

SEP 13 1994



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Karen E. Duff
EXECUTIVE SECRETARY

August 23, 1994

(Engineering and Operations Committee--Action)
(Finance and Insurance Committee--Action)
(Organization and Personnel Committee--Action)
(T.F. to Rev. Office Space & Bldg. Sites--Action)
(Special Committee on Water Quality and
Environmental Compliance--Action)

To: Board of Directors

From: General Manager

Subject: Revision No. 1 to Appropriation No. 635 to Increase Funding by \$840,000 to Finance all Estimated Costs in Advance of Award of a Construction Contract for the Water Quality Laboratory Expansion in La Verne and Authority to Amend an Agreement

Summary

The Water Quality Laboratory (WQL) in La Verne needs to be expanded in order to provide analytical services to comply with new regulations, to identify cost-effective treatment alternatives, and to enhance customer services to our member agencies and the consumer. Your Board authorized \$1,000,000 in October 1991 to finance all estimated costs for Preliminary Design and Environmental Studies for the WQL expansion in La Verne. It is proposed to increase the appropriation by \$840,000 to proceed with final design. Further, it is proposed to amend Agreement No. 3664 with Stone Marraccini Patterson to provide architectural and engineering services for final design, preparation of specifications, and construction support. The total estimated cost to expand the laboratory is \$14,900,000 (escalated to 1997). Pursuant to the California Environmental Quality Act (CEQA), a Mitigated Negative Declaration has been prepared for this project.

Report

In October 1991, your Board authorized Appropriation No. 635 for \$1,000,000 to finance all estimated costs for Preliminary Design and Environmental Studies for the WQL expansion in La Verne. Metropolitan's WQL needs to be expanded to accommodate (1) increased monitoring for new regulations, (2) applied research to develop least-cost treatment alternatives, and (3) enhanced customer service to member agencies. Preliminary design was completed by the consultant in September 1993.

Numerous new regulations have been developed and are being promulgated (Figure 1), which have required additional monitoring. To the greatest extent possible, the Water

Quality Division (WQD) has implemented improved productivity and performance through automated instrumentation and time-management practices. However, because of limited space currently available for new instrumentation and specialized procedures (e.g., new analytical procedures for microbial pathogens, such as Cryptosporidium), further enhancement of the WQL's productivity to handle new and/or expanded analytical needs requires additional space. In addition, the laboratory expansion is needed (1) to provide analytical support for identification of cost-effective treatment alternatives for control of disinfection by-product formation, removal of arsenic, and removal and disinfection of pathogens; (2) to characterize new supply sources and provide information on source-water protection; and (3) to improve member agency customer service.

In preparing for the WQL expansion, the WQD conducted member agency workshops in October 1993 and June 1994 to incorporate input on the needs of the member agencies into the WQL expansion. Major programs identified by the member agencies as being important in support of the laboratory expansion include a regional research program, a quality assurance program, training/technology exchange, and customer service/satisfaction. These efforts will result in better communication, coordination and satisfaction with member agencies, better quality data, and a lower overall cost for meeting water quality regulations through our concerted research efforts.

As shown in Attachment A, expanding the laboratory is the option that provides the most value to Metropolitan and its member agencies. In July 1993, the WQD implemented a time-tracking system to document how WQD personnel are allocated among various programs (see Figure 2) and to verify cost-effectiveness of in-house analyses (see Figure 3). Results from one full year of Time Tracking have helped optimize the mix of analyses conducted in-house and at contract laboratories and established priorities among the monitoring and research programs.

Pursuant to the CEQA, a Mitigated Negative Declaration and Initial Study have been prepared for the expansion of the WQL in La Verne. These documents discuss environmental impacts associated with the project and necessary mitigation measures, and conclude that the construction and operation of the proposed facility will not have a significant adverse impact on the environment. Your Board is required by CEQA, as implemented in the State CEQA guidelines, to certify that it has considered the information contained in the Mitigated Negative Declaration and supporting Initial Study and find on the basis of these documents and comments received, that the project will not have a

significant effect on the environment. Your Board is also required to adopt a Mitigation Monitoring Program in approving the project. Advisory committees of your Board acting upon this letter are also required to consider this information. A copy of the Initial Study, Mitigated Negative Declaration, and Mitigation Monitoring Program are being transmitted with this letter to all members of your Board.

