



- Board of Directors
Engineering and Operations Committee

9/12/2017 Board Meeting

7-2

Subject

Adopt CEQA determination and appropriate \$1.81 million; award \$556,944 procurement contract to Southwest Valve & Equipment to provide plug valves for the Orange County Feeder; and authorize design and construction to replace valves at the Fairplex and Walnut Pressure Control Structures (Appropriations Nos. 15377 and 15480)

Executive Summary

This action awards a procurement contract for 59 plug valves to be installed in the southern reach of the Orange County Feeder. The existing valves have deteriorated over 75 years of use and will be replaced in an upcoming construction contract to rehabilitate the pipeline's damaged interior lining. This action also authorizes the replacement and refurbishment of valves at two pressure control structures on the Orange County Feeder.

Timing and Urgency

Recent inspections of the Orange County Feeder have identified significant deterioration of existing valves located along the feeder. While operation of the line is not impacted at present, the increasing frequency of valve repairs could lead to unplanned shutdowns and water delivery interruptions to member agencies. This procurement contract will provide 59 plug valves ranging in diameter from 4 to 16 inches that will replace existing isolation valves at air release/vacuum valve assemblies, dewatering vaults, and blowoff structures on the Orange County Feeder.

Isolation valves at the Fairplex and Walnut Pressure Control Structures leak excessively and need to be replaced. If the capability to control pressure at either structure were impaired, an unplanned shutdown of the Orange County Feeder would be required to repair the valves. This project will replace eight 24-inch-diameter isolation butterfly valves and refurbish four 24-inch-diameter pressure-control globe valves within the Fairplex and Walnut Pressure Control Structures. This work will commence during a scheduled shutdown of the northern reach of the Orange County Feeder in early 2018.

These projects have been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and are included in the Distribution System Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2017/18.

Details

Background

The Orange County Feeder conveys treated water from the F. E. Weymouth Water Treatment Plant in La Verne to six member agencies in Los Angeles and Orange Counties. Construction of the feeder was completed in three stages. The first stage, which was placed into operation in 1941, extends 28 miles south from the Weymouth plant to the city of Santa Ana. The second stage extends 11 miles through the cities of Santa Ana, Costa Mesa, and Newport Beach. This section was constructed in 1942 of welded steel pipe with a coal-tar enamel lining and has a diameter of 36 to 39 inches. Due to steel shortages during World War II, Metropolitan purchased used pipe from the city of Pasadena, refurbished it, and reinstalled it for this extension. The third stage of the feeder was

completed in 1953. It runs 1.5 miles from the hills overlooking Newport Beach harbor to the Pacific Coast Highway.

The valves along the Orange County Feeder have deteriorated from 75 years of continuous service and need to be replaced. This work is being coordinated with other rehabilitation activities planned for the feeder. In November 2014, Metropolitan's Board authorized design to rehabilitate the 11-mile-long middle reach of the Orange County Feeder. The work includes replacement of the lining, welding of corroded pipe joints, and replacement of 59 deteriorated valves. Stages 1 and 2 of the three-stage project have been completed. Final design for Stage 3, which includes rehabilitation of the remaining nine miles of the middle reach of the feeder, and installation of the subject plug valves, is planned to be completed in March 2018. This action awards the valve procurement contract. Replacement of the valves in the Fairplex and Walnut Pressure Control Structures will commence during a shutdown of the northern reach of the Orange County Feeder planned for early 2018.

Project No. 1 - Orange County Feeder Rehabilitation – Valve Procurement (\$880,000)

The procurement contract will provide 59 plug valves ranging in diameter from 4 to 16 inches. The valves will be used to isolate and dewater appurtenances along the feeder for inspection and maintenance. The existing valves were installed during the original construction of the feeder. Despite receiving regular maintenance, many of the valves have gradually deteriorated from continuous use. Due to the long lead time required for fabrication, staff recommends award of the valve procurement contract at this time.

Specifications No. 1905 for furnishing 59 valves for the Orange County Feeder was advertised for bids on May 24, 2017. As shown in [Attachment 2](#), three bids were received and opened on July 18, 2017. The low evaluated bid from Southwest Valve & Equipment, with a base bid amount of \$556,944, complies with the requirements of the specifications. As a result of the bid evaluation criteria described below, this bid provides the overall best value to Metropolitan. The other two base bids were \$540,138 and \$580,264. The budgetary cost estimate for this equipment, based on a survey of vendors, ranged from \$575,000 to \$650,000.

