region flood events. Pure Water enhances regional resilience by increasing groundwater storage and augmenting raw water supplies at the Weymouth Plant in the event of a flooding emergency affecting imported supplies. However, its effectiveness is limited when an in-region flood event affects the water system operation because of restrictions in groundwater basin operations. • **Wildfire:** Pure Water would increase regional water supply storage that could be utilized in the event of a wildfire. Its backbone conveyance pipeline extends over 39 miles across Los Angeles County, which increases its effectiveness in fighting regional wildfires with multiple storage facilities. • **Wind:** The vulnerability to wind is tied predominantly to the loss of power, as most of Metropolitan's imported water supplies are power-dependent. Pure Water serves as a regional backup against potential interruption of imported supplies due to power loss along the CRA or SWP aqueduct. Under future climate change conditions, it is anticipated that constituents such as total dissolved solids (TDS), sulfate, chloride, and nitrate would increase in source waters from the SWP and Colorado River. Because of the treatment process proposed, Pure Water is expected to improve the concentrations of constituents such as nitrate, sulfate, and chloride, which would be affected by a warmer climate. Purified water from Pure Water would also help with any blending and long-term salt balance for the three groundwater basins served by Pure Water. Metropolitan has goal of reaching less than 500 mg/L TDS in treated water deliveries., Pure Water delivery to the Weymouth and Diemer WTPs for raw water augmentation would improve water quality of treated imported water deliveries throughout Los Angeles and Orange County as the recycled water would have a TDS of less than 100 milligram/liter (mg/L),. which will help Metropolitan achieve the TDS goal of 500 mg/L. Improved imported water quality will help make Metropolitan's system more resilient.	

Assessment

Evaluative Criteria	Attributes	Assessment	Value
Resilience Addresses known risks and vulnerabilities Project, Program or Portfolio's ability to perform under climate impacts	3. Describe any resilience co-benefits (e.g., seismic) achieved through this project, program, or portfolio.	***Seismic Resilience*** Metropolitan's service area is in a seismically active region subject to seismic events. The imported supplies conveyed by the Colorado River Aqueduct and California Aqueduct East and West Branches cross the San Andreas Fault, making them seismically vulnerable. Potential outages for these existing conveyance lines are estimated to range from a few months to up to two years. In such an event, besides the emergency storage that could sustain the region for approximately 6 months, the region would need to rely entirely on local supplies while repairs are made. Pure Water is located on the coastal side of the San Andreas Fault, which could make the water produced by Pure Water available during a seismic event. Pure Water could substantially increase the region's and Metropolitan's seismic resilience by providing locally produced supplies. For an in-region major earthquake, the storage in local groundwater basins from Pure Water supplies could supplement member agency demands when the distribution system is compromised and unable to deliver Metropolitan's imported supplies. Pure Water is estimated to increase regional supplies by up to 15%, which supplements Metropolitan's storage reserves. It enhances seismic resilience by providing water to maintain storage levels in surrounding groundwater basins before a seismic event. This would provide source water for the surrounding Regional Water Authorities (RWA) and Metropolitan in the event of a seismic emergency. A medium or large magnitude earthquake can halt all water deliveries without warning and cause significant disruption in imported water deliveries to Southern California. By creating a regional, drought-resilient supply, Pure Water helps reduce Metropolitan's dependence on imported water supplies, which are susceptible to seismic activity. A lengthy conveyance system is more vulnerable to natural disasters such as fire, landslides and earthquakes. Such a disaster could impact any component of the State Water Conveyance System and the Colorado River Aqueduct System, resulting in significant impacts on imported supplies. Pure Water reduces Metropolitans reliance on imported water by providing a year-round, sustainable, and locally managed purified water source that can be utilized by Metropolitan to meet year-round water demands. ***Water Quality Co-Benefits*** As stated above, under future climate change conditions, it is anticipated that constituents such as TDS, sulfate, chloride, and nitrate would increase in source waters from the SWP and Colorado River. Because of the treatment process proposed, Pure Water is expected to improve the concentrations of constituents such as nitrate, sulfate, and chloride, which would be affected by a warmer climate. Purified water from Pure Water would also help with any blending and long-term salt balance for the three groundwater basins served by Pure Water. As described above, Pure Water delivery to the Weymouth and Diemer WTPs for raw water augmentation would improve water quality of treated imported water deliveries throughout Los Angeles and Orange County as the recycled water would have a TDS of less than 100 mg/L, .Pure Water will also help Metropolitan manage sulfate, chloride, and nitrate concentration changes due to climate change.	

Additional Information

Please describe how the proposed project, program, or portfolio advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.	**Resiliency for the Broader Colorado River Basin** By reducing Southern California's dependence on the Colorado River, Pure Water helps preserve supplies for other users (e.g. Arizona, Nevada, tribal nations) who maybe be affected by climate related disruptions or seismic events. By leveraging partnerships, Pure Water builds resiliency in cross-state water supply by integrating water supply planning not just across six counties but also across state borders. The project continues to promote partnerships and encourages joint decision making and cost sharing, thereby increasing buy-in and long-term sustainability in water supplies. Specific to resiliency, Pure Water contributes by: **Time** Bound Targets: CAMP4W sets strategic goals to ensure long-term water reliability under climate stress. • Creating a drought-resilient supply: Produces up to 150 mgd of purified water, by harvesting one of the region's largest untapped sources of cleaned wastewater, a drought resilient source. • Creating resiliency in Local Agency Supplies by providing a regional supply source with local benefits. Pure Water is a locally controlled, climate-resilient and seismically protected source of water that can be used to stabilize aquifers to ensure water supplies for local agency partners.

Key: Exceptional | Significant | Moderate | Limited | Very Limited | Undetermined or Not Applicable

Overall Assessment

Overall Assessment Value

Ranking Guidelines at the Attribute Level

Defining to which level a project, program or portfolio will deliver CAMP4W objectives for each attribute category.

Exceptional	The project/program/portfolio directly and completely addresses the benefits being assessed by the question/statement.
Significant	The project/program/portfolio directly addresses most elements of the benefits being assessed by the question/statement.
Moderate	The project/program/portfolio only addresses some elements of the benefits being assessed by the question/statement or addresses them indirectly.
Limited	The project/program/portfolio only addresses few or minor elements of the benefits being assessed by the question/statement or provides minor indirect benefits.
Very Limited	The project/program/portfolio does not provide any or very limited benefits to those being assessed by the question/statement.
Undetermined or Not Applicable	The ranking for this project/program/portfolio is not determined at this time or the attribute is not applicable

