



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

12/11/2018 Board Meeting

8-5

Subject

Adopt CEQA determination that the proposed action was previously addressed in the certified 2015 Environmental Impact Report, and award \$8,487,170 contract to J. F. Shea Construction, Inc. for chlorination system upgrades at the F. E. Weymouth Water Treatment Plant. Authorize an increase of \$520,000 to agreement with La Cañada Design Group, Inc., for a new not-to-exceed total of \$1.47 million for design services; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

This action awards a contract to upgrade the chlorination system at the F. E. Weymouth Water Treatment Plant. These upgrades are needed to provide sufficient disinfection capacity to avoid operational limitations at the plant. This action also authorizes an amendment to an existing professional services agreement to provide design services for replacement of heating, ventilation, and air conditioning (HVAC) equipment at Metropolitan's Water Quality Laboratory in La Verne.

Timing and Urgency

The chlorination system at the Weymouth plant is a critical component of the plant's disinfection process. Enhancements to the existing chlorination system are needed to reduce current maintenance restrictions and accommodate current disinfection demands at the plant, now that the new ozonation system is fully operational.

The existing HVAC system for the northern half of the Water Quality Laboratory is over 22 years old and needs to be replaced. Replacement of the north chiller and other deteriorated components of the laboratory's HVAC system is needed to provide a reliable and energy-efficient HVAC system, and to minimize the risk of future system failures.

These projects have been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and are included in the Treatment Plant Reliability Program and Infrastructure Reliability Program, respectively. Funds for this action are available within the appropriation for planned biennial CIP expenditures for fiscal years 2018/19 and 2019/20.

Details

Background

The Weymouth plant was placed into service in 1941 with an initial capacity of 100 million gallons per day (mgd) and has been expanded twice to its current treatment capacity of 520 mgd. The plant delivers a blend of waters from the Colorado River Aqueduct and State Water Project to Metropolitan's Central Pool portion of the distribution system and to an exclusive service area. The Weymouth plant is located in the city of La Verne.

Weymouth Chlorination System Upgrades – Construction

Chlorine plays an important role in the plant's treatment process as a disinfectant. The Weymouth ozonation system became fully operational in 2017. Ozone serves as the plant's primary disinfectant, while chlorine is employed to form a chloramine residual that maintains disinfection within the distribution system. In addition, chlorine serves as the backup primary disinfectant for the plant and is used to control algae since the plant's filters are now biologically active. At the present time, there is insufficient chlorination capacity to meet these needs.

Further, due to the configuration of the existing chlorination system, maintenance of the feed equipment may only be performed during low-flow periods at the plant. Additional chlorine feed equipment is needed to allow maintenance activities to be performed without impacting plant operation, to improve treatment reliability, and to meet the expected maximum chlorine demand.

In May 2016, Metropolitan's Board authorized final design to upgrade the Weymouth plant's chlorination system. Final design has been completed, and staff recommends proceeding with construction at this time.

The scope of the construction contract includes: (1) expansion of the Weymouth plant's existing chlorine building; (2) installation of additional chlorine feed equipment and instrumentation; and (3) installation of a motor control center and uninterruptible power supply system.

Award of Construction Contract (J. F. Shea Construction, Inc.)

Specifications No. 1883A for the Weymouth Chlorination System Upgrades was advertised for bids on October 8, 2018. As shown in **Attachment 1**, three bids were received and opened on November 6, 2018. The apparent first and second low bidders did not meet the requirements outlined in the bid documents, so these bids were deemed to be non-responsive. The sole responsive bid, in the amount of \$8,487,170, was submitted by J. F. Shea Construction, Inc. and complies with the requirements of the specifications. Bids ranged from approximately \$8.29 million to \$8.49 million, while the engineer's estimate for this project was \$9.1 million. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 15 percent of the bid amount. J. F. Shea Construction, Inc. has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 2**.

This action awards a \$8,487,170 contract to J. F. Shea Construction, Inc. for chlorination system upgrades at the Weymouth plant. Metropolitan force activities will include installation of piping and electrical wiring in the plant's chlorinator rooms, integration of the new equipment into the plant's Supervisory Control and Data Acquisition system, and testing and start-up of the new equipment. The plant's chlorination system must remain in service during construction in order to maintain the required chlorine residual in the treated water delivered to the distribution system. Metropolitan forces are recommended to perform this portion of the work because of their extensive training and experience working on active chlorine systems. For this project, associated costs include \$1,108,000 for construction inspection; \$1,807,000 for Metropolitan force activities; \$602,000 for submittals review, technical support during construction, responding to requests for information, and preparation of record drawings; \$318,000 for environmental compliance monitoring, contract administration, and project management; and \$1,147,830 for remaining budget.

Construction inspection will be performed by Metropolitan staff. For this project, the anticipated cost of inspection is approximately 10.8 percent of the total construction cost. Engineering Services' goal for inspection of construction greater than \$3 million is 9 to 12 percent. The total cost of construction for this project is \$10,294,170 which includes the amount of the contract (\$8,487,170) and Metropolitan force activities (\$1,807,000).

