



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

8/16/2022 Board Meeting

7-4

Subject

Authorize a professional services agreement with HDR Engineering, Inc. in an amount not to exceed \$1,300,000 for design of the Inland Feeder/San Bernardino Valley Municipal Water District Foothill Pump Station Intertie; the General Manager has determined the project to be exempt or otherwise not subject to CEQA (This action is part of a series of projects that are being undertaken to improve the supply reliability for State Water Project dependent member agencies)

Executive Summary

The current state-wide drought and resulting low allocation of State Water Project (SWP) supplies by the California Department of Water Resources (DWR) have a direct impact on Metropolitan's ability to deliver water to the Rialto Pipeline service area. Expanding delivery of alternative supplies from Diamond Valley Lake (DVL) and possibly Colorado River water would benefit this area and would preserve limited SWP supplies for the West Branch SWP member agencies. This project is one of four associated projects which are currently underway to provide the ability to directly deliver water from DVL to the Rialto Pipeline through the Inland Feeder. This action authorizes a new agreement with HDR Engineering, Inc. for final design of the Inland Feeder/ San Bernardino Valley Municipal Water District Foothill Pump Station Intertie project.

Details

The Rialto Pipeline, constructed in 1972, is approximately 30 miles long with a diameter ranging from 96 to 144 inches. It conveys untreated water from DWR's Lake Silverwood to Metropolitan's Live Oak Reservoir in La Verne. Under normal conditions, the Rialto Pipeline relies on raw water deliveries from the East Branch of the SWP via DWR's Devil Canyon Afterbay. Member agencies with service connections on the Rialto Pipeline include the Inland Empire Utilities Agency, Three Valleys Municipal Water District, and the Upper San Gabriel Valley Municipal Water District.

Metropolitan's DVL provides emergency storage in the event of a major earthquake, carryover storage as a reserve for drought conditions, and seasonal storage to meet annual member agency demands. DVL is Metropolitan's largest reservoir, with a maximum storage capacity of 810,000 acre-feet. At this time, the Rialto Pipeline cannot access the water stored in DVL due to infrastructure and operational constraints.

In December 2021, the Board amended the Capital Investment Plan (CIP) for fiscal years 2020/2021 and 2021/2022 to include Rialto Pipeline water supply reliability improvements, which allow deliveries from DVL to the Rialto Pipeline. These reliability improvements consist of four separate projects: Wadsworth Pumping Plant Bypass Pipeline, Inland Feeder/Rialto Pipeline Intertie, Inland Feeder – Badlands Tunnel Surge Protection, and Inland Feeder/San Bernardino Valley Municipal Water District (SBVMWD) Foothill Pump Station Intertie. Together, these incremental infrastructure improvements will greatly increase operational flexibility and enhance the ability to move water from DVL, and potentially the Colorado River Aqueduct, into the Rialto Pipeline. In times of drought, operation of Metropolitan's system with these improvements will also allow for limited SWP supplies to be directed to West Branch SWP member agencies.

The Inland Feeder/Foothill Pump Station Intertie is an important component of this four-project effort. Without this project, the Rialto Pipeline water supply reliability benefits would be limited to a series of low-volume water exchanges between Metropolitan and SBVMWD. The Foothill Pump Station is located in the city of Highland

and is connected to SBVMWD's Foothill Pipeline, which usually delivers water for groundwater recharge during high SWP supplies and is therefore available in times of drought. This pump station will provide the lift needed to permit the direct delivery of approximately 107 cubic feet per second (cfs) from DVL to the Rialto Pipeline. A possible future phase could include construction of an additional 250 horsepower pump system which would increase the pumping capacity to approximately 120 cfs. Preliminary design of the initial phase is now complete, and staff recommends proceeding with final design.

In accordance with the April 2022 action on the biennial budget for fiscal years 2022/23 and 2023/24, the General Manager will authorize staff to proceed with the actions described below, pending board award of the design services agreement described below. Based on the current CIP 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. This project has been included in the System Flexibility and Supply Reliability Program of the CIP.

Inland Feeder/SBVMWD Foothill Pump Station Intertie – Final Design

The planned improvement includes pipeline interties and valve installations to connect Metropolitan's Inland Feeder to the existing in-line booster pumps at the Foothill Pump Station. Specific project components include construction of 450 feet of 54-inch bypass supply pipe; 800 feet of 54-inch bypass discharge line; isolation valves; temporary spool pieces and bulkheads; vaults to support the new valves; surge tanks to mitigate hydraulic surges; and associated electrical, instrumentation, piping system, and appurtenance to support the new equipment.

The final design phase activities will be conducted through a professional service agreement and Metropolitan staff. Planned consultant activities are described in further detail below. Metropolitan staff will perform detailed design of instrumentation and control systems, design review, hydraulics analysis, geotechnical support, consultant oversight, environmental support, and project management.

A total of \$2.05 million is required for this work. Allocated funds include a total of \$1,300,000 for final design activities by HDR Engineering, Inc. (HDR) under a new agreement as described below. Allocated funds for Metropolitan staff activities include \$384,000 for detailed design as described above and review of consultant's work; \$181,000 for environmental documentation, regulatory agency coordination, right-of-way support, project management, and project controls; and \$185,000 for remaining budget.