Assessment

Evaluative Criteria	Attributes	Assessment
Financial Sustainability and Affordability Unit cost *Note to Reader: Updated program costs are currently being developed by the project team and will be available prior to the final CAMP4W assessment in November. The cost analysis and CAMP4W Assessment Form will be updated then to reflect the most recent cost estimate.*	1. What is the cost of the project?	The total cost of the program at full buildout (150 mgd) based on the prior 2023 program cost update is $8.1 Billion (B), including $6.4 B for Phase 1 facilities and $1.7 B for Phase 2 facilities. This estimate is inclusive of planning, design and construction expenditures for both Metropolitan and the Sanitation Districts. This estimate also includes the upsizing of approximately 14 miles of the backbone pipeline for potential future integration with other regional programs. Deducting the Sanitation Districts' costs associated with the membrane bioreactor and pre-treatment facilities, secured grant and partner funding to date, and the additional costs to upsize the pipeline, Metropolitan's cost of the project is therefore only **$5.8 B at full buildout (2023 dollars),** with the following breakdown by phase: • $4.1 B for Phase 1 (115 mgd) • $1.7 B for Phase 2 (+35 mgd)
	2. What are the projected impacts to rates and budget?	The overall rate impacts of Pure Water at full buildout (150 mgd), including Operation and Maintenance (O&M), are summarized below: **Pure Water Project** / **Phase 1 + Phase 2 (150 mgd)** **Capital Construction Cost[a]** — **$5.8B** Annual Capital Financing Costs[b] — $388M Annual O&M Cost — $167M Annual R&R Cost — $68M Production Yield — 154,600 AFY Year of Completion[c] — 2040 **Overall Melded Cost Increase[d]** — 32% **Average Annual Cost Increase Over Construction Period[e]** — 2.2%/yr Notes: a. *Capital costs in 2023 dollars are net of Sanitation District scope items, no upsized pipe, and secured grant awards and partner contributions, which are described in more detail in Section 5 below.* b. *Assumes 100% debt financed for this analysis at 4% rate/30-year term.* c. *Assumes deliveries start in 2040 (Pure Water buildout), however due to the project phasing, Phase 1 deliveries are anticipated as early as 2033 through 2035. The final financial analysis for the November assessment will incorporate the phased deliveries timing in the analysis.* d. *Calculation assumes the project is 100% debt financed over the construction period. If the project is partially funded by PAYGO it will increase the short-term rate impact.* e. *Based on Metropolitan's 2024/25 Revenue Requirement of $1,550M, over the period from 2025-2040.* **Partner contributions from the Sanitation Districts and Colorado River partners can provide a significant contribution towards the capital construction cost, thereby reducing the overall Metropolitan contribution by a commensurate amount. This could reduce the overall anticipated rate payer impacts associated with the Pure Water project. Question 5 provides additional details on secured and potential partner contributions.**
	3. If applicable, what is the unit cost/acre foot in current year dollars? For storage projects, what is the cost/capacity?	Metropolitan utilized multiple unit cost methodologies to assess the project. First, a point-in-time unit cost that assumes all debt for the project is issued at once in year one of construction and the project is in full operation in year one. Second, a lifecycle unit cost that estimates the average unit cost over the 100-year project life and includes needed replacements and refurbishments (R&R). **Phase 1 + Phase 2 (150 mgd)** **Point-in-Time Unit Cost[a]** — $3,200/AF **Lifecycle Unit Cost[b]** — $1,800/AF a. *All costs are shown in 2023 dollars and include Planning, Design, Construction and Financing costs* b. *Assumes deliveries start in 2040 (Pure Water buildout), however due to the project phasing, Phase 1 deliveries are anticipated as early as 2033 through 2035. The final financial analysis for the November assessment will incorporate the phased deliveries timing in the analysis.*
	4. Does considering life cycle cost change the Financial Sustainability and Affordability?	Yes, considering life-cycle costs (LCC) provides a more complete picture of financial sustainability and affordability beyond the initial construction period. During the first 30 years following project completion, capital financing costs for the construction of Pure Water represent the most significant expenditure. Once the debt is fully repaid, only O&M and capital repair and replacement (R&R) costs remain. The life cycle cost analysis accounts for all construction-related costs, ongoing O&M, periodic R&R, and projected production yields over a 100-year operational horizon. A unique aspect of the Pure Water project, in comparison to other projects, is Metropolitan's direct influence over the program's capital, O&M and replacement costs and timing – which can provide more surety in planning for improvements as well as financial sustainability and affordability of the project.

Value

Assessment

Evaluative Criteria	Attributes	Assessment
Financial Sustainability and Affordability Unit cost *Note to Reader: Updated program costs are currently being developed by the project team and will be available prior to the final CAMP4W assessment in November. The cost analysis and CAMP4W Assessment Form will be updated then to reflect the most recent cost estimate.*	5. Is it eligible for federal and/or state grants? If so, what are the estimated target amount(s)? Is there a local match requirement? If so, how much?	Yes. Pure Water 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. Secured and future funding are summarized below: **Partner Contributions (Secured, $16.6 M):** The Sanitation Districts, Southern Nevada Water Authority (SNWA) and the Arizona Department of Water Resources (ADWR), have contributed a combined total of $16.6 M to date to advance Pure Water planning activities ($6 M each from SNWA and ADWR; $4.6 M from the Sanitation Districts). **Partner Contributions (Future, $2 B):** Sanitation Districts: Pure Water is a unique and collaborative partnership between Metropolitan - the regional wholesale water provider, and the Sanitation Districts - the regional wastewater provider. As such, the Sanitation Districts have already committed to providing the required wastewater flows and land at the Warren Facility for the AWPF. In addition, the Sanitation Districts have committed to paying for the necessary pre-treatment facilities upstream of Metropolitan's advanced water treatment facilities, as well as for the membrane bioreactor (MBR) and related Warren Facility upgrades to shared assets for both entities, which is reflected by the Sanitation Districts willingness to invest over $1 billion (B) into the Pure Water program, which have been accounted for in the financial analysis. Colorado River Partners: Discussions are underway with SNWA, ADWR and the Central Arizona Water Conservation District; cross-state partnerships with these agencies could potentially provide a significant infusion of capital thereby reducing the overall impact of capital and O&M costs to Metropolitan's rate payers. SNWA has also expressed interest in contributing $1 B to the project for potential exchange of Colorado water. Importantly, while cross-state partnerships would reduce Metropolitan's overall share of costs, and thereby reduce overall rate impacts, it does not change the point-in-time and lifecycle unit costs. There is no Colorado River Partner contribution assumed in the financial analysis. **Federal and State Funding (Secured, $212.2 M):** Federal grants and state funding secured to date to advance planning and design efforts for Pure Water include: 1. **$80 million** State of California Direct Grant (FY 2022-2023) (AB 179) – No funding match required. 2. **$1 million** State of California Pilot Study Grant. 3. **$125 million** WaterSMART: Large-Scale Water Recycling Program Grant, U.S. Department of the Interior Bureau of Reclamation (2024) *(funds have been obligated with $55 million authorized and the remaining $70 million to be authorized upon Board commitment of match fund availability) – 75% funding match required.* 4. **$5 million** Planning and Design Grant, U.S. Department of the Interior Bureau of Reclamation (2022) – 75% funding match required. 5. **$750,000** WaterSMART: Water Reclamation and Reuse Research Grant, U.S. Department of the Interior Bureau of Reclamation – *50% funding match required.* **Federal and State Grant Opportunities (Future)** The project, as a regional recycled water program addressing water supply reliability, climate impacts and benefiting a larger region, is a strong candidate for federal and state grants and directed appropriations and low-interest loan opportunities, including: • Environmental Protection Agency (EPA) including Water Innovation Finance and Infrastructure Act (low interest loan program offering 49% of the total eligible project costs with no maximum), Brownfield Grants (varied pending appropriations), and others. • United States Bureau of Reclamation (Reclamation) programs including Large Scale Water Recycling Program (LSRWP) Grant ($132 million in funding remains for Round 3), Title XVI Water Infrastructure Improvement for the Nation (WIIN) Recycled Water Program (up to $30M for elements not covered by the LSRWP), Desalination and Water Purification Research (up to $1M per research effort), and Drought Projects and Water and Energy Efficiency Programs (providing up to $3-5M per project) • Federal Emergency Management Agency (FEMA) including Southern California Wildfire Recovery Funds (Public Assistance) and Hazard Mitigation Grant Program (HMGP) (total funding provided is dependent on impacts to assets and pending federal appropriations) • State of California Climate Bond (Proposition 4) which provides $10 Billion over 10 years for climate-related projects and initiatives. Proposition 4 funds to be disbursed through the State Water Resources Control Board (SWRCB) Water Recycling Program ($386 Million with a set aside for recycled water projects including large-scale programs; currently anticipating a total per project cap of $15 Million), Department of Water Resources (DWR) Urban Infrastructure and Climate Adaptation Program ($275M total), and programs through the State Coastal Conservancy • State of California SWRCB Clean Water/Drinking Water State Revolving Fund (CWSRF/DWSRF) – Low interest loan funding, which provides up to $50 million in loan funding per project. • Department of Water Resources (DWR) Sustainable Groundwater Management Act (SGMA). • Office of Planning and Research (OPR) Regional Resilience Grant Program (RRGP). • CA Coastal Conservancy and Ocean Protection Council- Climate Ready Grant. Both the State SRF and EPA's WIFIA programs can provide low-interest loans for project planning, design and construction activities and while neither program requires a match, the SRF program can provide $50M per project while WIFIA provides up to 49% of the project funding. Most of the identified grant programs will require a match requirement (typically 25% to 75%). Currently, there are concerns associated with the availability of federal and state appropriations, low-interest loans and grants. However, with the phased implementation of Pure Water through 2040, Pure Water has and will likely be able to secure funding through current opportunities provided by the Bipartisan Infrastructure Law and Proposition 4, while also seeking future funding opportunities under new administrations and their priorities.
	6. Does it have a revenue generation component that helps offset costs?	Yes. Pure Water presents several opportunities for revenue generation, including the following: • **Solar Power:** Metropolitan plans to utilize 11 acres of roof area at the Joint Plant site to maximize energy production for the AWPF. Approximately 3.5 acres of panels are required to generate 1 MW of solar power. Therefore, approximately 1.5 MW of solar power can be generated at the Joint Plant site. This may vary with peak solar hours and will require the use of batteries to store excess power. The cost of the solar facilities is included in the project capital and O&M cost estimates. • **Electric Vehicle (EV) Charging Stations:** The project includes the construction of three parking facilities with canopy covers that will accommodate 150 to 200 cars. Onsite solar power generation will allow for the inclusion of onsite EV charging stations with a connected load of 3.5 MW. The combined parking areas will include 100 level 2 (10 kW/charger) and 15 level 3 (150 kW/charger) stations. The cost of these facilities is included in the project capital and O&M cost estimates. Revenue could be generated associated with utilization of EV Chargers from selling carbon credits through voluntary or compliance carbon markets (e.g. Low Carbon Fuel Standard credits, Voluntary Carbon offsets), and demand management and grid services (e.g. Utility incentives, Time-of-Use Optimization, and Vehicle-to-Grid). • **Fiber Optic Cable Capacity:** As part of the construction of the 39-mile backbone conveyance facility, Metropolitan plans to install fiber optic cables within or alongside the main pipe trench to provide network communications for instrumentation monitoring, control security, and potentially leak detection. Spare capacity within the fiber optic cables could be leased or access fees be charged for revenue generation. Metropolitan is coordinating with regional telecommunications providers to explore opportunities to lease capacity. The cost of these facilities is included in the project capital and O&M cost estimates. • **Water Sales or Exchanges:** Pure Water is expected to have contracts with direct recipients (local water agencies, industrial and other users) that would commit those agencies to purchase a minimum amount of water. In addition, exchanges with out-of-state partners like SNWA and CAP would allow Metropolitan to retain or trade Colorado River water, creating a financial value through strategic water management. While approval of the Pure Water project presents these "new" revenue opportunities for consideration, these are not anticipated to materially impact the overall cashflows,