It is proposed to increase Appropriation No. 635 by \$840,000 to a total of \$1,840,000 to proceed with final design, preparation of specifications, and advertisement for bids for the expansion of the WQL in La Verne. A breakdown of the \$1,840,000 expenditure is shown in Attachment B. The total estimated cost of this expansion to approximately double the size of the building is \$14,900,000 (escalated to 1997), and a breakdown of these costs is also provided in Attachment B. This cost includes 29,651 gross assignable square-feet (GASF) of new space and retrofitting 9,100 GASF of existing laboratory space.

It is further proposed to amend Agreement No. 3664 with Stone Marraccini Patterson to provide architectural and engineering services for final design, preparation of specifications, and construction support for the expansion of the WQL in La Verne. The total estimated costs for these services are \$1,300,000, including expenses. Stone Marraccini Patterson is an equal opportunity employer. A breakdown of Stone Marraccini Patterson's fee schedule is shown in Attachment C.

Recommendations

ALL COMMITTEES FOR ACTION.

It is recommended that your Board certify that it has considered the information contained in the Mitigated Negative Declaration and find, on the basis of the Initial Study and comments received, that the project will not have a significant effect on the environment. It is also recommended that your Board, in approving this project, adopt the Mitigation Monitoring Program.

ENGINEERING AND OPERATIONS COMMITTEE FOR ACTION.

It is recommended that your Board authorize the General Manager to have all work performed, other than work to be performed under construction contracts involving an expenditure of \$250,000 or more, for the expansion of the WQL in La Verne.

FINANCE AND INSURANCE COMMITTEE FOR ACTION.

It is recommended that your Board authorize an increase of \$840,000 in Appropriation No. 635 to a total of \$1,840,000 from the Pay-As-You-Go Fund, to finance all estimated costs in advance of award of a construction contract, for the expansion of the WQL in La Verne.

ORGANIZATION AND PERSONNEL COMMITTEE FOR ACTION.

It is recommended that the General Manager be authorized to amend Agreement No. 3664 with Stone Marraccini Patterson substantially on the terms outlined in this letter and in a form approved by the General Counsel to increase the maximum amount payable under the terms of the agreement to \$1,300,000, for architectural and engineering consulting services for the expansion of the WQL in La Verne.


TASK FORCE FOR REVIEW OF OFFICE SPACE AND BUILDING SITES FOR ACTION.

It is recommended that your Board authorize work to be accomplished for final design, preparation of specifications, and advertisement for bid for the expansion of the WQL in La Verne.

THE SPECIAL COMMITTEE ON WATER QUALITY AND ENVIRONMENTAL COMPLIANCE FOR ACTION.

It is recommended that your Board authorize work to be accomplished for final design, preparation of specifications, and advertisement for bid for the expansion of the WQL in La Verne.

John R. Wodraska
General Manager

By 
Mark D. Beuhler
Director of Water Quality

Concur:



