



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

5/14/2024 Board Meeting

Revised 8-1

Subject

Award a \$24,912,000 construction contract to J.F. Shea Construction Inc. for urgent rehabilitation of prestressed concrete cylinder pipe portions of the Allen-McColloch Pipeline; ~~and~~ authorize an increase of \$250,000 to an agreement with Helix Environmental Planning Inc. for a new not-to-exceed amount of \$2,500,000; and authorize an amendment to Metropolitan's Project Labor Agreement to add the subject project to the list of covered projects; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

The Allen-McColloch Pipeline (AMP) extends 25 miles, delivering treated water from the Diemer plant in Yorba Linda to south Orange County. Constructed in the late 1970s, the AMP consists of approximately 8.7 miles of prestressed concrete cylinder pipe (PCCP), with the remainder mainly consisting of welded steel pipe. A recent electromagnetic inspection of the PCCP portions of the AMP identified significant wire breaks, warranting urgent rehabilitation. A February 2024 board action authorized Stage 1 of a two-stage effort to rehabilitate distressed PCCP segments of the AMP. Stage 1 rehabilitated nearly one mile of PCCP in April 2024 and allowed the northernmost 23 miles of the AMP to be returned to service. Staff recommends proceeding with Stage 2 construction activities to rehabilitate approximately 2.4 miles of the PCCP portions of the AMP.

This action recommends the award of a \$24,912,000 construction contract to J.F. Shea Construction Inc. to rehabilitate approximately 2.4 miles of PCCP portions of the AMP during a June to December 2024 shutdown. This action also authorizes an amendment to an agreement with Helix Environmental Planning Inc. for environmental support during construction and an amendment to Metropolitan's Project Labor Agreement (PLA) to add the AMP Urgent PCCP Rehabilitation Stage 2 Project to the list of covered projects. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the Subcontractors for Low Bidder, and **Attachment 4** for the Location Map. ~~This action also amends an existing agreement for environmental planning support for the rehabilitation of the AMP.~~

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

Staff Recommendation: Option #1

Option #1

- Award a \$24,912,000 contract to J.F. Shea Construction Inc. to rehabilitate approximately 2.4 miles of PCCP portions of the Allen-McColloch Pipeline.
- Authorize an increase of \$250,000 to an agreement with Helix Environmental Planning Inc. for a new not-to-exceed amount of \$2,500,000.
- Amend Metropolitan's Project Labor Agreement to include the Allen-McColloch Urgent PCCP Rehabilitation Stage 2 Project.

Fiscal Impact: Expenditures of \$31,900,000 in capital funds. Approximately \$200,000 will be incurred in the current biennium and have been previously authorized. The remaining funds for this action are accounted for in the Capital Investment Plan (CIP) budget for the next biennium.

Business Analysis: This option will protect Metropolitan's assets, enhance delivery reliability to member agencies, and complete rehabilitation of distressed PCCP pipe segments on the AMP in a timely manner.

Option #2

Do not award a construction contract to rehabilitate the AMP, and do not amend an agreement for environmental planning support at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to enhance reliability and extend the service life of the AMP. This option could lead to higher repair costs, more extensive repairs, and unplanned shutdowns.

Alternatives Considered

Staff considered rehabilitating only the distressed PCCP segments in the southern portion of the AMP, not the entire 2.4-mile reach. This option would focus on the rehabilitation of 18 distressed pipe segments for which the number of wire breaks currently exceeds the urgent rehabilitation threshold of 20 wire breaks. However, in the past, the AMP has required several urgent repairs to its PCCP segments. Due to the shorter-than-expected service life of its PCCP segments, all PCCP within the AMP will need to be lined with new steel liner pipe or replaced at some time.

The selected option will completely rehabilitate the southernmost PCCP portions of the AMP by relining with new steel liners. This approach was chosen after consultation with the Municipal Water District of Orange County and its member agencies. These discussions determined that the southern reach of the AMP could be shut down for a longer duration by utilizing alternative water delivery sources during the extended shutdown.

This alternative is a cost-effective approach that manages the risks associated with the AMP, minimizes the service interruption to member agencies, and furthers Metropolitan's program goal of rehabilitating all PCCP within the AMP. This option ensures that this will be the last shutdown needed for PCCP rehabilitation of the southern three miles of the AMP.

Applicable 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

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

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of \$600 million for projects identified in the CIP for Fiscal Years 2022/23 and 2023/24.

