

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

July 9, 2002 Board Meeting

8-2

Subject

Authorize \$947,000 of budgeted funds for Capital Investment Plan projects as part of the Weymouth Filtration Plant Improvements Program (Approp. 15369)

Description

Four F.E. Weymouth Filtration Plant (Weymouth plant) projects have been identified to maintain plant reliability and water quality goals. These 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 2002/2003 CIP budget. See [Attachment 1](#) for the detailed report and [Attachment 2](#) for the financial statement.

- **Replace Surface Wash Header Pipelines in 24 Filter Beds (\$130,000)** The plant's 16-inch-diameter header pipelines, lateral pipelines and nozzles in Filter Building No. 1 were constructed in 1939 and 1941. To eliminate excessive maintenance costs and ensure reliable operations, these header and lateral lines and nozzles will be replaced. This action will authorize and fund final design of the improvements.
- **Replace Building Nos. 22 and 30 Roofs (\$546,000)** Maintenance Shop Building No. 22 and Warehouse Building No. 30 were constructed in 1967 and re-roofed in 1978. The 24-year-old roofing materials are subject to leaks during wet weather. The roofing materials will be replaced to prevent water damage to the buildings and equipment during rainy seasons.
- **Recoat Finished Water Reservoir (\$114,000)** The Weymouth plant's finished water reservoir was built in 1964. In 1981, the reservoir's concrete roof was coated with a silver paint. The 22-year-old paint has deteriorated and minor concrete cracks have formed. Recoating of the reservoir roof is now necessary to protect the reservoir's concrete and prevent potential cross connection from surface water intrusion. This action will authorize and fund final design of the improvements.
- **Rehabilitate Flocculation Basin Nos. 3 and 4 (\$157,000)** The Weymouth plant's Flocculation Basin Nos. 3 and 4 were constructed in 1948. The equipment in the basins is more than 50 years old. The aging equipment requires excessive maintenance and repair necessitating basin shutdowns. A staff study recommends replacing the two basins' equipment with new bearings, stub shafts, chains, flocculator arms, paddles and appurtenances. This action will authorize and fund final design of the improvements.

Policy

Metropolitan Water District Administrative Code § 5108: Capital Project Appropriation
Metropolitan Water District Administrative Code § 8113: Construction Contract Award

California Environmental Quality Act (CEQA)

CEQA determination for Staff Recommendation:

Replace Surface Wash Header Pipelines in 24 Filter Beds, Replace Building Nos. 22 and 30 Roofs, and Rehabilitate Flocculation Basin Nos. 3 and 4

The three proposed projects are categorically exempt under the provisions of CEQA. The overall activities involve the funding, final design, minor alterations and replacement of existing public facilities with no

expansion of use and no possibility of significantly impacting the physical environment. As such, the proposed projects qualify under Class 1 and Class 2 Categorical Exemptions (Sections 15301 and 15302) of the State CEQA Guidelines.

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify under two Categorical Exemptions (Class 1, Section 15301; and Class 2, Section 15302) of the State CEQA Guidelines.

Recoat Finished Water Reservoir

The proposed project is categorically exempt under the provisions of CEQA. It involves the funding, maintenance, and minor alteration of existing Metropolitan 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).

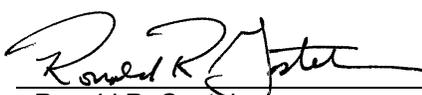
The CEQA determination is: Determine that pursuant to CEQA, the proposed project qualifies under a Categorical Exemption (Class 1, Section 15301 of the State CEQA Guidelines).

Staff Recommendation

Adopt the CEQA determination for the projects described herein and

- a. Appropriate \$947,000 in budgeted CIP funds;
- b. Authorize the Chief Executive Officer to have all work performed up to the award of competitively bid contracts for these projects: Replace Surface Wash Header Pipelines in 24 Filter Beds, Recoat Finished Water Reservoir, and Rehabilitate Flocculation Basin Nos. 3 and 4; and
- c. Authorize budgeted funds to have all work performed to Replace Building Nos. 22 and 30 Roofs.

Fiscal Impact: \$947,000 of budgeted CIP funds under Appropriation 15369

<i>for</i>	 Arlene Kokuga	6/14/2002
	Roy L. Wolfe	<i>Date</i>
	Manager, Corporate Resources	
	 Ronald R. Gastelum	6/14/2002
	Chief Executive Officer	<i>Date</i>

Attachment 1 – Detailed Report

Attachment 2 – Financial Statement

Detailed Report

The F.E. Weymouth Filtration Plant was placed into service in 1941 with an initial capacity of 100 mgd. The plant was expanded twice to its current capacity of 520 mgd. The plant typically treats a blend of State project water and Colorado River water. The plant uses conventional water treatment processes including coagulation, flocculation, sedimentation, filtration, and disinfection. The plant delivers treated, chloraminated water to Metropolitan's Central Pool portion of the distribution system.

Replace Surface Wash Header Pipelines in 24 Filter Beds (\$130,000)

Purpose/Background

During filter backwashing, the top surfaces of the filter beds are sprayed with water to break up solids that build up during the filtration process. The existing 16-inch diameter surface wash pipes, which convey water to the filters, were originally constructed in two phases: (1) during original plant construction in 1939 and (2) during Expansion No. 1 in 1941. Over the years, these pipelines have corroded and the discharge nozzles have plugged with rust causing inefficient filter backwashing. Overall filter performance is impacted. Reliable filter surface wash capability is required to ensure that filter media is adequately cleaned during the backwashing process.