Additional Information

Please describe how the proposed project, program, or portfolio advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.	Pure Water provides a host of economic benefits that extend well beyond Metropolitan's service area. In 2025, 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 2025). The study reported that construction of the program is expected to generate over $15.1 billion in total economic output and support approximately 75,660 jobs years across the Southern California region, including 43,700 job-years directly to the program and another 31,960 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. Pure Water would also have a recurring positive impact on the regional economy once construction is completed. The 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 $57.2 million in federal taxes each year (LAEDC 2025). While much of the impact will occur in the construction industry, professional and technical services will also be significantly impacted. Other industries will also stand to gain, including health care and social assistance; real estate and rental and leasing; retail trade; accommodation and food services; and administrative and waste services. Each of these industries will see an increase in business revenues and in the number of jobs, as the effects of the increase in construction activity due to Metropolitan's project ripple through the regional economy.

Key: Exceptional | Significant | Moderate | Limited | Very Limited | Undetermined or Not Applicable

Overall Assessment

Overall Assessment Value

Ranking Guidelines at the Attribute Level

Defining to which level a project, program or portfolio will deliver CAMP4W objectives for each attribute category.

Exceptional	The project/program/portfolio directly and completely addresses the benefits being assessed by the question/statement.
Significant	The project/program/portfolio directly addresses most elements of the benefits being assessed by the question/statement.
Moderate	The project/program/portfolio only addresses some elements of the benefits being assessed by the question/statement or addresses them indirectly.
Limited	The project/program/portfolio only addresses few or minor elements of the benefits being assessed by the question/statement or provides minor indirect benefits.
Very Limited	The project/program/portfolio does not provide any or very limited benefits to those being assessed by the question/statement.
Undetermined or Not Applicable	The ranking for this project/program/portfolio is not determined at this time or the attribute is not applicable

