



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

1/12/2010 Board Meeting

7-3

Subject

Appropriate \$526,000; and authorize Metropolitan force construction to replace the Weymouth Reservoir inlet gates (Approp. 15440)

Description

This action authorizes Metropolitan force construction to replace three severely corroded Finished Water Reservoir inlet gates at the F. E. Weymouth Water Treatment Plant. Leakage through the closed reservoir inlet gates impacts staff's ability to shut down and maintain the reservoir, and to isolate water within the reservoir should a process upset occur.

Timing and Urgency

The Weymouth Finished Water Reservoir is classified as a dam by the State Division of Safety of Dams (DSOD), which requires that shutoff gates be maintained in an operable condition. Replacement of the three 45-year-old reservoir inlet gates is scheduled to take place during the next planned Weymouth plant shutdown in February 2011. Staff recommends initiating the procurement and construction at this time due to the 9-month lead-time to procure, fabricate and deliver the three inlet gates and to refurbish the gate actuators.

This project has been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria. This project is categorized as an Infrastructure Rehabilitation project and is budgeted within Metropolitan's CIP for fiscal year 2009/10.

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 capacity of 520 mgd. The plant delivers a blend of waters from the Colorado River and State Water Project to Metropolitan's Central Pool portion of the distribution system.

Weymouth Reservoir Inlet Gates Replacement – Procurement and Construction (\$526,000)

The Finished Water Reservoir at the Weymouth plant has three inlet gates, three bypass gates, and three outlet gates. All nine gates were originally installed when the reservoir was constructed in 1964. Properly functioning gates are required to isolate the reservoir when it is removed from service for maintenance. Each 8-foot by 8-foot gate is motor-operated and fabricated of steel plate mounted vertically within a gate guide. The gates are routinely exercised to verify proper operation in order to meet DSOD requirements. In 2005, a scheduled test revealed that Inlet Gate No. 2 would not close due to corrosion of both the gate and its guides. Inlet Gate No. 2 was replaced with a bulkhead to allow inspection of the two other inlet gates during a Weymouth plant shutdown in 2006. During the inspection, water leakage was detected at both Inlet Gates No. 1 and No. 3, which was caused by improper gate closure due to corrosion of the seating surfaces. The outlet and bypass gates could not be evaluated properly because the reservoir was full and the bypass line and outlet structure could not be dewatered. These gates will be inspected during the planned February 2011 plant shutdown.

In March 2008, Metropolitan's Board authorized final design to replace the inlet gates in order to comply with DSOD requirements and to restore operational flexibility. Final design has been completed and staff recommends

moving forward with replacement of the three inlet gates at this time. Planned activities in advance of the February 2011 shutdown include procurement of three new fabricated stainless steel gates, and refurbishment of the existing gate actuators. Planned activities during the 10-day shutdown period include: removal of the two remaining inlet gates, the Inlet Gate No. 2 bulkhead, and the guides, frames, and asbestos-containing gaskets; removal of PCB-containing tar coatings from thimbles, and recoating; and installation of the new gates and refurbished gate actuators.

Staff assessed several options for completing the construction, and recommends that the work be performed by Metropolitan forces. The condition of certain gate components such as embedded wall thimbles is not fully known because they were not accessible for inspection during the prior shutdown. Use of Metropolitan forces to perform the refurbishment, with the fabrication and coating capabilities of the La Verne shops, will minimize any cost and schedule impacts due to unanticipated changes to the construction work.

This action appropriates \$526,000 and authorizes construction to replace the three Weymouth reservoir inlet gates. All work except gate fabrication will be performed by Metropolitan staff. The appropriated funds include \$198,000 for gate fabrication; \$9,500 for materials and equipment; \$151,500 for Metropolitan force labor; \$32,000 for submittals review and technical support by design staff; \$6,000 for construction inspection support; \$60,600 for project management, hazardous materials handling, and as-built drawings; and \$68,400 for remaining budget. The construction costs to fabricate and replace the inlet gates have been estimated based on detailed planning of the work to be performed, actual vendor quotes for the gates and other materials, and prior experience with other gate replacement projects.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds have been included in the fiscal year 2009/10 capital budget. See [Attachment 1](#) for the Financial Statement, and [Attachment 2](#) for the Location Map.

