

# **MASSACHUSETTS WATER RESOURCES AUTHORITY**



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## **Fiscal Year 2006 CURRENT EXPENSE BUDGET**

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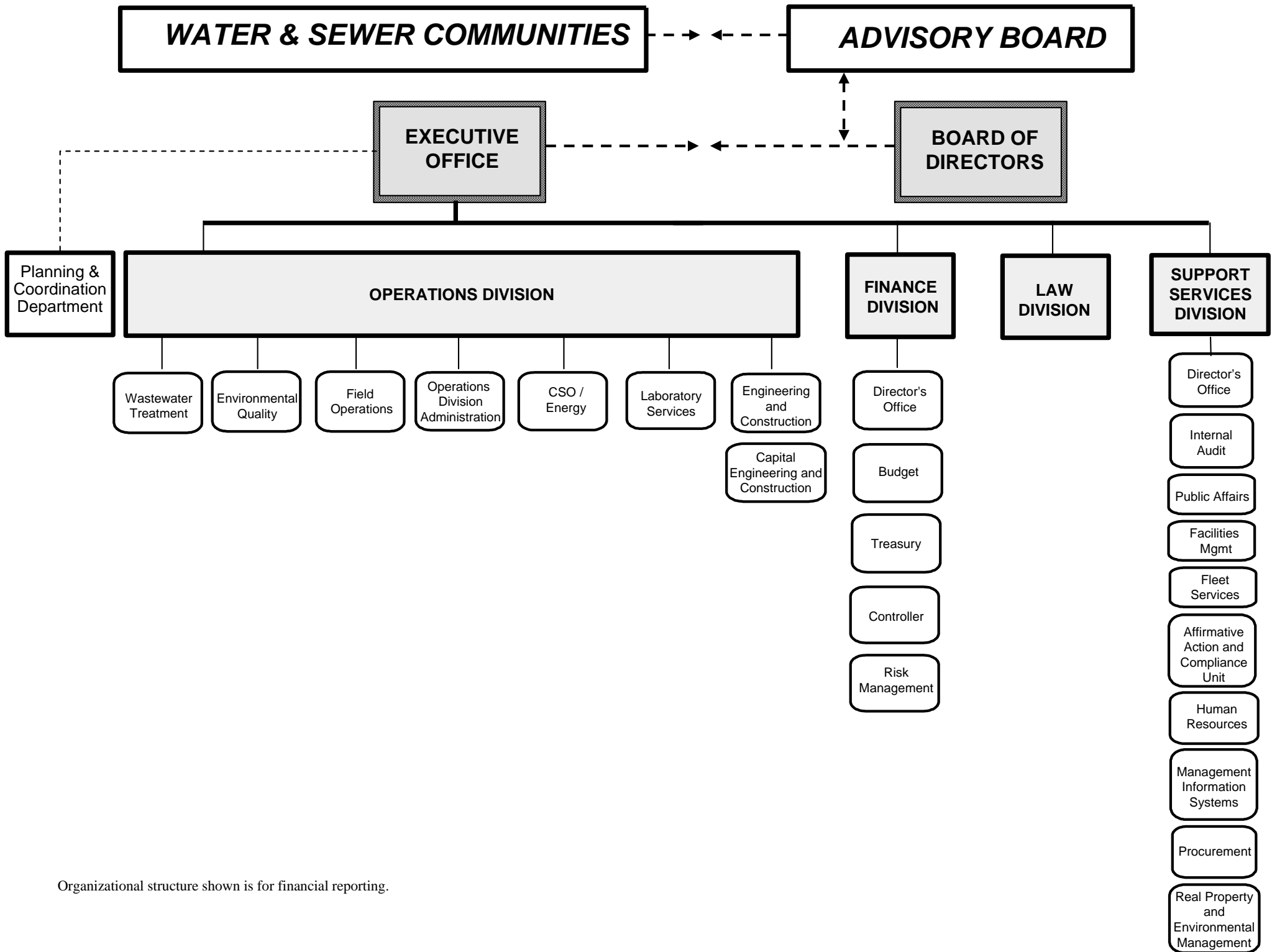
Marie T. Turner

### **Prepared under the direction of**

Frederick A. Laskey, Executive Director  
Laura Guadagno, Chief Financial Officer  
Michael Hornbrook, Chief Operating Officer

**together with the participation of MWRA staff.**

\* Stephen R. Pritchard, newly appointed Chair  
in August 2005



Organizational structure shown is for financial reporting.



December 2005

Katherine Haynes Dunphy, Chairwoman  
MWRA Advisory Board  
11 Beacon Street  
Boston, MA 02108

Dear Chairwoman Dunphy:

This letter transmits to the Advisory Board MWRA's Final Current Expense Budget for fiscal year 2006. The MWRA Board of Directors approved the final FY2006 Current Expense Budget (CEB) at its June 29, 2005 meeting.

The final rate revenue requirement for FY2006 is \$472.2 million, an increase of 4.2% over the final FY2005 rate revenue requirement. It includes the use of \$25.2 million from reserves to reduce the rate revenue requirement needed to be raised from member communities (\$14.4 million in Bond Redemption funds to reduce debt service costs and \$10.7 million in Rate Stabilization funds to enhance revenue). It also includes \$10 million assumed as MWRA's share of the statewide appropriation for Debt Service Assistance for FY2006.

FY2006 expenses increase by \$38.7 million over FY2005 expenses; \$26 million or 67% of the increase is attributable to debt service and \$12.7 million for direct and indirect operating expenses. Sharp increases in utility and chemical expenses, and continuing increases in short-term interest rates and health insurance, altered the assumptions underlying the Proposed FY2006 CEB and increased these expenses in the Final FY2006 CEB. Several major new facilities, including the John J. Carroll Water Treatment Plant, also require additional resources.

In May 2005, the Advisory Board provided MWRA with recommendations for spending reductions and non-rate revenue increases which were incorporated and helped to reduce the planned amount of \$15.7 million of rate stabilization funds to a lower amount of \$10.7 million in the final FY2006 CEB. MWRA recognizes that the spirit of these recommendations addresses a larger budgetary theme of developing a multi-year action plan for managing rate increases to member communities, particularly critical due to the accelerated use of MWRA reserves over the past several fiscal years. Total reserves available to mitigate future rate increases are anticipated to be fully expended by FY2008. MWRA supports and recognizes the importance of developing a multi-year strategy for rate revenue requirements, particularly as it faces a growing debt burden that is expected to rise to 65% of the budget by FY2010.

Since the Board of Directors approved the FY2006 CEB in June, the budgetary landscape has been altered by national forces, particularly in the energy arena. MWRA staff will be providing

a special budget briefing to the Board of Directors on December 14, 2005 to discuss the implications for FY2006, FY2007 and beyond.

Additional budget information and a copy of this document are available online at [www.mwra.state.ma.us](http://www.mwra.state.ma.us). Questions or comments on this document or information available on the Internet should be directed to the MWRA Budget Department.

We appreciate your patience and continued support of the MWRA's budgetary process.

Sincerely,

Frederick A. Laskey  
Executive Director

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# Executive Summary



# The Budget-in-Brief

## MWRA Mission

The Massachusetts Water Resources Authority (MWRA) is an independent authority that provides wholesale water and sewer services to its customer communities and funds its operations primarily through user assessments and charges. MWRA's mission is to provide reliable, cost-effective, high-quality water and sewer services that protect public health, promote environmental stewardship, maintain customer confidence, and support a prosperous economy. MWRA's long-term plan emphasizes improvements in service and systems and includes aggressive performance targets for operating the water and wastewater systems and maintaining new and existing facilities.

Parallel to MWRA's goal of carrying out its capital projects and operating programs is its goal of limiting rate increases to customer communities. The need to achieve and maintain a balance between these two goals continues to be the critical issue facing MWRA.

MWRA measures its performance compared to prior years and current year targets in a variety of areas. Progress in achieving performance targets is reported monthly in the Yellow Notebook and quarterly in the Orange Notebook. Quarterly reports are now available on MWRA's website.

A brief history and organizational summary of MWRA is included at the end of the Executive Summary.

## Overview

Each year MWRA prepares a budget that reflects the best available information about anticipated expenditures and revenues. MWRA transmits its budget to its Advisory Board in March. The Advisory Board has sixty days to review and comment on MWRA's budget. In June, MWRA's

Board of Directors holds hearings on the budget to review recommendations by the Advisory Board and new information available since the budget was developed. Staff incorporates the Board's decisions from the hearings and presents a final budget for approval in June.

MWRA's budget for fiscal year 2006 includes \$549.3 million in total expenses before debt service offsets of \$24.4 million, for a net expense total of \$524.9 million. The \$24.4 million in debt service offsets are projected debt service assistance of \$10.0 million and the use of \$14.4 million of bond redemption funds to defease debt due in FY06.

Total expenses include \$326.6 million or 59% for capital financing costs and \$222.8 million or 41% for operating expenses, of which \$185.7 million is for direct expenses and \$37.0 million is for indirect expenses. Total expenses increase by \$38.7 million over FY05 expenses, \$26.0 million or 67% for capital financing and \$12.7 million for operating expenses.

The \$12.7 million increase in operating expenses includes \$8.9 million for direct expenses and \$3.8 million for indirect expenses. The increase in direct expenses includes an incremental \$2.8 million for new facilities (Braintree-Weymouth IPS, Walnut Hill, and Union Park) starting up in FY05 or FY06, \$4.6 million for escalating utility prices and increased usage at existing facilities, and \$1.7 million for contractual wage increases. The increase in indirect expenses includes additional funding for the insurance reserve fund, watershed protection and MWRA's retirement fund.

The \$26.0 million increase in capital financing expenses reflects \$8.1 million to support debt service payments on \$150 million variable rate bond issue and \$90 million to be borrowed from the state revolving fund (SRF), and \$10.4 million to fund ongoing capital projects with current revenue, interest on local water pipeline assistance loans and commercial paper, and the Chelsea

lease.

The rate revenue requirement for FY06 is \$472.2 million, an increase of 4.2% over the final FY05 rate revenue requirement. The budget uses a combined \$25.2 million of reserves (\$10.7 million in rate stabilization and \$14.4 million of bond redemption). MWRA utilized a portion of the FY04 surplus to defease outstanding debt due in fiscal years 2005 and 2006. This action, approved by the Board at its June 23, 2004 meeting, reduced the FY05 and FY06 rate revenue requirements by \$17.3 and \$6.5 million respectively.

FY06 non-rate revenue totals \$52.7 million, an increase of \$13.1 million over the FY05 non-rate revenue budget. The change, as indicated above, primarily results from using \$10.7 million in rate stabilization funds. The FY06 non-rate revenue budget includes \$30.1 million for investment income, of which \$1.4 million is from swap receipts, and \$11.9 million in other user charges and other revenue, including \$500,000 from the sale of renewable energy portfolio credits.

Table I-1 shows MWRA's FY06 budget for revenue and expenses by line item and includes a comparison with FY04 and FY05 actual spending. Line item changes from FY05 to FY06 are described in the Revenue and Expense section of the Executive Summary and in more detail in the division sections of this document.

