



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

7/9/2013 Board Meeting

Revised 8-5

Subject

Appropriate \$1.5 million; and award \$878,500 contract to Minako America Corp., dba Minco Construction to install cathodic protection on the Sepulveda Feeder (Approp. 15441)

Executive Summary

This action awards a construction contract to install cathodic protection on a prestressed concrete cylinder pipe (PCCP) line. Current drain stations will be installed to protect 15 miles of the Sepulveda Feeder from corrosion due to stray currents.

Timing and Urgency

Corrosion surveys of the Sepulveda Feeder have identified that portions of this PCCP line are experiencing corrosion damage due to stray current interference from other pipelines. While the corrosion damage is not yet extensive, continued deterioration of the pipeline could lead to eventual leakage and possible rupture. The planned cathodic protection system is a proactive and cost-effective measure to mitigate against stray current interference, and will reduce the risk of costly emergency repairs. Given the importance of this pipeline in delivering treated water to Metropolitan's member agencies, staff recommends moving forward with award of a construction contract at this time.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Rehabilitation and Replacement project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2012/13.

Details

Background

Buried metallic pipelines are often protected from corrosive soils through the use of cathodic protection systems. Installation of these systems is required by federal regulation on pipelines that transport hazardous materials such as oil or gas. However, the use of these systems may induce corrosion in other adjacent pipelines through the introduction of stray currents into the surrounding soil. Stray currents may flow onto adjacent pipelines in one area, travel along the pipeline, and then leave the pipe (with resulting corrosion) to reenter the earth. These induced stray currents are known to cause corrosion on metallic pipes and may cause significant loss of metal. PCCP segments are fabricated with tightly wound steel reinforcing wire which is covered with cement mortar. Corrosion is the major cause of prestressing wire breakage and potential failure of PCCP segments.

Metropolitan's distribution system contains 830 miles of pipelines, of which 163 miles are PCCP. These lines are tested for general corrosion every one to two years. When stray currents are detected, cathodic protection systems are installed to extend the life of the pipelines and reduce the potential for emergency repairs. To date, cathodic protection systems have been installed in 55.3 miles (34 percent) of Metropolitan's PCCP lines. Two types of cathodic protection systems are used: galvanic cathodic protection and impressed current cathodic protection. The type of system to be installed is determined based on the level of stray current interference, soil conditions, installation and maintenance costs, and availability of a power source. Under galvanic systems, which are also

referred to as current drain stations, anodes are electrically connected to the pipeline metal without using a power source. Because the anodes are composed of metals that are more easily oxidized than the materials in welded steel and PCCP lines, the anodes corrode first and continue to corrode until they need to be replaced. Replacement intervals for the anodes typically range from 10 to 20 years. Impressed current systems use an external power source to apply a protective current to the pipeline. This protective current is then discharged through anodes in a similar manner as current drain stations.

Sepulveda Feeder Cathodic Protection – Construction (\$1,500,000)

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 the city of Torrance. The feeder is approximately 42 miles long and was installed in the early 1970s. Approximately 37 miles of the line is comprised of PCCP in 20-foot-long segments.

Corrosion surveys of the Sepulveda Feeder have identified that a 15-mile-long PCCP portion of the feeder is experiencing corrosion damage. Installation of an impressed current cathodic protection system will protect the feeder from further corrosion and extend the life of the pipeline. The planned project will install 23 current drain stations along the length of the feeder. A majority of the work sites are located within public rights-of-way, adjacent to Interstate 405 (the San Diego Freeway) where a major widening project is presently underway. The terms of the cathodic protection contract include mobilization/demobilization requirements to minimize interferences with the freeway construction project.

Specifications No. 1735 for the Sepulveda Feeder Cathodic Protection project was advertised for bids on April 11, 2013. As shown in [Attachment 2](#), four bids were received and opened on May 8, 2013. The low bid from Minako America Corp., dba Minco Construction, in the amount of \$878,500, complies with the requirements of the specifications. The three higher bids ranged from \$987,000 to \$1,752,383. The engineer's estimate was \$1,321,000. Staff investigated the difference between the engineer's estimate and the low bid and believes the difference reflects the current highly competitive bidding environment and the contractor's willingness to assume potential schedule impacts due to the adjacent freeway widening project. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 25 percent of the bid amount. Minco Construction is an SBE firm and thus achieves 100 percent participation.

This action appropriates \$1.5 million and awards an \$878,500 contract to Minco Construction to install stray current drain stations on the Sepulveda Feeder. In addition to the amount of the contract, the requested funds include \$213,000 for Metropolitan force support for start-up testing of the current drain stations and provision of access at each location, including traffic control, ventilation, and clearances. The total cost of construction is \$1,091,500. The requested funds also include \$164,000 for construction inspection; \$34,000 for submittals review and technical support by Metropolitan design staff; \$126,000 for local agency permitting, project management, and preparation of record drawings; and \$84,500 for remaining budget.