For bid evaluation purposes, bidders who qualified as a Small Business Enterprise (SBE) or Disabled Veteran Business Enterprise (DVBE) received a five percent bid-price reduction credit. In addition, bidders who qualified as a Regional Business Enterprise (RBE) received a five percent bid-price reduction credit. A maximum of \$25,000 or 10 percent in bid-price reduction credit was available for a business that meets SBE or DVBE criteria, and the RBE criteria. An additional bid-price adjustment was included based on the location of manufacture to reflect inspection travel costs. As a procurement contract, there are no subcontracting opportunities.

This action appropriates \$880,000 and awards a \$556,944 contract to Southwest Valve & Equipment to provide 59 plug valves for the Orange County Feeder. The contract amount includes all sales and use taxes imposed by the state of California. In addition to the amount of the contract, the requested funds include \$130,000 for factory fabrication inspection and functional testing; \$50,000 for review of submittals and responding to requests for information; \$50,000 for contract administration and project management; and \$93,056 for remaining budget. All activities will be performed by Metropolitan staff.

Staff will return to the Board at a later date for award of a construction contract for the Stage 3 repairs to the Orange County Feeder, which will include installation of the 59 valves.

The total estimated cost to complete the repairs on the Orange County Feeder, including the amount appropriated to date, current funds requested, and future construction costs, is anticipated to range from \$25 million to \$30 million.

Project No. 2 - Fairplex and Walnut Pressure Control Structures Valve Replacement – Design and Construction (\$930,000)

The Fairplex and Walnut Pressure Control Structures regulate upstream pressure and control flows within the Orange County Feeder. These structures are located in the cities of Pomona and Walnut. Each structure has two trains of piping that contain two 24-inch isolation valves and one 24-inch pressure-control valve. The eight 24-inch butterfly valves have deteriorated and leak excessively, preventing staff from performing maintenance on the control valves without shutting down the feeder. These shutdowns impact deliveries to eight service

connections located between the Weymouth plant and Orange County Reservoir. Staff recommends replacing the eight butterfly valves during an upcoming shutdown of the northern reach of the feeder, prior to the shutdown of the middle and southern reaches of the feeder for Project No. 1. The four control valves will then be refurbished in a sequential manner while the feeder remains in service.

The planned work includes: (1) procurement of valves and materials; (2) fabrication of fittings; (3) installation of the new valves; (4) rehabilitation of the existing control valves; (5) shutdown planning; and (6) dewatering of the pipeline, disinfection and testing, and return of the pipeline to service. The control valves will be refurbished by Metropolitan staff at the LaVerne shops. The average cost to refurbish each valve is \$20,000, as compared to \$40,000 to purchase a similar new valve.

This action appropriates \$930,000 and authorizes design and construction to replace valves at the Fairplex and Walnut Pressure Control Structures. The requested funds include: \$90,000 for design and preparation of installation drawings; \$204,000 for the procurement of eight 24-inch butterfly valves; \$80,000 for refurbishment of the four control valves; \$416,000 for construction by Metropolitan forces; \$83,000 for preparation of record drawings and project management; and \$57,000 for remaining budget. The procurement contract for the eight butterfly valves is planned to be awarded under the General Manager's Administrative Code Authority to award contracts of \$250,000 or less.

Final design and construction will be performed by Metropolitan staff. The anticipated cost of final design is approximately 12.9 percent of the total construction cost. Engineering Services' goal for design of projects with construction less than \$3 million is 9 to 15 percent. The total estimated cost of construction for this project is \$700,000.

Summary

This action appropriates \$1.81 million, awards a procurement contract for 59 valves for the Orange County Feeder; and authorizes design and construction to replace and refurbish valves within the Fairplex and Walnut Pressure Control Structures.

These projects are included within Appropriations No. 15377, the Conveyance and Distribution System Rehabilitation Appropriation, which was initiated in fiscal year 2001/02, and Appropriation No. 15480, the Conveyance and Distribution System Rehabilitation Appropriation – FY 2012/2013 through FY 2017/18, which was initiated in fiscal year 2012/13. With this action, the total funding for Appropriation No. 15377 will increase from \$81,015,700 to \$81,895,700, while the total funding for Appropriation No. 15480 will increase from \$47.28 million to \$48.21 million.

These projects have been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2017/18 capital expenditure plan. See [Attachment 1](#) for the Financial Statements, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Location Map.