Table I-1

**FY06 Current Expense Budget  
EXPENSES and REVENUE**

TOTAL MWRA	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 Actual to FY06 Final	
				\$	%
<b>EXPENSES</b>					
WAGES AND SALARIES	\$ 78,357,086	\$ 79,327,695	\$ 81,374,007	\$ 2,046,312	2.6%
OVERTIME	3,682,536	3,730,174	3,623,241	(106,933)	-2.9%
FRINGE BENEFITS	10,855,867	12,275,777	13,681,934	1,406,157	11.5%
WORKERS' COMPENSATION	1,687,057	1,038,298	1,200,000	161,702	15.6%
CHEMICALS	6,190,167	6,579,778	7,417,960	838,182	12.7%
ENERGY AND UTILITIES	18,377,346	21,373,207	25,338,635	3,965,428	18.6%
MAINTENANCE	18,611,486	20,169,014	20,491,588	322,574	1.6%
TRAINING AND MEETINGS	197,897	237,588	253,690	16,102	6.8%
PROFESSIONAL SERVICES	6,330,626	6,211,464	7,021,597	810,133	13.0%
OTHER MATERIALS	4,871,254	4,175,229	3,781,117	(394,112)	-9.4%
OTHER SERVICES	22,347,683	21,703,262	21,557,797	(145,465)	-0.7%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$171,509,005</b>	<b>\$176,821,486</b>	<b>\$185,741,566</b>	<b>\$ 8,920,080</b>	<b>5.0%</b>
INSURANCE	\$ 4,110,306	\$ 1,071,215	\$ 2,350,000	\$ 1,278,785	119.4%
WATERSHED/PILOT	17,678,358	20,576,892	24,302,167	3,725,275	18.1%
BECo PAYMENT	4,916,143	4,826,510	4,547,350	(279,160)	-5.8%
MITIGATION	1,223,152	2,334,330	1,380,000	(954,330)	-40.9%
ADDITION TO RESERVES	-	1,000,000	866,000	(134,000)	-13.4%
RETIREMENT FUND	3,881,637	3,407,532	3,578,000	170,468	5.0%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 31,809,596</b>	<b>\$ 33,216,479</b>	<b>\$ 37,023,517</b>	<b>\$ 3,807,038</b>	<b>11.5%</b>
CAPITAL FINANCING	\$297,264,243	\$293,022,690	\$326,579,194	\$ 33,556,504	11.5%
Offsets:					
Bond Redemption	-	-	(14,430,000)	(14,430,000)	0.0%
Prior Variable Rate Savings	(5,988,996)	-	-	-	0.0%
Current Year Variable Rate Savings	(15,685,593)	(8,852,936)	-	8,852,936	-100.0%
Debt Service Assistance	(4,063,296)	(8,018,697)	(10,000,000)	(1,981,303)	24.7%
<b>TOTAL CAPITAL FINANCING</b>	<b>\$271,526,358</b>	<b>\$276,151,057</b>	<b>\$302,149,194</b>	<b>\$ 25,998,137</b>	<b>9.4%</b>
<b>TOTAL EXPENSES</b>	<b>\$474,844,959</b>	<b>\$486,189,022</b>	<b>\$524,914,277</b>	<b>\$ 38,725,255</b>	<b>8.0%</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$431,765,082	\$444,268,646	\$472,219,800	\$ 27,951,154	6.3%
OTHER USER CHARGES	7,149,756	6,600,521	6,916,528	316,007	4.8%
OTHER REVENUE	7,962,318	5,725,377	4,959,994	(765,383)	-13.4%
RATE STABILIZATION	-	-	10,739,948	10,739,948	100.0%
INVESTMENT INCOME	29,420,655	34,926,970	30,078,007	(4,848,963)	-13.9%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$476,297,811</b>	<b>\$491,521,514</b>	<b>\$524,914,277</b>	<b>\$ 33,392,763</b>	<b>6.8%</b>

## **FY06 Initiatives and Highlights**

- Year-end FY06 staffing target of 1,270 filled positions, equal to the overall Black and Veatch target for FY06. A staffing level of 1,270 in effect represents no net increase in the number of filled positions as of December 2004. New hires and backfills of vacant positions will be managed in the aggregate and addressed on a case-by-case basis by senior management at MWRA. The staffing level of 1,270 represents a decrease of more than 500 filled positions (or 28%) from peak staffing in 1997, an average annual reduction of nearly 60 positions.
- First full year of operation for major new facilities: Walnut Hill Treatment Plant, (August 2005) Braintree Weymouth Intermediate Pump Station, (December 2004) and Braintree Weymouth Inter-Island Tunnel (April 2005).
- Finalize construction and commence testing of the new Braintree Weymouth Replacement Pump Station (April 2007).
- Partial year operation of Union Park CSO facility, (April 2006) based on agreement with Boston Water and Sewer Commission (BWSC).
- Complete the relocation of the Somerville laboratory to the Chelsea facility.
- Support competitive procurement of electricity for MWRA facilities, including the Deer Island Treatment Plant and Walnut Hill Treatment Plant.
- Negotiate a new Deer Island Treatment Plant discharge permit. The current permit expires August 2005.

## SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. No funds supporting the current expense budget are subject to appropriation, except debt service assistance from the Commonwealth of Massachusetts and minor reimbursements from the Commonwealth. MWRA has only one operating fund. All operating fund expenses and revenues are allocated to water and sewer customers.

Table I-2 shows MWRA's sources and uses of funds for the FY06 budget.

Table I-2

SOURCES & USES of Funds		
\$ Millions		
<b>Sources</b>		
Other User Charges	6.9	1.3%
Other Revenue	4.7	0.9%
Investment Income	30.1	5.4%
Rate Revenue	472.2	89.5%
Rate Stabilization	10.7	2.0%
<b>TOTAL REVENUE</b>	<b>\$ 524.9</b>	<b>100.0%</b>
<b>Uses</b>		
<b>Total Expenses</b>		
<b>before Debt Service Offsets</b>	<b>\$ 549.3</b>	
Less:		
Debt Service Assistance	(10.0)	
Bond Redemption	(14.4)	
<b>Sub-Total Net Expenses</b>	<b>\$ 524.9</b>	
Capital Financing	302.2	57.6%
Direct Expenses	185.7	35.4%
Indirect Expenses	37.0	7.0%
<b>TOTAL EXPENSES</b>	<b>\$ 524.9</b>	<b>100.0%</b>

Totals may not add up due to rounding.

## REVENUE

MWRA is required by its Enabling Act to balance its budget each year by establishing user assessments for water and sewer services that provide funds sufficient to recover the cost of operations (excluding depreciation), maintenance and improvements, debt service, and reserves.

In the FY06 budget, 92% of the revenue (including rate stabilization) is derived from rate revenue. The remaining 8% of revenue comes from interest on investments, charges to other water and sewer customers, non-recurring revenue, annual charges to sewer system users with permits issued by MWRA's Toxic Reduction and Control Department, reimbursements from the Commonwealth, penalties assessed to holders of sewer use permits, and other miscellaneous sources.

### Rate Revenue

In the FY06 budget MWRA will raise \$472.2 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$472.2 million, \$315.7 million will fund the sewerage system, a decrease of 0.9% as compared to the FY05 budget; and \$156.5 million will fund the water system, an increase of 16.5% as compared to the FY05 budget. The significant increase in the water rate revenue requirement reflects increased debt service to support drinking water system improvements in treatment, transmission, and storage.

### Non-Rate Revenue

#### **Other User Charges**

Other User Charges include revenues derived from the provision of water services to communities under special agreements. The FY06 budget includes \$6.9 million for such revenues. Other User Charges includes about \$1.8 million in water revenue collected from sewer ratepayers to offset the cost of water used for operation of the DI Treatment Plant, \$3.3 million paid by the CVA communities, and a \$500,000 appropriation by the Commonwealth for the Town of Clinton for part of the cost of operating and maintaining the Clinton Wastewater Treatment Plant, \$379,000 paid by water ratepayers from water treatment plant residuals, and \$432,000 for an entrance fee from

the Town of Stoughton, which joined the waterworks system in FY04.

## **Other Revenue**

Other Revenue is budgeted at \$5.0 million. This includes permit fees, penalties, hydro-power revenues, State reimbursement, and other miscellaneous revenues.

### *Permit Fees*

The FY06 budget includes \$1.9 million in fees charged to industries that discharge toxic materials into the MWRA sewer system. These permit fees partially offset the annual costs of permitting, inspecting, and monitoring these industries.

### *Penalties*

MWRA assesses fines as necessary to enforce its sewer use regulations. MWRA encourages violators to bring sewer discharges into compliance with their permits, and considers penalties and the lengthy adjudication process that follows as a last resort. The estimated income from penalties in the budget is \$250,000, the average for the past few years.

### *Reimbursements from the Commonwealth of Massachusetts*

The budget includes \$867,000 from the Commonwealth that MWRA is entitled to receive by statute as reimbursement for the cost of chemicals used in the wastewater treatment process.

### *Miscellaneous Revenue*

The FY06 budget includes about \$1.9 million in miscellaneous revenue: \$638,000 from hydropower generation at MWRA's Cosgrove facility; \$500,000 from the sale of renewable portfolio credits from the use of digester gas to generate power on Deer Island; \$112,000 from Fore River railroad management fees; \$250,000

from the Commonwealth for Homeland Security grant funding; and \$400,000 from sale of surplus equipment and other sources.

## **Investment Income**

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY06 budget includes \$30.1 million in investment income, \$4.9 million below FY05 actuals. Changes between investment fund balances and short and long-term interest rate assumptions result in additional investment income, but are offset by the \$4.1 million reduction in swap income from MWRA's fixed to variable swap debt.

## **Non-Recurring Revenue**

Non-Recurring Revenue is one-time revenue used in a given fiscal year to reduce assessments to member communities. In any fiscal year when annual revenues exceed expenses, MWRA transfers the unexpended amount to the rate stabilization reserve. Within certain limits, MWRA may use this money to reduce the rate revenue requirement in any subsequent year. Consistent with the requirements of its Enabling Act and its general bond resolution, MWRA treats transfers from rate stabilization as revenue in that fiscal year. The FY06 budget includes a withdrawal of \$10.7 million from MWRA's rate stabilization fund.

## **EXPENSES**

MWRA's annual Current Expense Budget includes direct program expenses, indirect or non-program costs, and debt service. Direct expenses cover all costs that MWRA divisions incur, including personnel expenses, facility operating costs, and support functions. FY06 direct expenses of \$185.7 million are only slightly greater than actual spending for FY00. More importantly, during this

same period, projected spending for maintenance has increased by \$4.3 million or 27% and health insurance costs have increased by \$3.7 million or 37%. It is significant to note that reductions in wages, overtime and worker's compensation costs have more than offset continued increases in the cost of health insurance. Total combined chemical and utility expenses have increased (23%), as achieved energy efficiencies have been more than offset by new facilities on-line and higher energy prices.

<b>Comparison of FY00 to FY06</b>			
<b>Direct Expenses</b>			
<b>\$ in Millions</b>			
<b>Line Item</b>	<b>Actual FY00</b>	<b>FY06</b>	<b>Change</b>
Wages & Salaries	\$ 89.1	\$ 81.4	\$ (7.7)
Overtime	3.4	3.6	0.2
Fringe Benefits	10.0	13.7	3.7
Worker's Compensation	1.6	1.2	(0.4)
Chemicals	8.5	7.4	(1.1)
Utilities	20.6	25.3	4.7
Maintenance	16.2	20.5	4.3
Training & Meetings	0.5	0.3	(0.2)
Professional Services	5.5	7.0	1.5
Other Materials	5.3	3.8	(1.5)
Other Services	22.8	21.6	(1.2)
<b>Total Direct Expenses</b>	<b>\$ 183.3</b>	<b>\$ 185.7</b>	<b>\$ 2.4</b>

Total may not add up due to rounding.

Indirect expenses include payments to the Commonwealth for expenses of the Department of Conservation and Recreation's Water Supply Protection Division and to support watershed land purchases; additions to MWRA's retirement fund; insurance; mitigation costs; and any additions to reserves. The capital financing budget includes current debt service payments, debt service for planned borrowing, and contributions from current revenues to fund capital expenditures.

As noted earlier, 59% of the total FY06 budget is for capital financing expenses and 41% is for operating expenses. Between FY90 and FY06, the capital financing share has grown from 36% to 59% of the total budget, while the share of

### **Indirect Expenses**

Indirect expenses account for 7.0% of the budget.

operating expense has declined from 64% to 41% of the total budget (Figure I-1). Based on MWRA's most recent planning estimates, by FY10 the capital financing expenses share is expected to grow to about 65% of the total budget.

### **Capital Financing Expenses**

Capital financing expenses (before debt service offsets of \$24.3 million) increased by \$26.0 million to \$326.6 million, 11.5% more than FY05 actuals, primarily for payments on existing debt. Capital financing costs for FY06 include \$308.1 million in principal and interest payments on outstanding MWRA debt and SRF loans. An additional \$8.1 million in interest on anticipated FY06 borrowings including \$150 million in fixed rate debt and \$90 million in SRF borrowings. Also included in FY06 capital financing costs are \$3.1 million to fund capital expenditures from current revenues, \$3.2 million for the lease on the Chelsea Facility, and \$4.1 million for interest on tax-exempt commercial paper issued to support the Local Water Pipeline Assistance Program.

