



● **Board of Directors**  
***Engineering, Operations, and Technology Committee***

10/9/2023 Board Meeting

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9-3

**Subject**

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Update on review of desalination technologies for potential water supply augmentation

**Executive Summary**

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The recurring severe regional droughts, and their impacts on Metropolitan's water supplies from both the Colorado River and Northern California, have prompted staff to investigate additional sources of water supplies for Metropolitan's member agencies. Staff has initiated efforts to assess the options for both seawater and brackish water desalination as potential new sources to mitigate uncertainties in future supplies. Evaluation of all potential alternative sources, including water desalination, supports the Board's policy of providing equitable water supply reliability to member agencies through a diversified resource portfolio and other measures.

The proposed desalination studies represent one of several efforts to help inform Metropolitan's Climate Adaptation Master Plan for Water (CAMP4W). The selected studies, which will be performed pursuant to two consulting agreements, would inventory potential project sites in Metropolitan's service area, identify partnership opportunities, and evaluate new technologies for addressing development barriers. In July 2023, the California Seawater Interagency Group released a Draft Seawater Desalination Siting and Streamlining Report (Draft Siting Report) with recommendations for siting seawater desalination projects. Staff proposes adjusting the scope of the consulting agreements to better align with the Draft Siting Report and also to support the CAMP4W process.

**Details**

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**Background**

The 2020 Integrated Water Resources Plan Regional Needs Assessment Scenario D established a need for an additional 500-650 thousand acre-feet (TAF) of new local supplies by 2045. The CAMP4W process has also established that Metropolitan may need up to 300 TAF of new core supplies and demand management measures by 2032. These forecasts have been reinforced by the Board's recent adoption of the Intergovernmental Panel on Climate Change's Representative Concentration Pathway (RCP) 8.5 as a basis for planning purposes in CAMP4W. To address long-term reliability concerns and water supply equity within the region, staff have initiated efforts to assess the supply potential of brackish groundwater desalination and seawater desalination.

Request for Proposals (RFP) No. 1327 solicited proposals for engineering services to perform desalination studies in Metropolitan's service area. The proposed desalination studies will expand Metropolitan's understanding of brackish and seawater desalination supply opportunities within Southern California. Findings from the studies will contribute to Metropolitan's current overall assessment of potential water supplies for the region and will help inform the CAMP4W planning process.

In June 2023, an action item authorizing two agreements for the desalination studies was deferred and placed on hold to allow for the release of the Draft Siting Report. Deferring the action item provided an opportunity to incorporate recommendations from the Draft Siting Report in the agreements' scopes of work.

**Draft Seawater Desalination Siting and Streamlining Report to Expedite Permitting**

The Governor's 2022 Water Supply Strategy: Adapting to a Hotter, Drier Future, mandated that the state help streamline and expedite permitting to provide better clarity and certainty to further desalination projects. On July 12, 2023, the California Seawater Interagency Group released the Draft Siting Report in response to the

Governor’s mandate. The California Seawater Interagency Group was formed in 2020 by the signing of a Memorandum of Agreement (MOA) of the state agencies responsible for permitting seawater desalination projects. The MOA’s goal is to facilitate timely and effective coordination during the permitting process for proposed seawater desalination projects.

The Draft Siting Report provides an overview of each agency’s role in permitting seawater desalination projects. It also creates a new streamlined permitting path for projects that meet all the following requirements:

- Concurrent application reviews
- Subsurface intakes
- Comingled discharge
- No impact on coastal protected areas
- Coastal hazard prevention
- Mitigation by project completion
- Identified need
- Environmental justice

In addition to the Draft Siting Report, the State Water Resources Control Board (SWRCB) established a science advisory panel to develop a methodology for assessing the feasibility of subsurface intakes for proposed seawater desalination projects. Recommendations on methodology are expected to be released in January 2024. The SWRCB also plans to release recommendations on mitigation siting for seawater desalination projects in June 2024.

**Water Desalination Opportunities & Technology Assessment: Scope Adjustments**

The planned studies for brackish and seawater desalination studies will be conducted by consultants with oversight by Metropolitan staff. The planned scope of work for the brackish groundwater desalination study and the Seawater desalination study are described below and will be updated in response to the Draft Siting Report.

The proposed scope in RFP-1327 included four elements: (1) brackish groundwater desalination opportunities, (2) seawater desalination opportunities, (3) project implementation, and (4) a technology scan. The studies would provide an inventory of potential sites, identify regulatory requirements, estimate conceptual development schedules and costs, evaluate potential partnership opportunities, and perform new technology scans. In response to the Draft Siting Report, staff propose the following adjustments shown in Table 1.

**Table 1. Changes to Study Scope Elements**

Brackish GW	<ul style="list-style-type: none"> <li>• Minimal changes</li> <li>• Ensure consistency with RPC 8.5 where applicable</li> </ul>
Seawater	<ul style="list-style-type: none"> <li>• Prioritize sites that conform to the state’s streamlined permitting track</li> <li>• Include offshore desalination in the site inventory</li> <li>• Ensure consistency with RPC 8.5 where applicable</li> </ul>
Project Implementation	<ul style="list-style-type: none"> <li>• Emphasize potential partnerships</li> </ul>
Technology Scan	<ul style="list-style-type: none"> <li>• Add offshore desalination technologies</li> </ul>

The seawater desalination element of the scope will be adjusted to better align with the Draft Siting Report’s streamlined track requirements. This includes prioritizing sites that meet the state’s requirements for streamlined permits and de-emphasizing sites suitable for large-scale projects. Coastal hazards such as sea level rise will also be evaluated and considered for the siting study using RCP 8.5. This standard will ensure consistency with the CAMP4W planning processes.

**Next Steps**

Staff would negotiate final scopes of work for two consulting agreements based on the proposed adjustments to ensure consistency with the Draft Siting Report and CAMP4W. The agreements would then be brought back to the Board for approval with final scopes and revised cost estimates.

**Policy**

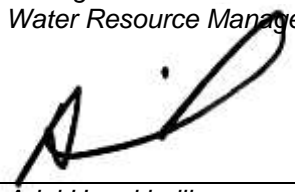
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Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 52946, dated August 16, 2022, the Board adopted a resolution affirming a call to action and committing to regional reliability for all member agencies.

	10/4/2023
_____ <i>Brad Coffey</i> Manager Water Resource Management	<i>Date</i>

	10/4/2023
_____ <i>Adel Hagekhalil</i> General Manager	<i>Date</i>