Project Milestones

February 2018 – Completion of installation of butterfly valves within the Fairplex and Walnut Pressure Control Structures

June 2018 – Delivery of shutoff valves 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

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

Project No. 1 – Orange County Feeder Rehabilitation – Valve Procurement

To comply with CEQA and the State CEQA Guidelines, Metropolitan as the Lead Agency prepared a Mitigated Negative Declaration (MND) for the Orange County Feeder Relining project. The MND was distributed for a 30-day public review period that began on August 7, 2014 and ended on September 6, 2014. The Board later adopted the MND and the Mitigation Monitoring and Reporting Program (MMRP) on November 18, 2014. The current action is solely based on procurement of valves for pipeline repairs in a construction contract for the relining project, and not on any changes to the approved project itself. Hence, the previous environmental documentation acted on by the Board in conjunction with the proposed action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further environmental documentation is necessary for the Board to act on with respect to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the adopted 2014 MND and MMRP, and that no further environmental analysis or documentation is required.

Project No. 2 – Fairplex and Walnut Pressure Control Structures Valve Replacement – Design and Construction

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed project involves the funding for procurement 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. Accordingly, the proposed action qualifies under Class 1, Class 2, and Class 3 Categorical Exemptions (Sections 15301, 15302, and 15303) and Section 15061(b)(3) of the State CEQA Guidelines.

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302; and Class 3, Section 15303) and Section 15061(b)(3) of the State CEQA Guidelines.

CEQA determination for Option #2

None required

Board Options

Option #1

Adopt the CEQA determination that for Project No.1, the proposed action has been previously addressed in the adopted 2014 Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, and that no further environmental analysis or documentation is required; and that for Project No. 2, the proposed action is categorically exempt; and

- a. Appropriate \$1.81 million;
- b. Award \$556,944 procurement contract to Southwest Valve & Equipment to provide plug valves for the Orange County Feeder; and
- c. Authorize design and construction to replace valves at the Fairplex and Walnut Pressure Control Structures.

Fiscal Impact: \$880,000 of capital funds under Appropriation No. 15377 and \$930,000 of capital funds under Appropriation No. 15480

Business Analysis: These projects will enhance delivery reliability to member agencies in the Los Angeles and Orange County operating regions.

Option #2

Do not proceed with the two rehabilitation projects at this time.

Fiscal Impact: None

Business Analysis: This option would forego an opportunity to enhance delivery reliability and reduce the risk of costly urgent repairs.

Staff Recommendation

Option #1



Gordon Johnson
Manager/Chief Engineer
Engineering Services

8/22/2017
Date



Jeffrey Kightlinger
General Manager

8/24/2017
Date

- [Attachment 1 – Financial Statements](#)
- [Attachment 2 – Abstract of Bids](#)
- [Attachment 3 – Location Map](#)

Ref# es12651053

Financial Statement for Conveyance and Distribution System Rehabilitation Appropriation

A breakdown of Board Action No. 40 for Appropriation No. 15377 to rehabilitate the Orange County Feeder¹ is as follows:

| | Previous Total Appropriated Amount (Nov. 2016) | Current Board Action No. 40 (Sep. 2017) | New Total Appropriated Amount |
|-----------------------------------|---|--|--|
| Labor | | | |
| Studies & Investigations | \$ 4,031,700 | \$ - | \$ 4,031,700 |
| Final Design | 7,972,456 | - | 7,972,456 |
| Owner Costs (Program mgmt.) | 7,141,050 | 50,000 | 7,191,050 |
| Submittals Review & Record Drwgs. | 404,000 | 50,000 | 454,000 |
| Construction Inspection & Support | 3,296,550 | 100,000 | 3,396,550 |
| Metropolitan Force Construction | 17,850,548 | - | 17,850,548 |
| Materials & Supplies | 6,184,075 | - | 6,184,075 |
| Southwest Valve & Equipment | - | 556,944 | 556,944 |
| Incidental Expenses | 1,454,620 | 30,000 | 1,484,620 |
| Professional/Technical Services | 1,946,500 | - | 1,946,500 |
| Equipment Use | 960,350 | - | 960,350 |
| Contracts | 28,143,669 | - | 28,143,669 |
| Remaining Budget | 1,630,182 ² | 93,056 | 1,723,238 |
| Total | \$ 81,015,700 | \$ 880,000 | \$ 81,895,700 |

Funding Request

| | | | |
|-----------------------------------|---|--------------------------------------|----------------|
| Appropriation Name: | Conveyance and Distribution System Rehabilitation Appropriation | | |
| Source of Funds: | Revenue Bonds, Replacement and Refurbishment or General Funds | | |
| Appropriation No.: | 15377 | Board Action No.: | 40 |
| Requested Amount: | \$ 880,000 | Budget Page No.: | 211 |
| Total Appropriated Amount: | \$ 81,895,700 | Total Appropriation Estimate: | \$ 119,500,000 |

¹ The total amount expended to date to rehabilitate the Orange County Feeder is approximately \$11.6 million. The total estimated cost to complete the rehabilitation project, including the amount appropriated to date, current funds requested, and future construction costs, is anticipated to range from \$25 million to \$30 million.