### **Operating and Maintenance Expenses**

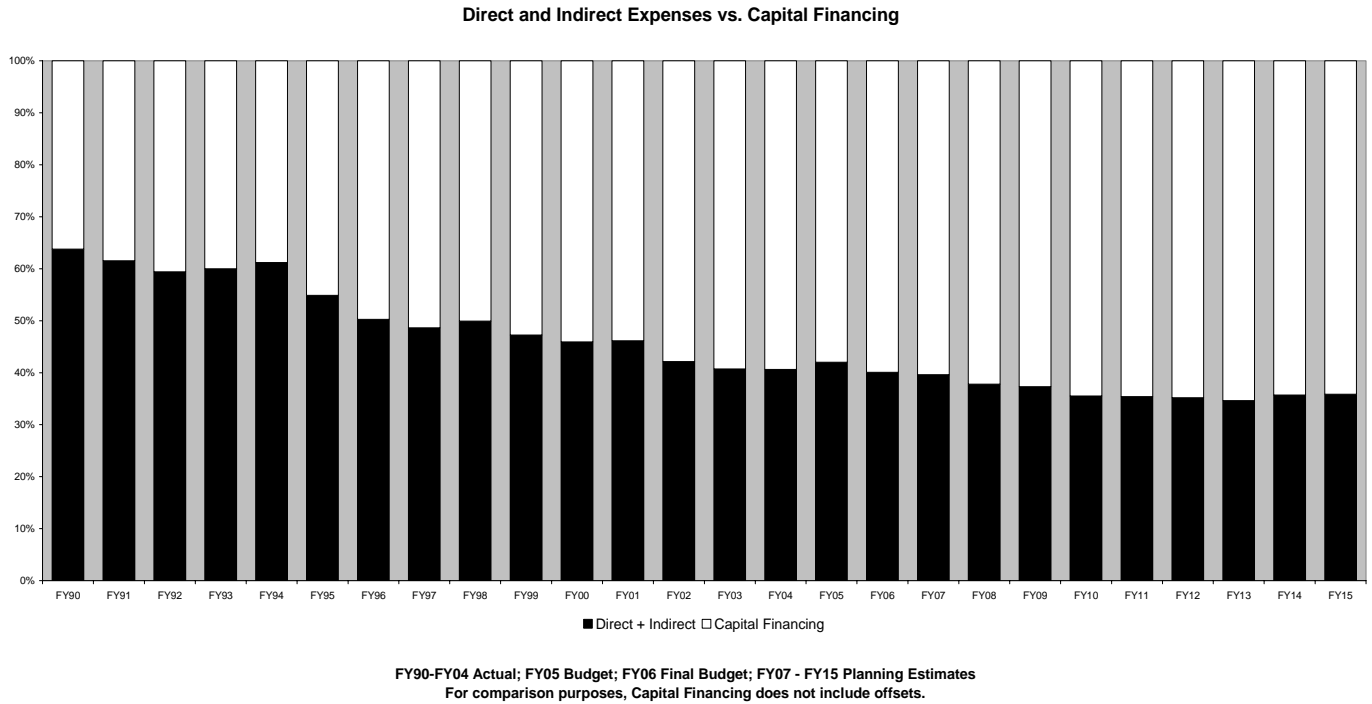
Annual operating and maintenance expenses account for 35% of the FY06 budget, increasing by \$8.9 million to \$185.7 million, 5.0% more than FY05 actuals. Of the \$8.9 million increase, \$2.8 million or 31% is related to new facilities. The balance of the increase is due to escalating utility prices and energy usage at existing facilities (\$4.6 million) and contractual wage increases (\$1.7million). These increases are partially offset by reductions in vehicle purchases and fewer funded positions. The direct expenses budget is described further in the Direct Expenses section of the Executive Summary and in the division sections.

Indirect expenses increase by \$3.8 million to \$37.0

million, 11.5% more than the FY05 actuals. The increase in indirect expenses includes \$3.7 million for watershed protection, a \$1.3 million rise in insurance reflecting an increase in reserves, and a \$170,000 increase in contribution to the retirement

fund. These increases were partially offset by \$1.0 million reduction in mitigation payments. The indirect expense budget is described further in the Indirect Expenses section of the Executive Summary.

Figure I - 1





## Direct Program Expenses

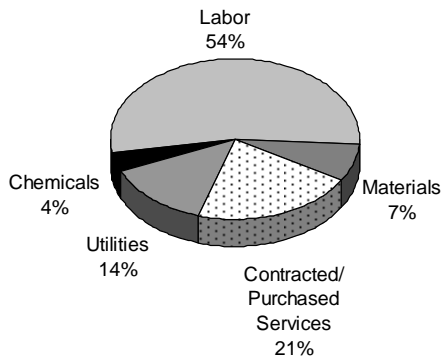
The FY06 direct program expense budget is \$185.7 million, an increase of \$8.9 million or 5.0% over FY05 actuals. The increase includes higher costs for health insurance and higher energy costs. Increases in utilities and chemicals are mostly to support startup of the Walnut Hill Water Treatment Plant and Braintree-Weymouth Intermediate Pump Station. Generally, the budget presents expenses by line item and program. The division sections of this document discuss program budget changes in greater detail.

### Line Item Budget Summary

Figure I-2 combines related direct expense line items into general cost categories and shows that labor costs (Wages and Salaries, Overtime, Fringe Benefits, Workers' Compensation and Training

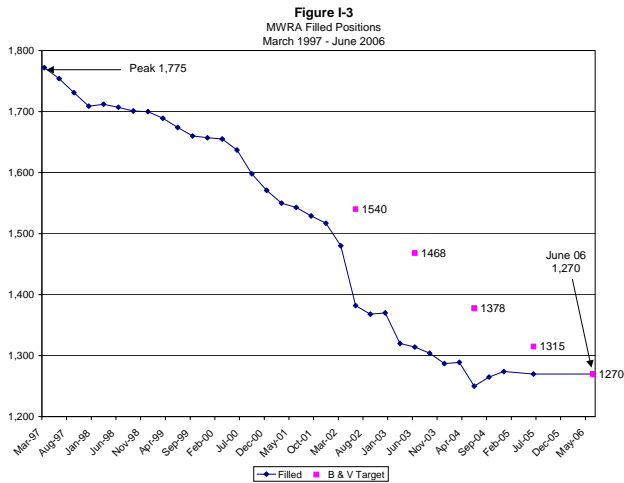
- Within the labor cost category, wages and salaries account for \$81.4 million, 2.6% higher than FY05 actuals. Of the \$81.4 million, \$80.3 million is for regular pay. MWRA estimates that the regular pay budget of \$80.3 million will support the FY06 target of 1,270 filled positions. A staffing level of 1,270 in effect represents no net increase in the number of filled positions as of December 2004, and it also represents a decrease of more than 500 filled positions (28%) from peak staffing in 1997, an average reduction of nearly 60 positions annually.

FIGURE I-2  
Direct Expenses by Category - \$185 Million



and Meetings) are the largest component of the direct expense budget (54%). The second largest cost category is contracted and purchased services (21%), followed by chemicals and utilities (18%), and materials (7%).

Figure I-3 shows how filled positions at MWRA has declined from a peak of 1,775 in March 1997 to the estimated staffing level of 1,270 for FY06. As shown in the figure below, the number of filled positions achieves the target levels recommended in the Black & Veatch study.



Contracted and purchased services, the second largest direct expense cost category, includes professional, maintenance, and other services. The FY06 budget for contracted and purchased services is \$39.1 million equaling the FY05 Budget.

Major components of this cost category include \$11.1 million for MWRA’s residuals processing contract, \$4.3 million for lease payments, \$10.6 million for maintenance services, \$3.5 million for harbor and outfall monitoring, \$1.3 million for telephone and lease line services, \$2.0 million for security, and \$1.1 million for grit and screenings removal.

The FY06 budget for utilities is \$25.3 million, \$4.0 million more than FY05 actuals. The increase is primarily for electricity and diesel fuel to support the startup of the Walnut Hill Water Treatment Plant and Braintree-Weymouth Intermediate Pump Station combined with higher overall energy prices.

The FY06 budget for chemicals is \$7.4 million, \$838,182 more than FY05 actuals. Approximately 44% of the chemical budget is for the treatment of wastewater and 56% is for water treatment. Compared to FY05 actuals, chemicals for water treatment comprise a greater percentage of the total chemical budget primarily due to the additional chemicals required to support the first full year of operation of the new Walnut Hill Treatment Plant, including liquid oxygen for the new ozone generation process and soda ash for alkalinity control. These additional chemical costs are partially offset by reductions in polymer use at Deer Island reflecting the startup of the Braintree-Weymouth tunnel, lower usage of ferrous chlorite for struvite control at Deer Island, and lower usage of sodium hypochlorite at both Deer Island and Field Operations based on current trends.

The FY06 budget for materials, which includes maintenance materials, laboratory equipment, vehicles, and computer hardware items is \$13.7 million, level funded with the FY05 Budget, but \$1.2 million less than FY05 actuals of \$14.9 million as plant material purchases exceeded budget by nearly \$1.0 million. While the overall material budget does not differ materially from FY05, noteworthy and offsetting changes in the FY06 budget include increases for materials to maintain Authority facilities and pipelines, offset by decreases for electrical materials and computer replacement.

## Functional Area Budget Summary

For a broader perspective on MWRA's direct expense budget, Figure I-4 presents direct expenses by MWRA functional area and shows that 46% of the FY06 direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution. Appendix A describes each MWRA functional area.

**FIGURE I-4**  
Direct Expenses by Functional Area - \$186 Million

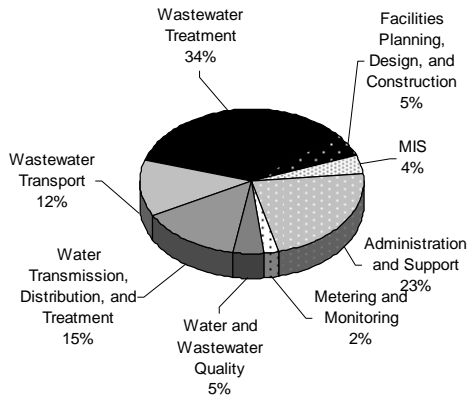
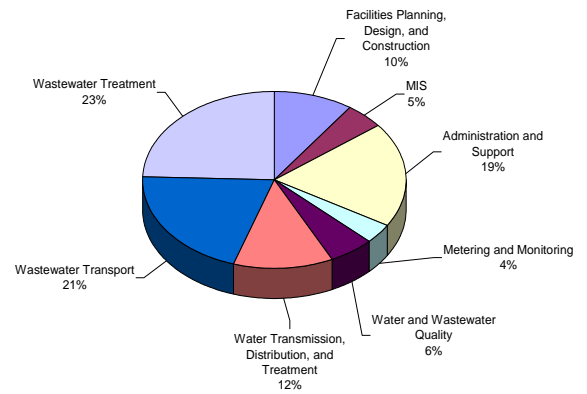


Figure I-5, Staffing by Functional Area as of June 2005 shows that of 1,274 filled positions, 56% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 24% to administration and support and MIS functions, and 10% to facilities planning, design, and construction. Water and Wastewater Quality functions, particularly Boston Harbor and Massachusetts Bay monitoring activities and industrial discharge and enforcement programs, account for 10% of all staff.

**FIGURE I-5**  
Staffing by Functional Area



## Capital Financing

The FY06 capital financing budget, before debt service offsets, is \$326.6 million or 59% of the total \$549.3 million budget. FY06 debt service offsets of \$24.4 million result in a net capital financing budget of \$524.9 million. Debt service offsets include \$10.0 million in debt service assistance and \$14.4 million in bond redemption savings. The budget assumes approximately a 4.0% interest rate for variable rate debt. If interest rates are less than budgeted in FY06, MWRA will use the savings to reduce rate revenue requirements in future years.

MWRA finances its capital improvement program primarily by issuing fixed rate 30- or 40-year revenue bonds. MWRA has also issued variable rate debt through a tax-exempt commercial paper program and a multi-modal (one, seven, and 35-day) borrowing program. MWRA's revenue bonds outstanding are projected to total \$5.4 billion as of June 30, 2005, including \$700 million in variable rate debt. MWRA also borrows from the Commonwealth's Water Pollution Abatement Trust, also known as the State Revolving Loan (SRF) Fund. The gross amount of outstanding SRF debt is projected to be \$839 million as of the end of FY05, with outstanding commercial paper projected to total approximately \$300 million.

MWRA's unenhanced senior bond ratings were upgraded by Moody's Investor Service and Fitch Ratings as part of the Authority's Series 2005A refunding transaction completed in March 2005. Moody's upgraded its rating from "Aa3" to "Aa2" and Fitch upgraded its rating from "AA-" to "AA". In other reports, both rating agencies cited positive operating results, successful completion of several major treatment and transmission facilities, and strong reserve levels as primary factors underlying the rationale for the upgrade. The agencies also commented on the strong ratings of the municipalities served by MWRA, noting that more than 65% of the assessments come from communities with "Aa" or "Aaa" ratings. Standard

and Poor's reaffirmed its rating of "AA" with a stable outlook.

