



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

7/12/2016 Board Meeting

8-2

Subject

Appropriate \$1.83 million; and authorize increase in change order authority for urgent prestressed concrete cylinder pipe repairs on the Sepulveda Feeder (Approp. 15496)

Executive Summary

This action authorizes an increase in the General Manager's authority to execute change orders for the construction contract currently underway to repair distressed prestressed concrete cylinder pipe (PCCP) segments on the Sepulveda Feeder. When the feeder was initially shut down to provide access for the construction contractor, staff took advantage of the opportunity to inspect additional reaches of the feeder that were not previously accessible. During this recent inspection, two additional distressed PCCP segments were identified that require urgent repair. Staff has negotiated the additional cost to repair these segments under the existing construction contract, and recommends that the change order authority be increased at this time so the work may proceed without delay.

Timing and Urgency

A construction contract is currently underway to install steel liner pipe within 8,300 feet of existing PCCP segments on the Sepulveda Feeder. During the first week of the shutdown, electromagnetic inspections were conducted on portions of the dewatered pipeline that were not previously accessible. This inspection identified two pipe segments that have experienced significant increases in prestressing wire breaks. Both segments are located within an 80-foot-long reach of the feeder, directly east of the Getty Center in the city of Los Angeles. Staff has evaluated potential risks due to the prestressing wire breaks, and concluded that the distressed PCCP segments need to be repaired before the feeder is returned to service. Staff recommends lining these segments with steel liner pipe under the existing construction contract based on the urgent nature of the repairs and the need to re-establish water deliveries through the line. This work is consistent with the long-term rehabilitation effort planned for the Sepulveda Feeder.

Metropolitan's construction contracts are typically completed with final change order amounts falling well within the General Manager's Administrative Code authority. Use of the existing contractor to perform the additional repair work represents the most cost-effective and expeditious means to complete the repairs.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is included in the PCCP Rehabilitation Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2016/17.

Details

Background

The Sepulveda Feeder conveys treated water from the Joseph Jensen Water Treatment Plant in Granada Hills to an interconnection with the Second Lower Feeder in Torrance. The feeder is 42 miles long and was installed in the early 1970s. Approximately 37 miles of the feeder is comprised of 20-foot-long segments of 96-inch-diameter PCCP. The remainder of the line is constructed of 96-inch-diameter welded steel pipe. The Sepulveda Feeder's

alignment follows major public streets as it extends through highly urbanized areas and the Sepulveda Pass. The feeder crosses several freeways, several flood control channels, and an airport. It operates at pressures up to 250 pounds per square inch and passes through areas with highly corrosive soils. In addition, there are numerous underground utility lines, natural gas lines, and oil lines along its route, which expose the feeder to significant stray current interference. The Sepulveda Feeder supplies treated water to the Central Pool portion of Metropolitan's distribution system and has six service connections for the cities of Los Angeles, Santa Monica, and Torrance, and for West Basin Municipal Water District.

In February 2016, a \$9.15 million contract was awarded to J. F. Shea Construction, Inc. for urgent repairs to 8,300 feet of the Sepulveda Feeder. These repairs include the installation of welded steel liner pipe within the existing PCCP segments in two separate reaches of the feeder. The work commenced in April 2016 and construction is scheduled to be completed by the end of June 2016.

During the initial week of the Sepulveda Feeder shutdown, new electromagnetic inspections were conducted on approximately 10.5 miles of the dewatered pipeline. With these inspections, the entire 20-mile-long northern portion of the feeder from the Jensen plant to Missouri Avenue, just north of the Venice Power Plant, has been recently inspected. The new inspection identified that two PCCP segments have experienced significant increases in prestressing wire breaks since their previous inspection. Both PCCP segments are located within an 80-foot-long reach of the Sepulveda Feeder, directly east of the Getty Center. Staff evaluated potential risks due to the prestressing wire breaks and concluded that the distressed PCCP segments require immediate repair.

Metropolitan's Administrative Code authorizes the General Manager to execute change orders on construction contracts in an aggregate amount not to exceed 5 percent of the initial amount of the contract or \$250,000, whichever is greater. If changes occur on a construction contract that will exceed this total, additional authorization from Metropolitan's Board is required. The proposed change order to repair the 80-foot-long reach of the Sepulveda Feeder will exceed the General Manager's Administrative Code authority. As a result, an increase in the maximum change order amount is requested at this time. Use of the on-site contractor to perform the additional work is the most cost-effective and expeditious means to complete the repairs.

Urgent PCCP Repairs on the Sepulveda Feeder – Increase in Change Order Authority (\$1,830,000)

The repairs will include lining 80 feet of existing PCCP segments with a steel liner designed as a stand-alone pipeline that can accommodate full internal and external pressures on the line. The annular space between the steel liner and the existing PCCP segments will be filled with concrete grout. This work is scheduled to be completed in August 2016.

