THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Action

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

8/18/2026 Board Meeting

7-6

Subject

Authorize an agreement with Nokia of America Corporation in an amount not to exceed $6.831 million for equipment procurement and design support to upgrade the Western Region wide-area network; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Metropolitan's Western Region, which geographically covers a majority of Metropolitan's service area, requires high-capacity carrier-grade communication links to provide reliable data, voice, and video transmission. The existing microwave radios, which have been in service for approximately 17 years, have reliability issues that cause intermittent network communication failures and shortcomings that limit the amount of data reliably transmitted through the communication system. The existing microwave network is, in general, beyond its useful service life, and replacement of the existing equipment is needed at this time to ensure reliable communications in this portion of Metropolitan's system. This action authorizes an agreement to procure equipment and furnish supplemental design services to upgrade the microwave radio wide-area network (WAN) communication system at Metropolitan's 33 critical Western Region Microwave tower sites.

Proposed Action(s)/Recommendation(s) and Options

Staff Recommendation: Option #1

Option #1

Authorize an agreement with Nokia of America Corporation in an amount not to exceed $6.831 million for equipment procurement and design support to upgrade the Western Region wide-area network.
Fiscal Impact: Expenditures of $6.831 million in capital funds for FY 2026-2028.
Business Analysis: These projects will enhance the reliability of the Western Region and its communication networks

Option #2

Do not proceed with the project at this time
Fiscal Impact: No capital expenditures
Business Analysis: MWD will continue to operate the existing microwave network as it degrades over time, impacting operations and services.

Alternatives Considered

During the planning phase for this project, staff examined several alternatives in addition to the recommended project. One alternative was to undertake a comprehensive in-place rehabilitation of the existing Western Region Microwave radio WAN sites. This alternative would include removing and replacing individual components of the system, with the objective of upgrading as many existing components as possible while leaving in place some critical structural elements. Staff determined that replacing key components may extend the life of the microwave radio WAN system for a limited time, but would not achieve the project's long-term rehabilitation goals because

many of the 17-year-old components would remain in place. Replacing the microwave radio WAN equipment also provides an opportunity to standardize systems across the Western and Desert regions, thereby minimizing capital costs, simplifying maintenance, and improving part interchangeability. Using a single vendor for replacement is recommended to increase overall system reliability, reduce the risk of communication interruptions, and streamline future system maintenance and operational requirements.

Applicable Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

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

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

By Minute Item 52438, dated July 13, 2021, the Board (a) Authorized an agreement with Nokia of America, Inc. for a not-to-exceed amount of $5,297,000 for furnishing wide-area network equipment and design support to upgrade the desert region-wide-area network; (b) Authorized increase of $250,000 to the agreement with Hatfield & Dawson Consulting Engineers, LLC for a new not-to exceed amount of $730,000 for specialized technical support for the upgrade; (c) Amended current CIP to include upgrades to the communication system at Gene Pumping Plant; and (d) Authorized an agreement with HDR Engineering, Inc. for a not-to exceed amount of $275,000 for design services, as set forth in Agenda Item 7-3 board letter.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action does not constitute an approval that commits Metropolitan to a definite course of action with respect to this project. As the Lead Agency, Metropolitan will be responsible for complying with the requirements of CEQA and the State CEQA Guidelines prior to approval of the project. As preliminary work and design on the project proceed, Metropolitan staff will conduct any necessary CEQA review and prepare the appropriate environmental documentation for consideration and determination by the Board or the General Manager, as appropriate. (State CEQA Guidelines Section 15352.)

CEQA determination for Option #2:

None required

Details and Background

Background

Metropolitan's microwave radio WAN transmits business enterprise and operational technology systems and applications, which run 24 hours per day, 7 days per week. Portions of Metropolitan's microwave radio WAN in the Western Region were constructed in the late 1980s and upgraded from analog microwave technology to digital microwave technology in the late 1990s. In July 2021, the Board approved the replacement of Metropolitan's WAN. Previously, under Phase I, the Desert Microwave Project upgraded 24 transmission tower sites that support the Colorado River Aqueduct (CRA). Phase I was completed in 2026. Currently, under this action for the Western Microwave Project (Phase II), all remaining transmission towers in Metropolitan's WAN system will be upgraded. The Western Region Microwave radio WAN currently comprises a network of 33 transmission tower sites across Southern California.

This action for Phase II of the microwave WAN replacement program is a planned extension of the recently completed Desert Microwave Project (Phase I). Phase II will upgrade the remaining microwave system west of Edom Hill, which is located in Palm Desert. Given the remoteness and isolation of many facilities along the CRA, Metropolitan's wireless WAN serves as the primary data transmission and communications path across the desert region. In addition to upgrading all remaining transmission towers, Phase II includes upgrading Metropolitan's

wireless WAN backup data transmission and communications network between Metropolitan facilities. While not the primary communications mechanism, this backup functionality is considered critical in order for Metropolitan to be prepared for maintaining communications in the event of a regional disaster to support continued operations and disaster recovery. Upon completion of Phase II, Metropolitan's microwave radio WAN will use similar technology and consistent management capabilities in both the Western Region and the Desert Region, reducing troubleshooting efforts, improving efficiency in maintenance and support, and leveraging Metropolitan resources in a more effective manner.