The FY06 capital financing budget, before offsets, increases by \$33.6 million or 11.5% compared to FY05 actuals. The budget includes:

- \$308.1 million in principal and interest payments on outstanding MWRA debt and SRF loans.
- \$10.4 million to fund ongoing capital projects with current revenue, interest on local water pipeline assistance loans and commercial paper, and Chelsea lease payments.
- \$8.1 million in debt service to support a \$150 million variable rate issue in December 2005 and \$90 million in SRF borrowings.

The FY06 debt service budget does not include savings from future re-financing of debt because no debt refunding or restructuring is currently planned for FY06. If MWRA is able to take advantage of opportunities to refund outstanding debt during FY06, any savings will be used to reduce rate revenue requirements in future years.

Table I-3 provides detail on the FY06 capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Sixty-nine percent of the FY06 capital financing costs (before debt service offsets) are for wastewater improvements. Current and future borrowing increasingly supports improvements to the water system. Compared to last year, the share of water improvement debt has increased by 3%.

TABLE I-3 FY06 Current Expense Budget - Capital Financing Detail (as of 6/30/05)					
	Amount Outstanding (\$ millions)	Interest Rate	Total	Water	Sewer
<b>SRF <sup>1</sup></b>					
Unrefunded	\$ 32		\$ 58,692	\$ -	\$ 58,692
1999E Sewer	10	-	394,737	-	394,737
1999E Water	10	-	583,513	583,513	-
1999F	360	-	15,709,818	-	15,709,818
2000E Sewer	70	-	2,899,465	-	2,899,465
2000E Water	11	-	572,954	572,954	-
2001C Water	5	-	250,112	250,112	-
2001D Sewer	7	-	388,181	-	388,181
2001D Water	1	-	82,433	82,433	-
2002H	119	-	4,676,988	1,549,117	3,127,871
2002I	3	-	102,636	1,475	101,161
2003A	1	-	72,497	72,497	-
2003B	4	-	224,829	224,829	-
2003C	52	-	2,383,073	990,857	1,392,216
2004C	12	-	640,718	91,619	549,099
2004D	78	-	4,510,668	641,626	3,869,042
FY06 New Sewer	35	-	1,754,268	-	1,754,268
FY06 New Water	12	-	484,241	484,241	-
<b>Sub-Total</b>	<b>\$ 824</b>		<b>\$ 35,789,823</b>	<b>\$ 5,545,273</b>	<b>\$ 30,244,550</b>
<b>MWRA Senior Debt</b>					
1990A (fixed)	\$ 24	7.67%	17,203,333	3,242,828	13,960,505
1992A (fixed)	388	6.98%	27,294,925	1,364,746	25,930,179
1993C Refunding/New (fixed)	153	5.66%	17,119,808	2,139,976	14,979,832
1994A (fixed)	-	6.15%	-	-	-
1995B (fixed)	164	5.34%	12,411,079	-	12,411,079
1996A (fixed)	7	5.78%	3,619,450	-	3,619,450
1997D Refunding (fixed)	132	5.40%	7,813,919	468,835	7,345,084
1998A (fixed)	161	5.04%	11,535,800	3,845,228	7,690,572
1998B Refunding (fixed)	104	5.04%	5,331,550	213,262	5,118,288
2000A Refunding/New (fixed)	29	6.11%	3,692,918	2,462,068	1,230,850
2002B (fixed)	89	5.23%	6,429,744	5,786,770	642,974
2002J Refunding (fixed)	391	4.71%	20,848,400	2,084,840	18,763,560
2002J New (fixed)	200	4.71%	10,000,000	5,000,000	5,000,000
2003D	146	4.63%	8,680,119	5,787,035	2,893,084
2004A	120	5.00%	6,928,919	6,409,250	519,669
2004B	65	4.17%	3,262,750	407,844	2,854,906
2005A	416	4.49%	21,299,975	11,714,986	9,584,989
2005B	80	5.00%	4,014,500	2,676,467	1,338,033
FY06 New (Fall \$150 million)	150	-	5,773,959	5,773,959	-
<b>Sub-Total</b>	<b>\$ 2,173</b>		<b>\$ 193,261,148</b>	<b>\$ 59,378,095</b>	<b>\$ 133,883,053</b>
<b>MWRA Subordinate Debt</b>					
1997A (variable)	\$ 79	-	4,450,619	-	4,450,619
1997B (variable)	79	-	4,450,619	4,450,619	-
1998D Refunding (variable to fixed)	199	-	8,381,434	335,257	8,046,177
1999A (variable to fixed)	90	-	5,118,849	2,047,540	3,071,309
1999B (variable to fixed)	90	-	5,187,732	2,075,093	3,112,639
1999C (variable)	70	-	3,818,720	2,291,232	1,527,488
1999D (variable)	70	-	3,818,720	2,291,232	1,527,488
2000B Refunding (variable to fixed)	134	-	6,238,440	873,382	5,365,058
2000C Refunding (variable to fixed)	134	-	6,238,440	873,382	5,365,058
2000D (fixed to variable)	150	-	8,250,000	4,125,000	4,125,000
2001A (variable)	89	-	5,883,271	3,941,792	1,941,479
2001B (variable)	85	-	3,400,000	3,400,000	-
2002C Refunding (variable)	80	-	6,454,000	4,302,882	2,151,118
2002D-G Refunding (variable to fixed)	350	-	15,395,319	-	15,395,319
<b>Sub-Total</b>	<b>\$ 1,699</b>		<b>\$ 87,086,163</b>	<b>\$ 31,007,409</b>	<b>\$ 56,078,754</b>
<b>Total SRF &amp; MWRA Debt Service</b>	<b>\$ 4,696</b>		<b>\$ 316,137,134</b>	<b>\$ 95,930,778</b>	<b>\$ 220,206,357</b>
Water Pipeline Commercial Paper			\$ 4,125,000	\$ 4,125,000	\$ -
Current Revenue/Capital <sup>2</sup>			3,100,000	775,000	2,325,000
Capital Lease			3,217,060	1,158,142	2,058,918
<b>Sub-Total</b>			<b>\$ 10,442,060</b>	<b>\$ 6,058,142</b>	<b>\$ 4,383,918</b>
<b>Total Capital Financing (before Debt Service Offsets)</b>			<b>\$ 326,579,194</b>	<b>\$ 101,988,920</b>	<b>\$ 224,590,275</b>
Bond Redemption Savings			\$ (14,430,000)	\$ (6,262,620)	\$ (8,167,380)
Prior Year Variable Rate Savings			-	-	-
Budget Year Variable Rate Savings			-	-	-
Debt Service Assistance			(10,000,000)	(1,106,062)	(8,893,938)
<b>Total Capital Financing</b>			<b>\$ 302,149,194</b>	<b>\$ 94,620,238</b>	<b>\$ 207,528,957</b>

<sup>1</sup> SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

<sup>2</sup> Current Revenue/Capital is revenue used to fund ongoing capital projects. The amount is partly determined by MWRA's bond covenant requirements.

## **Indirect Expenses**

The FY06 budget includes \$37.0 million for indirect expenses, an increase of \$3.8 million or 11.5% over FY05 actuals. The increase includes \$3.7 million for watershed protection and a \$1.3 million rise in insurance payments. These increases were partially offset by a \$1.0 million reduction in mitigation payments.

### **Insurance**

MWRA purchases property and casualty insurance from external insurance carriers and self-insures for the first \$2.5 million of property and general liability loss per occurrence. The FY06 budget includes \$2.4 million for premiums and fees, an increase of \$100,000 based on estimates to procure an insurance renewal program similar to the existing program. New policies were procured in FY05 for coverage in FY06. The budget includes \$1.6 million for premiums and \$700,000 for the projected costs of claims made against the self-insured portion of MWRA coverage. MWRA mitigates the budgetary risk of self-insurance by maintaining an Insurance Reserve. The reserve, which was established as part of the Bond Resolution, requires that an independent insurance consultant review the funding level every three years and provide recommendations as to its adequacy. In December 2003, MWRA's consultant reviewed the level of the reserve and recommended that it be increased from \$18 million to \$21 million by FY07. In FY05, the reserve was increased by a recommended \$1 million. In FY06, the MWRA is deferring the next installment pending the triennial recommendation due in FY06.

### **Watershed Reimbursement/PILOT**

The Enabling Act directs MWRA to pay the Commonwealth of Massachusetts for several statutory obligations: payments in lieu of taxes (PILOT) for Commonwealth-owned land in the watersheds, operating expenses of the Division of

Water Supply Protection<sup>3</sup>, and debt service costs for purchases of land around the supply reservoirs to protect the watersheds. The FY06 budget includes \$6.9 million, \$12.1 million, and \$5.3 million respectively for these items. Collectively these represent a net increase of \$3.7 million over FY05 actuals. Operating expenses increase by \$2 million based on the draft MWRA/DCR FY06 work plan to support funding of additional positions and maintenance. Projected PILOT payments increase by \$1.8 million based on the anticipated results of the reevaluation of all state-owned property which occurs every five years. FY06 is a reevaluation year. These increases are offset by debt service for new land acquisition which will be funded through MWRA bond proceeds and is now reflected as part of MWRA's total capital financing budget.

### **Harbor Electric Energy Company (HEECo)**

Harbor Electric Energy Company (HEECo), a subsidiary of NStar, installed the cross harbor power cable and built the power substation to supply electric power for construction and operation of the Deer Island Treatment Plant. MWRA is repaying HEECo's capital investment on a 25-year schedule. The budget includes \$4.6 million for the estimated FY06 payment, comprising of \$4.1 million for capacity charges and \$460,000 for maintenance expenses.

### **Mitigation**

MWRA disburses mitigation funds to communities affected by MWRA projects pursuant to MWRA's Statement of Mitigation Principles and/or specific agreements with communities. MWRA mitigation may include ameliorating direct construction impacts, meeting environmental/regulatory requirements, long-term operating agreements, or community compensation for impacts over and above those addressed by other mitigation. In rare situations, where the extent and duration of the

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<sup>3</sup> Formerly the MDC Division of Watershed Management.

impact of a project on a community is such that restoring the area to its pre-project state is insufficient to relieve the stress of MWRA's presence during the project, MWRA funds or contributes to improvements to affected areas.

Mitigation expenses are funded in the capital budget and in the current expense budget. The FY06 CEB includes \$1.4 million for community compensation for impacts, including \$730,000 for the Town of Winthrop, based on a Memorandum of Agreement with the town, and \$650,000 for the City of Quincy. MWRA pays Quincy \$250,000 annually, subject to inflation, for fire protection services for the FRSA.

### **Retirement System Contribution**

The FY06 budget includes a \$3.6 million contribution to MWRA's retirement fund commensurate with the goal to maintain a fully funded retirement system for employees, including approved cost-of-living increases. The contribution is based on the most recent (December 2003) actuarial valuation report, which recommends an increase in contribution over the next three years. The report recommends an increase of \$1.1 million for FY05 and \$1.3 and \$1.5 million, respectively for FY06 and FY07, compared to the FY04 contribution. About \$1.2 million was pre-funded in FY04, lessening the contribution amounts by about \$0.4 million each year for FY05, FY06, and FY07.

## **Community Profile and Assessments**

MWRA provides wholesale water and sewer services to 60 communities. Forty-seven communities purchase water supply services, and 45 communities purchase wastewater transport and treatment services. Thirty-one communities purchase both. Approximately 2.5 million people, or 43% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the FY06 CEB, rate revenue from BWSC accounts for 32% of MWRA's total rate revenue. Table I-2, on page I-18, lists MWRA communities, the services received, and MWRA preliminary assessments for FY06.

Each year MWRA determines preliminary wholesale water and sewer assessments in February and final assessments in June before the beginning of the new fiscal year. These assessments must satisfy the statutory requirement that MWRA fully recover its budgeted water and sewer costs by apportioning net costs among its wholesale water and sewer customers.

Table I-3 presents the calculation of MWRA's FY06 rate revenue requirement. The table shows that most of MWRA's current expenses are directly attributable to either water or sewer service costs, or to investment in the water or sewer systems. Expenses that support both systems are allocated to water or sewer assessments based on generally accepted cost allocation principles. The allocation methodology used in preparing the FY06 budget was revised prior to FY02 to more accurately estimate the division of support costs between the water and sewer programs. Investment income and other revenue offset water and sewer

expenses. The resulting net cost of water and sewer services is the amount MWRA recovers through water and sewer assessments.