A total of \$13.47 million is required for this work. The total estimated cost to complete the Weymouth Chlorination System Upgrades, including the amount appropriated to date and planned construction costs, is approximately \$15.6 million.

Water Quality Laboratory HVAC Improvements – Final Design Phase

Metropolitan's Water Quality Laboratory is located on the grounds of the Weymouth plant in La Verne. The southern portion of the laboratory was constructed in 1985 to perform water quality testing for Metropolitan's treatment plants and distribution system, and to support efforts to assess emerging contaminants and future treatment technologies. In 1996, the laboratory was expanded to the north to provide new workspace for applied research, regulatory compliance, and administrative needs. Due to its construction in two phases, the Water Quality Laboratory has two HVAC systems to meet the facility's climate control and code-required ventilation needs. The southern system serves the original 27,000-square-foot portion of the building, where a majority of the analytical testing work is performed on a daily basis. The northern system serves the 30,000-square-foot portion of the building, which houses both offices and analytical testing areas.

In January 2018, Metropolitan's Board-authorized final design of seismic upgrades and building improvements to three buildings at the La Verne site, including the Water Quality Laboratory. It was recently determined that major components of the northern HVAC system have deteriorated and need to be replaced. A reliable and energy-efficient HVAC system will enable staff to continue to conduct water quality analyses and submit regulatory reports without the risk of interruption, and will maintain compliance with laboratory safety standards. Staff recommends moving forward with the design of HVAC improvements for the Water Quality Laboratory in coordination with the seismic upgrades project to minimize disruption to plant operations and building occupants.

The planned HVAC improvements to the Water Quality Laboratory include: (1) replacement of 23 existing air handlers, 300-ton north chiller, boiler, exhaust fans, and four refrigeration systems; (2) relocation of the north chiller from the rooftop to ground level for improved maintenance access; (3) associated yard piping and site improvements; (4) rehabilitation of the rooftop mechanical enclosures to accommodate the new air handlers; (5) restoration and relocation of existing mechanical, electrical, and plumbing infrastructure; and (6) replacement of the motor control center, HVAC control system, and other associated electrical components.

Final design phase activities related to the HVAC improvements will include: (1) conducting detailed field surveys; (2) preparation of drawings and specifications; (3) development of a construction cost estimate; and (4) bid support services. The final design activities related to the HVAC improvements are recommended to be performed by La Cañada Design Group, Inc., as discussed below. Metropolitan staff will perform overall project management and technical review. Anticipated costs for final design activities include \$520,000 for design activities by La Cañada Design Group, Inc.; \$89,000 for technical review by Metropolitan staff; \$37,000 for bidding and project management; and \$84,000 for remaining budget.

The anticipated cost of final design of seismic upgrades and building improvements, including HVAC improvements, is approximately 11.2 percent of the estimated construction cost. Engineering Services' goal for design of projects with construction greater than \$3 million is 9 to 12 percent. The estimated cost of construction for this project is anticipated to range from \$17 million to \$19 million. Staff will return to the Board at a later date for award of the construction contract.

A total of \$730,000 is required for this work. The total estimated cost to complete the seismic upgrades and building improvements, including the amount appropriated to date and future construction costs, is anticipated to range from \$22 million to \$25 million.

Engineering Services (La Cañada Design Group, Inc.) – Agreement Amendment

La Cañada Design Group, Inc. is currently performing final design of building improvements related to the seismic upgrades to the Water Quality Laboratory and the Field Engineering Building, including HVAC improvements for the Field Engineering Building, under a board-authorized agreement. La Cañada Design Group, Inc. was selected via Request for Qualification No. 1040. Amendment of the existing agreement with La Cañada Design Group, Inc. to perform final design for HVAC improvements to the Water Quality Laboratory is recommended as part of the seismic upgrades project, based on their technical expertise and experience with the project. The scope of work for design of the HVAC improvements by La Cañada Design Group, Inc. will include: (1) conducting field surveys; (2) detailed design of the civil, electrical, mechanical, and architectural portions of the work; (3) preparation of drawings and specifications; (4) development of a construction cost estimate; and (5) technical assistance during the bid period. The estimated cost for these services is \$520,000.

This action authorizes an increase of \$520,000 to the existing agreement with La Cañada Design Group, Inc. for a new not-to-exceed total of \$1,470,000 for final design of building improvements related to the seismic upgrades to the Water Quality Laboratory and the Field Engineering Building. La Cañada Design Group, Inc. is an SBE firm, and thus achieves 100 percent SBE participation. The subconsultants planned for this agreement are IDS Group, SpecStudio, and Coffman Engineering.