Assessment

Evaluative Criteria	Attributes	Assessment	Value
Adaptability and Flexibility Flexibility of existing assets Ease/Complexity Scalability	1. Describe how it works with and/or improves the flexibility of existing assets, plans, policies or programs and how it improves the ability to adjust to systemwide changes (water quality, source water, distribution interruption).	With a service area spanning 5,200 square miles across six counties in Southern California, 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, during wet years, Metropolitan can maximize the use of SWP water by moving SWP water to areas within the blended Central Pool. Conversely, during dry years, Metropolitan can maximize the use of Colorado River water by decreasing the blend at the treatment plants and operating pump stations to push Colorado River water as far as possible to preserve SWP water for SWPDAs. 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 water resources and flexibility within the system is fundamental to Metropolitan's wholesale water service. Pure Water would provide an additional regional 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. This would provide increased flexibility for capturing and conveying water supplies. Any additional (i.e., freed up) imported water supplies met by Pure Water would also increase Metropolitan's water resource portfolio, including through bolstered storage within and outside of Metropolitan's service area. Purified water produced by this program would be distributed and pumped into groundwater basins for storage. This would provide an additional degree of water storage to then be removed as needed. Pure Water functions as an augmentation of supplies, allowing Metropolitan to maintain existing sources, but would also act as a potential offset to SWP dependent areas of the system. This new regional supply can augment Metropolitan's existing sources based on regional needs, offering **adaptive capacity** during dry years or emergencies. **<u>System Wide Flexibility</u>** Pure Water is currently envisioned to be implemented in two phases to maximize the use of purified water. Phase 1 would provide 115 mgd (118,600 AFY) of non-potable reuse (NPR), IPR, and DPR. Phase 2 would provide an additional 35 mgd (36,400 AFY) of DPR. Phase 1 deliveries would consist of 24 mgd (24,800 AFY) of NPR and 66 mgd (68,100 AFY) of IPR in groundwater basins, and up to 25 mgd (25,800 AFY) of DPR. Metropolitan is also considering initial stages of 45 mgd in 2033 and 75 mgd in 2034 within Phase 1. These stages are envisioned to represent decision points for Pure Water to manage uncertainty and increase flexibility. Pure Water provides purified water to serve needs in the State Water Project dependent areas (SWPDAs) on the east branch and the west branch, the Central Pool, and to Weymouth and Diemer Water Treatment Plants (WTPs), which can serve all the member agencies through Metropolitan's integrated system. In addition, Pure Water would improve the flexibility of specific projects including the Sepulveda Feeder Pump Station Project and the Diamond Valley Lake to Rialto Project. ***State Water Project Dependent Areas**:* The early stages of Pure Water would include NPR and IPR only. This project would primarily benefit the SWPDAs, both in the east and the west. It is estimated that Pure Water would offset approximately 30 mgd of SWP demands on the West SWPDA through deliveries to West Basin and LADWP. It is estimated that Pure Water will offset approximately 49 mgd of SWP replenishment demands on the East SWPDA through replenishment in the Central and Main San Gabriel Basins (Central Basin, Upper District, and Three Valleys). Pure Water also includes deliveries to the SWP contractor San Gabriel Valley MWD of about 11 mgd. The agreement between Metropolitan and San Gabriel Valley MWD is currently in the early stages, however, Metropolitan expects that the agreement would include a transfer of San Gabriel Valley MWD's Table A. San Gabriel Valley MWD's Table A is 28,800 AFY. This transfer could be delivered to either the West SWPDA or the East SWPDA, as needed. ***Existing Infrastructure.*** The addition of Pure Water to existing Metropolitan facilities like Weymouth WTP improves overall operational flexibility by creating a new source of water to augment the existing portfolio. The southern portion of Weymouth WTP would have additional DPR treatment facilities constructed including a UV reactor building, disinfection facilities, a treated water storage tank, and pumps. These additions help to further expand Metropolitan's ability to provide water. In an average year, SWP offset from DPR is about 15 mgd and CRA offset is 45 mgd. Discussed below, during a dry year, if water is delivered to Weymouth or Diemer WTPs via DPR, the water could be added to the Central Pool and could benefit the East SWPDA via the Sepulveda Feeder Pump Station project. The AWPF at the Warren Facility would also include improvements such as a workforce-training center and expanded treatment facilities. Improvements to both facilities help to support the expanded operations necessary for Pure Water with added improvements to existing conveyance infrastructure. An example of this would be the connection of the pure water backbone pipeline to Weymouth WTP via conversion of San Gabriel Valley Municipal Water Districts' existing Azusa Pipeline. This pipeline would convey 25 mgd from the City of Azusa to Weymouth WTP with the potential to expand further east to allow for additional deliveries beyond Weymouth WTP. ***Sepulveda Feeder Pump Station Project (SFPS).*** Pure Water would benefit projects like the SFPS which would be fed by Pure Water and allow transfer to SWPDA regions. In Phase 1 of Pure Water, IPR makes the groundwater basins more sustainable, which would help reduce demands in the SWPDAs. This would help improve the benefits of the SFPS by allowing member agencies to pull more from local groundwater storage, leaving more water available for SFPS. During a dry year, if water is delivered to Weymouth or Diemer WTPs via DPR, the water could be added to the Central Pool and sent to the SFPS, which would expand the benefits of Pure Water. This could make water available to the SWPDA during drought emergencies. ***Cyclic and Conjunctive use (CUP) Groundwater Programs.*** Pure Water would also allow for planned or expanded recharge basin programs to capture and store water during periods of surplus. These basins could then be utilized to address water supply concerns in times of need. The water produced in this program could also support proposed water reuse programs, like Pure Water Los Angeles (formerly Operation NEXT), by allowing integration to transfer purified water through both systems and make more water available for cyclic and CUP deliveries as well as DPR. ***Diamond Valley Lake to Rialto.*** Pure Water would improve the operations of the Diamond Valley Lake to Rialto Feeder project. Pure Water includes an average of 55 mgd (55,700 AFY) of groundwater recharge in the Main San Gabriel Basin, which would help make more water available from the Diamond Valley Lake to Rialto Feeder project more beneficial by allowing it to serve more parts of the service area. In addition, Pure Water would deliver up to 25 mgd through the Azusa Pipeline for DPR at Weymouth and Diemer, or for potential delivery to Three Valleys MWD for DPR at their Miramar WTP if use of the Azusa Pipeline is expanded east in the future. These options would also help spread the reach of the Diamond Valley Lake to Rialto. Pure Water enhances Metropolitan's control over its water storage and deliveries through the construction of a regional network of conveyance pipelines while leveraging available capacity in existing Metropolitan assets and building upon planned infrastructure projects. This allows Metropolitan to provide for: geographic flexibility to balance supply and demand; reduce pressure on individual facilities; and allows for real-time, data-driven decision making through integrated technologies. **<u>Adjust to System-Wide Changes</u>** **Water Quality Interruptions**. Pure Water provides high-quality purified water that offers improvements in key constituents like TDS while requiring careful management of others. Pure Water, especially through DPR, would be able to buffer changes in quality from other imported water sources. In the event of water quality disruption, Pure Water would be able to provide water to the SWP dependent areas as well as provide water to the Central Pool via DPR. It should be noted that a flexible water system does pose challenges to water quality. IPR would likely reduce the demand for treated water from impacted member agencies, resulting in higher water age thus promoting more nitrification in the treated water distribution system, which is especially a concern in the existing areas already prone to nitrification (the West Basin area). DPR would pose new risks and challenges for drinking water compliance. Reuse water would have very different characteristics than source water from SWP and CRA. Although reuse water is expected to be no more than 10% of the total plant flow, the water treatment plant receiving the reuse water would need to adjust their water treatment processes, operations, and monitoring to accommodate the new water source. Additionally, any contaminants regulated during the DPR process may pose a challenge from an operations perspective as alternating between water sources could complicate testing and treatment. Reuse treatment process upsets and unexpected incidents could impact the water treatment plant and challenge its compliance with drinking water treatment. **Source Water Interruption**. During low SWP or emergency drought conditions, Pure Water would offset 90 mgd of demand in SWPDAs. In addition, during a source water interruption, purified water (DPR via raw water augmentation) can be delivered to SWDPAs through Sepulveda Pump Station Projects as described above. During high SWP periods, Metropolitan can still make replenishment deliveries through existing connections. Although not ideal, Pure Water could reduce production from AWPF and discharge some of the replenishment flow to the ocean to take advantage of available imported water. Alternatively, Metropolitan is considering purchasing a gravel pit in the Main San Gabriel Basin for dedicated recharge and operational storage capacity. **Distribution Interruption**. During a distribution system interruption, Pure Water would continue to operate and deliver water for NPR, IPR, and DPR. Up to 60 mgd of water can be sent to Weymouth and/or Diemer via DPR at full buildout in Phase 2 to help provide supply during an emergency interruption such as a seismic event. Pure Water would be able to adapt to such an event by providing as much water for DPR as possible and continue to deliver water to meet demands in the SWPDAs.	