## **Wholesale Assessment Methodology**

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. This averaging moderates year-to-year swings in individual community assessments. Beginning in FY07, MWRA assessments will reflect flow data from the Authority's new wastewater metering system. Flow data from the new system will be available in calendar year 2005.

## **Retail Charges**

As noted above, MWRA provides water and sewer services to communities on a wholesale basis. Each community then re-sells services on a retail basis. As a result, household water and sewer charges include each household's share of the community's MWRA water and sewer assessments, plus the community's own charges for the provision of local water and sewer services.

Each community independently establishes retail rates. When establishing local rates, community officials consider issues related to the pricing of services, level of cost recovery, and the local rate structure or methodology. Several factors contribute to a broad range of local rate structures in the MWRA service area:



- Differences in the extent to which water and sewer costs are supported through property taxes and other sources of revenue.
- Differences in the means by which communities finance investments in their own water and sewer systems.
- Differences in communities' retail rate methodologies.

Some communities have flat unit rates, while others have inclining block rates. Local rates may also provide for differentials among classes of users, such as higher rates for commercial or industrial users, abatements to low-income or elderly residents, and adjusted sewer rates for customers with second meters used for lawn irrigation.

Additional information on rate structure within the member communities is available on the MWRA Advisory Board website as part of its annual rate survey.

**TABLE I-3**  
Calculation of the FY06 Rate Revenue Requirement  
(\$000)

	<b>Sewer</b>	<b>Water</b>	<b>Total</b>
Expenses:			
Operations and Maintenance Costs:			
Direct Sewer and Water Expenses	\$80,048	\$44,869	\$124,917
<b>PLUS</b>			
Other Costs:			
Allocated Direct Expenses	\$50,517	\$10,307	\$60,825
Allocated Indirect Expense	\$9,900	\$27,123	\$37,024
<b>PLUS</b>			
Capital Costs:			
Debt Service (Less: Debt Offsets)	\$203,145	\$88,562	\$291,707
Current Revenue/Capital	\$4,384	\$6,058	\$10,442
<b>LESS</b>			
Non- Rate Revenue:			
Investment Income	(\$19,275)	(\$9,444)	(\$28,719)
Fees and Other Revenue	(\$2,599)	(\$6,687)	(\$9,286)
Non-Recurring Revenue	(\$10,437)	(\$4,253)	(\$14,690)
<b>EQUALS</b>			
<b>Rate Revenue Requirement</b>	<b>\$315,684</b>	<b>\$156,536</b>	<b>\$472,220</b>

Table I-2

Massachusetts Water Resources Authority  
Attachment 1 - Final FY06 Water and Sewer Assessments

MWRA Combined Water and Sewer Customers	Final FY05 Water Assessment	Final FY06 Water Assessment	Percent Change from FY05	Final FY05 Sewer Assessment	Final FY06 Sewer Assessment	Percent Change from FY05	Final FY05 Combined Assessment	Final FY06 Combined Assessment
ARLINGTON	\$2,865,992	\$3,389,266	18.3%	\$5,958,711	\$5,863,185	-1.6%	\$8,824,703	\$9,252,451
BELMONT	1,471,679	1,697,163	15.3%	3,549,309	3,502,437	-1.3%	5,020,988	5,199,599
BOSTON	53,033,142	60,867,841	14.8%	91,215,157	90,597,554	-0.7%	144,248,299	151,465,394
BROOKLINE	3,955,382	4,557,527	15.2%	9,026,679	9,083,147	0.6%	12,982,061	13,640,674
CHELSEA	2,344,811	2,713,184	15.7%	4,512,104	4,364,162	-3.3%	6,856,915	7,077,346
EVERETT	3,246,977	3,698,994	13.9%	5,718,406	5,616,895	-1.8%	8,965,383	9,315,889
FRAMINGHAM	4,996,070	5,988,784	19.9%	8,456,656	7,969,891	-5.8%	13,452,726	13,958,675
LEXINGTON	3,335,122	3,775,505	13.2%	5,178,609	5,257,126	1.5%	8,513,731	9,032,631
MALDEN	3,949,860	4,894,929	23.9%	8,473,032	8,407,046	-0.8%	12,422,892	13,301,975
MEDFORD	3,554,923	4,267,816	20.1%	8,512,588	8,394,421	-1.4%	12,067,511	12,662,237
MELROSE	1,562,843	1,750,441	12.0%	4,222,803	4,244,637	0.5%	5,785,646	5,995,078
MILTON	1,888,731	2,010,574	6.5%	3,979,911	3,912,142	-1.7%	5,868,642	5,922,716
NEWTON	6,515,253	7,383,431	13.3%	13,938,429	13,884,034	-0.4%	20,453,682	21,267,465
NORWOOD	2,092,248	2,493,692	19.2%	4,979,751	5,011,913	0.6%	7,071,999	7,503,660
QUINCY	6,475,002	7,599,337	17.4%	13,381,839	13,214,808	-1.2%	19,856,841	20,814,145
REVERE	3,014,714	3,471,732	15.2%	6,746,229	6,801,118	0.8%	9,760,943	10,272,850
SOMERVILLE	4,260,524	4,961,259	16.4%	10,609,499	10,325,026	-2.7%	14,870,023	15,286,285
STONEHAM	1,886,423	2,397,052	27.1%	3,235,196	3,206,627	-0.9%	5,121,619	5,603,678
WALTHAM	5,178,280	5,826,373	12.5%	9,410,776	9,260,965	-1.6%	14,589,056	15,087,338
WATERTOWN	1,949,102	2,565,976	31.6%	4,315,022	4,185,181	-3.0%	6,264,124	6,751,157
WINTHROP	1,007,975	1,182,037	17.3%	2,236,657	2,231,158	-0.2%	3,244,632	3,413,195
<b>TOTAL</b>	<b>\$118,585,053</b>	<b>\$137,492,914</b>	<b>15.9%</b>	<b>\$227,657,364</b>	<b>\$225,333,471</b>	<b>-1.0%</b>	<b>\$346,242,417</b>	<b>\$362,826,386</b>

MWRA Sewer and Partial Water Customers	Final FY05 Water Assessment	Final FY06 Water Assessment	Percent Change from FY05	Final FY05 Sewer Assessment	Final FY06 Sewer Assessment	Percent Change from FY05	Final FY05 Combined Assessment	Final FY06 Combined Assessment
CANTON	\$1,491,751	1,667,312	11.8%	\$2,900,677	\$2,881,231	-0.7%	\$4,392,428	\$4,548,542
NEEDHAM	793,683	351,877	-55.7%	4,717,014	4,640,239	-1.6%	5,510,697	4,992,116
STOUGHTON	157,250	312,178	98.5%	3,323,046	3,311,405	-0.4%	3,480,296	3,623,583
WAKEFIELD	1,234,887	1,438,399	16.5%	4,237,014	4,095,541	-3.3%	5,471,901	5,533,940
WELLESLEY	248,346	382,538	54.0%	4,027,020	4,006,430	-0.5%	4,275,366	4,388,968
WINCHESTER	626,983	827,854	32.0%	3,020,059	2,973,549	-1.5%	3,647,042	3,801,403
WOBURN	1,311,029	1,767,015	34.8%	7,798,033	7,814,649	0.2%	9,109,062	9,581,664
<b>TOTAL</b>	<b>\$5,863,928</b>	<b>\$6,747,174</b>	<b>15.1%</b>	<b>\$30,022,863</b>	<b>\$29,723,044</b>	<b>-1.0%</b>	<b>\$35,886,792</b>	<b>\$36,470,217</b>

MWRA Sewer-only Customers	Final FY05 Water Assessment	Final FY06 Water Assessment	Percent Change from FY05	Final FY05 Sewer Assessment	Final FY06 Sewer Assessment	Percent Change from FY05	Final FY05 Combined Assessment	Final FY06 Combined Assessment
ASHLAND				\$1,472,805	\$1,505,621	2.2%	\$1,472,805	\$1,505,621
BEDFORD				2,406,881	2,379,363	-1.1%	2,406,881	2,379,363
BRAINTREE				5,865,755	5,890,315	0.4%	5,865,755	5,890,315
BURLINGTON				3,434,055	3,440,952	0.2%	3,434,055	3,440,952
CAMBRIDGE				16,012,292	15,774,594	-1.5%	16,012,292	15,774,594
DEDHAM				4,354,879	4,348,563	-0.1%	4,354,879	4,348,563
HINGHAM				1,142,624	1,155,018	1.1%	1,142,624	1,155,018
HOLBROOK				1,127,045	1,119,106	-0.7%	1,127,045	1,119,106
NATICK				3,877,294	3,895,604	0.5%	3,877,294	3,895,604
RANDOLPH				4,018,759	3,976,809	-1.0%	4,018,759	3,976,809
READING				3,022,219	2,980,493	-1.4%	3,022,219	2,980,493
WALPOLE				2,468,695	2,396,186	-2.9%	2,468,695	2,396,186
WESTWOOD				1,919,721	1,872,424	-2.5%	1,919,721	1,872,424
WEYMOUTH				8,047,236	8,063,924	0.2%	8,047,236	8,063,924
WILMINGTON				1,824,984	1,828,634	0.2%	1,824,984	1,828,634
<b>TOTAL</b>				<b>\$60,995,244</b>	<b>\$60,627,605</b>	<b>-0.6%</b>	<b>\$60,995,244</b>	<b>\$60,627,605</b>

MWRA Water-only Customers	Final FY05 Water Assessment	Final FY06 Water Assessment	Percent Change from FY05	Final FY05 Sewer Assessment	Final FY06 Sewer Assessment	Percent Change from FY05	Final FY05 Combined Assessment	Final FY06 Combined Assessment
LYNNFIELD	\$265,953	357,721	34.5%				\$265,953	\$357,721

## Revenue and Expenditure Trends

Because MWRA is required by its Enabling Act to balance its budget and to establish annual assessments to cover all expenses, revenue must increase in concert with the growth in expenses each year. Member community assessments are the largest source of funds; the amount required in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and previously debt service assistance from the Commonwealth (which directly reduced debt service expense).

MWRA regularly updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These planning estimates provide a context for budget discussions and a planning tool for MWRA and those affected by its rate revenue requirements and also allows MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget decisions.

The table below and Appendix E (in more detail) present future rate revenue requirements for FY07 through FY15.<sup>2</sup>

	Estimates of Future Rate Revenue Requirements								
	(\$ in Millions)								
	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
<b>Rate Revenue</b>	\$513.5	\$558.1	\$602.0	\$650.5	\$680.7	\$709.8	\$737.4	\$738.9	\$745.5
<b>Rate Revenue Increase %</b>	8.7%	8.7%	7.9%	8.1%	4.6%	4.3%	3.9%	0.2%	0.9%

Increasing debt service to finance the Capital Improvement Program is the most important factor driving estimates of future budget increases. Over the past seven years MWRA's tax-exempt commercial paper program, debt refinancings, federal grants, SRF loans, and Commonwealth debt service assistance have mitigated the impact on ratepayers of new capital spending. However, new water system improvements, for which there are fewer non-

ratepayer sources of funding, and the impact of recent financing strategies (i.e. restructuring debt to defer the repayment of principal) will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (i.e. extended maturities on future borrowings, variable rate debt, and increased use of tax-exempt commercial paper) to help cushion and smooth the growth in capital financing expenses. Despite these initiatives, the size of the capital program will unavoidably continue to drive increases in community assessments.

The second largest budget growth factor is inflation of base operating costs. The estimated \$47 million increase in direct expenses from FY06 to FY15 is primarily the result of an assumed inflation rate of 2.5% annually. In addition, over the next ten years there will be an increase in direct expenses as a result of capital improvement projects. The largest increase will be for operation of new facilities. The Walnut Hill Water Treatment Plant, scheduled to reach full operation in FY05, will have an estimated incremental cost of \$3 million in FY06. Startup and operation of the Union Park Detention and

Treatment facility, the Reserved Channel CSO facility, and associated remote odor control facilities have incremental impacts between FY06 and FY11. Improvements to increase remote monitoring and control of wastewater facilities are expected to result in decreased operating costs in FY06 and FY08. The anticipated increases and decreases in costs associated with these capital improvements are shown on Page I-29.

<sup>2</sup> See footnote on Page I-2, referring to the adjustment for CVA revenue.