[By Minute Item 53004, dated October 11, 2022, the Board authorized the General Manager to sign a PLA with the trade councils of Los Angeles, Orange, Riverside, San Bernardino, San Diego Counties, and the Tri-Counties and the signatory unions.](#)

By Minute Item 53533, dated February 12, 2024, the Board authorized an increase in change order authority for three existing contracts to conduct urgent rehabilitation of the AMP.

Summary of Outreach Completed

Metropolitan has partnered extensively with the Municipal Water District of Orange County (MWDOC) in developing its shutdown and rehabilitation strategy. In addition, Metropolitan staff have met with City of Lake Forest, City of Mission Viejo, and Orange County Flood Control District officials and initiated the permitting process with those agencies; met with local home-owners associations to provide information about the project and solicit input; and distributed flyers to neighborhoods impacted by Stage 1 work and will do the same with Stage 2 work communities.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action involves the repair of an existing pipeline to prevent or mitigate an emergency. Accordingly, the proposed action qualifies for a statutory emergency exemption. (Public Resources Code Section 21080(b)(4)); State CEQA Guidelines Section 15269.

CEQA determination for Option #2:

None required

Details and Background

Background

The AMP is a 25-mile-long pipeline constructed in the late 1970s that conveys treated water from the Diemer plant in Yorba Linda to southern Orange County. The northernmost 15.9-mile portion of the AMP consists of welded steel pipe, the next 8.7-mile portion consists of PCCP that varies in diameter from 78 inches to 54 inches, and the southernmost 0.4-mile portion consists of pre-tensioned concrete pipe. Metropolitan acquired the AMP from the MWDOC in 1985. The AMP delivers water to MWDOC and its retail agencies.

Over the last several decades, water agencies throughout the United States and several other countries have found that, under certain conditions, PCCP lines have a reduced service life and elevated risk of failure as compared with other types of pipes. PCCP failures can be catastrophic and can occur without forewarning, compromising system reliability and resulting in significant costs due to interruption of service, unplanned major repairs, and potential damages to third-party properties. In response to this risk, Metropolitan initiated a comprehensive program in September 2011 to inspect, manage, and rehabilitate its 163 miles of PCCP lines spanning across 27 pipelines. This program is focused on rehabilitating five priority feeders comprising approximately 100 miles of PCCP while inspecting all PCCP pipelines on a regular basis.

The AMP is one of the five priority pipelines and is inspected on a routine basis. In November 2023, an electromagnetic inspection was conducted on the PCCP portions of the AMP, the fifth inspection of this pipeline since 2000. In December 2023, Metropolitan received an inspection report that identified 81 new distressed pipe segments; 44 pipe segments had 20 or more wire breaks, with one pipe segment having 130 wire breaks. Staff evaluated the potential risks due to the prestressing wire breaks and concluded that the distressed PCCP segments must be rehabilitated as soon as possible. To mitigate the immediate risks to the AMP, its operating pressure was immediately lowered in early December 2023. The reduced pressure will be in effect until the distressed portions of the pipeline are rehabilitated.

In February 2024, Metropolitan's Board authorized a two-stage approach to address the AMP's distressed pipe segments. Under Stage 1, change orders to existing construction contracts are being utilized to rehabilitate approximately 4,500 feet of PCCP segments, including relining approximately 2,100 feet of PCCP upstream of OC-88 Pump Station (OC-88), installing a temporary bulkhead just downstream of OC-88, and relining approximately 2,400 feet downstream of that bulkhead. The work upstream of the temporary bulkhead was completed during a three-week shutdown this April, and the work downstream of the bulkhead is in progress.

Stage 1 addresses all critically distressed PCCP pipe segments upstream of OC-88 and a portion of the PCCP downstream of that point. The temporary bulkhead installed near OC-88 allowed Metropolitan to restore service to the upstream service connections after a relatively short three-week shutdown. The bulkhead also allows for OC-88, the single largest service connection along the AMP, to remain in service and allows the extended outage of the lower portion of AMP.

Stage 2 will rehabilitate approximately 2.4 miles of PCCP segments, which will complete the rehabilitation of the pipe downstream of OC-88. Final design for Stage 2 is complete, and staff recommends proceeding with construction at this time.