The total estimated cost to complete this project, including the amount expended to date and the current funds requested, is \$1,831,000.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2012/13 capital expenditure plan. Metropolitan staff will perform inspection of the construction contract. For this project, the anticipated cost of inspection is approximately 15 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost less than \$3 million is 9 to 15 percent.

This work is included within capital Appropriation No. 15441, the Conveyance and Distribution System Rehabilitation Program – FY 2006/07 through 2011/12, which was initiated in fiscal year 2006/07. With the present action, the funding for Appropriation No. 15441 will increase from \$44,454,000 to \$45,954,000.

See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Location Map.

Project Milestone

December 2013 – Completion of installation of cathodic protection 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 categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action involves the funding, design, permitting and minor alterations, reconstruction or replacement of existing public facilities along with the construction of minor appurtenant structures, installation of small new equipment with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Additionally, the proposed action involves minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees. This activity would result in negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies under Class 1, Class 2, Class 3, and Class 4 Categorical Exemptions (Sections 15301, 15302, 15303, and 15304 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under four Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302; Class 3, Section 15303; and Class 4, Section 15304 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 categorically exempt and

- a. Appropriate \$1.5 million; and
- b. Award \$878,500 contract to Minako America Corp., dba Minco Construction for cathodic protection of the Sepulveda Feeder.

Fiscal Impact: \$1.5 million in capital funds under Approp. 15441

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

Option #2


Do not award the construction contract and readvertise in an attempt to receive more favorable bids.

Fiscal Impact: None

Business Analysis: This option may or may not result in lower bids, and would delay needed work to protect the pipeline.

Staff Recommendation

Option #1



Gordon Johnson
Manager/Chief Engineer,
Engineering Services

7/1/2013

Date



Jeffrey Lightinger
General Manager

7/2/2013

Date

Attachment 1 – Financial Statement

Attachment 2 – Abstract of Bids

Attachment 3 – Location Map

Ref# es12624352

**Financial Statement for Conveyance and Distribution System Rehabilitation Program – FY 2006/07
Through FY 2011/12**

A breakdown of Board Action No. 55 for Appropriation No. 15441 for cathodic protection of the Sepulveda Feeder¹ is as follows:

	Previous Total Appropriated Amount (Apr. 2013)	Current Board Action No. 55 (July 2013)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 2,880,000	\$ -	\$ 2,880,000
Final Design	4,286,293	-	4,286,293
Owner Costs (Program mgmt., permitting)	5,365,400	109,000	5,474,400
Submittals Review & Record Drwgs	296,670	44,000	340,670
Construction Inspection & Support	2,012,550	164,000	2,176,550
Metropolitan Force Construction	8,923,710	213,000	9,136,710
Materials & Supplies	2,325,400	5,000	2,330,400
Incidental Expenses	939,900	2,000	941,900
Professional/Technical Services	2,551,000	-	2,551,000
Right-of-Way	550,000	-	550,000
Equipment Use	325,200	-	325,200
Contracts	11,981,524	878,500	12,860,024
Remaining Budget	2,016,353	84,500	2,100,853
Total	\$ 44,454,000	\$ 1,500,000	\$ 45,954,000

Funding Request

Program Name:	Conveyance and Distribution System Rehabilitation Program – FY 2006/07 Through FY 2011/12		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15441	Board Action No.:	55
Requested Amount:	\$ 1,500,000	Budget Page No.:	284
Total Appropriated Amount:	\$ 45,954,000	Total Program Estimate:	\$ 106,335,000

¹The total amount expended to date on the Sepulveda Feeder Cathodic Protection project is approximately \$331,000. The total estimated amount to complete this project, including the amount expended to date and the current funds requested, is \$1,831,000.

The Metropolitan Water District of Southern California

Abstract of Bids Received on May 8, 2013 at 2:00 P.M.

**Specifications No. 1735
Sepulveda Feeder Stray Current Mitigation**

The work consists of installing 23 stray current drain stations to protect a 15-mile-long portion of the Sepulveda Feeder from corrosion.

Engineer's Estimate: \$1,321,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Minako America Corporation dba Minco Construction Gardena, CA	\$878,500	\$878,500	100%	Yes
Green Building Corporation North Hollywood, CA	\$987,000	-	-	-
American Construction & Supply, Inc. Corte Madera, CA	\$1,124,000	-	-	-
Atlas-Allied Inc. Anaheim, CA	\$1,390,000	-	-	-
JM Communication, Inc. Van Nuys, CA	\$1,752,383	-	-	-

¹ SBE (Small Business Enterprise) participation level was established at 25 percent for this contract.

Distribution System