² Includes previous reallocation of \$175,000 from Remaining Budget for design modifications on the project to eliminate lubricating water discharges at the Foothill Power Plant.

Financial Statement for Conveyance and Distribution System Rehabilitation Appropriation – FY 2012/13 Through 2017/18

A breakdown of Board Action No. 31 for Appropriation No. 15480 for for the replacement of valves at the Fairplex and Walnut Pressure Control Structures¹ is as follows:

| | Previous Total Appropriated Amount (May 2017) | Current Board Action No. 31 (Sep. 2017) | New Total Appropriated Amount |
|--|--|--|--|
| Labor | | | |
| Studies & Investigations | \$ 2,840,000 | - | \$ 2,840,000 |
| Final Design | 7,922,000 | 90,000 | 8,012,000 |
| Owner Costs (Permitting & program mgmt.) | 4,275,779 | 69,000 | 4,344,779 |
| Submittals Review & Record Drwgs | 900,000 | 14,000 | 914,000 |
| Construction Inspection & Support | 2,759,000 | - | 2,759,000 |
| Metropolitan Force Construction | 3,858,000 | 496,000 | 4,354,000 |
| Materials & Supplies | 1,836,000 | - | 1,836,000 |
| Valves | 150,000 | 204,000 | 354,000 |
| Incidental Expenses | 162,000 | - | 162,000 |
| Professional/Technical Services | 2,620,000 | - | 2,620,000 |
| Right-of-Way | 330,000 | - | 330,000 |
| Equipment Use | 5,000 | - | 5,000 |
| Contracts | 16,564,705 | - | 16,564,705 |
| Remaining Budget | 3,057,516 ² | 57,000 | 3,114,516 |
| Total | \$ 47,280,000 | \$ 930,000 | \$ 48,210,000 |

Funding Request

| | | | |
|-----------------------------------|---|--------------------------------------|----------------|
| Appropriation Name: | Conveyance and Distribution System Rehabilitation – FY 2012/13 Through FY 2017/18 | | |
| Source of Funds: | Revenue Bonds, Replacement and Refurbishment or General Funds | | |
| Appropriation No.: | 15480 | Board Action No.: | 31 |
| Requested Amount: | \$ 930,000 | Budget Page No.: | 214 |
| Total Appropriated Amount: | \$ 48,210,000 | Total Appropriation Estimate: | \$ 332,500,000 |

¹ This is the initial action for the replacement of valves at the Fairplex and Walnut Pressure Control Structures.

² Includes previous reallocation of \$50,000 from Remaining Budget for the electrical upgrade project at 14 structures in the Orange County region for design of additional safety features.

The Metropolitan Water District of Southern California

Abstract of Bids Received on July 18, 2017 at 2:00 P.M.

**Specifications No. 1905
Orange County Feeder Valve Procurement**

This contract furnishes 59 new valves that will replace existing deteriorated units in the Orange County Feeder.

Estimated Range of Cost: \$575,000 to \$650,000

| Bidder and Location | Base Bid Price Total¹ | Small Business or Disabled Veteran Business (Y/N) | Regional Business (Y/N) | Bid Price Reduction for SBE/DVBE or RBE² | Equalization Factor for Inspection² | Total Evaluated Bid Price |
|---|---|--|--------------------------------|--|---|----------------------------------|
| Southwest Valve & Equipment Tustin, CA | \$556,944 | Y | Y | \$25,000 | \$138,000 | \$669,944 |
| Flowserve Sulphur Springs, TX | \$540,138 | N | N | \$0 | \$144,000 | \$684,138 |
| PM International Suppliers, LLC Lakeland, FL | \$580,264 | N | N | \$0 | \$136,000 | \$716,264 |

¹ Includes sales and use taxes of 10.25 percent imposed by the state of California, which took effect on July 1, 2017. The sales tax reflects an adjustment from the previous rate of 9.75 percent.

² For bid evaluation purposes, bidders who qualified as a Small Business Enterprise (SBE) or Disabled Veteran Business Enterprise (DVBE) received a five percent bid-price reduction credit. In addition, bidders who qualified as a Regional Business Enterprise (RBE) received a five percent bid-price reduction credit. A maximum of \$25,000 or 10 percent in bid-price reduction credit was available for a business that meets SBE or DVBE criteria, and the RBE criteria. An additional bid-price adjustment was included for inspection costs based on the location of manufacture.

Distribution System

