

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

December 9, 2003 Board Meeting

8-1

Subject

Authorize \$1.47 million for the Diemer Oxidation Retrofit Program for design of two Capital Investment Plan projects; and amend a consulting agreement with RNL Design (Approp. 15389)

Description

The addition of ozone at Metropolitan's five treatment plants will remove blend restrictions and substantially lower disinfection by-product levels for compliance with both Stage 1 and Stage 2 of the Disinfectants/Disinfection By-Products Rule. In March 2002, Metropolitan's Board authorized preliminary design activities for the Diemer Oxidation Retrofit Program (ORP). Since that time, a combination of Metropolitan staff and consultants have been finalizing site layouts and completing preliminary design for the ozone facilities at the Diemer Plant. In July 2003, Metropolitan's Board selected ozone as the primary disinfectant at all Metropolitan treatment plants, and established an on-line date of 2009 for ozone at the Diemer plant.

The Diemer plant is located on the top of a hill in Orange County near Chino Hills State Park, with few remaining areas that are suitable for new facility construction. Consequently, portions of the existing plant site will require remediation and existing facilities must be relocated on-site in order to accommodate the new ozone facilities. Specifically, due to hydraulic constraints, the ozone contactors will be located at the southwest portion of the main plant level, above a south-facing slope. This location will require stabilization of the slope and relocation of the existing plant maintenance and vehicle maintenance facilities. These two facilities must be relocated prior to commencing construction on the south slope stabilization and ozone facilities.

This action authorizes final design of the relocated plant maintenance and vehicle maintenance facilities and authorizes amending a professional services agreement to conduct this design work. Staff will return to the Board at a later date for award of contract(s) for construction of these two facilities.

Plant Maintenance Facility (\$993,000)

The existing Plant Maintenance Facility provides workshops and storage areas to support routine and corrective maintenance of operating equipment within the Diemer plant. It is important to keep this facility located on the Diemer plant site to ensure the timely and efficient performance of required maintenance work. This action authorizes \$993,000 for final design activities up to award of a competitively bid construction contract for the new Plant Maintenance Facility. A consultant, RNL Design, will perform the final design.

Vehicle Maintenance Center (\$477,000)

The existing Vehicle Maintenance Center at the Diemer plant provides shop areas for maintenance of Metropolitan vehicles associated with operation of the Diemer plant. To ensure availability of these vehicles to support plant needs, it is important to keep this facility located on the Diemer plant site. This action authorizes \$477,000 for final design activities up to award of a competitively bid construction contract for the new Vehicle Maintenance Center. RNL Design will perform the final design, in conjunction with the Plant Maintenance Facility.

Consultant Agreement Amendment

This action authorizes amending the architectural professional services agreement with RNL Design, with an increase of \$1.045 million, for a new not-to-exceed total of \$1.545 million. RNL Design was selected through a competitive process (Request for Proposals No. 555 to Provide Architectural Services for the Diemer ORP).

Amendment of this agreement is consistent with the RFP's scope of work and with the planned approach for project implementation.

These projects have been evaluated and recommended by Metropolitan's Capital Investment Plan (CIP) Evaluation Team as part of the Diemer Oxidation Retrofit Program and funds have been included within the fiscal year 2003/04 capital budget. The final design cost as a percentage of the estimated total construction cost is approximately 12.1 percent. The Engineering Services goal for design of projects with construction costs less than \$10 million is 9 to 15 percent.

Utilization of consultants for this work will permit the design of the Diemer Plant Maintenance Facility and Vehicle Maintenance Center to commence immediately. Alternately, this activity would have to be postponed until in-house resources become available. Use of consultants for this work will keep the program on schedule and will allow ozone technology to be on-line at Diemer plant in accordance with the current board-adopted schedule of 2009.

See [Attachment 1](#) for the Detailed Report and [Attachment 2](#) for the Financial Statement.

Policy

Metropolitan Water District Administrative Code § 5108: Capital Project Appropriation

Metropolitan Water District Administrative Code § 8117: Professional and Technical Consultants

California Environmental Quality Act (CEQA)

CEQA determinations for Options #1 and #2:

Plant Maintenance Facility; Consultant Agreement Amendment (RNL Design)

The environmental effects from the design, entering into agreements, construction, and operation of proposed modifications to the Diemer ORP, including the Plant Maintenance Facility Project, were evaluated in the Robert B. Diemer Filtration Plant Improvements Project Final Supplemental Environmental Impact Report (Final SEIR), which was certified by the Board on August 20, 2002. During that same meeting, the Board also approved the amended Findings of Fact, the amended Mitigation Monitoring and Reporting Program, the amended Statement of Overriding Considerations, and the proposed modifications to the originally approved Robert B. Diemer Filtration Plant Improvements Project. This documentation fully complies with CEQA and the State CEQA Guidelines and, 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 2002 Final SEIR and that no further environmental analysis or documentation is required.