The distance between two towers can range from under a mile to over 40 miles apart. Microwave radio relays transmit signals between two locations on a line-of-sight radio path. Network points are typically located on remote hilltops to provide point-to-point communication links. Each transmission site consists of a tower, directional antennas that transmit incoming and outgoing signals, microwave radio equipment, typically housed in small masonry structures, and other infrastructure such as grounding systems or fiber-optic cable.

Most remote hilltop telecommunications sites have no redundancy in the transmission link, and as a result, a malfunction of a single tower can disrupt communications at multiple sites (when the primary data transmission and communication path is not functioning). Metropolitan's microwave radio WAN is, in general, beyond the end of its useful service life, which typically ranges from 12 to 15 years.

Additionally, the existing microwave radio WAN does not provide carrier-grade transmission capabilities. This shortcoming effectively limits the amount of data that can be reliably transmitted through the communication system.

Staff recommends moving forward with the procurement and initial development phase at this time to upgrade the Western Region Microwave System to carrier-grade transmission capability.

Western Region Wide-Area Network Upgrade – Procurement and Final Design

The Western Region is the portion of the overall microwave system west of Edom Hill, which is located in Palm Desert. This project will replace the current microwave system with a high-capacity, carrier-grade microwave system to provide reliable data, voice, and video transmission in the Western Region. The replacement microwave system is anticipated to comprise microwave radio equipment, including antennas, waveguides, routers, rectifiers, a network management system, supporting networking equipment, and direct current power distribution with battery backup systems.

The equipment procurement and initial development phase of the project will be conducted by Metropolitan staff. Nokia of America Corporation (Nokia) will provide the new microwave radio equipment, conduct microwave path design, and construction work packages to assist staff in preparing an installation contract. This approach for the project will allow Nokia to provide the microwave radio WAN equipment in advance of the main installation contract.

Staff will return to the Board at a later date (anticipated in late 2027) to award this installation contract and anticipates returning to procure additional equipment to support the installation (anticipated early 2027). The recommended procurement/installation approach will ensure that Metropolitan obtains high-quality equipment and expedites the overall project schedule, as much of this equipment consists of long-lead procurement items. It is anticipated that in the second quarter of 2027, Metropolitan will advertise the installation contract for receipt of competitive bids and will perform project control and project management.

Microwave Equipment Procurement and Design Support (Nokia of America Corporation) – New Agreement

The primary reasons Nokia was selected as a vendor for the Western Region Phase II equipment are the same specifications as those of the microwave equipment procured under Phase I, the same spare parts, and training across the network.

Metropolitan initiated the procurement for the microwave radio equipment under Metropolitan Administrative Code Section 8140(1)(l), which allows Metropolitan to "piggy-back" (i.e., gain access to) contracts established by other public agencies that substantially follow Metropolitan's own competitive procurement process.

Performance of the Services described in Nokia of America's Scope of Work shall be governed by the terms of the State of California's Participating Addendum 7-22-70-49-15 between Nokia and the State of California and the NASPO ValuePoint Agreement Price Book Number 1736439683 #00318.

In 2020, the State of Washington issued a competitive solicitation No. 00318 for public safety communications products, services, and solutions. Responsive bids were evaluated by stakeholders from eight states, including California, and Nokia was selected as the successful bidder. On March 1, 2022, the State of California executed a participating addendum. Metropolitan now seeks to enter into an agreement pursuant to the California participating addendum. Accordingly, pursuant to Administrative Code section 8140(l)(1), Metropolitan's Office of the General Counsel has determined that the competitive process used to establish this contract substantially complies with Metropolitan's competitive procurement requirements.

The planned activities for Nokia in the procurement and initial development phase of the Western Region WAN upgrade include: (1) preparing feasibility studies, path surveys, microwave path design, and coordination of radio frequencies; (2) providing site material requirements and equipment placement drawings; (3) furnishing necessary microwave radio WAN equipment including antennas, waveguides, routers, network management system, and supporting networking equipment; and (4) providing assistance with the development of the equipment installation contract.

This action authorizes an agreement with Nokia for a not-to-exceed amount of $6.831 million to furnish WAN equipment and design support of the Western Region Microwave WAN upgrade. For this agreement, Metropolitan has not established a Small Business Enterprise participation level. No subconsultants are planned for this work.

Summary

Allocated funds include $6.831 million for furnishing microwave radio WAN equipment and integration services by Nokia. Additional procurements of miscellaneous supporting equipment are planned to be executed under the General Manager's Administrative Code authority to award contracts of $250,000 or less.