This project is consistent with Metropolitan's goals for sustainability by enhancing the reliability of the existing treatment, conveyance and distribution system, in order to maintain reliable water deliveries in the future.

Project Milestones

November 2010 – Fabricated gates delivered to Weymouth plant

February 2011 – Completion of Finished Water Reservoir inlet gates replacement

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The environmental effects from the funding, design, and construction of Routine Minor Repairs and Replacement of Existing Equipment, and Miscellaneous studies and investigations were evaluated in the F. E. Weymouth Filtration Plant Ozonation Facilities and Site Improvements Program Final Environmental Impact Report (Final EIR), which was certified by the Board on April 12, 2005. The Board also approved the Findings of Fact (Findings), the Statement of Overriding Considerations, the Mitigation Monitoring and Reporting Program (MMRP), and the projects themselves. The current board action is solely based on appropriating funding and authorizing procurement and construction for the Weymouth Reservoir Inlet Gates Replacement 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 actions fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act on the proposed actions.

The CEQA determination is: Determine that the proposed actions have been previously addressed in the certified 2005 Final EIR, findings, SOC, and MMRP, 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 and

- a. Appropriate \$526,000; and
- b. Authorize Metropolitan force construction to replace the Weymouth Finished Water Reservoir inlet gates.

Fiscal Impact: \$526,000 of budgeted funds under Approp. 15440

Business Analysis: This option will enable timely replacement of the reservoir inlet gates during the planned Weymouth plant shutdown in February 2011 to comply with DSOD requirements and to maintain reliability and operational flexibility of the Weymouth plant.

Option #2

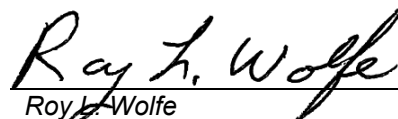
Do not proceed with the Weymouth Finished Water Reservoir inlet gates replacement project.

Fiscal Impact: Unknown

Business Analysis: Under this option, the plant would not comply with DSOD requirements, and would be subject to mandatory reservoir limitations or shutdown. This option would also adversely impact plant reliability and operational flexibility.

Staff Recommendation

Option #1


 Roy L. Wolfe
 Manager, Corporate Resources

12/29/2009
 Date


 Jeffrey Hightlinger
 General Manager

12/29/2009
 Date

[Attachment 1 – Financial Statement](#)

[Attachment 2 – Location Map](#)

Reference Number CR12602528

Financial Statement for Weymouth Improvements Program – Phase II

A breakdown of Board Action No. 6 for Appropriation No. 15440 for the Weymouth Finished Water Reservoir Inlet Gates Replacement* is as follows:

	Previous Total Appropriated Amount (Sep. 2009)	Current Board Action No. 6 (Jan. 2010)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 452,000	\$ -	\$ 452,000
Owner Costs (Program mgmt, as-builts)	469,000 **	58,600	527,600
Final Design	152,000	-	152,000
Submittals Review	-	32,000	32,000
Construction Inspection & Support	-	6,000	6,000
Metropolitan Force Construction	46,000	151,500	197,500
Materials and Supplies	106,000	203,000	309,000
Incidental Expenses	20,000	2,000	22,000
Professional/Technical Services	578,000 **	-	578,000
Hazardous Material Handling		2,000	2,000
Equipment Use	-	2,500	2,500
Contracts	-	-	-
Remaining Budget	197,000 **	68,400	265,400
Total	\$ 2,020,000	\$ 526,000	\$ 2,546,000

Funding Request

Program Name:	Weymouth Improvements Program - Phase II		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15440	Board Action No.:	6
Requested Amount:	\$ 526,000	Capital Program No.:	15440-I
Total Appropriated Amount:	\$ 2,546,000	Capital Program Page No.:	324
Total Program Estimate:	\$ 37,100,000	Program Goal:	I-Infrastructure & Reliability

*The total amount expended to date on the Weymouth Finished Water Reservoir Inlet Gates Replacement is approximately \$203,400.

** Includes previous reallocation of \$40,000 from Remaining Budget for environmental documentation for the Weymouth Filter Rehabilitation Demonstration Project.

F.E. Weymouth Water Treatment Plant

