



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

9/11/2018 Board Meeting

7-3

Subject

Adopt CEQA determination and appropriate \$970,000; and award \$556,000 contract to American Construction and Supply, Inc. to install cathodic protection on the Orange County Feeder (Appropriation No. 15441)

Executive Summary

This action awards a construction contract to install an impressed current cathodic protection system on a portion of the Orange County Feeder.

Timing and Urgency

Corrosion surveys of the Orange County Feeder have identified that the pipeline is beginning to experience corrosion damage. While the damage is not yet extensive, continued deterioration of the pipeline may lead to leakage. The planned cathodic protection system is a proactive and cost-effective measure to reduce the risk of shutdowns and costly urgent repairs.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is included in the Distribution System Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2018/19.

Details

Background

The Orange County Feeder conveys treated water from the F. E. Weymouth Water Treatment Plant in La Verne to its terminus at Service Connection CM-1 in Newport Beach. The feeder is 41 miles long and contains approximately 21 miles of welded unbonded steel pipe, 19 miles of precast concrete pipe, and one mile of prestressed concrete cylinder pipe (PCCP). The feeder was constructed in several stages from 1941 to 1953.

Buried metallic pipelines are often protected from corrosive soils through the use of cathodic protection systems. Impressed current cathodic systems use an external power source to apply a protective current to the line. This protective current is then discharged through anodes, which are electrically connected to the pipeline's metal. Because the anodes are composed of metals that are more easily oxidized than the materials in the welded steel and PCCP lines, the anodes corrode before the pipeline's metal and continue to corrode until they are depleted.

In 1974, Metropolitan installed an impressed current system on an 8.8-mile-long portion of the welded bonded steel reach of the Orange County Feeder. The impressed current system consists of four deep-well anode groundbeds, rectifiers, and associated equipment. Recent testing identified that three of the deep-well anode groundbeds no longer provide corrosion protection to the pipeline and need to be replaced.

In September 2016, Metropolitan's Board authorized design of an impressed current system to protect the Orange County Feeder. Final design has been completed, and staff recommends award of the construction contract at this time.

Orange County Feeder Cathodic Protection – Construction (\$970,000)

The scope of the contract includes: (1) traffic control and street closures; (2) drilling of vertical wells to install graphite anodes; (3) installation of rectifiers and electrical service cabinets; (4) installation of electrical conduits; and (5) street surface restoration. Metropolitan force activities will include procurement and installation of the rectifiers and remote monitoring units, final connection of the anodes to the pipeline, and start-up testing.

Award of Construction Contract (American Construction and Supply, Inc.)

Specifications No. 1899 to install an impressed current cathodic protection system on the Orange County Feeder was advertised for bids on June 13, 2018. As shown in **Attachment 2**, two bids were received and opened on July 18, 2018. The apparent low bidder did not meet the minimum qualifications detailed in the Notice Inviting Bids, and as a result, the bid was rejected. The second low bid from American Construction and Supply, Inc. in the amount of \$556,000 complies with the requirements of the specifications. The engineer's estimate was \$569,000. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 15 percent of the bid amount. American Construction and Supply, Inc. has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action appropriates \$970,000 and awards a \$556,000 contract to American Construction and Supply, Inc. to install cathodic protection on the Orange County Feeder. In addition to the amount of the contract, the appropriated funds include \$113,000 for the Metropolitan force activities described above; \$90,000 for construction inspection; \$30,000 for submittals review and record drawing preparation by Metropolitan staff; \$55,000 for technical support during construction by HDR Engineering (HDR), as discussed below; \$15,500 for temporary lease of a parcel to be used as a staging and storage area by the contractor; \$55,500 for environmental monitoring, permitting, and project management; and \$55,000 for the remaining budget.

Metropolitan staff will perform inspection of the construction. For this project, the anticipated cost of inspection is approximately 14 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction less than \$3 million is 9 to 15 percent. The total cost of construction for this project is \$669,000, which includes the amount of the contract (\$556,000) and the Metropolitan force activities (\$113,000).

The total estimated cost to install the cathodic protection system on the Orange County Feeder, including the amount appropriated to date and current funds requested, is \$1.35 million.

Technical Support during Construction (HDR Engineering) – No Action Required

Final design of the cathodic protection system for the Orange County Feeder was performed by HDR under a board-authorized agreement. HDR was prequalified under Request for Qualifications (RFQ) No. 1032. Subsequently, HDR was selected based on its experience in the field of corrosion and cathodic protection. As the engineer of record, HDR will provide technical support during the construction. A new agreement with HDR is planned to be executed under the General Manager's Administrative Code authority to award contracts of \$250,000 or less. The estimated cost for these services is \$55,000.

For this agreement, Metropolitan established an SBE participation level of 25 percent. HDR has agreed to meet this level of participation. The sole subconsultant planned for this agreement is TJC and Associates, Inc.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2018/19 capital expenditure plan. See **Attachment 1** for the Financial Statement, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractors for Low Bidder, and **Attachment 4** for the Location Map.

