



- Board of Directors
Engineering and Operations Committee

7/14/2020 Board Meeting

7-4

Subject

Award a \$5,410,000 contract to J.F. Shea Construction, Inc. to reline a portion of the Lake Perris Bypass Pipeline; the proposed action is in furtherance of a project that was previously determined to be exempt or otherwise not subject to CEQA

Executive Summary

The Department of Water Resources (DWR) is developing plans to make improvements to the Lake Perris emergency release facility to reduce the risks to public safety and property. Metropolitan's Lake Perris Bypass Pipeline is located at the base of Lake Perris within an easement granted by DWR, and is situated in an area that will be impacted by DWR's project. Under the terms of the pipeline easement, Metropolitan is required to relocate or protect any portion of the Lake Perris Bypass that would be impacted as a result of DWR's planned improvements to Lake Perris. This action awards a contract to reline a portion of the Lake Perris Bypass Pipeline, and thereby protect the pipeline in the vicinity of the DWR project. Board action is required at this time so that protection of the pipeline can be completed prior to the commencement of DWR's project.

Details

Background

Metropolitan's Lake Perris Bypass Pipeline is a 2.44-mile-long, 120-inch diameter prestressed concrete cylinder pipeline (PCCP) constructed in 1981 that extends from DWR's Santa Ana Valley Pipeline to Metropolitan's Lake Perris Pressure Control Facility. The Lake Perris Bypass Pipeline is part of a conveyance system that can deliver water to Diamond Valley Lake or, under drought conditions, reverse flow and deliver water from the Perris Pumpback Facility to the Mills Plant. The majority of the Lake Perris Bypass Pipeline was constructed in fee property that is owned by DWR. In 1982, DWR granted Metropolitan an easement for the pipeline within a specified alignment. Under the terms of the easement, Metropolitan is required to either relocate or protect its pipeline, at its own expense, to allow for improvements by DWR.

DWR has been evaluating the need for improvements to the Lake Perris emergency release facility over the last several years. The improvements will extend the Lake Perris emergency release facilities and connect directly into a nearby flood control channel to reduce risks to public safety and property. The planned work includes construction of a 6,000-foot-long levee that will cross over Metropolitan's Lake Perris Bypass Pipeline. The levee will be approximately 10 feet high at its crest, and up to 90 feet wide at its base. In mid-2019, DWR notified Metropolitan that the planned improvements at Lake Perris would impact the bypass pipeline. The project's impacts stem from the additional loads placed on the pipe by the new levee. Strengthening of the existing pipeline in the vicinity of the levee, or relocation of the Lake Perris Bypass Pipeline is required to protect the pipeline. Staff evaluated several pipeline protection options. Following this evaluation, staff determined that lining approximately 1,500 feet of the Lake Perris Bypass Pipeline with a steel liner is the most effective method to protect the pipeline. The nature of the recommended work is very similar to the work that is currently taking place on the Second Lower Feeder for Metropolitan's PCCP program.

In November 2019, the Board authorized final design activities for a project to reline a portion of the Lake Perris Bypass Pipeline. Design is now complete, and staff recommends the award of a construction contract at this time.

The relining is scheduled to be complete by April 2021 in order to meet DWR's schedule for improvements to its Lake Perris emergency release facility.

In accordance with the April 2020 action on the biennial budget for Fiscal Years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with construction to reline a portion of the Lake Perris Bypass Pipeline, pending board award of the construction contract 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 2020/21 and 2021/22 (Appropriation No. 15517). This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria, and was approved by Metropolitan's CIP evaluation team to be included in the Distribution System Reliability Program.