Vehicle Maintenance Center; Consultant Agreement Amendment (RNL Design)

The environmental effects from the design, entering into agreements, construction, and operation of the Diemer ORP were originally evaluated in the Robert B. Diemer Filtration Plant Improvements Project Final EIR, which was certified by the Board on February 13, 2001. The Board also approved the Findings of Fact, the Statement of Overriding Considerations, the Mitigation Monitoring and Reporting Program, and the Diemer ORP itself. The present board actions would result in the design and construction of a vehicle maintenance center that conforms to the general type of structure evaluated and mitigated for in the Final FEIR, along with the amending of an existing consultant agreement (for Option #1). No new significant effects or substantial changes in the circumstances would result with the implementation of this proposed project or alter the findings of the approved Diemer ORP itself. Hence, the previous environmental documentation taken 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 actions.

The CEQA determination is: Determine that the proposed actions have been previously addressed in the certified 2001 Final EIR and that no further environmental analysis or documentation is required.

Board Options/Fiscal Impacts

Option #1

Adopt the CEQA determinations and

- a. Appropriate \$1.47 million in budgeted CIP funds;
- b. Authorize the Chief Executive Officer to have all work performed up to the award of competitively bid construction contract(s) for the Diemer Plant Maintenance Facility and Vehicle Maintenance Center; and
- c. Authorize amending the existing professional services agreement with RNL Design for a new not-to-exceed total of \$1.545 million for Diemer ORP final design services.

Fiscal Impact: \$1.47 million of budgeted CIP funds under Appropriation 15389 (Diemer ORP).

Option #2

Adopt the CEQA determinations and

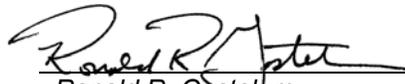
- a. Appropriate \$1.47 million in budgeted CIP funds;
- b. Authorize the Chief Executive Officer to have all work performed up to the award of competitively bid construction contract(s) for the Diemer Plant Maintenance Facility and Vehicle Maintenance Center; and
- c. Commence final design of the Diemer Plant Maintenance Facility and Vehicle Maintenance Center utilizing in-house design personnel, when these resources are available.

Fiscal Impact: \$1.47 million for the current fiscal year 2003/04 budget. This option would delay the on-line date of the Diemer ORP beyond the board-adopted date of 2009, due to insufficient in-house design personnel. Alternately, staff could be redirected from other high priority work to this project, with resultant delays to other critical programs.

Staff Recommendation

Option #1

	11/21/2003
Roy H. Wolfe Manager, Corporate Resources	Date

	11/21/2003
Ronald R. Gastelum Chief Executive Officer	Date

Attachment 1 – Detailed Report

Attachment 2 – Financial Statement for Diemer ORP

Detailed Report

The Robert B. Diemer Filtration Plant (Diemer plant) was placed into service in 1963 with an initial capacity of 200 mgd. The plant was expanded in 1969 and now has a design capacity of 520 mgd. The plant uses conventional water treatment processes including coagulation, flocculation, sedimentation, filtration, and disinfection. The plant delivers treated, chloraminated water to Orange County and parts of Metropolitan's Central Pool portion of the distribution system.

Background

Stage 1 of the Disinfectants/Disinfection By-Products (D/DBP) Rule, which was promulgated by the U.S. Environmental Protection Agency, became effective on January 1, 2002. The rule includes two components: (1) new and reduced maximum contaminant levels (MCLs) for disinfection by-products, and (2) implementation of a treatment technique (e.g., ozone disinfection, chlorine dioxide disinfection or total organic carbon removal) for many surface waters. Water utilities must comply with both components of the rule.

In March 2002, Metropolitan's Board authorized preliminary design of both ozone and an alternative disinfection technology (e.g., chlorine dioxide) at the Diemer plant under the Diemer Oxidation Retrofit Program (ORP), and delegated authority to the Chief Executive Officer to award competitively selected consultant agreements to supplement Metropolitan staff.

Request for Proposals (RFP) 555 to provide Architectural Services for the Diemer ORP was issued on June 6, 2002. Seven proposals were submitted and reviewed. Based on the results of the interview and strength of its proposal, RNL Design was retained to provide architectural design services for the Diemer ORP.

In July 2003, Metropolitan's Board selected ozone as the primary disinfectant at all Metropolitan treatment plants and established an on-line date for the Diemer ORP of 2009. The use of ozone at the Diemer plant will remove blend restrictions and substantially lower disinfection by-product levels for compliance with both Stage 1 and Stage 2 of the D/DBP Rule.

Metropolitan staff and the Diemer ORP architectural consultant, RNL Design, are proceeding with preliminary design of the Diemer ORP facilities. RNL Design has created an architectural and landscaping theme and provided preliminary architectural design layouts for the Diemer ORP facilities.

