



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

7/9/2013 Board Meeting

8-2

Subject

Appropriate \$4.53 million; and authorize final design and pipe fabrication for prestressed concrete cylinder pipe repairs on the Second Lower Feeder (Approp. 15471)

Description

This action authorizes final design of urgent repairs and pipe fabrication for selected reaches of prestressed concrete cylinder pipe (PCCP) on the Second Lower Feeder.

Timing and Urgency

In February 2013, electromagnetic inspections of the Second Lower Feeder identified that 19 PCCP segments have deteriorated significantly over the last several years. Repair of these segments should proceed expeditiously to reduce the risk of pipeline failure, minimize repair costs, and prevent unplanned shutdowns. Final design of the repairs is recommended to proceed at this time. These initial repairs will line approximately 6,300 feet of existing PCCP segments with a steel liner at three separate locations. The initial repairs will be consistent with long-term rehabilitation work planned for the feeder.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Reliability project. Funding for this action is available within Metropolitan's capital expenditure plan for fiscal year 2013/14. Moving forward at this time will enhance the reliability of water deliveries to member agencies and reduce the risk of costly emergency repairs.

Background

The Second Lower Feeder delivers treated water from the Robert B. Diemer Water Treatment Plant in Yorba Linda to Palos Verdes Reservoir in Rolling Hills Estates. The feeder was constructed in 1967 and is 39 miles long. Approximately 30 miles of the line are constructed of PCCP, with diameters ranging from 78 to 84 inches. The remainder of the line is constructed of 84-inch diameter welded steel pipe. The Second Lower Feeder operates at pressures up to 340 pounds per square inch and passes through areas with highly corrosive soils. In addition, there are numerous underground utility lines and natural gas and oil lines within the vicinity, which exposes the feeder to significant stray current interference. Its route follows major public streets as it extends through a highly urbanized area. The feeder crosses several freeways, several flood control channels, and an airport. In addition to supplying water to the Central Pool portion of Metropolitan's distribution system, the Second Lower Feeder has 11 service connections serving the cities of Long Beach, Los Angeles, and Torrance, the Central Basin Municipal Water District, and the Municipal Water District of Orange County.

PCCP Repairs at Three Locations on the Second Lower Feeder – Final Design and Pipe Fabrication (\$4,530,000)

The repairs will be performed at three sites during two consecutive shutdown seasons. The proposed work includes lining the existing PCCP segments with a steel liner designed as a stand-alone pipeline which 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. During the first shutdown, repairs will be performed

at two sites which are located near Lakewood Boulevard and Pacific Avenue in the city of Long Beach (First and Second Sites). The planned work at these sites is to install 1,400 feet of steel liner during the upcoming 2013/14 shutdown season. Staff recommends initiating the fabrication of steel pipe for these two sites at this time due to the long lead-time for manufacture and delivery.

The third site is located near Santa Fe Avenue in the city of Carson (Third Site). This site will require more extensive steel lining of up to 4,900 feet. As a result, this repair is planned to occur during the 2014/15 shutdown season. Staff will return to the Board at a later date to authorize fabrication of pipe for this site.

Planned final design phase activities for these repairs include identifying repair access locations, local agency permitting, shutdown planning with member agencies, preparation of drawings and specifications, fabrication of steel pipe by Metropolitan forces for the First and Second Sites, development of a construction cost estimate, receipt of competitive bids, and all other activities in advance of award of construction contracts. All of these activities will be performed by Metropolitan staff.

Preparation of environmental documentation for PCCP repairs at the Third Site is recommended to be performed by ICF International. ICF was selected through a competitive process via Request for Qualifications (RFQ) No. 956. The estimated cost for these services is \$150,000, and an agreement is planned to be awarded under the General Manager's Administrative Code authority. For this agreement, Metropolitan has established a Small Business Enterprise (SBE) participation level of 18 percent.

This action appropriates \$4.53 million and authorizes: (1) final design activities for PCCP repairs at three sites along the Second Lower Feeder and (2) pipe fabrication for two sites. Requested funds include \$629,000 for final design; \$202,000 for environmental documentation and permitting; \$220,000 for bidding and project management; \$3.2 million for pipe fabrication by Metropolitan forces; and \$279,000 for remaining budget. The final design cost as a percentage of the estimated construction cost is approximately 3.5 percent. Engineering Services' goal for design of projects with construction cost greater than \$3 million is 9 to 12 percent. The construction cost for these repairs is estimated to range from \$18 million to \$20 million.