Assessment

Evaluative Criteria	Attributes	Assessment	Value
Adaptability and Flexibility Flexibility of existing assets Ease/Complexity Scalability	2. Explain how complex the day-to-day operations might be (example: staffing, maintenance, preparation).	A program of this magnitude would require oversight to maintain day-to-day operations. The program would include non-potable, groundwater replenishment, and raw water augmentation to a variety of customers across the Metropolitan region primarily via new service connections along the conveyance system. Pure Water would require a new IPR treatment process, DPR treatment process, auxiliary facilities, and a new regional conveyance system. A total of 6 pump stations are also proposed for the system at full buildout. This would require regular maintenance, which may vary depending on demand. The AWPF would be staffed 24/7 with an onsite water quality laboratory for testing and compliance. Conceptual planning efforts estimate approximately 194 full-time-equivalent (FTE) staff would be needed to support AWPF to produce up to 150 mgd of IPR and DPR water qualities, which would include Operations, Lab, Maintenance, Process Control, and administrative staff onsite at the AWPF. Pump stations along the conveyance system would not be regularly staffed, requiring robust remote monitoring capabilities. Specialized staff would be required to maintain day-to-day operations across the entire program. Approximately 5 FTE operators at the Eagle Rock Operations Control Center would be required to maintain both day and night shifts. Approximately 3 FTEs for the maintenance of conveyance and distribution would also be required, in addition to 3 FTEs for water quality monitoring and compliance along the conveyance system. Special training and certification would also be required for operators at the Weymouth and Diemer Plants for raw water augmentation via DPR at these facilities. FTE estimations will be further refined as the program progresses. In addition, Pure Water includes 9 service connections (7 normal connections and 2 standby connections) and DPR that are expected to have variable demands on a daily or seasonal basis. It is expected that demand for NPR will be highest during the summer months and lowest during the winter months. Therefore, there would be more water available for IPR and DPR during winter months and less during summer months. This variability would add to the complexity of operations. To help with operational compellability, Metropolitan is currently exploring the purchase of a gravel pit in the Main San Gabriel Basin for operational storage as well as for an environmental buffer for DPR.	
	3. How can it be phased (i.e., near-term value of an initial phase; using phasing to manage existing uncertainty; using phasing to allow for adjustments in the project/program/portfolio as new information is developed)?	As mentioned above, Pure Water is currently envisioned to be implemented in phases. Phase 1 would provide 115 mgd (118,600 AFY) of non-potable reuse (NPR), IPR, and DPR. Phase 2 would provide an additional 35 mgd (36,400 AFY) of DPR. Phase 1 deliveries would consist of 24 mgd (24,800 AFY) of NPR and 66 mgd (68,100 AFY) of IPR in groundwater basins, and up to 25 mgd (25,800 AFY) of DPR. Metropolitan is also considering initial stages of 45 mgd in 2033 and 75 mgd in 2034 within Phase 1. These stages are envisioned to represent decision points for Pure Water to manage uncertainty and increase flexibility. Pure Water could potentially provide initial deliveries as early as 2033 and would reach build-out of Phase 2 by 2040. The phasing for Pure Water was determined to maximize construction and operational efficiency. Each phase offers opportunities for Metropolitan to adjust key components as necessary. These stages would help Metropolitan bring Pure Water online sooner to help address potential emergency drought conditions on either the SWP or the CRA earlier. 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, 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 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. Approximately 14 miles of the backbone pipeline is anticipated to have a larger diameter to potentially accommodate future integrated systems. Two notable projects for consideration are the Pure Water Los Angeles and East-West Conveyance Pipeline. The Pure Water Los Angeles project consists of plans to diversify local supplies and utilize approximately 230 mgd of advanced treated water for reuse with the eventual goal of tying into Metropolitan systems. The East-West Conveyance Pipeline is an expansion of existing infrastructure within Metropolitan service areas to provide SWPDAs access to the integrated water system. This involves the development of a pipeline to convey water from eastern to western Metropolitan service areas. The intent of Pure Water is to provide an added layer of flexibility to accommodate future initiatives that would be beneficial to the region. Additional storage opportunities have also been identified, with Pure Water serving as a partnership project to pursue additional storage systems to maximize available water.	
	4. What is the implementation risk and/or complexity of implementation?	Pure Water includes a comprehensive risk management program, both at the program level as well as for each of the individual projects/elements as these projects advance to the design and construction phases of implementation. The risk management program includes quantitative and qualitative assessments with subject matter experts, regular monitoring of potential risks, and establishes mitigation strategies to reduce Metropolitan's risk exposure. Comprehensive risk management tools are used to then quantify potential impacts to the program cost and schedule to better inform decision-making for the program. The Pure Water team has completed a risk assessment for the program and first two pipeline reaches currently in preliminary design. Risks were identified ranging from funding to social context, including the following highest priority risks: • **Funding Availability and Timing (Funding)**: A project of this scale and function requires access to a variety of funding opportunities that range from direct payment to debt financing. Additionally, CIP projects necessitate potential increases to service rates to meet needs. Delays to funding can lead to issues in sequence, program development, and procurement. A variety of federal and state grant funding opportunities have been considered and, in some cases, awarded for Pure Water. Extensive evaluations have been carried out to better support the initiative. Pure Water Phase 1 could be broken into smaller initial stages (45 mgd and 75 mgd) to provide additional flexibility. • **Public Acceptance (Social Context and Stakeholders):** Hesitancy surrounding potable reuse poses a significant obstacle to the Pure Water program. Concerns surrounding the treated wastewater as a potential water supply option create further complications. To alleviate these concerns Metropolitan continues to host community outreach events, providing demonstrations and fact-based explanations. • **Permitting and Environmental Compliance (Permitting and Regulatory Requirements):** DPR would pose new risks and challenges for drinking water compliance. Purified water would have very different characteristics than source water from SWP and CRA. Although purified water is expected to be no more than 10% of the total plant flow, the water treatment plant receiving this water would need to adjust their water treatment processes, operations, and monitoring to accommodate the new water source. Any contaminants regulated during the DPR process may pose a challenge from an operations perspective as alternating between water sources could complicate testing and treatment. Metropolitan has undergone extensive planning through Environmental Impact Analysis and consulted with industry experts to help mitigate concerns related to regulatory compliance. Extensive permitting and right-of-way easements would also be required along the conveyance system, including most significantly Army Corps Section 408 permits at water body crossings, Union Pacific easements at railroad crossings, and Caltrans easements at freeway crossings. Metropolitan has an active WRDA 214 agreement with the Army Corps to expedite reviews for this project, and regularly meets with Army Corps, Caltrans, Union Pacific, and dozens of other authorities having jurisdiction to review the proposed conceptual alignment. Metropolitan is also currently drafting a lease agreement with Southern California Edison for use of approximately 14 miles of their right of way along the San Gabriel River for the backbone pipeline, reducing the impacts to neighboring communities. • **Staffing for Operations and Maintenance (Resources):** The new AWPF is projected to require an additional 194 new staff, many of which require specialized certifications and training. The complexity of daily operations requires a high degree of flexibility and technical expertise. Limited resources or staff without proper experience can lead to issues in operation and maintenance which could further impact other facilities/resources. Metropolitan, in its planning, has determined the need for a Workforce Training Center to provide training and certifications for future operators. This would include training directly related to and needed for construction and operation of Pure Water, as well as training more broadly associated with the water supply, wastewater management, and treatment industries. • **Market Volatility Supply Chain, Market Escalation, Labor Resources (Procurement):** Cost estimates may vary due to factors of uncertainty. Inability to maintain cost estimates or manage that uncertainty can lead to escalation of costs and delay. Contractor's availability may vary, further hindering the progress of the program. Technical expertise would be required in construction, potentially limiting the variety of options. Multiple construction contracts are anticipated to be going in parallel during Phase 1 especially and may be subject to competition from other regional mega projects like the 2028 Summer Olympics. Buy America requirements and availability of long-lead or specialty equipment such as process equipment, tunnel boring machines, large diameter valves, and electrical equipment may also result in cost or schedule delays. • **Complex Operations/Processes:** As mentioned a project like Pure Water involves complex activities to maintain operations. A mixture of advanced treatment facilities, conveyance backbone systems, recharge facilities, DPR facilities, non-potable facilities, and additional support facilities all necessitate extensive planning to effectively function. The interplay between regional agencies and local water resource management would also require further effort. Reuse treatment process upsets and unexpected incidents could impact related systems. Any impediments to the segments of the program could lead to delays or further complications. Additionally wet years or periods of intense rainfall could cause further risks. Pure Water may not be used at full capacity or be unable to inject groundwater storage in the event of these conditions. Metropolitan is considering the development of additional storage systems to help mitigate this concern.	

Assessment

Evaluative Criteria	Attributes	Assessment	Value
		As the planning and design activities for Pure Water advance, the design team continues to identify risks that may arise and removing risks as they are addressed – enabling engineering to effectively manage these potential risks.	

Additional Information

Please describe how the proposed project, program, or portfolio advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.	Pure Water's flexibility and adaptability embedded in the design and operations of Pure Water would help Metropolitan provide reliable water supplies throughout the region under numerous climate scenarios beyond 2045. Pure Water's ability to integrate and compliment other regional supply infrastructure investments (i.e. Pure Water Los Angeles, Pure Water Las Virgenes) as well as cross-state interagency coordination would provide Metropolitan with more options to reduce water imports, replenish regional ground water, and reserve watershed even without knowing which of the four IRP scenarios would most accurately reflect conditions beyond 2045, Long-term climate resilience planning through CAMP4W combined with Pure Water's technological innovations such as advanced data analytics, data monitoring, and digital tools would allow Metropolitan to leverage adaptive management to provide reliable water supplies changing conditions beyond 2045. Pure Water has the ability to adapt and the flexibility to expand allowing for potential future integration with other regional programs like Pure Water Los Angeles. It also allows for future integration of treated water augmentation (TWA) should Metropolitan later decide to pursue TWA applications at any of its existing feeders across the pure water conveyance systems. **Plans/Policies and Initiatives** Pure Water builds on and strengthens Metropolitan's existing resiliency plans, policies, and initiatives by aligning with and advancing key strategic goals including the following. • **Integrated Water Resource Plan (IRP):** To meet the IRP's goal of a flexible supply, Pure Water allows for an adaptive approach in its phasing. Pure Water provides opportunities to integrate with existing programs and projects. • **Water Supply Reliability Program:** Local control, reuse, and groundwater replenishment through Pure Water allows increased flexibility to provide water in times of high demand. Pure Water also allows adjustments to address issues due to interruptions. **Time Bound Targets** Pure Water is designed to meet specific resource and policy based timebound targets in line with established CAMP4W strategic goals. The following summarizes how the project aligns with applicable targets from the perspective of flexibility and adaptability. • **Equitable Access to Supply:** The flexibility of Pure Water allows for equitable access to purified water in SWPDAs and future integration with other projects. • **Local Agency Supply:** Provides access to purified water for all 26 member agencies supplied by Metropolitan, including delivery during times of drought as well as customized delivery options based on agency needs.