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. The assumptions include:

- Direct expense inflation rate of 2.5%.
- CIP inflation rate of 2.5%.
- Capital spending based on 85% of the CIP expenditure forecast with 10% (two-thirds of the 15% reduction) added back three years later.
- Long-term fixed rate debt issues with 40-year terms and 6% interest rates.

MWRA uses the planning estimates to present a picture of what future rate increases might be and to test the impact of changes to assumptions. The planning estimates are not predictions of rate increases; rather, they provide the context and framework for the policy decisions that actually shape future rate revenue requirements and increases.

The planning estimates generally use conservative assumptions to ensure that MWRA rate increases will not be more than projected. The use of conservative assumptions also helps communities plan for future payments to MWRA. Historically, MWRA rate increases have been less than projected as MWRA and the Advisory Board focused on a particular year.

There are several areas where differences from planning estimate assumptions may alter projected increases:

- Lower than anticipated borrowing rates or higher than expected investment income rates.

- The planning estimates do not factor in any positive year-end variances.
- More opportunities for SRF borrowing than expected; a dollar borrowed through the SRF at 2% replaces the need to borrow a dollar long-term at an assumed 6%.
- Debt refinancing opportunities.
- Capital spending.
- Growth in direct expenses, greater than current assumptions of 2.5% is an area of increased concern. Many of the savings in prior years through staffing reductions, optimization of operations, and scope revisions to professional services are already reflected in the budget. More importantly, going forward the MWRA is faced with a growing need to maintain its facilities and ensure that adequate funding is available.

Managing rate increases in the coming years is likely to involve tradeoffs between smaller increases in the upcoming fiscal year and significantly larger increases in subsequent years.

## CAPITAL IMPROVEMENT PROGRAM

Each year MWRA prepares a three-year budget and a ten-year plan for capital spending. After review and comment by the Advisory Board, the Board approves the budget, which remains in effect for one year. MWRA divides the CIP into three program areas: Wastewater, Waterworks, and Business and Operations Support. Program categories are presented in greater detail within this document. MWRA's capital budget, including detailed expenditure forecasts and program descriptions, is available online at [www.mwra.com](http://www.mwra.com).

MWRA's sewage treatment system has undergone a nearly complete transformation under the federally mandated 11-year, \$3.8 billion Boston Harbor Project. The project, which was completed in 2001, included: a new sludge-to-fertilizer facility; a new Deer Island Treatment Plant with primary and secondary treatment capabilities; a new 5-mile Inter-Island Tunnel that tied together two separate sewer systems (North and South) into one; and a new 9.5-mile Effluent Outfall Tunnel to discharge treated wastewater away from shallow Boston Harbor waters and into the deeper waters and stronger currents of Massachusetts Bay. MWRA's water system has been a more recent focus of major investment. MWRA's Integrated Water Supply Improvement program is a 10-year, \$1.7 billion series of projects that consists of aggressive watershed protection, modernized treatment facilities, and distribution system improvements including construction of covered storage facilities and pipeline rehabilitation. It is approaching 98% complete.

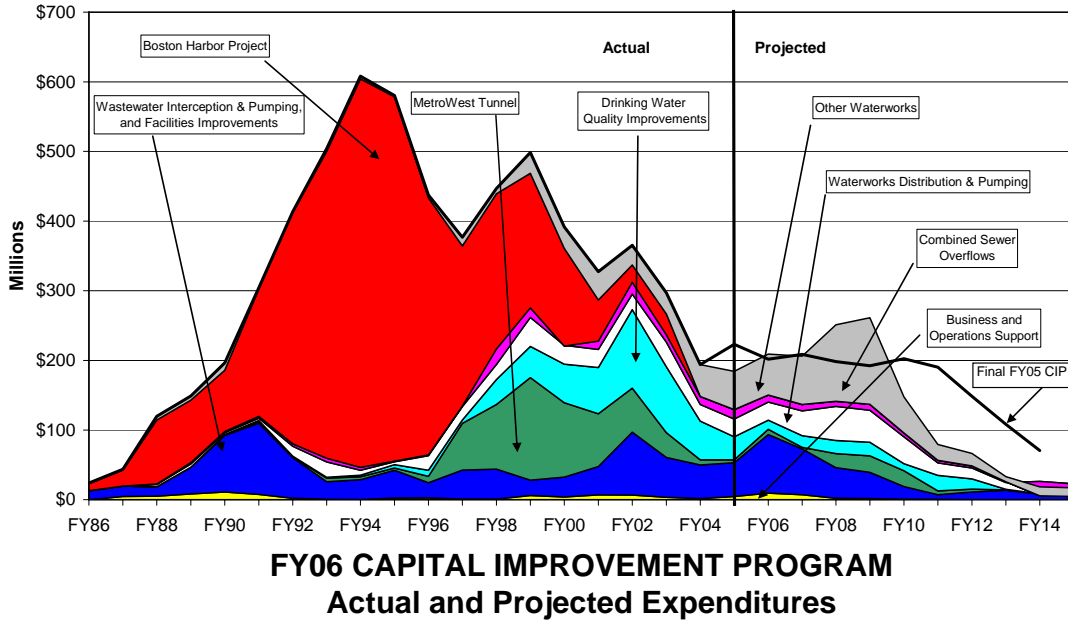
The FY06 CIP includes 90 ongoing and new projects with estimated costs of approximately \$3.6 billion in FY06 dollars, of which approximately \$2.2 billion was expended through the end of FY04. Projected future expenditures are estimated to be approximately: \$1.0 billion during Fiscal Years 2004 through 2008; \$588.0 million for Fiscal Years 2009 through 2013, and -\$28.3 million (reflects loan repayments) beyond FY 2013.

The chart below presents the CIP budget by capital program areas and program category. Individual project summaries with changes from the Final FY05 CIP are provided later and available on-line at [www.mwra.state.ma.us](http://www.mwra.state.ma.us).

The graph below highlights major capital improvement spending, both completed (actual) and remaining (projected). See Figure 1 below.

Fiscal Year 2006 CAPITAL IMPROVEMENT PROGRAM (\$ in Millions)										
	Total Contract Amount	Expenditures Thru FY03	FY04	FY05	FY06	FY07	FY08	Sub-Total 5-Year FY04-08	Sub-Total 5-Year FY09-13	Sub-Total Beyond FY13
<i>Wastewater System Improvements</i>	1,530.7	664.3	92.2	99.4	110.9	115.9	133.0	551.4	276.3	38.6
S.10 Interception & Pumping	504.2	342.5	31.9	24.0	39.4	40.7	18.3	154.2	6.3	1.2
S.25 Treatment	137.3	10.2	4.0	9.7	14.5	10.6	15.8	54.6	48.9	23.8
S.12 Residuals	64.6	56.6	8.9	-1.7	0.0	0.0	0.0	7.3	0.0	0.7
S.13 CSO	755.8	205.3	45.9	54.9	55.6	63.3	97.7	317.4	207.6	25.5
S.14 Other	68.9	49.7	1.5	12.6	1.4	1.2	1.2	17.9	13.7	-12.5
<i>Waterworks System Improvements</i>	1,867.5	1,275.6	100.1	80.4	73.2	65.3	92.0	410.9	255.3	-74.4
S.16 Drinking Water Quality Improvements	580.9	386.3	55.7	33.0	12.0	15.3	17.5	133.4	61.2	0.0
S.17 Transmission	751.9	619.4	9.2	8.3	27.4	8.6	22.8	76.3	56.1	0.1
S.18 Distribution And Pumping	504.9	198.6	23.8	25.5	23.8	32.4	44.4	149.9	116.8	39.6
S.19 Other	29.8	71.3	11.3	13.7	10.0	9.0	7.2	51.2	21.3	-114.0
<i>Business &amp; Operations Support</i>	60.7	30.6	1.8	4.5	9.5	7.4	2.2	25.3	4.8	0.0
<b>Total MWRA</b>	<b>3,458.9</b>	<b>1,970.6</b>	<b>194.0</b>	<b>184.3</b>	<b>193.5</b>	<b>188.5</b>	<b>227.2</b>	<b>987.6</b>	<b>536.5</b>	<b>-35.7</b>
<i>Contingency</i>	116.3				15.7	17.6	24.0	57.3	51.6	7.5
<b>Total MWRA w/Contingency</b>	<b>3,575.2</b>	<b>1,970.6</b>	<b>194.0</b>	<b>184.3</b>	<b>209.2</b>	<b>206.2</b>	<b>251.2</b>	<b>1,044.9</b>	<b>588.0</b>	<b>-28.3</b>

## MWRA CAPITAL PROGRAM FY86-15



### Overview

In June 2003, the Board of Directors adopted the Final FY04 CIP, set a spending limit (cap) of \$1.1 billion for fiscal years 2004-2008 and identified planned spending of \$530 million for fiscal years 2009-2013.

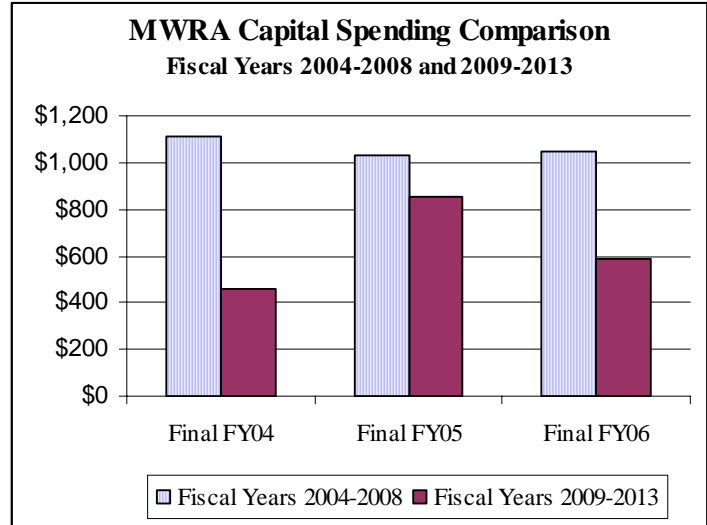
Table 1

**Comparison of Capital Spending by CAP Calculation**  
Final FY04 to Final FY06

Projected CAP Spending	FY04	FY05	FY06	FY07	FY08	Total FY04-08
Final FY04 - "Hard Cap"	250.9	203.5	215.2	250.1	214.8	1,134.5
Final FY06 CIP	193.6	179.2	202.9	203.9	257.8	1,037.3
\$ Change	-57.3	-24.3	-12.3	-46.3	43.0	-97.2
% Change	-22.8%	-11.9%	-5.7%	-18.5%	20.0%	-8.6%

The adjustments to capital projects presented in the FY06 capital budget comply with the total capital spending limit set by the Board for fiscal years 2004-2008. Annual spending within the five-year period may vary within plus or minus 20% of the initial budget amounts as long as the five-year total is not exceeded. In the event an annual cap limit is exceeded, the MWRA may request approval to exceed the limit for an individual fiscal year.

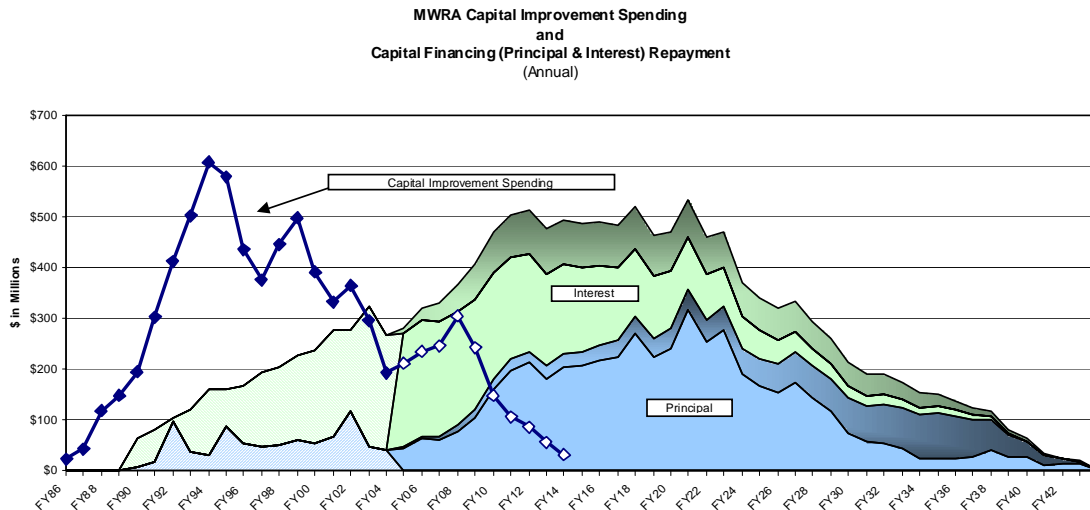
The FY06 CIP eliminates \$262 million of planned spending between fiscal years 2009-2013 and an additional \$156 million for fiscal years beyond 2013 compared to the FY05 CIP, resulting in the elimination or down-scaling of a number of projects presented in previous capital improvement programs. Final spending for fiscal years 2004-2013, through further project eliminations is only \$62 million greater than total capital spending levels identified in the FY04 CIP, the same time the cap for FY04-08 was set. As compared to the FY05 CIP, it is a significant reduction.