Allen-McColloch Pipeline Urgent PCCP Rehabilitation Stage 2 – Construction

This project will reline approximately 12,700 feet of PCCP, including approximately 8,250 feet of existing 66-inch internal diameter PCCP with new 60-inch outer diameter cement-mortar lined steel pipe, and approximately 4,450 feet of existing 54-inch internal diameter PCCP with new 48-inch diameter outer diameter cement-mortar lined welded steel pipe. Contract work includes installation of temporary traffic controls; excavation and construction of 11 temporary liner installation portals; installation, welding, and grouting of the new steel liner and closure pieces at the portals; backfill and compaction of excavations; resurfacing and removal of temporary traffic controls and restoration of street surfaces per local agency requirements; removal of the temporary bulkhead; and disinfection of the rehabilitated portion of the pipeline. Metropolitan forces will shut down the pipeline prior to removal of the temporary bulkhead and restore water deliveries to all service connections along the AMP.

A total of \$31.9 million is allocated for this work. In addition to the amount of the contract described below, other funds to be allocated include \$2,528,000 for construction management and inspection; \$1,588,000 for Metropolitan force construction activities as described above; \$899,000 for submittals review, technical support during construction, responding to requests for information, and preparation of record drawings; \$847,000 for contract administration, environmental monitoring, and project management; \$293,000 for appraisals and fees for property leases and acquisition of temporary construction easements; and \$833,000 for remaining budget. Brown and Caldwell will provide specialized engineering support under an existing board-authorized agreement.

Attachment 1 provides the allocation of the required funds.

Award of Construction Contract (J.F. Shea Construction Inc.)

Specification No. 2108 for the construction of Allen-McColloch Pipeline Urgent PCCP Rehabilitation was advertised to prequalified contractors for bids on March 25, 2024. As shown in **Attachment 2**, two bids were received and opened on April 12, 2024. The low bid from J.F. Shea Construction Inc. in the amount of \$24,912,000 complies with the requirements of the specifications. The other bid was in the amount of \$34,407,000, while the engineer's estimate for this project was \$25.8 million. For this contract, Metropolitan established a Small Business Enterprise participation level of at least five percent of the total bid amount. J.F. Shea Construction Inc. has agreed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a \$24,912,000 contract to J.F. Shea Construction Inc. for the construction of the AMP Urgent Rehabilitation – Stage 2. As described above, Metropolitan staff will perform construction management and inspection. Engineering Services' performance metric target range for construction management and inspection of projects with construction greater than \$3 million is 9 to 12 percent. For this project, the performance metric goal for inspection is 7.8 percent of the total construction cost (\$32,500,000), which includes the construction contract (\$24,912,000), Metropolitan force construction (\$1,588,000), and previously allocated funds for steel pipe procurement (\$6,000,000). The total estimated cost to complete the rehabilitation of Stages 1 and 2 of the AMP, including the amount appropriated to date and this current board action, is \$67 million.

Environmental Planning Support (Helix Environmental Planning Inc.) – Amendment to Existing Agreement

This action authorizes an increase of \$250,000 to an existing agreement with Helix Environmental Planning Inc. (Helix) for a new not-to-exceed total of \$2.5 million. This existing multi-year environmental planning agreement, authorized by Metropolitan's Board in August 2017, provides dedicated support to Metropolitan's PCCP rehabilitation program. Helix was selected through a competitive process via Request for Proposals No. 1157 based on its extensive experience with CEQA compliance and environmental clearances, its specific experience with pipeline projects through urban areas, and its experience with projects in environmentally sensitive locations. This work is highly specialized, and Metropolitan has insufficient technical staff in-house to perform this work.

Helix will prepare environmental documentation and perform the monitoring necessary to comply with environmental regulations for construction of the AMP Stage 2 project. The increase in the Helix agreement supplements the existing agreement capacity to cover costs for the construction phase of the AMP Stage 2 project.

This action authorizes a \$250,000 amendment to an agreement with Helix Environmental Planning Inc. for a new amount not to exceed \$2.5 million for environmental support for the rehabilitation of the AMP. The subconsultants planned for this agreement are Rincon Associates Inc. and Linscott, Law & Greenspan Engineers.

Project Labor Agreement Amendment

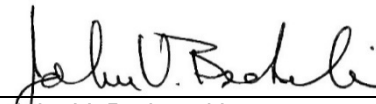
In October 2022, Metropolitan’s Board authorized a PLA with the trade councils of Los Angeles, Orange, Riverside, San Bernardino, San Diego Counties, Tri-Counties, and the signatory unions. It approved its use as a bid condition for select construction contracts within the CIP. The PLA currently includes a list of 33-34 covered projects and provides a ~~stream-lined~~streamlined process for adding projects to the PLA within the 5-year term of the PLA, contingent upon board approval. Based on the anticipated cost of construction, complexity of construction, and anticipated number of trades involved in construction, staff recommends adding the AMP Urgent PCCP Rehabilitation Stage 2 Project to the PLA’s list of covered projects. Following board approval of this amendment to the covered projects list, staff will seek similar approval by the signatory unions in accordance with the amendment procedures of the PLA.