This project has been evaluated and recommended by Metropolitan's Capital Investment Plan Team, and funds are available within the fiscal year 2026/27 and 2027/28 capital expenditure plan. See **Attachment 1** for the Financial Statement and **Attachment 2** for the Location Map.

Project Milestone(s)

Completion of procurement and final design of upgrades – April 2027

Initiation of installation, commissioning and testing – October 2027

8/4/2026
Charles Eckstrom *Date*
Group Manager, Information Technology

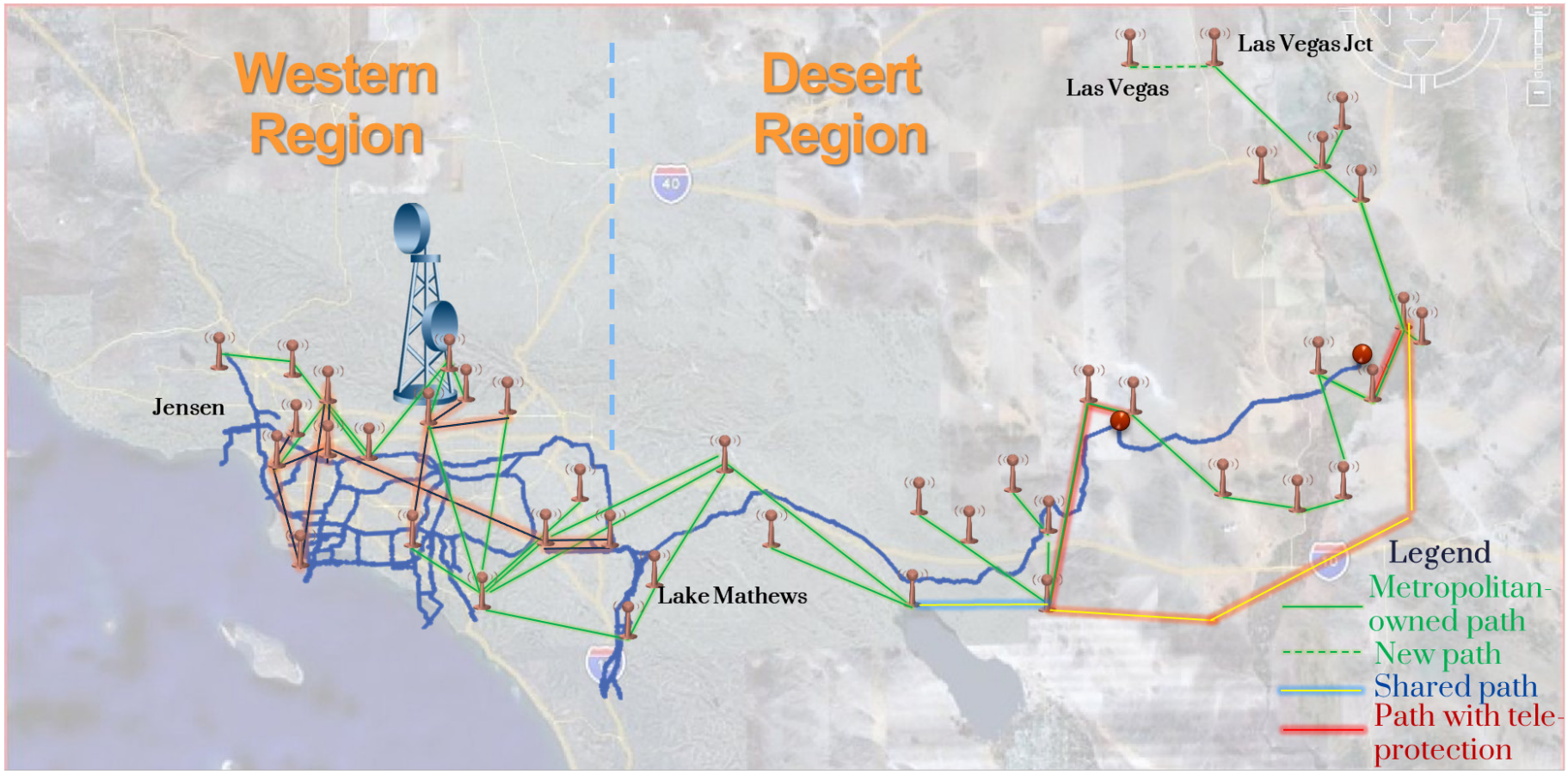
8/4/2026
John V. Bednarski *Date*
Assistant General Manager

Attachment 1 – Financial Statement

Attachment 2 – Location Map

Ref# it12704019

Allocated Funds for Western Region Wide-Area Network

	Current Board Action (Aug. 2026)
Labor	
Studies & Investigations	$ -
Final Design	-
Owner Costs (Program mgmt.)	-
Submittals Review & Record Drwgs	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Nokia	6,831,000
Equipment Use	-
Contracts	-
Remaining Budget	-
Total	**$ 6,831,000**

Location Map