Key: Exceptional | Significant | Moderate | Limited | Very Limited | Undetermined or Not Applicable

Overall Assessment

Overall Assessment Value

Ranking Guidelines at the Attribute Level

Defining to which level a project, program or portfolio will deliver CAMP4W objectives for each attribute category.

Exceptional	The project/program/portfolio directly and completely addresses the benefits being assessed by the question/statement.
Significant	The project/program/portfolio directly addresses most elements of the benefits being assessed by the question/statement.
Moderate	The project/program/portfolio only addresses some elements of the benefits being assessed by the question/statement or addresses them indirectly.
Limited	The project/program/portfolio only addresses few or minor elements of the benefits being assessed by the question/statement or provides minor indirect benefits.
Very Limited	The project/program/portfolio does not provide any or very limited benefits to those being assessed by the question/statement.
Undetermined or Not Applicable	The ranking for this project/program/portfolio is not determined at this time or the attribute is not applicable

Assessment

Evaluative Criteria	Attributes	Assessment	Value
Equity Programs for underserved communities Scale of community engagement Public health benefits Workforce development	1. What percentage of the area served by the project, program, or portfolio includes underserved communities and what percentage of the project/program/portfolio area is in underserved communities?	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 (CalEnviroScreen), which includes 21 indicators that assess the pollution burden and population characteristics of all census tracts in the state to identify those most vulnerable to pollution and its effects. A CalEnviroScreen score of 75% or greater qualifies a census tract as DAC, meaning the census tract is among the 25% most vulnerable and burdened by pollution in the state. Based on this information and CalEnviroScreen 4.0 data, staff analysis indicated that approximately 40% of the area that would be served by Pure Water is disadvantaged. When focusing specifically on areas where new program facilities would be built, approximately 71% of the population that is within one mile of the proposed AWPF and 39-mile backbone conveyance system falls within disadvantaged communities as identified by CalEnviroScreen. Using the CalEnviroScreen data, much of Carson, where many facilities would be located, ranks in the highest percentile of disadvantaged communities. The population that would be direct recipients of water from Pure Water is approximately 12.8 million people (includes population of all MA service areas except Eastern, Western, IEUA and San Diego). Water Code §79505.5 defines DACs based on income — specifically, households earning 80% or less of the statewide median household income. Using this definition, about 30% of the area served by Pure Water qualifies as disadvantaged, and approximately 35% of the population within one mile of the proposed AWPF and backbone conveyance system reside within disadvantaged areas. While Pure Water's facilities and components would traverse numerous census tracts (including tracts within cities of Carson, Norwalk, Santa Fe Springs, Pico Rivera, Industry, El Monte, Baldwin Park and Irwindale), potential environmental impacts (e.g. air, noise and hazardous materials) arise mainly during construction and addressed by identified mitigation measures. All communities where new facilities are planned would directly benefit from the reliable, high-quality water supply provided by Pure Water. Many of these communities, in particular disadvantaged communities, currently rely solely on groundwater basins for their water supply. Pure Water enables Metropolitan to fill supply shortfalls with 93,000 AFY which augments local groundwater basins filling 30% of the supply deficit thereby helping ensure the long-term sustainability of these and supply reliability.	
	2. What specific community benefits are included in the project, program, or portfolio?	Pure Water serves and directly benefits communities, including disadvantaged communities, in Metropolitan's service area. • **Workforce Development:** According to a study by the Los Angeles Economic Development Corporation, construction of Pure Water would create 75,660 direct and industry-related job years. A project labor agreement (PLA) sets a goal for 60% local worker participation — the highest in the region. To further support local hiring, Metropolitan is exploring apprenticeship opportunities through the Pure Water program. In addition, Metropolitan and the Sanitation Districts are planning a workforce training center next to the AWPF, providing career pathways both for Pure Water operations and for the broader water supply, treatment, and management sectors. Once operational, the Pure Water program is expected to support nearly 2,500 jobs annually. To further memorialize the partnership and commitment, an MOU to advance work readiness opportunities and increase the qualified candidate pool for job opportunities was signed by the City of Carson, Metropolitan, Sanitation Districts, West Basin Municipal Water District and the South Bay Workforce Investment Board in early 2025. • **Small Business Opportunities:** The program could also foster small business growth by providing diverse and equitable procurement opportunities, with a focus on local business participation through Metropolitan's Business Outreach Program. In March of 2024, Metropolitan hosted a MetWorks event at the Carson Event Center, aimed at sharing information on contracting opportunities with small businesses. Metropolitan also hosted a construction and apprenticeship resource fair. • **Water quality:** Many identified disadvantaged community areas are concentrated in areas where the primary source of water supply is groundwater, especially in the Central and West Coast groundwater basins. Pure Water would produce high quality water low in total dissolved solids (TDS), which would improve groundwater water quality in terms of lowering TDS, nitrate, sulfate, and chloride concentrations. These improvements would protect the public water supply and the health of the communities that depend on these basins. • **Community benefits program:** A framework for a potential community benefits approach is currently in development. The approach includes five components, one of which focuses on providing benefits to communities located near the proposed facilities and pipeline alignment that may experience environmental impacts from a program designed to serve the broader region. These benefits may include both direct actions and the creation of a community benefits fund, both informed by community input, to help address local impacts. The direct actions and funds would support impacted communities in advancing priority projects and initiatives that enhance climate resilience and improve overall quality of life. • **Community space:** Pure Water may include ancillary facilities that may be designed for multifunctional use. These facilities—such as meeting rooms, tour facilities, and a learning center—would encourage education, collaboration, and greater community involvement. The facility would also offer community rooms, an outdoor amphitheater, and native gardens, all available for public use. • **Good Neighbor Guidelines:** When undertaking construction projects in areas where they may impact neighborhoods, homes, and businesses, Metropolitan and Sanitation Districts strive to minimize the impact of work on local communities and restore impacted areas to their original condition or better. The agencies are committed to communicating potential impacts, responding to inquiries in a timely manner and maintaining an active dialogue before and during construction. • **Additional community and environmental elements:** Plans for the advanced purification facility also include plugging oil wells located on site and installing EV charging stations, many of which could be available for public use. Metropolitan and Sanitation Districts are also considering planting additional trees and vegetation within the facility footprint and near Pure Water components to help offset greenhouse gas emissions. Metropolitan intends to pursue Envision verification, a sustainable infrastructure framework that includes standards to promote public health and enhance quality of life for surrounding communities. Required actions such as mitigation for potential environmental impacts, permit and agreement conditions, and regulatory compliance may provide additional benefits	