Lake Perris Bypass Pipeline – Construction

The scope of the contract includes lining approximately 1,500 feet of existing PCCP segments with a steel liner that will accommodate full internal and external pressures on the line. To minimize above-ground impacts, a single open-excavation access pit will be required so the contractor can enter the pipeline for its work activities. New steel liners will be inserted at the access site, moved into position, and welded together. The annular space between the steel liner and the existing PCCP segments will then be filled with concrete grout. Metropolitan force activities will include: (1) shutdown of the feeder and establishment of clearances; (2) final disinfection and water quality testing; and (3) return of the pipeline to service. The planned shutdown of the pipeline extends from March 2021 to April 2021.

A total of \$7.6 million is required for this work. In addition to the amount of the contract described below, other funds include: \$507,000 for shutdown-related activities by Metropolitan staff; \$696,000 for construction inspection; \$122,000 for submittals review, technical support during construction, responding to requests for information, and preparation of record drawings; \$26,000 for temporary right-of-way; \$225,000 for environmental monitoring, contract administration, and project management; and \$614,000 for remaining budget.

Attachment 1 provides the allocation of the required funds. The total estimated cost of the relining, including the amount allocated to date and funds allocated for the work described in this action, is \$7.98 million. Approximately \$375,000 has been expended on this project to date.

Award of Construction Contract (\$5,410,000)

Specifications No. 1972 for the relining of a portion of the Lake Perris Bypass Pipeline was advertised for bids on May 14, 2020. As shown in **Attachment 2**, two bids were received and opened on June 16, 2020. The low bid from J.F. Shea Construction, Inc. in the amount of \$5,410,000 complies with the requirements of the specifications. The other bid was \$6,141,000, while the engineer's estimate for this project was \$7,230,000. Staff investigated the difference between the engineer's estimate and the low bid and attributes the difference to the contractor's ability to self-perform specialized work and the contractor's plan to implement a cost-effective method to apply mortar lining to the pipe's interior. This contractor has also recently bid aggressively for this type of work and has successfully completed several recent similar projects for Metropolitan's PCCP program. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 5 percent of the bid amount. J.F. Shea Construction, Inc. has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a \$5,410,000 contract to J.F. Shea Construction, Inc. for the relining of a portion of the Lake Perris Bypass Pipeline.

As described above, construction inspection will be performed by Metropolitan staff. Engineering Services' performance metric target range for inspection of projects with a construction cost greater than \$3 million is 9 to 12 percent. For this project, the performance metric goal for inspection is 11.8 percent of the total construction cost. The total cost of construction for this project is \$5,917,000, which includes the amount of the contract (\$5,410,000) and Metropolitan force construction (\$507,000).

Alternatives Considered

Staff evaluated several options to protect the pipeline, including relocating the pipeline, encasing the pipeline with concrete, or relining the pipeline. Relocating the pipeline around DWR's new levee is challenging due to its close

proximity to the Lake Perris Dam, environmentally sensitive areas, and the Ramona Expressway. This alternative would have higher construction costs, longer construction duration, and would have required an extended period of time to acquire the rights of way. For all of these reasons, this alternative would not have allowed Metropolitan to meet DWR's project schedule. The second alternative, concrete encasement, would meet DWR's schedule. However, it was determined that encasing the pipeline in concrete may lead to differential settlement of the pipeline at or near the encasement, eventually causing circumferential cracking. This alternative would have vastly increased surface impacts of the project since the encasement process would have required the entire segment of pipeline to be excavated and fully exposed prior to placing the concrete encasement. Following this evaluation, staff determined that lining approximately 1,500 feet of the Lake Perris Bypass Pipeline with a steel liner is the most cost-effective and reliable option, and also minimizes ground surface disruptions. Finally, this option is consistent with Metropolitan's approach to rehabilitate PCCP pipelines, and long-range plans to install a steel liner in the entire length of the Lake Perris Bypass Pipeline. This long-term goal will allow increased gravity flows from the Inland Feeder and Diamond Valley Lake to the Mills Plant via the Lake Perris Bypass Pipeline.

Summary

This action awards a \$5,410,000 contract to J.F. Shea Construction, Inc. for the relining of a portion of the Lake Perris Bypass Pipeline. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractors for Low Bidder, and **Attachment 4** for the Location Map.

