



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

11/14/2023 Board Meeting

7-4

Subject

Award a \$1,244,935 contract to HP Communications Inc. to construct a new fiber optic cable line from Parker Dam to the Gene Pumping Plant; and authorize an increase of \$176,000 to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of \$451,000 for technical support during construction; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA

Executive Summary

The Colorado River Aqueduct (CRA) facilities rely on Metropolitan’s wireless Wide Area Network (WAN) to provide data transmission and communications data across the desert region. Recent commercial and residential developments in the desert region have included the expansion of fiber optic communication connections to locations near Parker Dam. The opportunity now exists to bring high-speed, high-quality fiber optic communications capabilities to some of Metropolitan’s desert facilities. A new pole-mounted fiber optic communication line will provide an alternative path to transmit critical communications to and from the Gene Pumping Plant. This action awards a construction contract for the installation of approximately two miles of fiber optic communication line from Parker Dam to the Gene Pumping Plant administration building.

Details

Background

The CRA is a 242-mile-long conveyance system that transports water from the Colorado River to Lake Mathews. It consists of five pumping plants; 124 miles of tunnels, siphons, and reservoirs; 63 miles of canals; and 55 miles of conduits. The aqueduct was constructed in the late 1930s and was placed into service in 1941. Given the remoteness and isolation of many of the facilities along the CRA, Metropolitan’s wireless WAN provides the primary data transmission and communications path across the desert region.

The Gene Pumping Plant is located two miles southeast of Lake Havasu City, Arizona. Recent commercial and residential developments nearby have included the expansion of fiber optic communication connections to locations near Parker Dam. The opportunity now exists to bring high-speed, high-quality fiber optic communications capabilities to some of Metropolitan’s desert facilities, thereby improving a variety of technological challenges. Extending a new fiber optic connection from Parker Dam to the Gene Pumping Plant will: (1) provide critical redundancy to the existing desert microwave communications systems; (2) improve the speed and resolution of video surveillance at the Gene Pumping Plant; (3) allow desert facilities to access more innovative cloud-based computing applications; and (4) improve the communication system’s overall speed, reliability, and resiliency. As a future project(s), staff is currently evaluating the potential to bring high-speed fiber optic communications to the other four pumping plants.

In July 2021, the Board authorized a consultant agreement to perform final design to install approximately two miles of fiber optic cable from Parker Dam to the Gene Pumping Plant administration building. The new line is predominantly located within Metropolitan fee property on new power poles with a small underground portion of the alignment within the Bureau of Reclamation’s property. Final design for the Gene Communication System Upgrades is complete, and staff recommends award of a construction contract at this time.

Budget Impact

In accordance with the April 2022 action on the biennial budget for fiscal years 2022/23 and 2023/24, the General Manager authorized staff to proceed with construction of the Gene Communication System Upgrade, pending board award of the construction contract described below. Based on the current Capital Investment Plan expenditure forecast, funds for the work to be performed pursuant to this action during the current biennium are available within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24 (Appropriation No. 15525). This project anticipates an expenditure of \$2.28 million in capital funds. Approximately \$1.2 million will be incurred in the current biennium and has been previously authorized. This project has been reviewed in accordance with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the System Reliability Program.

Gene Communication System Upgrade – Construction

The scope of the contract includes: (1) installation of a two-mile long fiber optic line from Parker Dam to Gene Pumping Plant; (2) installation of twenty-two new wooden poles to support the overhead fiber line; (3) demolition of four existing poles; and (4) installation of 1,400 linear feet of buried electrical duct bank of which 600 feet will be directionally bored to minimize traffic impacts as the alignment crosses a public street. Staff worked closely with the Bureau to meet their requirements and obtain the necessary easement rights to facilitate access and future maintenance activities.

A total of \$2,280,000 is allocated for this work. In addition to the amount of the contract described below, other funds to be allocated include: \$184,000 for Metropolitan forces to install the server router and associated equipment; \$210,000 for construction management and inspection; \$176,000 for technical support during construction and preparation of record drawings by HDR Engineering Inc., as discussed below; \$38,000 for review of consulting work and submittal coordination; \$204,000 for contract administration, environmental monitoring, and project management; and \$223,065 for remaining budget. **Attachment 1** provides the allocation of the required funds. The total estimated cost for the Gene Communication System Upgrade project, including the amount appropriated to date and funds allocated for the work described in this action, is \$2.89 million.

Award of Construction Contract (HP Communications Inc.)

Specifications No. 1976 for the construction of the Gene Communication System Upgrade was advertised on August 1, 2023. As shown in **Attachment 2**, two bids were received and opened on September 21, 2023. The low bid from HP Communications Inc. in the amount of \$1,244,935 complies with the requirements of the specifications. The other bid was for \$1,788,294, while the engineer's estimate for this project was \$1.318 million. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 25 percent of the bid amount. HP Communications Inc. has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

As described above, Metropolitan staff will perform construction management and inspection. The total cost of construction for this project is \$1,428,935, which includes the amount of the contract (\$1,244,935), and Metropolitan force activities (\$184,000). Engineering Services' performance metric goal for inspection of projects with construction less than \$3 million is 9 to 15 percent. For this project, the performance metric for inspection is 14.7 percent of the total construction cost.

