

- **Board of Directors**
Engineering, Operations and Real Property Committee

August 20, 2001 Board Meeting

8-2

Subject

Authorize funding for three Capital Investment Plan projects from Appn. 15369, the F. E. Weymouth Filtration Plant Improvements Program: (1) \$1.39 million to recoat/reline two washwater tanks; (2) \$206,000 to replace turbidity meters; (3) \$284,000 to perform studies and investigations

Description

A comprehensive study and planning effort was undertaken by staff to identify modifications and improvements that are necessary to ensure reliable plant operations at the F. E. Weymouth Filtration Plant (Weymouth plant). The required projects at the Weymouth plant address the following objectives: achieve and/or maintain compliance with federal and state drinking water quality regulations, increase the efficiency of the plant operations, and enhance the safety and reliability of plant operations. Three separate projects were evaluated and recommended by the Capital Investment Plan (CIP) Evaluation Team as part of the F. E. Weymouth Filtration Plant Improvements Program as described and included in the fiscal year 2001/02 CIP budget. See [Attachment 1](#) for the Detailed Report, [Attachment 2](#) for the Financial Statement, and [Attachment 3](#) for Project Location.

- **Recoat/reline two washwater tanks (\$1.39 million).** The plant's east and west washwater tanks were placed in service in 1939 and 1960, respectively. The tanks have a capacity of more than 1 million gallons each and are essential to the operation of the plant's treatment process. Today, the protective interior lining and exterior coating of these tanks have reached the end of their useful life and require replacement. Relining and recoating of the tanks are now necessary.
- **Replace turbidity meters (\$206,000).** The California Code of Regulation Title 22 (22CR) requires the installation of turbidity meters for continuous monitoring and recording of the filtered water turbidity from each filter. The plant's existing turbidity meters are approximately 13 years old and have reached the end of their useful life. Further, they require excessive calibration maintenance and repair, and are no longer supported by the original equipment manufacturer. Replacement of the turbidity meters is now necessary.
- **Perform studies and investigations (\$284,000).** The Weymouth plant's valve actuators, drop gates and gate guides, and sedimentation basins flocculation equipment have been in service for more than 30 years and are approaching the end of their useful life. Deterioration and failure of these components have been observed. These studies will ascertain the current condition, the level of required maintenance and repairs, and will provide cost estimates for repair and replacement of a wide variety of critical plant equipment. Upon completion of the assessment, staff will return to the Board for any additional authorization to conduct the recommended work.

Policy

Metropolitan Water District Administrative Code Section 5108: Capital Project Appropriation, and
Metropolitan Water District Administrative Code Section 8113: Construction Contract Award.

CEQA

Recoat/reline two washwater tanks

The proposed project is categorically exempt under the provisions of the California Environmental Quality Act (CEQA). The activity involves repairing existing public facilities with no expansion of use and no possibility of significantly impacting the physical environment. As such, the proposed project qualifies under a Class 1 Categorical Exemption (Section 15301 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the recoating/relining of two washwater tanks qualifies under a Categorical Exemption (Class 1, Section 15301 of the State CEQA Guidelines).

Replacement of turbidity meters

The proposed project is categorically exempt under the provisions of CEQA. The activity will include the purchase and replacement of existing turbidity meters where the new meters will be located on the same site as the meters replaced and will have the same purpose and capacity as those meters replaced. Therefore, the proposed project qualifies under a Class 2 Categorical Exemption (Section 15302 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the purchase/replacement of turbidity meters qualifies under a Categorical Exemption (Class 2, Section 15302 of the State CEQA Guidelines).

Perform studies and investigations

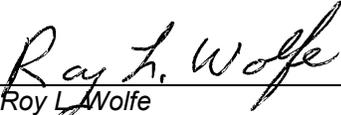
The proposed project is categorically exempt under the provisions of CEQA. Performing engineering studies and investigations at the Weymouth plant will consist of basic data collection, research, and resource evaluation activities, which will not result in a serious or major disturbance to an environmental resource. These activities 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. As such, the proposed project qualifies under a Class 6 Categorical Exemption (Section 15306 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the performing of engineering studies and investigations at the Weymouth plant qualifies under a Categorical Exemption (Class 6, Section 15306 of the State CEQA Guidelines).

Staff Recommendation

Adopt the CEQA determinations, appropriate \$1.88 million, authorize the Chief Executive Officer to have all work performed (studies and turbidity meter replacement), and delegate to the CEO the authority to award contracts for the recoating and relining of washwater tanks and procurement of equipment.

Fiscal Impact: \$1.88 million of budgeted CIP funds under new Appropriation 15369.