Initial preliminary design efforts have focused on the inherent complexities related to site constraints including required facility relocations and south slope stabilization to prepare the area for the ORP facilities. Staff recommends dividing the final design and construction of the plant retrofit into several phased projects. This action addresses the maintenance facilities to be relocated.

The Diemer plant is located on the top of a hill with few remaining areas that are suitable for new facility construction. The ozone contactors will be located at the southwest portion of the plant on the main plant level, above the south-facing slope. This location will require relocation of the existing plant maintenance and vehicle maintenance facilities and stabilization of the slope to withstand a major seismic event. The ozone contactors are expected to be under the jurisdiction of the California Division of Safety of Dams (DSOD), which must approve the designs of the stabilization and hydraulic structures.

Prior to south slope stabilization construction, the existing maintenance facilities, consisting of offices and workshops for plant maintenance and general services (garage and fuel dispensing station), must be relocated. Due to site constraints at the Diemer plant, the new Plant Maintenance Facility will be located separately from the Vehicle Maintenance Center.

Project Descriptions

Plant Maintenance Facility (\$993,000) – The new Plant Maintenance Facility will be located on a lower level pad south of the Diemer finished water reservoir, and will include a building with an outdoor storage yard. The building will include mechanical and electrical workshops, offices, restrooms, and locker rooms.

Vehicle Maintenance Center (\$477,000) – The new Vehicle Maintenance Center (VMC) will be located on the newly created upper pad at the northwest hill, adjacent to the new Solids Handling Facilities. The VMC will include offices, restrooms, and two repair bays. In July 2003, Metropolitan’s Board authorized final design of the Diemer plant Solids Handling Facilities Project, which will share the Diemer plant’s northwest hill upper pad.

This action authorizes final design activities up to award of competitively bid construction contracts. Final design activities for each project will include: site design; utilities design; major pipeline routing; architectural building and landscaping design; cost estimating; and obtaining appropriate plan check approvals.

Cost Estimate

Attachment 2 shows the breakdown of the total estimated cost of \$1.47 million for all final design activities for these two Diemer ORP projects. RNL Design will perform final design of both the Plant Maintenance Facility and the Vehicle Maintenance Center. Geotechnical consultants will perform slope stability and geotechnical investigations under existing agreements, and will prepare final recommendation reports. Metropolitan staff will perform project management, permitting, and environmental mitigation coordination.

Project Milestones

- May 2004 – Award of construction contract(s) for Diemer Plant Maintenance Facility and Vehicle Maintenance Center
- January 2005 – Completion of Diemer Plant Maintenance Facility construction contract
- June 2005 – Completion of Diemer Vehicle Maintenance Center construction contract

Consultant Agreement Amendment

Utilization of a professional services firm to perform this work is consistent with the Corporate Resources Group’s staffing plan as incorporated in the fiscal year 2003/04 budget and ensures that projects are implemented in accordance with their board-adopted schedules. Based on the March 2002 action by Metropolitan’s Board, an agreement was awarded to RNL Design in amount not to exceed \$0.5 million for preliminary design activities. This action authorizes an increase to the existing agreement with RNL Design of \$1.045 million for a maximum contract amount of \$1.545 million, to provide Diemer ORP final architectural and engineering design services. Amendment of this agreement is consistent with the planned approach for project implementation.

Financial Statement for Diemer Oxidation Retrofit Program

A breakdown of Board Action No. 2 for Approp. No. 15389 for final design of the Plant Maintenance Facility and Vehicle Maintenance Center at the Diemer filtration plant is as follows:

	Previous Board Action No. 1 (Mar. 2002)	Current Board Action No. 2 (Dec. 2003)	New Total Appropriated Amount
Labor			
Studies and Investigations	\$ 1,800,000	\$ 0	\$ 1,800,000
Owner Costs (Program management, bidding process, design review)	230,000	129,250	359,250
Final Design	0	53,750	53,750
Water System Operations	50,000	6,000	56,000
Materials and Supplies	10,000	2,000	12,000
Incidental Expenses	10,000	2,000	12,000
Professional/Technical Services	400,000	1,275,000	1,675,000
Equipment Use	20,000	2,000	22,000
Remaining Budget	450,000	0	450,000
Total	\$ 2,970,000	\$ 1,470,000	\$ 4,440,000

Funding Request

Program Name:	Diemer Oxidation Retrofit Program		
Source of Funds:	Construction Funds (possibly General Obligation, Revenue Bonds, Pay-As-You-Go Fund)		
Appropriation No.:	15389	Board Action No.:	2
Requested Amount:	\$ 1,470,000	Capital Program No.:	15389-W
Total Appropriated Amount:	\$ 4,440,000	Capital Program Page No.:	E-32
Total Program Estimate:	\$186,000,000	Program Goal:	WQ/Compliance