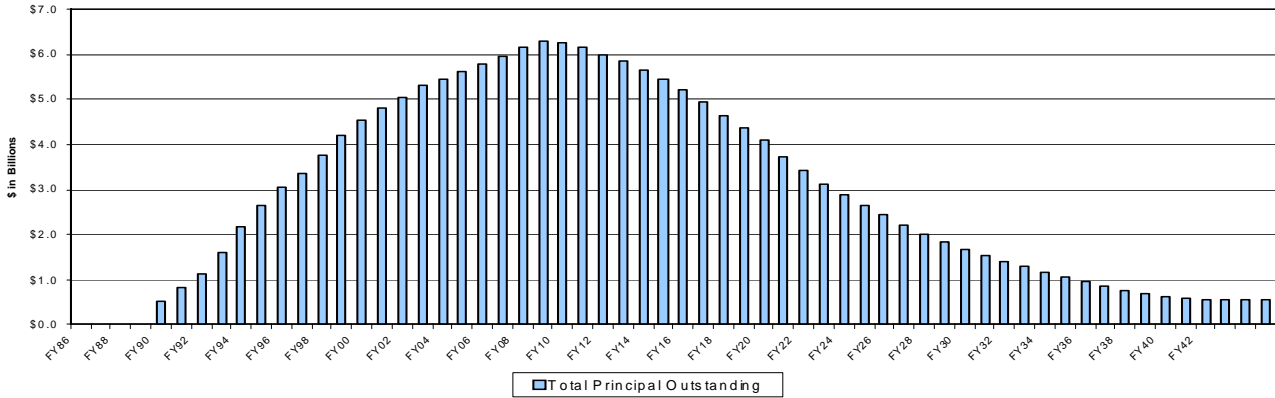
The capital budget attempts to address a necessary reality that the debt service costs associated with the capital improvement program are a significant burden to MWRA’s ratepayers and the major contributor to rate increases in future years. Budgeted debt service to support capital improvements already completed since MWRA’s inception, comprise 58% of total expenses for FY06 (see insert). This is further compounded by the significant reduction in the amount of debt service assistance received from the Commonwealth, as well as the continued uncertainty regarding the amount and actual receipt of debt service assistance.

FY06 Expenses		
<b>Total Expenses</b>		
<b>before Debt Service Offsets</b>	<b>\$ 549.3</b>	
Less:		
Debt Service Assistance	(10.0)	
Bond Redemption	(14.4)	
<b>Sub-Total Net Expenses</b>	<b>\$ 524.9</b>	
Capital Financing	302.2	57.6%
Direct Expenses	185.7	35.4%
Indirect Expenses	37.0	7.0%
<b>TOTAL EXPENSES</b>	<b>\$ 524.9</b>	<b>100.0%</b>

The change in capital spending presented in the CIP moves the MWRA toward reducing its overall debt burden. By fiscal year 2010, MWRA’s total indebtedness will begin to decline as the amount of principal being paid on outstanding debt exceeds new capital spending.



Total Capital (Principal) Indebtedness



The full impacts, risks, and potential consequences as a result of the change in capital plans presented in the CIP must continue to be evaluated and weighed against system needs. The importance of master planning efforts already underway and opportunities to restructure existing debt and balance new capital borrowing to limit increases to the ratepayers are only reinforced by the changes presented in the capital budget.



## FY06 Capital Highlights

The total spending of \$1.1 billion for fiscal years 2004-2008, and spending of \$588 million for fiscal years 2009-2013, supports the initiatives discussed below.

### Wastewater System Improvements

The Wastewater System Improvements program area consists of 42 projects in the five program categories listed below.

Fiscal Year 2006 CAPITAL IMPROVEMENT PROGRAM (\$ in Millions)										
	Total Contract Amount	Expenditures Thru FY03	FY04	FY05	FY06	FY07	FY08	Sub-Total 5-Year FY04-08	Sub-Total 5-Year FY09-13	Sub-Total Beyond FY13
<i>Wastewater System Improvements</i>	1,530.7	664.3	92.2	99.4	110.9	115.9	133.0	551.4	276.3	38.6
S.10 Interception & Pumping	504.2	342.5	31.9	24.0	39.4	40.7	18.3	154.2	6.3	1.2
S.25 Treatment	137.3	10.2	4.0	9.7	14.5	10.6	15.8	54.6	48.9	23.8
S.12 Residuals	64.6	56.6	8.9	-1.7	0.0	0.0	0.0	7.3	0.0	0.7
S.13 CSO	755.8	205.3	45.9	54.9	55.6	63.3	97.7	317.4	207.6	25.5
S.14 Other	68.9	49.7	1.5	12.6	1.4	1.2	1.2	17.9	13.7	-12.5

**Interceptor Sewers and Pumping.** The Authority is undertaking, and in some cases has completed, several major projects to rehabilitate, extend and increase the capacity of the interceptor system and its supporting facilities. These projects are necessary because the assets are either approaching or in some cases have surpassed their useful lives, or because their capacity is not adequate to serve the existing or projected service area populations. As they are completed, the new facilities alleviate sewer surcharging and overflow problems. The interceptor sewer and pumping projects total approximately \$504.2 million, of which approximately \$342.5 million was expended through FY03 and approximately \$154.2 million is expected to be expended during the 5-year period ending FY08. The most significant project is the Braintree-Weymouth Relief Facilities project, which includes a deep rock tunnel, two new pump stations, and new interceptors. As of June 30, 2005, the tunnel is 100% complete and overall the project is 90% complete. When major portions of the project are completed in FY05, the project will provide capacity for peak flows from Braintree, Hingham, Holbrook, Randolph, Weymouth, and sections of Quincy. The entire project is expected to be completed in FY07.

**Treatment and Residuals.** As the new Deer Island treatment facilities have become operational, plant staff have assumed responsibility for maintenance and ongoing capital improvements. The FY06 CIP includes \$137.3 million for these improvements, including \$52 million for equipment and system replacement and upgrades over the next ten years. These improvements are funded through the Deer Island Treatment Plant Asset Protection project. The \$52 million amount is an estimate that is refined annually, as additional operational and maintenance information becomes available. To accommodate increased sludge volumes generated by secondary treatment and to increase plant efficiency, the Authority has completed modification of four existing processing trains and added two new trains to its sludge processing facilities in Quincy. Final construction work at the processing plant was completed in December 2001.

**Combined Sewer Overflows.** Discharges of combined wastewater and storm water runoff from 63 CSO outfalls in the Authority's system and four of the service area community systems (Boston, Cambridge, Chelsea and Somerville) impact water quality in the Charles, Mystic and Neponset Rivers and in Boston

Harbor. Pursuant to a 1987 stipulation entered in the Clean Water Act Case, the Authority has responsibility for developing and implementing a long-term plan for CSO control at all locations. In the most recent assessment, the Authority completed its Final CSO Facilities Plan and Environmental Impact Report based on the CSO Conceptual Plan. The Final CSO Facilities Plan comprises 25 site-specific projects, including such measures as sewer separation, interceptor improvements, upgrades of existing CSO treatment facilities, new CSO facilities and storage. Schedule Six in the Federal Court Order (“Schedule Six”) includes more than 50 milestones directing the design and construction of the projects. The FY06 CIP includes \$755.8 million for planning, design and construction costs of these projects. Expenditures through FY03 total \$205.3 million with additional spending of \$317.4 million projected for the period FY04 through FY08.

Fourteen of the 25 mandated projects are complete, and five additional projects are well into construction. Portions of two of these additional projects, the Cambridge/Alewife Brook Sewer Separation project and the East Boston Branch Sewer Relief project, have been constructed, but the remaining portions are subject to ongoing engineering reassessments and regulatory review to determine the most appropriate approaches to complete the projects and attain CSO control goals. The plans for CSOs affecting the Charles River, Upper Mystic River, and Alewife Brook areas have received approval through variances from water quality standards, pending the outcome of ongoing additional studies to determine whether higher levels of CSO control are cost beneficial. In 2004, DEP issued the latest extensions to these variances to the fall of 2007. Additional facilities may be required to address the CSO objectives outlined by regulatory agencies for these areas.

The remaining six projects are in the design or planning stage. MWRA plans to seek additional changes to milestones in Schedule Six to account for recent revised plans for North Dorchester Bay, the Reserved Channel, Alewife Brook, and East Boston. For these areas, MWRA, in cooperation with BWSC and Cambridge, completed project reassessments in the period 2003-2004. For North Dorchester Bay, the revised plan is to construct a large storage tunnel, small dewatering facility and related stormwater control conduits. A new Reserved Channel plan calls for sewer separation. For Alewife Brook, MWRA and the City of Cambridge recommended a new plan in 2003 that expanded the sewer separation project to overcome significant stormwater system problems that compromised the original plan’s ability to meet CSO control goals.

DEP and EPA have approved most of the CSO facilities plan and have made most of the regulatory determinations necessary for the plan to comply with state water quality standards, including revising water quality standards for certain water bodies.

## Waterworks System Improvements

Capital projects for the Waterworks System are designed to upgrade and extend the useful life of the water supply, transmission and distribution systems in order to assure a satisfactory and consistent level of water quality and distribution throughout the Waterworks System. There are currently 41 projects in the four program categories several of which are mandated by federal regulatory requirements. The total estimated expenditures for the Waterworks projects for FY04 through FY08, are approximately \$410.9 million. Approximately \$255.4 million in additional expenditures is forecast through FY13, reflecting significant capital investment in the Waterworks System. The major projects in the program are summarized below.

Fiscal Year 2006 CAPITAL IMPROVEMENT PROGRAM (\$ in Millions)										
	Total Contract Amount	Expenditures Thru FY03	FY04	FY05	FY06	FY07	FY08	Sub-Total 5-Year FY04-08	Sub-Total 5-Year FY09-13	Sub-Total Beyond FY13
<i>Waterworks System Improvements</i>	1,867.5	1,275.6	100.1	80.4	73.2	65.3	92.0	410.9	255.3	-74.4
S.16 Drinking Water Quality Improvements	580.9	386.3	55.7	33.0	12.0	15.3	17.5	133.4	61.2	0.0
S.17 Transmission	751.9	619.4	9.2	8.3	27.4	8.6	22.8	76.3	56.1	0.1
S.18 Distribution And Pumping	504.9	198.6	23.8	25.5	23.8	32.4	44.4	149.9	116.8	39.6
S.19 Other	29.8	71.3	11.3	13.7	10.0	9.0	7.2	51.2	21.3	-114.0

**Drinking Water Quality Improvements.** The Authority is implementing an Integrated Water Supply Improvement Program for drinking water improvement. This program consists of aggressive watershed protection, modernized treatment facilities, and distribution system improvements including construction of covered storage facilities and pipeline rehabilitation. This program is based on current engineering practices, up-to-date technology and drinking water standards established under state and federal laws. Pursuant to an administrative consent order entered into with DEP and DCR with respect to the enforcement of the SDWA and the rules promulgated thereunder, the Authority is constructing the new Walnut Hill Water Treatment Plant. The plant will treat water delivered from the Wachusett Reservoir (including water transferred to the Wachusett Reservoir from the Quabbin Reservoir) through ozonation and chloramination. Construction of the treatment plant began in November 2000. When construction and testing are completed in 2005, the Walnut Hill Water Treatment Plant will be able to treat 405 mgd of drinking water.

Because existing uncovered distribution reservoirs are vulnerable to airborne contaminants and allow the growth of bacteria plants and algae, the Authority is eliminating the use of open distribution reservoirs by constructing covered storage facilities. These projects, which have been completed, replace active distribution storage of approximately 2.4 billion gallons of open reservoirs with more than 200 million gallons of covered storage downstream of the Walnut Hill Water Treatment Plant.