This project is included within capital Appropriation No. 15441, the Conveyance and Distribution System Rehabilitation Appropriation – FY 2006/07 Through FY 2011/12, which was initiated in fiscal year 2006/07. With this action, the total funding for Appropriation No. 15441 will increase \$970,00, from \$106,859,000 to \$107,829,000.

Project Milestone

June 2019 – Completion of installation of cathodic protection for the Orange County 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

By Minute Item 50584, dated September 13, 2016, the Board authorized design of cathodic protection for the Orange County Feeder.

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 consists of awarding a construction contract and minor alterations, reconstruction or replacement of existing public facilities along with the construction of minor appurtenant structures with no expansion of use and no possibility of significantly impacting the physical environment. In addition, the proposed project involves minor modifications in the condition of land, water, and/or vegetation which does not involve removal of healthy, mature, scenic trees. 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 is categorically exempt 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 \$970,000; and
- b. Award \$556,000 contract to American Construction and Supply, Inc. to install cathodic protection on the Orange County Feeder.

Fiscal Impact: \$970,000 in capital funds under Appropriation No. 15441

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

Option #2

Do not proceed with the cathodic protection project at this time.

Fiscal Impact: None

Business Analysis: Under this option, staff would continue to monitor levels of stray current and corrosion in the Orange County Feeder. This option would forego an opportunity to enhance reliability and extend the service life of the Orange County Feeder, and could lead to more extensive repairs, higher repair costs, and unplanned shutdowns.

Staff Recommendation

Option #1



Michael J. Rojas
Interim Manager/Chief Engineer
Engineering Services

8/27/2018

Date



Jeffrey Kightlinger
General Manager

8/27/2018

Date

Attachment 1 – Financial Statement

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12659315

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

A breakdown of Board Action No. 81 for Appropriation No. 15441¹ is as follows:

	Previous Total Appropriated Amount (Mar. 2018)	Current Board Action No. 81 (Sep. 2018)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 5,573,914	\$ -	\$ 5,573,914
Final Design	6,681,293	-	6,681,293
Owner Costs (Program mgmt., permitting)	8,925,123	55,500	8,980,623
Submittals Review & Record Drawings	1,878,670	30,000	1,908,670
Construction Inspection & Support	7,219,050	90,000	7,309,050
Metropolitan Force Construction	13,026,210	96,000	13,122,210
Materials & Supplies	3,593,040	16,000	3,609,040
Incidental Expenses (Permit fees)	1,343,900	1,000	1,344,900
Professional/Technical Services	4,768,000	-	4,768,000
HDR Engineering	50,000	55,000	105,000
Right-of-Way	1,150,000	15,500	1,165,500
Equipment Use	330,200	-	330,200
Contracts	48,818,762	-	48,818,762
American Construction and Supply, Inc.	-	556,000	556,000
Remaining Budget	3,500,838 ²	55,000	3,555,838
Total	\$ 106,859,000	\$ 970,000	\$ 107,829,000

Funding Request

Appropriation Name:	Conveyance and Distribution System Rehabilitation Appropriation – FY 2006/07 Through FY 2011/12		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15441	Board Action No.:	81
Requested Amount:	\$ 970,000	Budget Page No.:	38
Total Appropriated Amount:²	\$ 107,829,000	Total Appropriation Estimate:	\$ 195,317,000

¹ The total amount expended to date on cathodic protection for the Orange County Feeder is approximately \$385,000. The total estimated cost to complete this project, including the amount appropriated to date and current funds requested, is approximately \$1.35 million.

² Includes previous reallocation of \$501,000 from Remaining Budget as follows: (1) \$200,000 for the Lake Mathews Forebay discharge facility upgrades for seismic assessments of the forebay dike and outlet tower; (2) \$165,000 for rehabilitation of the Diamond Valley Lake Inlet/Outlet Tower fish screens to modify an existing gantry crane on the tower and to incorporate cost-saving measures during design to reduce the construction cost; and (3) \$136,000 for rehabilitation of the Lake Mathews Hydroelectrical Plant for additional concrete repairs required during construction.

The Metropolitan Water District of Southern California

Abstract of Bids Received on July 18, 2018 at 2:00 P.M.

**Specifications No. 1899
Orange County Feeder Cathodic Protection**

The work consists of drilling vertical wells to install graphite anodes at three locations; installation of rectifier cabinets; installation of electrical service cabinets; installation of conduits; and street surface restoration.

Engineer's estimate: \$569,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Minako America Corporation ² Gardena, CA	\$493,000	-	-	-
American Construction & Supply, Inc. Corte Madera, CA	\$556,000	\$556,000	100%	Yes

¹ SBE (Small Business Enterprise) participation level was established at 15 percent for this contract.

² The bid from Minako America Corporation did not meet the minimum qualifications detailed in the Notice Inviting Bids, and as a result, the bid was rejected.

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

**Specifications No. 1899
Orange County Feeder Cathodic Protection**

Second Low Bidder: American Construction and Supply, Inc.

Subcontractor and Location
Hardy & Harper, Santa Ana, CA

Distribution System