Per Metropolitan's Administrative Code, the General Manager has the authority to execute change orders for this contract in an aggregate amount not to exceed 5 percent of the initial amount of the contract. For this contract, the maximum change order authority is \$457,500. To date, staff has executed a total of \$150,000 in change orders. To address the newly identified PCCP repairs, staff recommends that the change order authority be increased by \$1.43 million, for a new maximum amount of \$1,887,500. In addition to the change order, this action also authorizes Metropolitan staff to fabricate the new steel liner pipe at the La Verne Shops. Use of Metropolitan's pipe fabrication facility at La Verne will expedite the repairs and is less costly than other potential sources for the pipe.

This action appropriates \$1.83 million and authorizes an increase of \$1.43 million in the General Manager's authority to execute change orders for urgent PCCP repairs on the Sepulveda Feeder. The requested funds include \$1.43 million for pipe installation by the contractor, and \$400,000 for pipe fabrication by Metropolitan forces.

The total estimated cost to complete the PCCP repairs identified to date on the Sepulveda Feeder, including the amount appropriated previously and the current funds requested, is approximately \$15.4 million. The total estimated cost to rehabilitate the PCCP on the Sepulveda Feeder is approximately \$760 million.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2016/17 capital expenditure plan. See [Attachment 1](#) for the Financial Statement and [Attachment 2](#) for the Location Map.

This work is included within capital Appropriation No. 15496, the Sepulveda Feeder PCCP Rehabilitation appropriation. With the present action, the total funding for Appropriation No. 15496 will increase from \$15 million to \$16.83 million.

Project Milestone

August 2016 – Completion of urgent PCCP repairs on the Sepulveda Feeder

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

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 emergency repairs to publicly-owned facilities necessary to maintain service essential to the public health, safety or welfare, specifically, water service. Accordingly, the proposed action qualifies under a statutory exemption (Section 21080(b)(2) of the California Public Resources Code and Section 15269(b) of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under a statutory exemption (Section 21080(b)(2) of the California Public Resources Code and Section 15269(b) of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action is statutorily exempt, and

- a. Appropriate \$1.83 million; and
- b. Authorize increase of \$1.43 million in change order authority for urgent PCCP repairs on the Sepulveda Feeder, up to an aggregate amount not to exceed \$1,887,500.

Fiscal Impact: \$1.83 million of capital funds under Appropriation No. 15496

Business Analysis: This option will protect Metropolitan assets, enhance delivery reliability to member agencies, and complete the PCCP repairs as expeditiously as possible.

Option #2


Do not authorize an increase in change order authority to perform the repairs.

Fiscal Impact: None

Business Analysis: Under this option, staff would prepare full drawings and specifications, and would advertise the work for bids. The Sepulveda Feeder would not return to service until October/November 2016. This option would extend the current shutdown and could potentially impact deliveries to member agency service connections for a longer period.

Staff Recommendation

Option #1


Gordon Johnson
Manager/Chief Engineer
Engineering Services

6/29/2016
Date


Jeffrey Kightlinger
General Manager

6/30/2016
Date

Attachment 1 – Financial Statement

Attachment 2 – Location Map

Ref# es12644244

Financial Statement for Sepulveda Feeder PCCP Rehabilitation Appropriation

A breakdown of Board Action No. 3 for Appropriation No. 15496 for PCCP repairs on the Sepulveda Feeder¹ is as follows:

	Previous Total Appropriated Amount (Mar. 2016)	Current Board Action No. 3 (July 2016)	New Total Appropriated Amount
Labor			
Studies and Investigations	\$ 20,000	\$ -	\$ 20,000
Final Design	668,000	-	668,000
Owner Costs (Program mgmt, permitting, envir. monitoring)	552,000	-	552,000
Submittals Review & Record Drwgs.	160,000	-	160,000
Construction Inspection & Support	1,270,000	-	1,270,000
Metropolitan Force Construction	1,260,000	320,000	1,580,000
Materials & Supplies	90,000	80,000	170,000
Incidental Expenses	165,000	-	165,000
Right-of-Way	265,000	-	265,000
Equipment Use	15,000	-	15,000
Professional/Technical Services	-	-	-
Contracts	9,150,000	1,430,000	10,580,000
Remaining Budget	1,385,000	-	1,385,000
Total	\$ 15,000,000	\$ 1,830,000	\$ 16,830,000

Funding Request

Appropriation Name:	Sepulveda Feeder PCCP Rehabilitation		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15496	Board Action No.:	3
Requested Amount:	\$1,830,000	Budget Page No.:	255
Total Appropriated Amount:	\$16,830,000	Total Appropriation Estimate	\$754,200,000

¹ The total amount expended to date on urgent PCCP repairs on the Sepulveda Feeder is approximately \$10,759,454. The total estimated cost to complete the repairs identified to date, including the amount appropriated previously and the current funds requested, is \$15.4 million.