As described below, final design will be performed by HDR and Metropolitan staff. Engineering Services' performance metric target range for final design with construction greater than \$3 million is 9 to 12 percent. For this project, the performance metric goal for final design is 10.5 percent of the total construction costs. Currently, the cost of future construction is estimated to range from \$16 million to \$18 million. **Attachment 1** provides the allocation of the required funds.

Final Design Services (HDR Engineering, Inc.) – New Agreement

HDR is recommended to provide engineering services for the design of the Inland Feeder/Foothill Pump Station Intertie. HDR was prequalified via Request for Qualifications No. 1215 and performed the preliminary design under an existing board-authorized agreement. To allow for the expedited completion of design and construction, and to facilitate aligning this project's schedule with the other three related projects for the Rialto Pipeline water supply reliability improvements, staff recommends that HDR perform the final design.

The planned activities for HDR include preparation of detailed calculations and design, production of plans and specifications, participation in value engineering workshops, development of the engineer's estimate, and performing bid phase assistance.

This action authorizes an agreement with HDR for a not-to-exceed amount of \$1,300,000 to provide engineering design services for the Inland Feeder/Foothill Pump Station Intertie. For this agreement, Metropolitan has established a Small Business Enterprise participation level of 13 percent. HDR has agreed to meet this level of participation. The planned subconsultant for this work is DRP Engineering, Inc.

Alternatives Considered

Several alternatives were considered to perform final design of the Inland Feeder/Foothill Pump Station Intertie, including utilizing in-house Metropolitan staff to perform all work components. Metropolitan's staffing strategy

for in-house Metropolitan staff has been: (1) to assess current work assignments for said staff and to determine the potential availability of staff to conduct this work; and (2) to use project-specific professional services agreements when resource needs exceed available in-house staffing or require specialized technical expertise in order to provide a concentrated engineering effort over an extended duration.

This strategy relies on the assumption that in-house engineering staff will handle the baseload of work on capital projects, while professional services agreements are selectively utilized to handle projects above this baseload or where specialized needs are required. This strategy allows Metropolitan's staff to be strategically utilized on projects to best maintain key engineering competencies and to address projects with special needs or issues.

After assessing the current workload for in-house staff, required expertise, and the relative priority of this project, staff has determined that insufficient engineering staff is available to ensure completion of the work in a timely manner. Staff recommends utilizing a consultant to perform final design work, and Metropolitan staff will provide needed site support and perform project reviews and oversight. This approach will allow for completion of not only this project, but also other budgeted capital projects within their current schedules and ensure that the work is conducted in the most efficient manner possible.

Summary

This action authorizes an agreement with HDR Engineering, Inc. for a not-to-exceed amount of \$1,300,000 to provide engineering services for final design of the Inland Feeder/Foothill Pump Station Intertie. See **Attachment 1** for the Allocation of Funds and **Attachment 2** for the Location Map.

Project Milestones

October 2022 – Complete final design of Inland Feeder/Foothill Pump Station Intertie

February 2023 – Board action to award contract for the Inland Feeder/Foothill Pump Station Intertie

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

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 Years 2022/23 and 2023/24.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is exempt under Section 15262 of the State CEQA Guidelines because it involves planning studies for possible future actions which the agency, board, or commission has not approved, adopted, or funded.

CEQA determination for Option #2:

None required

Board Options

Option #1

Authorize an agreement with HDR Engineering, Inc. for a not-to-exceed amount of \$1,300,000 for final design of the Inland Feeder/Foothill Pump Station Intertie.

Fiscal Impact: Expenditure of \$2.05 million in capital funds. All expenditures will be incurred in the current biennium and have been previously authorized.

Business Analysis: This option will improve water supply reliability in the Rialto Pipeline service area.

Option #2

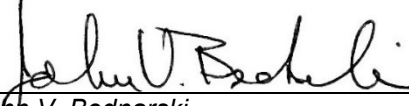

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option would forego the opportunity to improve the reliability of service to those member agencies with connections to the Rialto Feeder.

Staff Recommendation

Option #1

 _____ John V. Bednarski Manager/Chief Engineer Engineering Services	7/21/2022 _____ Date
 _____ Adel Hagekhalil General Manager	7/29/2022 _____ Date

Attachment 1 – Allocation of Funds

Attachment 2 – Location Map

Ref# es12688805

Allocation of Funds for Inland Feeder/SBVMWD Foothill Pump Station Intertie

	Current Board Action
	(Aug. 2022)
Labor	
Studies & Investigations	\$ -
Final Design	384,000
Owner Costs (Program mgmt., envir. review)	181,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
HDR Engineering, Inc.	1,300,000
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	185,000
Total	\$ 2,050,000

The total amount expended to date for the design of Inland Feeder/SBVMWD Foothill Pump Station Intertie is approximately \$290,000. The total estimated cost to complete this project, including the amount appropriated to date, funds allocated for the work described in this action, and future construction costs, is anticipated to range from \$18.6 million to \$20.6 million.