John R. Wodraska
General Manager

SEB/MKD/pa

Attachments

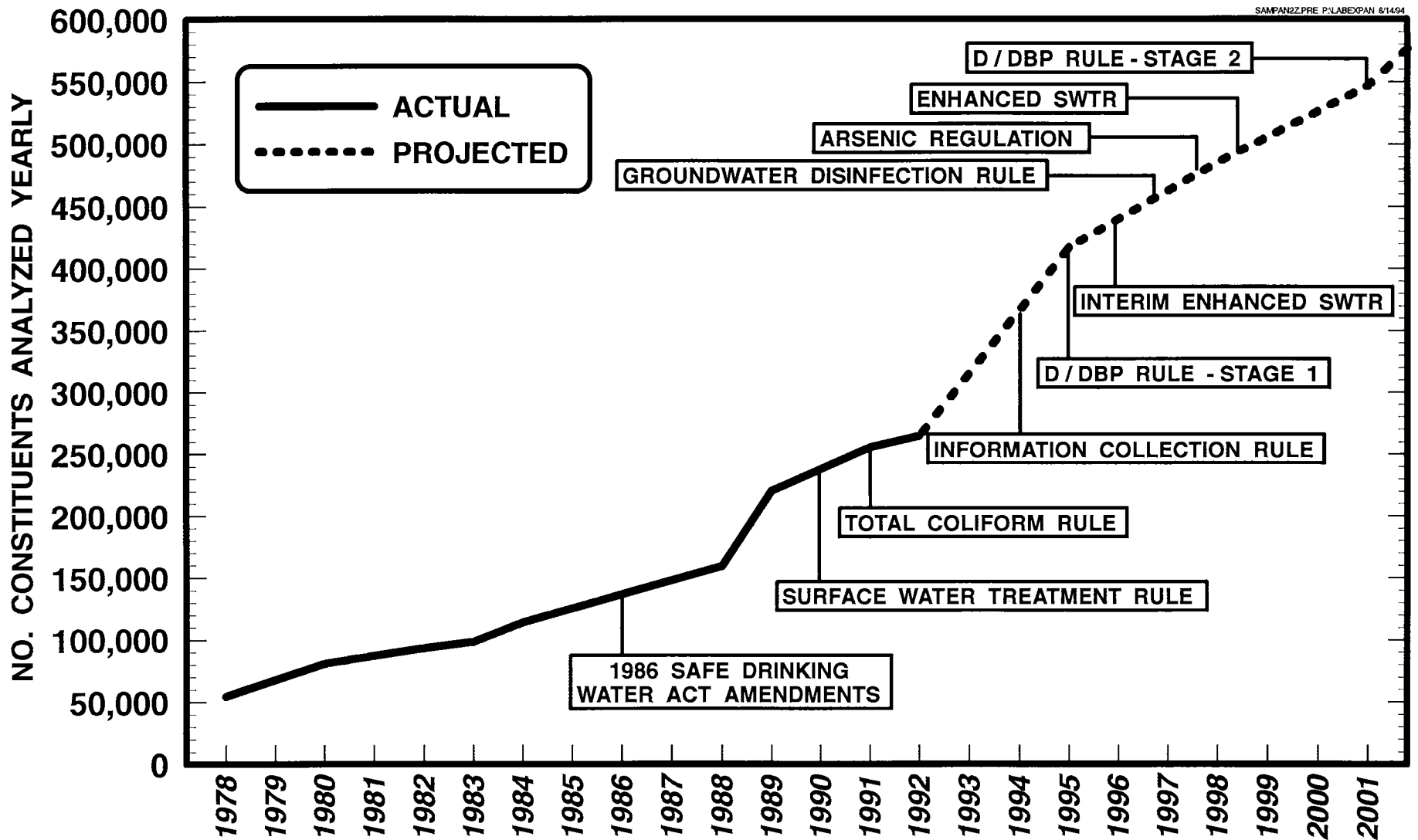


FIGURE 1. INCREASES IN NUMBER OF CONSTITUENTS ANALYZED ANNUALLY, DUE TO NEW REGULATIONS

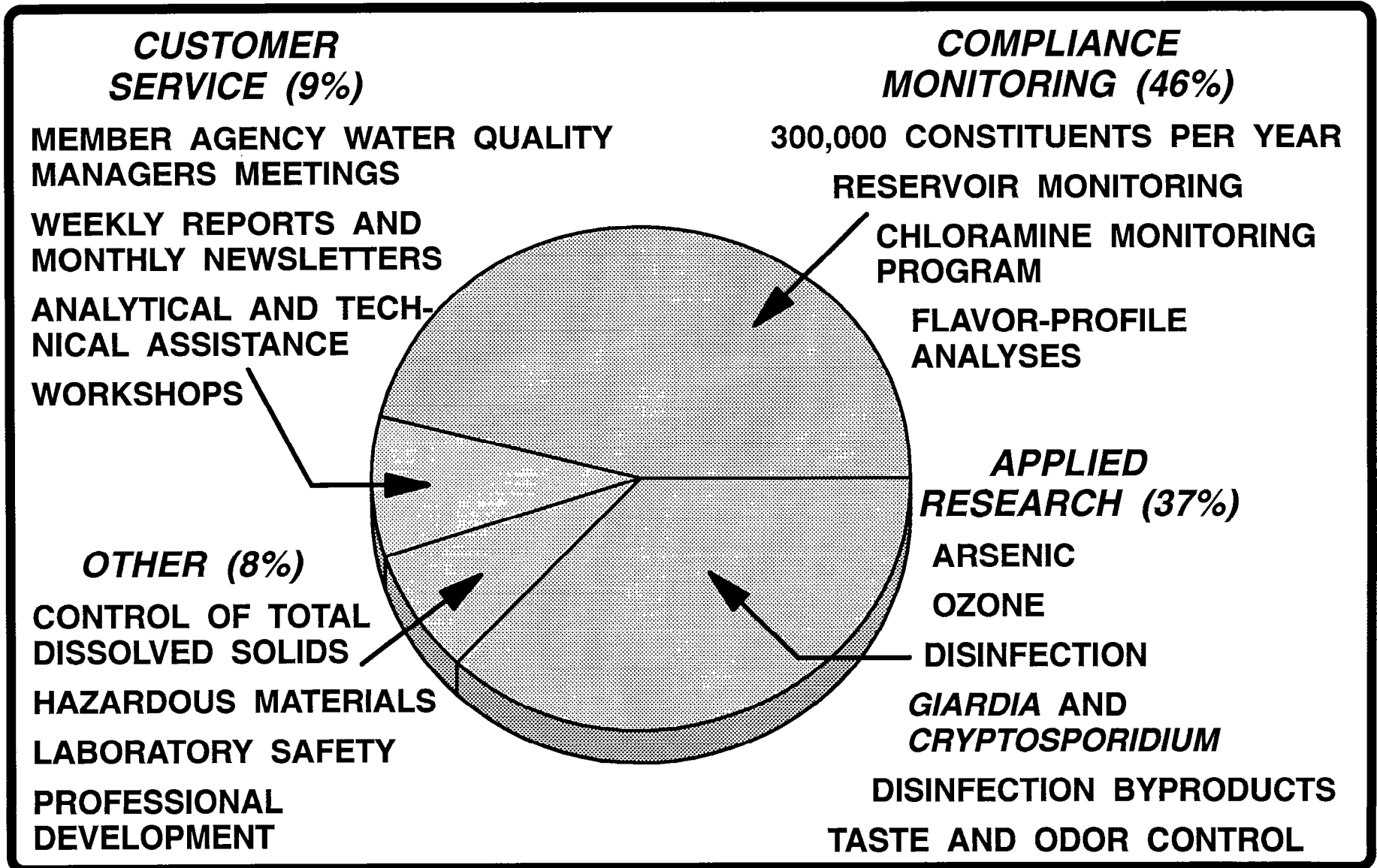


FIGURE 2. RESOURCE ALLOCATION FOR WATER QUALITY PERSONNEL

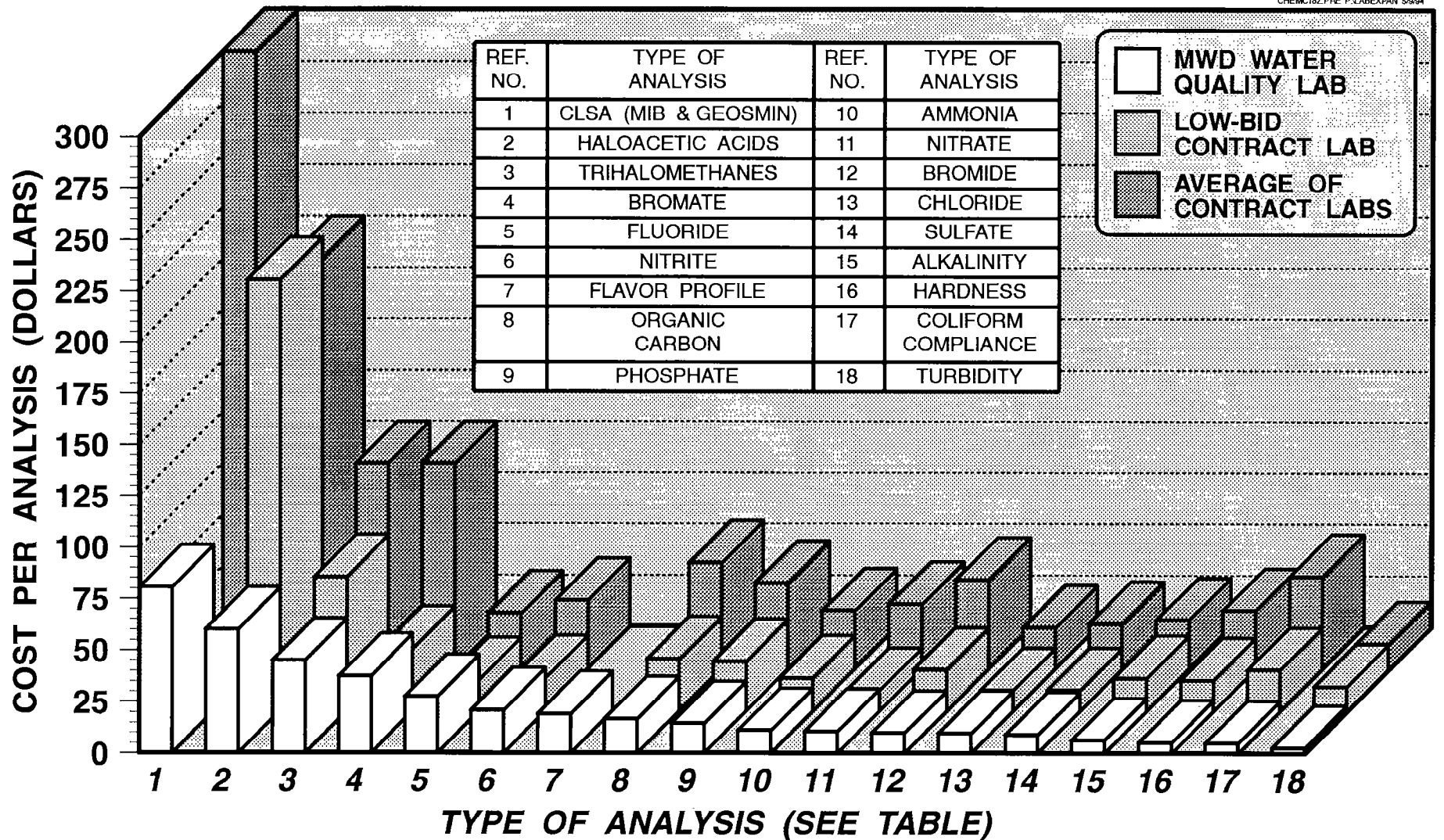


FIGURE 3. WATER QUALITY ANALYSIS COST COMPARISONS BETWEEN MWD LAB AND COMMERCIAL LABS

ATTACHMENT A

Value Assessment of
Alternatives to the Laboratory ExpansionIntroduction

The Water Quality Laboratory (WQL) was originally designed in 1981 to accommodate 57 chemists, microbiologists, technicians, and engineers by 1991. Due to the increased regulatory activity from adoption of the Safe Drinking Water Act (SDWA) amendments in 1986, the number of permanent WQL staff increased to 73 by 1994, resulting in 35 percent overcrowding. As part of the process to evaluate the need for a laboratory expansion, the Water Quality Division (WQD) staff evaluated six alternatives to the laboratory expansion as well as obtained member agency input into the expansion. This assessment indicated that the expansion of the laboratory was the most viable and cost-effective option to meet the increased analytical workload caused by increased regulatory action. The following paragraphs discuss advantages/disadvantages for each alternative.