Assessment

Evaluative Criteria	Attributes	Assessment	Value
Equity Programs for underserved communities Scale of community engagement Public health benefits Workforce development	3. What level of community, tribal, and partner engagement is included in the project, program, or portfolio?	A robust and extensive engagement effort has and continues to be central to Pure Water. An outreach charter guides outreach efforts and includes a commitment to engaging with disadvantaged communities to listen, communicate transparently, and involve those impacted by the program. In addition, an outreach plan provides a framework for implementing outreach activities. Partner and tribal engagement are also an integral part of outreach efforts. **Community Engagement:** Engaging communities involve both inviting them to participate in Metropolitan-hosted events and meeting them where they are. Outreach efforts are designed to make information easy to understand, accessible, and available in the languages spoken in the community. Current outreach activities include: • Tours of the Grace F. Napolitano Pure Water Southern California Innovation Center, which accommodate school field trips, public tours, and special events. Both in-person and virtual tours are offered, with tours provided in English and Spanish. To date, approximately 12,000 people have toured the facility. When the facility is upgraded to test potential DPR purification processes, the site would be used to gain public acceptance of DPR. • Metropolitan staff briefings and presentations for community groups, business organizations, conferences, and city councils. • Hosting booths at community events throughout the program area has also been an effective way to share information and connect with residents. • To help reach underserved communities, Metropolitan has partnered with several community-based organizations located near proposed facility sites. These partnerships have created unique engagement opportunities, such as workshops and community bike rides, to involve residents in program development. The environmental community is also a key audience for program outreach. Metropolitan meets regularly with environmental organizations to share program updates and gather feedback, hosting listening sessions, meetings, and tours. Staff also actively engage with cities, jurisdictions, organizations, and property owners in areas where proposed program facilities may be located. Through close coordination and a collaborative approach, Metropolitan has secured broad support and buy-in from these entities. Staff also collaborate with regulators, meeting with them regularly, sharing program updates, and seeking feedback. During the environmental review process, Metropolitan conducted an extensive outreach campaign for both the Notice of Preparation and the Draft Environmental Impact Report (DEIR). Activities included hosting public meetings; mailing postcards to addresses within 500 feet of proposed facilities and components; placing ads in English and Spanish newspapers; issuing a press release; distributing flyers to public libraries and other community locations; developing a dedicated webpage; creating easy-to-understand informational materials on the environmental review process; sharing updates on Metropolitan's and the Sanitation Districts' social media channels; hosting booths at local events; and meeting with business organizations, environmental groups, and community-based organizations. In addition to direct outreach, a variety of communication resources have helped engage the public and raise awareness about the program. Metropolitan has developed a robust program website that serves as an information hub, as well as videos, brochures, hundreds of social media posts, and a dedicated Pure Water quarterly e-newsletter with more than 1,000 subscribers. The program has also been featured in both local and national news coverage. Through these collective efforts, Metropolitan has reached millions of people with information about Pure Water Southern California. While the current focus is on engaging communities near proposed facilities, once the program is approved, extensive outreach would continue and expand to include communities that would directly receive water from the program. Outreach near program facilities would evolve to include engagement on design and construction. **Tribal engagement:** Throughout the development of the Pure Water program, Metropolitan has engaged with tribes and tribal organizations with meetings, discussions, and regular program updates. Staff reached out to dozens of contacts and connected with the Gabrieleño Band of Mission Indians-Kizh Nation, Gabrieleno/Tongva Band of Mission Indians, Yuhaaviatam of San Manuel Nation (formerly San Manuel Band of Mission Indians), Soboba Band of Luiseño Indians, Fernandeño Tataviam Band of Mission Indians, United American Indian Involvement, American Indian Chamber of Commerce, and Sacred Places Institute. Furthermore, Metropolitan consulted with the Gabrieleño Band of Mission Indians-Kizh Nation on the development of the Tribal Cultural Resources analysis of the Draft EIR with approximately 70 emails, phone calls, or meetings. Their feedback was incorporated into the environmental review, and as a result Metropolitan would provide environmental awareness training prior to construction and secure a Native American (Tribal) Monitor from or approved by the Gabrieleño Band of Mission Indians-Kizh Nation during construction to minimize any disruptions and monitor construction-related ground-disturbing activities. **Partner Engagement:** Pure Water has been a catalyst for regional collaboration with stakeholders, working side by side towards building local regional water supply resiliency, increasing groundwater sustainability and solving regional challenges. In addition to the community partners mentioned earlier, Pure Water has secured more than 15 official program partners through agreements, letters of intent, and other formal commitments. These partners include member agencies, groundwater basin managers, Colorado River partners, and other organizations with vested interests in the program. Metropolitan works closely with these partners to advance the program, holding regular meetings to understand their priorities and ensure their needs are reflected in program development. Metropolitan has also partnered with program participants and other water reuse agencies to establish the Water Reuse Collaborative. This group brings together leadership from the region's key water recycling entities to coordinate strategy, combine resources, and set shared goals to advance water recycling efforts. The Collaborative meets quarterly to support the long-term success of water reuse projects and regional initiatives.	
	4. Describe the extent and reasons why there is broad community support/opposition or potential for support/opposition.	Extensive outreach and collaboration with the public and key stakeholders has helped build broad support for the program. Organizations across a wide range of sectors including business, labor, environmental, and civic groups, recognize the importance of developing a new climate-resilient water supply that also enhances seismic resiliency and reduces reliance on imported water sources. Additional benefits, such as replenishing groundwater basins and improving basin water quality, further strengthening public support. The program's workforce development opportunities, community-focused design, and potential for additional community and environmental benefits also contribute to strong community backing. While there are some concerns related to energy use, greenhouse gas emissions, overall costs, and water quality, steps are being taken to address these issues. The energy required to purify and deliver water through the program is comparable to that used for imported supplies. At the same time, efforts are underway to reduce energy consumption and maximize the use of renewable energy, including solar power and energy produced by the Sanitation Districts through wastewater solids and food waste processing. Metropolitan's Climate Action Plan, which accounts for potential greenhouse gas emissions, outlines strategies to achieve carbon neutrality by 2045. In addition, Metropolitan has secured approximately $230 million in grants and partnership funding to help offset program costs and address affordability concerns. Tours of the Napolitano Innovation Center and explanations of the advance purification process help build support and understanding of the high-quality water that would be provided by the program. Despite these challenges, community members and stakeholders continue to express strong support for the program. This is reflected in the 72 letters of support submitted as part of Metropolitan's application for the U.S. Department of the Interior's Bureau of Reclamation WaterSMART Large-Scale Water Recycling Program Grant, with endorsements from congressional leaders, state and local officials, environmental organizations, cities, and regional agencies. Public opinion research conducted in 2022 and 2024, along with feedback collected from tours of the demonstration facility, further confirms that a majority of the public supports Pure Water Southern California.	

Additional Information

Please describe how the proposed project, program, or portfolio advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.	Pure Water, a product of the creative and collaborative partnership between Metropolitan and the Sanitation Districts, combines Metropolitan's expertise in water delivery with the Sanitation District's wastewater treatment infrastructure and operational knowledge. Collaboration between Metropolitan and the Sanitation District's on Pure Water began over a decade ago and this partnership has continued to into one of the largest water recycling efforts in the world. In addition, the project has fostered new partnerships with more than 15 program partners, including Metropolitan member agencies (Central Basin Municipal Water District [MWD], West Basin MWD, City of Torrance, Long Beach Utilities, Three Valleys MWD, Los Angeles Department of Water and Power, Upper San Gabriel Valley MWD, and others); groundwater basin managers (Water Replenishment District, Main San Gabriel Basin Watermaster); Colorado River partners (Southern Nevada Water Authority, Arizona Department of Water Resources, Central Arizona Project); and other key partners (U.S. Army Corps of Engineers, the State Water Resources Control Board's Division of Drinking Water, Southern California Edison, Los Angeles County Department of Public Works, California Department of Transportation, and other regulators). The project has received support from the U.S. Bureau of Reclamation, California Department of Water Resources and other agencies and continues to promote federal and state engagement. Pure Water has encouraged the development of innovative partnerships with universities, research institutions, and technology providers to advance water purification science, monitoring and public health protections. In addition, unique partnerships with community-based organizations have helped build trust and lasting relationships for Metropolitan with underserved communities. The program has also created opportunities for meaningful and productive collaboration with the environmental community to advance the program. Pure Water helps meet the goals and objectives of multiple Metropolitan plans, policies and initiatives including the CAMP4W, Integrated Resources Plan (2020), Water Shortage Contingency Plan (2021) and Urban Water Management Plan (2020). The project also plays a key role in meeting the water supply and quality objectives of State and regional resource management plans (including 2023 California Water Resiliency Portfolio, California Water Plan (2023), SWRCB Recycled Water Policy, Water Quality Control Plan for the Los Angeles Region (Basin Plan), and the Greater Los Angeles County Integrated Regional Water Management Plan). Pure Water advances several multi-state plans focused on the Colorado River including the Lower Basin DCP, the Colorado River Interim Guidelines for Lower Basin Shortages, and the Coordinated Operations of Lake Powell and Lake Mead (2007 Interim Guidelines), helping set the framework for sustainable management of the Lower Colorado Basin. **Specific to equity, Pure Water builds upon Metropolitan's Diversity, Equity and Inclusion (DEI) commitment and initiatives and supports the DEI framework by promoting inclusion, broad stakeholder engagement and workforce development while reinforcing Metropolitan's commitment to equitable water access**

Overall Assessment

Overall Assessment Value

Key: Exceptional | Significant | Moderate | Limited | Very Limited | Undetermined or Not Applicable

Ranking Guidelines at the Attribute Level

Defining to which level a project, program or portfolio will deliver CAMP4W objectives for each attribute category.

