



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

2/13/2018 Board Meeting

Revised 8-3

Subject

Adopt CEQA determination and appropriate \$2.3 million; award \$985,000 contract to Unispec Construction, Inc. for water quality instrumentation upgrades at the Joseph Jensen Water Treatment Plant; and authorize increase of \$200,000 to agreement with Arcadis US, Inc., for a new not-to-exceed total of \$400,000 (Appropriation No. 15486)

Executive Summary

This action awards a construction contract to upgrade the water quality instrumentation and flow monitoring equipment at the inlet to the Joseph Jensen Water Treatment Plant.

Timing and Urgency

Several components of the Jensen plant's inlet water quality instrumentation and flow monitoring equipment need to be upgraded to maintain the reliability of the plant's chemical feed processes. Two flow meters and several water quality analyzers have deteriorated over time and need to be replaced. Since the plant's inlet channel must be dewatered to install the new flow meters and sample lines, staff recommends award of the construction contract at this time to allow the equipment to be installed during a planned shutdown of the Jensen plant in March 2018.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is included in the Treatment Plant Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2017/18.

Details

Background

The Jensen plant was placed into service in 1972 and has a treatment capacity of 750 million gallons per day (mgd). The plant treats water from the West Branch of the State Water Project and delivers it to Metropolitan's Central Pool and to an exclusive service area on the west side of the distribution system. The facility is located in Granada Hills.

The Jensen plant's inlet flow meter, water quality analyzers, and flow meter for service connection LA-35 are used to control the addition of chemicals and to balance water flows throughout the plant. Both flow meters are equipped with multiple acoustic transducers that are mounted at specific elevations within the conduit and are connected via signal cables to a flow meter console. The flow meter console includes a computer that processes the transducer data and transmits flow information. The water quality analyzers measure the pH, turbidity, dissolved oxygen, and conductivity of the water entering the plant. The flow and water quality information is transmitted via Metropolitan's Supervisory Control and Data Acquisition (SCADA) system to the plant operators and to the chemical feed systems for automatic adjustments based on targeted dosages.

Both of the flow meters need to be replaced. The existing models are obsolete, the manufacturer no longer supports the flow meter consoles, and spare parts are difficult to obtain. Further, the water quality analyzers and plant inlet flow meter console are wall-mounted on the exterior of the plant inlet structure, where they are exposed to harsh ambient conditions, resulting in accelerated wear. The flow meter console for service connection LA-35

is located in a deep, confined vault. Two trained personnel with safety equipment are required to perform any maintenance within the vault.

In August 2014, Metropolitan's Board authorized design to replace and relocate the flow meters and water quality analyzers, and to provide an inlet instrumentation enclosure. The environmentally-controlled enclosure will house the water quality instrumentation, the plant inlet flow meter console, the service connection LA-35 flow meter console, and related electrical equipment including a motor control center, power panel, and communication cabinet. The pre-engineered enclosure will be approximately 22 feet long by 11 feet wide. Final design is now complete, and staff recommends award of the construction contract at this time.

Jensen Inlet Water Quality Instrumentation Upgrades – Construction (\$2,300,000)

The scope of the construction contract includes: (1) installation of the inlet instrumentation enclosure; (2) replacement of water quality instruments and flow meters; (3) installation of electrical conduits; and (4) relocation of communication equipment. During a round-the-clock plant shutdown, Metropolitan forces will dewater the plant inlet channel and the pipeline to service connection LA-35, install the flow meter transducers, install a portion of the sample line, and replace an electrical breaker. Metropolitan forces will also perform SCADA integration with the plant's control system.

Specifications No. 1852 for the inlet water quality instrumentation upgrades was advertised for bids on December 12, 2017. As shown in **Attachment 2**, five bids were received and opened on January 16, 2018. The low bid from Unispec Construction, Inc. in the amount of \$985,000 complies with the requirements of the specifications. The four higher bids ranged from \$1,069,000 to \$1,894,850, while the engineer's estimate was \$1.02 million. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 10 percent of the bid amount. Unispec Construction, Inc. is an SBE firm and thus achieves 100 percent participation. The sole subcontractor for this contract is Unitech Construction Group, Inc.

In addition to the amount of the contract, the requested funds include \$426,000 for the Metropolitan force construction activities described above; \$180,000 for construction inspection; \$200,000 for technical support by Arcadis US, Inc., as described below; \$114,000 for project management and contract administration; and \$395,000 for remaining budget.

Metropolitan staff will perform inspection of the construction. For this project, the anticipated cost of inspection is approximately 12.8 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction less than \$3 million is 9 to 15 percent. For this project, the total cost of construction, which includes the amount of the contract (\$985,000) and Metropolitan force construction (\$426,000), is \$1.41 million.

The total estimated cost to complete the inlet water quality instrumentation upgrades, including the amount appropriated to date and current funds requested, is \$2.72 million.