Summary

This action awards a \$8,487,170 contract to J. F. Shea Construction, Inc., and authorizes an amendment to an agreement with La Cañada Design Group, Inc. for design services. These projects have been evaluated and recommended by Metropolitan's CIP Evaluation Team. See **Attachment 1** for the Abstract of Bids, **Attachment 2** for the listing of Subcontractors for Low Bidder, and **Attachment 3** for the Location Map.

A total of \$14.2 million is required for this work. No appropriation of funds is required for work planned over fiscal years 2018/19 and 2019/20, as sufficient funds are budgeted and available within the Capital Investment Plan for Fiscal Years 2018/19 and 2019/20, within Appropriation No. 15509.

Project Milestones

December 2019 – Completion of final design of HVAC improvements for the Water Quality Laboratory

December 2020 – Completion of construction of the Weymouth Chlorination System Upgrades

Policy

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 50463, dated May 10, 2016, the Board authorized final design of chlorination system upgrades at the Weymouth plant.

By Minute Item 51073, dated January 9, 2018, the Board authorized final design of seismic upgrades and building improvements to the Water Quality Laboratory and Field Engineering Building.

By Minute Item 51353, dated October 9, 2018, the Board appropriated a total of \$290 million for projects identified in the Capital Investment Plan for Fiscal Years 2018/19 and 2019/20.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

Weymouth Chlorination System Upgrades

The environmental effects from the Chlorine System Upgrades Project were evaluated in the F.E. Weymouth Water Treatment Plant Program Final Environmental Impact Report (Final EIR). The Final EIR was certified by the Board on April 14, 2015. The Board also approved the Findings of Fact (Findings), the Statement of Overriding Considerations (SOC), the Mitigation Monitoring and Reporting Program (MMRP), and the Project itself. The current Board action is solely based on authorizing award of construction for the Chlorine System Upgrades Project, and not on any changes to the approved program 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 CEQA documentation is necessary for the Board to act on the proposed action.

Water Quality Laboratory HVAC Improvements

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action involves the funding and minor modifications to existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. In addition, the proposed action consists of basic data collection and resource evaluation activities which 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.

Accordingly, the proposed action qualifies for both Class 1 and Class 6 Categorical Exemptions (Sections 15301 and 15306 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

- a. Adopt the CEQA determination that the proposed action was previously addressed in the certified 2015 Final EIR and related documentation, and that no further environmental analysis or documentation is required, and
Award \$8,487,170 contract to J. F. Shea Construction, Inc. for chlorination system upgrades at the Weymouth plant; and
- b. Authorize an increase of \$520,000 to an agreement with La Cañada Design Group, Inc. for a new not-to-exceed total of \$1,470,000 for design services.

Fiscal Impact: \$14.2 million in capital funds

Business Analysis: This option will enhance treatment process reliability and infrastructure reliability at the Weymouth plant; and will make improvements necessary to maintain the reliability, and testing and safety standards at the Water Quality Laboratory.

Option #2

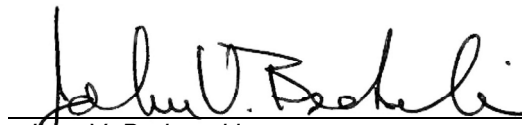
Do not proceed with the projects at this time.

Fiscal Impact: None

Business Analysis: This option would forego an opportunity to reduce the risk of operational limitations at the Weymouth plant based on chlorination system capacity, and an opportunity to improve reliability of the Water Quality Laboratory's HVAC system.

Staff Recommendation

Option #1


 _____ 11/26/2018
 John V. Bednarski Date
 Manager/Chief Engineer
 Engineering Services


 _____ 11/28/2018
 Jeffrey Knightlinger Date
 General Manager

Attachment 1 – Abstract of Bids

Attachment 2 – Subcontractors for Low Bidder

Attachment 3 – Location Map

Ref# es12659906

The Metropolitan Water District of Southern California

Abstract of Bids Received on November 6, 2018 at 2:00 P.M.

**Specifications No. 1883A
Weymouth Chlorination System Upgrades**

The work includes expansion of an existing chlorine building; construction of a chlorine feed system; construction of a prefabricated electrical enclosure and associated electrical equipment; and addition of security, fire protection, and public address systems.

Engineer's estimate: \$9,100,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Environmental Construction, Inc. ² Woodland Hills, CA	\$8,288,382			
Myers & Sons Construction, LLC ² Sacramento, CA	\$8,440,000			
J. F. Shea Construction, Inc. Walnut, CA	\$8,487,170	\$2,701,715	31.8%	Yes

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

² Non-responsive bid

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

**Specifications No. 1883A
Weymouth Chlorination System Upgrades**

Low bidder: J. F. Shea Construction, Inc.

Subcontractor and Location
United Mechanical Contractors, Inc. Simi Valley, CA
National Coating & Lining Company Murrieta, CA
HCI Sprinkler, Inc. Ontario, CA
Three Point Structural Steel Construction Murrieta, CA
LEED Electric, Inc. Santa Fe Springs, CA
Hardy & Harper, Inc. Santa Ana, CA
R & D Steel, Inc. Compton, CA