Project Description

Replace existing 16-inch diameter steel pipes and appurtenances with either new steel or PVC surface wash header lines and laterals in 24 filter beds at Filter Building No. 1.

Project Milestones

- July 2003 – Complete plans and specifications for competitive bid advertisement
- October 2003 – Board Action for construction funding and award of construction contract
- February 2005 – Complete project

Replace Building Nos. 22 and 30 Roofs (\$546,000)

Purpose/Background

Building Nos. 22 and 30 were constructed in 1967. Building No. 22, with approximately 21,000 square feet of rooftop, houses the sandblasting shop; mortar-lining shop; pipeline shop; heating, ventilating and air conditioning shop (HVAC); carpenter shop; and the auto maintenance shop. Building No. 30, with approximately 12,000 square feet of rooftops, is a warehouse and the central mail distribution site for the La Verne Facility and other WSO facilities.

The roofing materials on these buildings were last replaced in 1978. They have deteriorated and have now exceeded their 20-year life expectancy. In recent years, interior leaks have occurred in both buildings. Considerable staff time is expended locating and repairing these leaks to insure employee safety and prevent damage to electrical equipment. Competitively bid contracts within the Chief Executive Officer's Administrative Code authority will be awarded for roofing material removal and re-roofing.

Project Description

Remove and replace 33,000 square feet of roofing materials for Building Nos. 22 and 30.

Project Milestones

- July 2002 – Complete plans and specifications for competitive bid advertisement
- August 2002 – Award construction contract
- November 2002 – Complete project

Recoat Finished Water Reservoir (\$114,000)**Purpose/Background**

The Weymouth plant finished water reservoir was built in 1964 with a concrete roof and a capacity of approximately 50 million gallons. Originally, the concrete roof was covered with approximately 4 feet of soil and grass. In 1981, the soil and grass were removed due to the heavy weight on top of the roof and a coating was applied to protect the concrete. Since then, the coating has deteriorated to a point where it covers approximately 50 percent of the roof surface. The poor condition of the coating does not protect the concrete and could allow ponded rainwater intrusion into the finished water reservoir. Rainwater intrusion constitutes a cross connection with treated water, which is not permitted under regulations issued by the California Department of Health Services. Recoating is required to protect the concrete and prevent the potential cross connection.

Project Description

Recoat approximately 421,000 square feet of the existing finished water reservoir roof and perform minor repairs to existing concrete cracks and expansion joints.

Project Milestones

- April 2003 – Complete plans and specifications for competitive bid advertisement
- August 2003 – Board Action for construction funding and award of construction contract
- February 2004 – Complete project

Final Design to Rehabilitate Flocculation Basin Nos. 3 and 4 (\$157,000)**Purpose/Background**

The Weymouth plant Flocculation Basin Nos. 3 and 4 were constructed in 1948 as part of the Expansion No. 1. Equipment in these basins is over 50 years old. Both basins require constant maintenance in order to keep them operational. During such maintenance, treatment plant production capacity is reduced by 50 million gallons per day per basin. Flocculator drive units, drive shafts and mixing paddles all require replacement. Staff also recommends replacing worn out drive units with variable frequency drive to reduce maintenance costs, reduce energy cost and maximize coagulant efficiency.

Project Description

Prepare plans and specifications and bidding documents required for advertising the Flocculation Basin Nos. 3 and 4 Rehabilitation project.

Project Milestones

- September 2002 – Complete plans and specifications for competitive bid advertisement
- February 2003 – Board Action for construction funding and award of construction contract
- March 2003 – Start construction
- July 2004 – Complete project

Financial Statement for Weymouth Improvements Program

A breakdown of Board Action No. 3 for Approp. No. 15369 for the Weymouth Improvements Program is as follows:

	Previous Board Action No. 2 (Nov. 2001)	Current Board Action No. 3 (Jul. 2002)	New Total Appropriated Amount
Labor			
Studies and Investigations	\$ 550,000	\$ 35,000	\$ 585,000
Design and Specifications	71,000	233,000	304,000
Owner Costs (Program Management, Environmental Docs., Control System Integration, Bidding Process)	40,000	170,000	210,000
Construction Management/Inspection	123,000	75,000	198,000
Water System Operations (Metropolitan Force Installation and Construction, Water Quality)	200,000	19,000	219,000
Materials and Supplies	200,000	5,000	205,000
Incidental Expenses	10,000	0	10,000
Professional/Technical Services	40,000	66,000	106,000
Contracts	902,000	220,000	1,122,000
Remaining Budget	324,000	124,000	448,000
Total	<u>\$ 2,460,000</u>	<u>\$ 947,000</u>	<u>\$ 3,407,000</u>

Funding Request

Program Name:	Weymouth Filtration Plant – Improvements Program		
Source of Funds:	Construction Funds (possibly General Obligation, Revenue Bonds, Pay-As-You-Go)		
Appropriation No.:	15369	Board Action No.:	3
Requested Amount:	\$ 947,000	Capital Program No.:	15369-I
Total Appropriated Amount:	\$ 3,407,000	Capital Program Page No.:	E-76
Total Program Estimate:	\$ 33,290,000	Program Goal:	I – Infrastructure Reliability