Technical Support During Construction (Arcadis US, Inc.) – Amendment to Agreement

Arcadis US, Inc. performed final design of the inlet water quality instrumentation upgrades. Arcadis US, Inc. was prequalified to provide treatment process design support through a competitive process via Request for Qualifications No. 1032. Subsequently, the firm was selected for this project due to its technical capabilities and planned approach for the work. As the engineer of record, Arcadis US, Inc. is recommended to provide technical support during construction. This support includes review of technical submittals, responding to requests for information from the contractor, and preparing record drawings. In addition, Arcadis US, Inc. will provide technical support to Metropolitan forces during the shutdown, and subsequently for system testing and SCADA integration. For this agreement, Metropolitan has established an SBE participation level of 25 percent. Arcadis US, Inc. has agreed to meet this level of participation. The planned subconsultant under this agreement is Beyaz and Patel, Inc.

This action authorizes an increase of \$200,000 to the existing agreement with Arcadis US, Inc., for a new not-to-exceed total of \$400,000, to provide technical support during construction of the inlet water quality instrumentation upgrades.

Summary

This action appropriates \$2.3 million; awards a contract to upgrade the water quality instrumentation and flow monitoring equipment at the inlet to the Jensen plant; and authorizes an amendment to an existing agreement with Arcadis US, Inc. This project is included within capital Appropriation No. 15486, the Jensen Improvements Appropriation – FY 2012/13 Through 2017/18, which was initiated in fiscal year 2012/13. With the present action, the total funding for Appropriation No. 15486 will increase from \$5,149,000 to \$7,449,000.

This project has 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 Statement, **Attachment 2** for the Abstract of Bids, and **Attachment 3** for the Location Map.

Project Milestone

July 2019 – Completion of construction

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 49857, dated August 19, 2014, the Board authorized design of inlet water quality instrumentation upgrades at the Jensen plant.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The project was previously determined by the Board to be categorically exempt under Classes 1, 2, 3, 4, and 11 (Sections 15301, 15302, 15303, 15304, and 15311 of the State CEQA Guidelines) on August 19, 2014. Since that time, the statute of limitations on the project has ended. With the current action, there is no substantial change proposed since the original project was first approved in 2014. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regard to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the 2014 categorical exemptions (Classes 1, 2, 3, 4, and 11; Sections 15301, 15302, 15303, 15304 and 15311 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action was previously determined to be categorically exempt, and

- a. Appropriate \$2.3 million;
- b. Award \$985,000 contract to Unispec Construction, Inc. for water quality instrumentation upgrades at the Jensen plant; and
- c. Authorize increase of \$200,000 to an agreement with Arcadis US, Inc., for a new not-to-exceed total of \$400,000, to provide technical support.

Fiscal Impact: \$2.3 million in capital funds under Appropriation No. 15486

Business Analysis: This option will enhance reliability of the chemical feed systems at the Jensen plant by replacing sensitive equipment and protecting it from the environment.

Financial Statement for Jensen Improvements Appropriation – FY 2012/13 Through FY 2017/18

A breakdown of Board Action No. 6 for Appropriation No. 15486¹ is as follows:

	Previous Total Appropriated Amount (Feb. 2018)	Current Board Action No. 6 (Feb. 2018)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 206,439	\$ -	\$ 206,439
Final Design	660,979	-	660,979
Owner Costs (Program mgmt., contract admin.)	530,313	68,000	598,313
Submittals Review & Record Drwgs.	113,000	46,000	159,000
Construction Inspection & Support	93,000	180,000	273,000
Metropolitan Force Construction	926,000	145,000	1,071,000
Materials & Supplies	443,000	271,000	714,000
Incidental Expenses	154,000	-	154,000
Professional/Technical Services	434,500	-	434,500
Arcadis US, Inc.	165,269	200,000	365,269
Equipment Use	51,000	10,000	61,000
Contracts	623,384	-	623,384
Unispec Construction, Inc.	-	985,000	985,000
Remaining Budget	748,116	395,000	1,143,116
Total	\$ 5,149,000	\$ 2,300,000	\$ 7,449,000

Appropriation Name:	Jensen Improvements Appropriation – FY 2012/13 Through FY 2017/18		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15486	Board Action No.:	6
Requested Amount:	\$ 2,300,000	Budget Page No.:	239
Total Appropriated Amount:	\$ 7,449,000	Total Appropriation Estimate:	\$ 16,300,000

¹ The total amount expended to date on inlet water quality instrumentation upgrades at the Jensen plant is approximately \$421,382. The total estimated cost to complete the upgrades is \$2.72 million.

The Metropolitan Water District of Southern California
Abstract of Bids Received on January 16, 2018 at 2:00 P.M.
Specifications No. 1852
Jensen Inlet Water Quality Instrumentation Upgrades

The project consists of relocating electrical equipment, installing a pre-cast concrete enclosure to house new water quality instrumentation and flow meter consoles, and installing piping, electrical panels and equipment, duct banks, and cables.

Engineer's estimate: \$1,020,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Unispec Construction, Inc. San Pedro, CA	\$985,000	\$985,000	100%	Yes
CSI Electrical Contractors, Inc. Santa Fe Springs, CA	\$1,069,000	-	-	-
LEED Electric Santa Fe Springs, CA	\$1,167,000	-	-	-
Minco Construction Gardena, CA	\$1,373,700	-	-	-
Morrow-Meadows Corporation City of Industry, CA	\$1,894,580	-	-	-

¹ SBE (Small Business Enterprise) participation level was established at 10% for this contract.

Location Map