Project Milestone

April 2021 – 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 51784, dated November 5, 2019, the Board authorized the final design for relining of a portion of the Lake Perris Bypass Pipeline.

By Minute Item 51963, dated April 14, 2020 the Board appropriated a total of \$500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The action was previously determined to be exempt under the provisions of CEQA and the State CEQA Guidelines. The Lake Perris Bypass Pipeline project was found by the Board to be statutorily exempt under Section 21080.21(a) of the California Public Resources Code and Section 15282(k) of the State CEQA Guidelines and categorically exempt under Class 1, Class 2, and Class 6 Categorical Exemptions (Sections 15301, 15302, and 15306 of the State CEQA Guidelines) on November 5, 2019. With the current board action, there is no substantial change proposed since the original project was first approved in 2019. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regards to the proposed action.

CEQA determination for Option #2:

None required

Board Options

Option #1

Award a \$5,410,000 contract to J.F. Shea Construction, Inc. to reline a portion of the Lake Perris Bypass Pipeline.

Fiscal Impact: Expenditure of \$6.99 million in capital funds. All costs will be incurred in the current fiscal year and have been previously authorized.

Business Analysis: This option will allow Metropolitan to meet its legal obligation under the easement granted by DWR.

Option #2

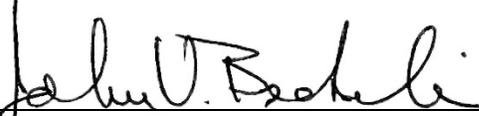
Do not proceed with this project at this time.

Fiscal Impact: None

Business Analysis: This option would delay DWR's improvements to the emergency release system at Lake Perris, or subject Metropolitan's Lake Perris Bypass Pipeline to adverse impacts.

Staff Recommendation

Option #1


 _____ 6/24/2020
 John V. Bednarski Date
 Manager/Chief Engineer
 Engineering Services


 _____ 6/30/2020
 Jeffrey Kightlinger Date
 General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12674041

Allocation of Funds for Lake Perris Bypass Pipeline Relining

	Current Board Action (July 2020)
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., contract admin.)	225,000
Submittals Review & Record Drwgs.	122,000
Construction Inspection & Support	696,000
Metropolitan Force Construction	507,000
Materials & Supplies	
Incidental Expenses (temp. right-of-way)	26,000
Professional/Technical Services	
Right-of-Way	
Equipment Use	
Contract	-
J. F. Shea Construction, Inc.	5,410,000
Remaining Budget	614,000
Total	\$ 7,600,000

The total amount expended to date on the Lake Perris Bypass Pipeline Relining project is approximately \$375,000. The total estimated cost to complete this project, including the amount appropriated to date, and funds allocated for the work described in this action is \$7.98 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on June 16, 2020 at 2:00 P.M.

**Specifications No. 1972
Lake Perris Bypass Pipeline Relining**

The project consists of lining approximately 1,500 feet of prestressed concrete cylinder pipe (PCCP) within the Lake Perris Bypass Pipeline, including excavation, removal of portions of existing PCCP for an access portal, installing steel liner cylinders, welding the steel cylinders, grouting the annular space, applying cement mortar lining, and restoring the site.

Engineer's estimate: \$7,230,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
J. F. Shea Construction, Inc., Walnut, Ca.	\$5,410,000	\$270,500	Yes	5%
Kiewit Infrastructure West Co., Santa Fe Springs, Ca.	\$6,141,000	-	-	-

¹ Small Business Enterprise (SBE) participation level established at 5% for this contract.

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

**Specifications No. 1972
Lake Perris Bypass Pipeline Relining**

Low bidder: J. F. Shea Construction, Inc.

Subcontractor and Location
Cell-Crete Corp., Monrovia, California
Dean's Certified Welding, Inc., Temecula, California

Distribution System