 Roy L. Wolfe Manager, Corporate Resources	7/11/2001 Date
 Ronald R. Gastelum Chief Executive Officer	7/27/2001 Date

[Attachment 1 - Detailed Report](#)

[Attachment 2 - Financial Statement](#)

[Attachment 3 – Location Map](#)

Detailed Report

Recoat/reline two washwater tanks (\$1.39 million)

Purpose/Background. The Weymouth plant utilizes two large, above-ground welded steel tanks to hold washwater used in the water treatment process. The east washwater tank measures 48 feet in diameter by 71 feet high, has a capacity of approximately 1 million gallons, and was constructed in the late 1930s. The west washwater tank measures 60 feet in diameter by 63 feet high, has a capacity of approximately 1.3 million gallons, and was constructed in the late 1960s. An inspection of the tanks was performed in 2000 as part of the Weymouth plant's rehabilitation program, and it was determined that the interior lining of both tanks should be replaced by 2001 to prevent further deterioration, structural damage and future costly repairs. Except for temporary spot repairs, these tanks have not been recoated or relined since their original construction, and the interior lining and exterior paint on both tanks have deteriorated to the point where they are no longer protecting the tanks from corrosion.

Project Description. Based on the findings from the inspection of these two tanks, staff recommends the following actions:

- ❑ Abrasively blast and recoat the tanks' interior wall surfaces, tank ceiling, trusses, and rafters.
- ❑ Repair existing interior tanks' floor; caulking the area between tank roof plates and roof supports; repair steel trusses, ladders, vent structure, couplings and walls.
- ❑ Blast clean and repaint the exterior surfaces and other appurtenant work as required to put the tank back in operation.

Further, this work would be staggered to remove only one tank from service at a time.

Actions and Milestones.

- ❑ September 2001 – Prepare plans and specifications for competitive bid advertisement
- ❑ January 2002 – Award construction contract
- ❑ February 2002 – Begin relining/recoating of west tank
- ❑ September 2002 – Begin relining/recoating of east tank
- ❑ December 2002 – Complete project

Replace turbidity meters (\$206,000)

Purpose/Background. The Weymouth plant is mandated by the California Code of Regulations Title 22 (22CR), Section 64660(b)(9), to provide continuous monitoring and recording of the filtered water turbidity from each of the plant's filters. The existing 56 online turbidity meters that provide for compliance with this requirement are approximately 13 years old and have reached the end of their useful life. Today they are unreliable, require excessive calibration and repair, and are no longer supported by the original equipment manufacturer. To reduce these ongoing maintenance costs and to maintain reliability of the treatment plant, it is recommended that 56 new turbidity meters be purchased and installed. It is estimated that the cost of the meter replacement will have a payback period of approximately 5 years when compared to the cost of repairing the obsolete units.

Project Description. Purchase 56 turbidity meters to be installed by Metropolitan personnel.

Actions and Milestones.

- ❑ October 2001 – Prepare specification and purchase requisition for competitive bid
- ❑ January 2002 – Issue purchase order for equipment
- ❑ March 2002 – Begin equipment installation
- ❑ December 2002 – Complete project

Perform studies and investigations (\$284,000)

Purpose/Background. Due to the age of the Weymouth plant, and as part of the Infrastructure Reliability and Protection Plan, a comprehensive study and planning effort has been undertaken by staff to identify modifications and improvements that are necessary to ensure reliable plant operations. Some of the plant's equipment are also approaching the end of their useful service life. Failure and deterioration of some plant components have been observed. In order to generate a more accurate assessment of the scope and cost of required repairs, a series of investigative studies will be performed on selected equipment and systems at the plant. As such, the following areas of the plant will be studied: flocculation basin equipment, isolation gates and valve actuators. In each of these areas, previous deterioration or component failures have been observed. Laboratory evaluations of equipment and components will be conducted on an as-needed basis. In-plant shutdowns will be scheduled and coordinated to ensure that equipment can be accessed.

Project Description. The study/investigation of flocculation basins 1 through 8, slotted gates and gate guides, and valve actuators projects will include the following:

- ❑ Develop investigation plan and procedures
- ❑ Schedule and conduct required inspections of the equipment/facilities
- ❑ Prepare final report and recommendations with cost estimates for potential future Board action to repair/replace equipment and/or facilities

Actions and Milestones.

- ❑ October 2001 – Develop detailed inspection plan
- ❑ January 2002 – Schedule and begin inspections
- ❑ September 2002 – Complete inspections
- ❑ December 2002 – Complete report and make recommendations

FINANCIAL STATEMENT

A breakdown of Board Action No. 1 for Appropriation 15369 to finance three CIP projects and studies as part of the F.E. Weymouth Filtration Plant Improvements Program is as follows:

	BOARD ACTION NO. 1 (Aug. 2001)
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Labor	
Owner Costs (Program Management, Environmental Documentation, etc.)	\$ 35,000
Studies and Preliminary Design	205,000
Design and Preparation of Specification	71,000
Construction Inspection and Support	123,000
District Forces Support/Installation	108,000
Materials and Supplies	146,000
Incidental Expenses	5,000
Professional Technical Services	40,000
Contracts	902,000
Remaining Budget	245,000
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Total	\$ 1,880,000

FUNDING REQUEST

Program Name:	Weymouth Filtration Plant – Improvements Program		
Source of Funds:	Design/Construction Funds (possibly General Obligation, Revenue Bonds, Pay-As-You-Go)		
Appropriation No.:	15369	Board Action No.:	1
Requested Amount:	\$ 1,880,000	Capital Program No.:	01226-I
Total Appropriated Amount:	\$ 1,880,000	Capital Program Page No.:	E-50
Total Program Estimate:	\$ 7,800,000	Program Goal:	R - Reliability