Use of Contract Laboratories

Metropolitan uses contract laboratories for those analyses where it is cost-effective. Analytical cost comparisons show that Metropolitan is very competitive with commercial laboratories and additional cost savings occur when considering the fast turnaround time frequently required by Metropolitan's water quality control programs (see board letter Figure 3). In recent years, Metropolitan has increased commercial laboratory usage from \$40,000 in fiscal-year (FY) 92/93 to \$102,000 in FY 93/94, and projected commercial laboratory costs for FY 94/95 are \$131,000. However, there can be significant limitations to using contract laboratories. These limitations include the inability to meet adequate turnaround times necessary for making operational decisions to avoid serious consumer complaints and the inability to effectively respond to Metropolitan/member agency water quality problems. In addition, some analyses, which are essential for Metropolitan's day-to-day and proactive applied research needs, are not available at contract laboratories.

Extend hours

Another alternative considered was to extend the currently scheduled working hours at the WQL. Currently, the laboratory is staffed 12 hours per day, and increasing the number of hours the laboratory is open would not solve

the existing overcrowding and specialized instrumentation/analytical space problems. Automation of existing instrumentation is already maximized with many of the instruments performing analyses 24 hours a day. In addition, this option would result in the need for additional technical, supervisory, and support staff and equipment which would compound the already crowded conditions in the WQL.

Relocate Staff

The WQD has already relocated staff in order to maximize usage of the existing laboratory. Twelve percent of its staff are assigned to an off-site location. However, this situation impairs teamwork, coordination, and communication among staff members which are critical to WQD activities. Considerable time is lost commuting from off-site offices to the laboratory and other water quality facilities at the Weymouth plant. Also, relocating staff would not resolve the need for more bench-space for equipment.

Lease Existing Laboratory Space

Commercial Realtors and the County Sanitation Districts of Orange County were contacted to investigate the availability of laboratory space. There was no laboratory space large enough to accommodate the needs of the WQD in the Southern California area. There were smaller laboratories available for lease, however, staff would need to be separated. Unfortunately, this approach would severely limit the necessary cooperative interaction between staff.