Technical Support During Construction (HDR Engineering Inc.) – Amendment to Existing Agreement

HDR Engineering Inc. (HDR) performed final design for the Gene Communication System Upgrades under an existing board-authorized professional services agreement. As the engineer of record, HDR is recommended to provide technical support during construction. Planned activities include responding to requests for information from the contractor, reviewing submittals, advising staff on technical issues as they may arise during construction, and preparing record drawings. The estimated cost for these services is \$176,000.

This action authorizes an increase of \$176,000 to the existing agreement with HDR for a new not-to-exceed amount of \$451,000 to provide technical support during construction. For this agreement, Metropolitan has established a Small Business Enterprise participation level of 25 percent. HDR has agreed to provide this level of

participation. The subconsultants planned for this agreement are DRP Engineering Inc. and TJC and Associates Inc.

Alternative Considered

Staff considered multiple alternatives to improve the reliability and resiliency of the communication system at the Gene Pumping Plant. One alternative included adding a third microwave path between Parker Dam and Gene Pumping Plant, which would include a microwave tower at Metropolitan's Black Metal Mountain Communication site. This alternative continues reliance on microwave towers for desert communications and would not allow Metropolitan to take advantage of the technology improvements that are offered by fiber optic communication pathways. The selected option to install fiber optic cable will provide critical redundancy to the desert communications and will improve speed, reliability, and resiliency without negatively impacting Metropolitan's other communications facilities.

Summary

This action awards a \$1,244,935 construction contract to HP Communications Inc. for installation of new wooden poles and two miles of fiber optic cable from Parker Dam to the Gene Pumping Plant administration building. It also authorizes a \$176,000 increase to an existing agreement with HDR Engineering Inc. to provide technical support during construction. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the Listing of Subcontractors for the Low Bidder, and **Attachment 4** for the Location Map.

Project Milestone

September 2024 – Completion of construction

Policy

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 52438, dated July 13, 2021, the Board authorized final design for the Gene Communication Upgrades.

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Year 2022/2023 and 2023/2024.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

As previously determined in the July 13, 2021, board meeting, the proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use and no possibility of significantly impacting the physical environment. In addition, the proposed action consists of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced. Furthermore, the proposed action consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes. Finally, the proposed action consists of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies under Class 1, 2, 4, and 6 Categorical Exemptions (Sections 15301, 15302, 15304 and 15306 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

- a. Award a \$1,244,935 contract to HP Communications Inc. to construct a new fiber optic cable line from Parker Dam to the Gene Pumping Plant and
- b. Authorize an increase of \$176,000 to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of \$451,000 for technical support during construction.

Fiscal Impact: Expenditure of \$2.28 million in capital funds. Approximately \$1.2 million will be incurred in the current biennium and has been previously authorized. The remaining funds will be accounted for in subsequent biennium budgets.

Business Analysis: This option will enhance the reliability of the communication networks at Gene Pumping Plant.

Option #2

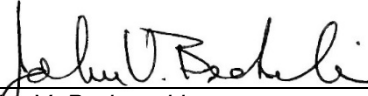

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option will not provide critical redundancy to the existing desert microwave communications systems at the Gene Pumping Plant.

Staff Recommendation

Option #1

 _____ John V. Bednarski Manager/Chief Engineer Engineering Services	10/24/2023 <i>Date</i>
 _____ Adel Hagekhalil General Manager	10/30/2023 <i>Date</i>

Attachment 1 – Allocation of Budgeted Funds**Attachment 2 – Abstract of Bids****Attachment 3 – Subcontractors for Low Bidders****Attachment 4 – Location Map**

Ref# es12686942

Allocation of Funds for Gene Communication System Upgrade

	Current Board Action (Nov. 2023)
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	199,000
Submittals Review & Record Drwgs.	38,000
Construction Inspection & Support	210,000
Metropolitan Force Construction	64,000
Materials & Supplies	120,000
Incidental Expenses	5,000
Professional/Technical Services	
HDR Engineering Inc.	176,000
Right-of-Way	-
Equipment Use	-
Contracts	
HP Communications Inc.	1,244,935
Remaining Budget	223,065
Total	\$ 2,280,000

The total amount expended to date is approximately \$610,000. The total estimated cost to complete the Gene Communication System Upgrade, including the amount appropriated to date and funds allocated for the work described in this action, is \$2.89 million.

The Metropolitan Water District of Southern California
Abstract of Bids Received on September 21, 2023, at 2:00 P.M.

Specifications No. 1976
Gene Communication System Upgrade

The work consists of installing a two-mile-long fiber optic line from Lumen’s Parker Dam facility to Gene pumping plant, using existing poles and installing approximately 22 new poles, 600 linear feet of directional boring, and 1,400 linear feet of electrical duct bank.

Engineer’s estimate: \$1,318,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
HP Communications Inc. Corona, CA	\$1,244,935	\$325,000	26.13%	Yes
HHS Construction LLC Ontario, CA	\$1,788,294	-	-	-

¹ Small Business Enterprise (SBE) participation level established at 25 per cent for this contract.

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

**Specifications No. 1976
Gene Communication System Upgrade**

Low bidder: HP Communications Inc.

Subcontractor	Service Category; Specialty
S&B Construction Services Yorba Linda, CA	Underground Construction

Location Map