Exceptional	The project/program/portfolio directly and completely addresses the benefits being assessed by the question/statement.
Significant	The project/program/portfolio directly addresses most elements of the benefits being assessed by the question/statement.
Moderate	The project/program/portfolio only addresses some elements of the benefits being assessed by the question/statement or addresses them indirectly.
Limited	The project/program/portfolio only addresses few or minor elements of the benefits being assessed by the question/statement or provides minor indirect benefits.
Very Limited	The project/program/portfolio does not provide any or very limited benefits to those being assessed by the question/statement.
Undetermined or Not Applicable	The ranking for this project/program/portfolio is not determined at this time or the attribute is not applicable

Assessment

Evaluative Criteria	Attributes	Assessment	Value
Environmental Co-Benefits Greenhouse gas emissions Benefits Ecosystem services Habitat/wildlife benefits	1. What are the estimated greenhouse gas emissions or enhanced carbon sequestration, and how does it impact the carbon budget, as defined by the Climate Action Plan?	Based on the Pure Water Southern California Draft Environmental Impact Report (DEIR), potential impacts associated with construction and operation of Pure Water facilities have been analyzed on the program and project level. The total estimated construction-related greenhouse gas (GHG) emissions are 79,458 metric tons (MT) CO_2e across all project-level components. In the first year of full operations (expected in 2036), annual operational emissions are estimated to total 115,861 MT CO_2e. These emissions would decline over time due to implementation of Senate Bill 100, which mandates a 100% carbon-free electricity grid by 2045. By 2045, annual emissions are projected to be 43,083 MT CO_2e. Metropolitan's 2022 Climate Action Plan (CAP) is consistent with all California GHG reduction legislation and sets targets for reducing GHG emissions from Metropolitan's operations, including conveyance, storage, treatment, and delivery of water to its 26-member water agencies. CAP uses a carbon budget approach to ensure total organizational emissions remain within defined targets through 2045. Pure Water was evaluated for consistency with this budget using refined project-level data. Even under the highest emissions forecast scenario, implementation of CAP measures would allow Metropolitan to remain within its carbon budget and achieve both its 2030 and 2045 targets. Therefore, the project would be consistent with the CAP and would not result in a significant impact related to GHG emissions. Metropolitan has committed to a series of up-front measures to offset their GHG emissions including but not limited to. • **Onsite Renewable Energy:** installation of photovoltaic solar panels with a total power rating of at least 1.5 megawatts at the A.K. Warren Water Resources Facility. • **Electric Vehicle Charging:** installation of 100 Level 2 and 15 Level 3 electric vehicle chargers at the Warren Facility. • **Energy Recovery:** installation of inter-stage pumps in the reverse osmosis system to reduce energy use; and installation of Energy Recovery Devices on the concentrate pumping systems to recover energy. • **Biogenic Carbon Supplement:** addition of 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 AWPF. • **Plug Oil Wells:** plugging of eight existing oil wells currently located at the Joint Treatment Site. In summary, the emissions associated with Pure Water are not high enough to affect Metropolitan's ability to achieve its GHG reduction targets. Pure Water GHG emissions would be tracked as part of Metropolitan's overall carbon budget. Metropolitan was below its milestone budget for the 2005-2022 period, with Metropolitan having emitted approximately 5,408,096 MT CO_2e, representing just over half (55%) 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. 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.	
	2. In what way and to what degree does it provide additional ecosystem services?	To comply with IPR and DPR regulations as part of Pure Water, Sanitation Districts may implement an enhanced source control program, which would reduce certain constituents in wastewater that currently discharges to the ocean via the outfall. Although the current discharges meet current regulatory requirements, enhanced source control could improve the quality of future wastewater discharges. At full buildout, Pure Water would produce an average of 93,000 AFY of purified water for groundwater recharge into the West Coast, Central, and Main San Gabriel basins, thus contributing to sustaining groundwater levels. Sustained groundwater levels: support ecosystems, vegetation, and habitat dependent on groundwater; maintain soil moisture; provide a buffer against drought; and support wildlife by preserving habitats and reliable water sources essential for survival. Pure Water reduces reliance on imported water, which could improve the health of both the Colorado River and Sacramento-San Joaquin River watersheds by potentially reducing the amount of water imports to the region.	
	3. To what extent does it protect, improve, or expand wildlife and fish habitat and/or affect flows in ways that improve ecological functions for native species?	Pure Water's temporary construction areas would be restored to pre-construction conditions and areas of marginal or poor habitat would be improved, as feasible, by restoring these areas with appropriate native vegetation thereby providing habitat for wildlife. With the avoidance of sensitive areas, restoration and enhancement of temporary construction areas, and groundwater recharge as described earlier, Pure Water would increase the quality and quantity of suitable habitat for native species. Pure Water could help reduce dependence on the SWP and therefore the San Francisco Bay Delta (Bay-Delta), thereby increasing the sustainability of the watershed and potentially increasing environmental flows, improving the health of the ecosystem. Groundwater recharge from Pure Water could support riparian vegetation and habitat and provide surface water for federally listed threatened or endangered plant and wildlife species along the backbone alignment and considerably beyond the project area. Pure Water could offset imported water demands on the Sacramento-San Joaquin River watershed, or its diversions timed to balance environmental water demands thereby providing benefits to the sensitive ecosystem of the Bay Delta, which serves as a critical habitat for listed species. Reducing dependence upon imported sources would help increase the sustainability of both watersheds to improve the health of the ecosystems. In addition, during the implementation of Pure Water, Metropolitan has committed itself to a series of up-front measures as part of an ongoing commitment to environmental stewardship to ensure the safety of surrounding wildlife. • **Environmental Awareness Training:** 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 would be working; and environmental measures and requirements to comply with project approvals and environmental permits and regulations. • **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. • **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. • **Nighttime Lighting:** Any artificial nighttime lighting shall be shielded and directed away from native habitat and other sensitive biological resource areas. • **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. • **Protected Tree Avoidance and Mitigation.** Metropolitan shall conduct a pre-construction survey prior to impacting any trees that may be protected by County of Los Angeles or city ordinances or policies.	

Additional Information

Please describe how the proposed project, program, or portfolio advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.	Pure Water supports innovation in water purification and reuse on a regional scale thereby setting a precedent for other regions to adopt similar methods and sustainable practices. Innovative approaches, while contingent on regulatory approval, would open the door for other agencies to invest in similarly innovative processes, benefiting from the many years of research and demonstration through testing Pure Water. For instance, the MBR treatment process is commonly used in wastewater treatment; however, Pure Water's application of it as an advance treatment process for IPR and DPR is unique. Additionally, the Pure Water Demonstration Facility, while primarily used for community engagement, also acts as a center for the validation of advanced purification technologies to ensure compliance with the stringent water quality standards in California. It advances regulatory innovation for DPR in support of the IRP, specifically pertaining to regulatory uncertainties related to newly established DPR guidelines. Pure Water also supports both the CAP and UWMP in reducing emissions from daily operations. Another source of innovation for Pure Water is in its' scale. At full buildout, Pure Water would purify up to 150 mgd, making it one of the largest programs of its kind in the world, producing enough water to meet the annual needs of over 500,000 households in Southern California.

Key: Exceptional | Significant | Moderate | Limited | Very Limited | Undetermined or Not Applicable

Overall Assessment

Overall Assessment Value

Ranking Guidelines at the Attribute Level

Defining to which level a project, program or portfolio will deliver CAMP4W objectives for each attribute category.

Exceptional	The project/program/portfolio directly and completely addresses the benefits being assessed by the question/statement.
Significant	The project/program/portfolio directly addresses most elements of the benefits being assessed by the question/statement.
Moderate	The project/program/portfolio only addresses some elements of the benefits being assessed by the question/statement or addresses them indirectly.
Limited	The project/program/portfolio only addresses few or minor elements of the benefits being assessed by the question/statement or provides minor indirect benefits.
Very Limited	The project/program/portfolio does not provide any or very limited benefits to those being assessed by the question/statement.
Undetermined or Not Applicable	The ranking for this project/program/portfolio is not determined at this time or the attribute is not applicable

Supplemental Information

None