Summary

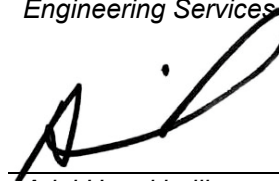
The urgent work on the AMP, recommended in this action, will rehabilitate approximately 2.4 miles of PCCP segments, which will complete the rehabilitation of the pipe downstream of OC-88. The recommended activities effectively accelerate Metropolitan’s overall planned activities to rehabilitate the PCCP portions of the AMP ahead of the schedule that is currently shown in the current CIP Appendix. This action also authorizes an amendment to Metropolitan’s Project Labor Agreement to add the AMP Urgent PCCP Rehabilitation Stage 2 Project to the list of covered projects. Planned CIP expenditures for Metropolitan’s overall PCCP program for the upcoming biennium will be adjusted accordingly upon board approval of the recommended urgent relining work on the AMP.

Project Milestone

February 2025 – Completion of construction



John V. Bednarski
Manager/Chief Engineer
Engineering Services
5/1/2024
Date



Adel Hagekhalil
General Manager
5/1/2024
Date

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Allocation of Funds for Allen-McColloch Pipeline Urgent PCCP Rehabilitation

	Current Board Action
	(May 2024)
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Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	669,000
Submittals Review & Record Drwgs.	770,000
Construction Inspection & Support	2,518,000
Metropolitan Force Construction	1,438,000
Materials & Supplies	110,000
Incidental Expenses	52,000
Professional/Technical Services	
Helix Environmental	250,000
Brown and Caldwell	129,000
Public outreach	50,000
Hazardous materials testing	20,000
Right-of-Way	149,000
Equipment Use	-
Contracts	-
J.F. Shea Construction Inc.	24,912,000
Remaining Budget	833,000
Total	<u>\$ 31,900,000</u>

The amount expended to date to rehabilitate prestressed concrete cylinder pipe (PCCP) portions of the Allen-McColloch Pipeline is \$10.5 million. The total estimated cost to complete Stages 1 and 2, Urgent PCCP Rehabilitation of the Allen-McColloch Pipeline, including the funds allocated for the work described in this action, is \$67 million.

The Metropolitan Water District of Southern California
Abstract of Bids Received on April 12, 2024, at 2:00 P.M.
Specifications No. 2108

Allen-McColloch Pipeline Urgent PCCP Rehabilitation

The work consists of rehabilitating approximately 12,700 feet of PCCP, including approximately 8,250 feet of existing 66-inch internal diameter PCCP with new 60-inch outer diameter, cement-mortar lined steel pipe, and approximately 4,450 feet of existing 54-inch internal diameter PCCP with new 48-inch diameter outer diameter, cement-mortar lined welded steel pipe. The work includes installation of temporary traffic controls; excavation and construction of 11 temporary liner installation portals; installation, welding, and grouting of the new steel liner and closure pieces at the portals; removal of a temporary bulkhead; cleaning and disinfection of the pipeline; backfill and compaction of excavations; resurfacing and removal of temporary traffic controls and restoration of street surfaces per local agency requirements; and removal of the temporary bulkhead.

Engineer’s estimate: \$25.8 million

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
J.F. Shea Construction Inc Walnut, CA	\$ 24,912,000	\$3,415,850	14	Yes
Kiewit Infrastructure West Co. Santa Fe Springs, CA	\$ 34,407,000	-	-	-

¹ Small Business Enterprise (SBE) participation level established at five percent for this contract.

The Metropolitan Water District of Southern California**Subcontractors for Low Bidder****Specifications No. 2108
Allen-McColloch Pipeline Urgent PCCP Rehabilitation****Low bidder: J. F. Shea Construction Inc.**

Subcontractor and Location	Service Category, Specialty
Dean's Certified Welding Temecula, CA	Welding
Cell-Crete Monrovia, CA	Grout
Capital Industrial Huntington Beach, CA	Paint
Penhall Anaheim, CA	Saw cutting
Environmental Construction Group Signal Hill, CA	Abatement
Onyx Paving Anaheim, CA	AC Paving

Distribution System