Retrofit Another Building

The laboratory consulting firm of Earl Walls Associates has estimated that retrofitting existing office/warehouse space would cost approximately \$3 million more than the projected WQL expansion. Historically, this option was used when the WQL moved from the Weymouth plant laboratory to the Materials Test Facility in the mid-1970s. Problems associated with special air handling, floor vibration, and electrical supply requirements impaired work and resulted in additional problems and expenses for the WQD. Importantly, the elimination of those problems was a significant part of the justification for the existing WQL.

Delay Expansion

The laboratory expansion was originally scheduled to be completed in mid-1995, however, the project was delayed due to the drought-induced financial austerity situation in 1992. During this period, space needs were reevaluated using conservative growth estimates, a shorter planning

period, and improvement in productivity through automation. Furthermore, a time-tracking system was developed to document competitiveness of in-house analyses and staff resource allocation in relation to objectives in Metropolitan's strategic plan. Additional delays will impair the development of new analytical capability, limit Metropolitan's ability to influence regulations and legislation, hamper the ability to provide better customer service to the member agencies, and reduce the WQD's efficiency and cost-effectiveness.

Summary

After evaluating the above options, expansion of the WQL is the option that provides the most value to Metropolitan and its member agencies. This expansion would provide the specialized laboratory space necessary to develop and perform cost-effective chemical and microbiological analyses for compliance monitoring, and to conduct proactive applied research efforts to positively influence regulations and identify the most cost-effective treatment alternatives.

ATTACHMENT B

FINANCIAL STATEMENT

(FY 1994/95 Capital Program No. 5-6350-63)

A breakdown of the Initial Costs and Revision No. 1
are as follows:

Labor:	<u>Initial Funding</u>	<u>Revision 1</u>
Engineering and Preparation of Specifications	\$ 150,000	\$ 200,000
Environmental	20,000	10,000
Water Quality	20,000	10,000
Total Labor	\$ <u>190,000</u>	\$ <u>220,000</u>
Incidental Expenses	\$ 10,000	\$ 10,000
Professional Technical	500,000	1,300,000
Administrative Overhead	105,000	122,000
Contingency	<u>195,000</u>	<u>188,000</u>
Total	\$ <u>1,000,000</u>	\$ <u>1,840,000</u>
Estimated Funds Required		
Initial	\$ 1,000,000	
Revision No. 1	840,000	
Additional	<u>13,060,000</u>	
Total	\$14,900,000	
Projected Expenditure of Funds:		
Through Fiscal Year 1993/94	\$ 450,000	
Fiscal Year 1994/95	595,000	
Fiscal Year 1995/96	3,120,000	
Fiscal Year 1996/97	10,551,500	
Fiscal Year 1997/98	<u>183,500</u>	
Total	<u>\$14,900,000</u>	

Class one: Project directly related to the delivery of water which, if delayed, will adversely impact reliability of service or water quality.

Project Benefits: The Water Quality Division will have sufficient space for long-range growth and testing equipment necessary to comply with requirements of the Safe Drinking Water Act.

ATTACHMENT C

FEE SCHEDULE

Billable fees (per hour) by job titles, as well as number of individuals proposed, are as follows:

SMP		RBA Partners	
Principal-in-Charge (1)	\$150	<i>Civil Engineering</i>	
Project Manager (1)	120	Senior Project Manager (1)	\$128
Project Architect (1)	100	Senior Designer (1)	108
Project Designer (1)	100	Drafter (1)	60
Interior Architect (1)	90		
Senior Drafter (2)	85	Alan Fong & Associates	
Drafter (2)	70	<i>Landscape Architecture</i>	
Senior Planner (1)	100	Principal (1)	\$105
Clerical (2)	50	Senior Associate (1)	65
		Associate (1)	55
Earl Walls Associates		Drafter (1)	45
<i>Laboratory Consultants</i>		Clerical (1)	35
Earl L. Walls (1)	\$200		
Principal (1)	175	Adamson Associates	
Associate (1)	120	<i>Cost Estimators</i>	
Engineer (2)	110	Principal (1)	\$110
Senior Designer (1)	85	Supervising Project	
Designer (2)	75	Estimator (1)	95
Drafter (2)	45	Senior Estimator (1)	85
Technician (1)	45	Assistant Estimator (1)	70
Ove Arup & Partners			
<i>Mechanical/Electrical/</i>			
<i>Structural Engineering</i>			
Managing Principal (1)	\$180		
Principal (1)	160		
Project Manager (1)	125		
Associate (2)	125		
Senior Engineer (3)	100		
Engineer (4)	80		
Designer/Draftsperson (4)	70		
Junior Engineer (4)	60		
Clerical (4)	40		