This work is included within capital Appropriation No. 15471, the PCCP Rehabilitation and Replacement Program, which was initiated in 2011. With the present action, the total funding for Appropriation No. 15471 will increase from \$15.43 million to \$19.96 million. See [Attachment 1](#) for the Financial Statement and [Attachment 2](#) for the Location Map.

Project Milestones

November 2013 – Completion of final design of repairs for the First and Second Sites

June 2014 – Completion of final design of repairs for the Third Site

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

California Environmental Quality Act (CEQA)

PCCP Repairs on the Second Lower Feeder at the First and Second Sites – Final Design Phase

CEQA determination for Option #1:

The proposed actions are exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed actions include the immediate urgent repair of existing pipelines with the same purpose and capacity. The proposed actions involve repairs of an existing pipeline less than one-mile in length. Accordingly, the proposed actions qualify for statutory exemptions (Sections 21060.3, 21080(b), and 21080.21 of the Public Resources Code and Sections 15269 and 15282(k) of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions are statutorily exempt (Sections 21060.3, 21080(b), and 21080.21 of the California Public Resources Code and Sections 15269 and 15282(k) of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

PCCP Repairs on the Second Lower Feeder at the Third Site – Final Design Phase

CEQA determination for Option #1:

The proposed actions are categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve the funding, studying, carrying out final design, and preparing and processing environmental documentation for the proposed action. These activities consist of basic data collection and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource. This 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. In addition, the activities may involve a check for performance of an operation, or quality, health, or safety of a project. Accordingly, the proposed actions qualify for two categorical exemptions (Class 6, Section 15306 and Class 9, Section 15309 of the State CEQA Guidelines). In addition, the proposed actions are not subject to CEQA because they involve government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions are categorically exemption (Class 6, Section 15306; and Class 9, Section 15309 of the State CEQA Guidelines). In addition, the fiscal aspect of the proposed actions are not subject to CEQA (Section 15378(b)(4) of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the projects are categorically and statutorily exempt and

- a. Appropriate \$4.53 million;
- b. Authorize final design and pipe fabrication for urgent PCCP repairs at the First and Second Sites on the Second Lower Feeder; and
- c. Authorize final design for urgent PCCP repairs at the Third Site.

Fiscal Impact: \$4.53 million in capital funds under Approp. 15471

Business Analysis: This project will protect Metropolitan's assets, enhance delivery reliability to member agencies, and reduce the risk of emergency repairs of PCCP lines.

Option #2

Do not proceed with the PCCP repairs at this time.

Fiscal Impact: None

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

Staff Recommendation

Option #1



Gordon Johnson
Manager/Chief Engineer,
Engineering Services

7/2/2013
Date



Jeffrey Rightlinger
General Manager

7/2/2013
Date

Attachment 1 – Financial Statement

Attachment 2 – Location Map

Ref# es12622789

Financial Statement for PCCP Replacement and Rehabilitation Program

A breakdown of Board Action No. 5 for Appropriation No. 15471 for PCCP repairs at three sites on the Second Lower Feeder¹ is as follows:

	Previous Total Appropriated Amount (Dec. 2012)	Current Board Action No. 5 (July 2013)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 1,282,000	\$ -	\$ 1,282,000
Final Design	633,000	629,000	1,262,000
Owner Costs (Program mgmt., permitting, bidding, outreach)	1,082,000	272,000	1,354,000
Submittals Review & Record Drwgs	157,000	-	157,000
Inspection & Support	773,000	39,000	812,000
Metropolitan Force Construction (Pipe fabrication)	1,470,000	2,454,000	3,924,000
Materials & Supplies	161,000	707,000	868,000
Incidental Expenses	142,800	-	142,800
Professional/Technical Services	4,288,000	-	4,288,000
ICF International	-	150,000	150,000
Equipment Use	10,000	-	10,000
Contracts	4,292,803	-	4,292,803
Remaining Budget	1,138,397	279,000	1,417,397
Total	\$ 15,430,000	\$ 4,530,000	\$ 19,960,000

Funding Request

Program Name:	PCCP Replacement and Rehabilitation Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15471	Board Action No.:	5
Requested Amount:	\$ 4,530,000	Capital Program No.:	15471
Total Appropriated Amount:	\$ 19,960,000	Capital Program Page No.:	314
Total Program Estimate:	\$ 68,529,000	Program Goal:	I-Infrastructure Reliability

¹ This is the initial action for the three PCCP repairs on the Second Lower Feeder.

Distribution System