Total estimated costs for drinking water quality improvements in the FY06 CIP are approximately \$580.9, of which \$437.1 million is for water treatment, and \$143.8 million is for covered storage facilities and watershed protection. Approximately \$386.3 million was expended through FY03 for these projects, and approximately \$133.4 million is expected to be expended during FY04 through FY08.

**Transmission.** Critical needs of the Authority's aqueduct system include correction of structural conditions to reduce leakage, and provision of redundancy for critical sections of the transmission system, such as the Hultman Aqueduct and the Southborough Tunnel, where transmission has depended on a

single conduit. The estimated costs for transmission projects included in the FY06 CIP total \$751.9 million, of which approximately \$619.4 million was expended through FY03, and approximately \$76.3 million is expected to be expended during Fiscal Years 2004 through 2008.

The most significant of the Authority’s transmission projects was the construction of the MetroWest Water Supply Tunnel, a 17.6-mile long, 14-foot diameter deep rock tunnel running from Marlborough to Weston. The MetroWest Water Supply Tunnel is critical to provide an appropriate level of transmission redundancy and is a key element of the planning, design and eventual operation of the water treatment plant and covered distribution storage projects described above. Construction of the tunnel, which began in June 1996, is complete and the tunnel was placed in service in November 2003.

**Distribution and Pumping.** The FY06 CIP identifies 22 separate projects for rehabilitation, upgrade or new construction of pipelines, pumping facilities, valves and meters. These projects total approximately \$504.9 million, of which approximately \$198.6 million was expended through FY03, and approximately \$149.9 million is expected to be expended during FY04 through FY08. Over the next 30 years, approximately 200 miles of unlined pipe will be rehabilitated or replaced at a rate of approximately seven miles of pipe each year. These projects will provide improved reliability and safety of water delivery.

**Other Waterworks Projects.** These projects include expansion of the Waterworks System’s central monitoring system, various system rehabilitation projects and two local community waterworks assistance programs. The total cost of these projects as contained in the FY06 CIP is approximately \$29.8 million.

### CIP Impact on the Current Expense Budget

In addition to the annual financing costs included in the Current Expense Budget, the Capital Improvement Program affects the annual operating budget when capital facilities come on-line and require adjustments to operating budgets. In prior years, completion of the Deer Island Treatment Plant and the residuals processing facility in Quincy resulted in significant increases in operating expenses. The largest future increase results from a full operating year for the new Walnut Hill Water Treatment Plant which is expected to start up in mid FY05. Other increases result from the cost of operating CSO facilities beginning in FY06 and again in FY09 and FY11. Startup of the Braintree-Weymouth Relief Facilities results in anticipated decreases in FY09 and FY10. Projects to automate wastewater central monitoring result in anticipated decreases in FY08 and FY09.

The table below summarizes, by program area, the estimated incremental costs and savings in MWRA’s Current Expense Budget from FY07 through FY16 as a result of the capital program.

Incremental Costs and Savings from CIP Projects											
\$ in thousands											
	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Cumulative
Wastewater	619	-49	-80	-169	459	0	0	0	0	0	780
Waterworks	250	0	0	49	-49	0	0	0	49	0	299
Business Operations and Support	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL (excluding inflation)</b>	<b>869</b>	<b>-49</b>	<b>-80</b>	<b>-120</b>	<b>410</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>0</b>	<b>1,079</b>
Inflation	22	-3	-6	-12	54	0	0	0	12	0	67
<b>TOTAL (including inflation)</b>	<b>890</b>	<b>-52</b>	<b>-86</b>	<b>-132</b>	<b>463</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>61</b>	<b>0</b>	<b>1,145</b>

## **Capital Financing and Grant Revenues**

MWRA has used two primary sources of funds to finance its capital program: proceeds from borrowing and grant funds. Borrowing includes the issuance of fixed and variable rate revenue bonds; borrowing from the Commonwealth's Water Pollution Abatement Trust (also known as the State Revolving Loan Fund or SRF), and a tax-exempt commercial paper program.

In the past, federal and state grant receipts were a significant source of funds, totaling approximately \$1.1 billion through FY05. Grant receipts have diminished in recent years with MWRA receiving \$4.6 million in FY03, \$200,000 in FY04 and \$1.1 million in FY05. MWRA does not anticipate receiving grant funds in the near future because they have not been available for major drinking water and sewer construction projects.

Over the next three fiscal years MWRA expects to fund \$667 million in capital projects in the following way: \$647 million will be financed using a combination of long-term debt, SRF loans, and commercial paper, and \$20.1 million will be funded with current revenues.

## **MWRA Organization and History**

### **The MWRA Enabling Act**

MWRA was created by legislative act in 1984, and inherited the Sewerage and Waterworks Divisions of the Commonwealth of Massachusetts Metropolitan District Commission (MDC). In July 1985, MWRA assumed control of the water and sewer systems, including facilities, properties, and the right to utilize water withdrawn from system reservoirs. The Commonwealth, under the management of the MDC Watershed Management Division (now the Department of Conservation and Recreation – Division of Watershed Management), retained ownership of real property, including the reservoirs and watersheds.

In 1987, the legislature transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to MWRA. The Enabling Act also established the MWRA Advisory Board to represent the cities and towns in the service area. The Advisory Board appoints three members of the MWRA Board of Directors, approves the extension of water and sewer services to additional communities, and reviews and makes recommendations on MWRA's annual Current Expense Budget and Capital Improvement Program.

### **History and Accomplishments**

In 1985, the U.S. District Court for Massachusetts found MDC in violation of numerous aspects of the federal Clean Water Act, and the responsibility for those violations passed to MWRA as successor to MDC. The court issued a detailed compliance schedule for actions to be taken by MWRA to achieve and maintain compliance with the Clean Water Act.

MWRA achieved all of the milestones in the schedule related to the construction of treatment

facilities on Deer Island, and is working to achieve milestones with respect to implementation of its long term CSO control plan. These achievements have made noticeable, measurable improvements in the quality of Boston Harbor and its beaches.

MWRA is also working to achieve compliance with an extensive consent order issued by the Massachusetts Department of Environmental Protection (DEP) mandating the steps necessary to achieve required improvements to the MWRA water system.

Since taking over operation and maintenance of the water and sewer systems from MDC, MWRA has increased annual investment in the system infrastructure from an average of \$11 million per year to a peak average of more than \$435 million per year between (FY90 to FY04). This investment has greatly improved the operating efficiency of the existing water and sewer systems, protecting fresh water sources and improving the water quality in Boston Harbor.

### **MWRA Rates Management**

Between FY96 and FY02 MWRA limited rate revenue increases to an average of 3.6% annually as a result of debt service assistance from the Commonwealth, federal grants to support the Boston Harbor Project, lower borrowing costs, use of financing tools that delayed costs to later years, a favorable bid climate for construction projects, and aggressive efforts to control capital and operating costs. In FY03, with the elimination of debt service assistance, MWRA had a 6.9% rate increase as part of an overall strategy in response to the loss. The FY04 rate increase was 3.9% and the rate increase for FY05 was 3.9% (Subsequent to MWRA's approval of its budget for FY05, the Legislature overrode the veto for debt service assistance. MWRA's share of the statewide appropriation was \$8.0 million, which reduced the FY05 rate increase from 3.9%

to 1.9% compared to the FY04 budget.). The FY06 rate increase was 4.2%, including the assumption of the receipt of \$10 million of debt service assistance that was approved by the legislature and which the MWRA expects to receive in March 2006. In the planning estimates included with the CEB, the rate revenue requirement, assuming debt service assistance is not restored, increases by 8.7% annually for the next two years, 7.9% and 8.1% in 2009 and 2010, respectively.

With the prospect of higher rate increases in the future, MWRA must ensure that its operating and capital costs are kept to a minimum, and that every dollar adds to the value of water and sewer services. MWRA has taken several steps toward this end.

- First, MWRA works to limit increases in ongoing operating costs. The FY06 direct expense budget is only \$2.5 million more than spending in FY00. This represents annual increases of only 0.2%. When adjusted for inflation, direct expenses have declined by more than \$30 million since FY00. Costs to operate new facilities, higher utility costs and increased maintenance have been offset by reduction in the workforce and controlling and optimizing chemical use.
- Second, MWRA seeks to maximize savings in the deregulated electricity market, and now competitively procures most of its power needs.
- Third, MWRA is working to reduce labor costs wherever appropriate. Consistent with the recommendations of the Black & Veatch study, the budget assumes a staffing level of 1,270 for fiscal year 2006. This staffing level represents a decrease of more than 500 filled positions (over 28%) from peak staffing in 1997, an average annual reduction of over 50 positions.

- Fourth, MWRA uses a variety of financing tools including variable rate debt, tax-exempt commercial paper, interest rate swaps, refundings, and tender offers to take advantage of particular market conditions and appropriate maturity schedules to reduce annual debt service costs.
- Fifth, MWRA continues to aggressively seek additional SRF assistance.
- Finally, MWRA uses rate stabilization funds and bond redemption funds in the context of its longer-term rate smoothing strategy.

In addition to carefully managing operating costs, MWRA will continue to explore additional financing strategies to manage assessment increases in a fiscally responsible manner.

### **MWRA Organization**

MWRA has five divisions. Each division provides operations or support services to carry out MWRA's activities under the direction of the Executive Office. The frontispiece of this document presents MWRA's organizational structure.

The **Executive Office** provides centralized MWRA management, direction, and policy development. The budget includes funds for the Office of the Executive Director, the Board of Directors, the Advisory Board, and other advisory committees. MWRA recently consolidated its planning functions into a new Planning and Coordination Department reporting to the Executive Office.

The **Planning and Coordination Department** provides decision support on planning, policy and operations matters. It provides regulatory, public policy and public health advocacy for MWRA's drinking water and wastewater programs and administers financial assistance

programs to improve the infrastructure of member communities.

The **Operations Division** operates the water and wastewater treatment systems; the water transmission and distribution system; the wastewater collection, transport, and combined sewer overflow (CSO) systems; and the residuals processing facility. It also provides laboratory and engineering and construction services; enforces sewer use regulations and seeks to limit the discharges of toxic materials; manages environmental studies of Boston Harbor and Massachusetts Bay; and monitors water quality.

The **Finance Division** is responsible for budgeting, rate setting, accounting, grants management, risk management, and treasury activities; and securing financing to support the capital improvement program.

The **Law Division** provides legal counsel to all divisions on compliance with federal and state law, real estate matters, labor and employment law, litigation, and construction issues. Division attorneys provide or supervise through outside counsel the representation of MWRA in all litigation.

The **Support Services Division** oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action, procurement, materials warehousing, facility security, occupational health and safety, internal audit, fleet services, computer system development and management, facilities and office supplies management, library and records management, and mail and employee shuttle services. The division also manages the Fore River Staging Area (FRSA) in Quincy, the Chelsea Facility and the Charlestown headquarters.

## Statement of Financial Position

In accordance with its Enabling Act, each year MWRA submits annual reports to the Governor, the President of the State Senate, the House of Representatives, the Advisory Board, and the Chairs of the state Senate and House Committees on Ways and Means containing financial statements relating to its operations maintained in accordance with Generally Acceptable Accounting Principles (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2004 and 2003 are available online at [www.mwra.com](http://www.mwra.com).





Executive Office  
Budget

**EXECUTIVE OFFICE**

Final FY06 Current Expense Budget EXECUTIVE DIVISION by Line Item						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 430,845	\$ 443,803	\$ 401,698	\$ 447,203	\$ 45,505	11.3%
OVERTIME	-	-	15	-	(15)	-100.0%
TRAINING & MEETINGS	36	39	100	2,600	2,500	2500.0%
PROFESSIONAL SERVICES	196,597	152,867	157,106	160,741	3,635	2.3%
OTHER MATERIALS	2,031	1,818	700	1,960	1,260	180.0%
OTHER SERVICES	457,060	470,137	449,321	430,952	(18,369)	-4.1%
<b>TOTAL</b>	<b>\$ 1,086,569</b>	<b>\$ 1,068,664</b>	<b>\$ 1,008,940</b>	<b>\$ 1,043,456</b>	<b>\$ 34,516</b>	<b>3.4%</b>

Final FY06 Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 481,349	\$ 448,779	\$ 405,834	\$ 455,453	\$ 49,619	12.2%
ADVISORY BOARD / OTHER COMMITTEES	605,220	619,885	603,106	588,003	(15,103)	-2.5%
<b>TOTAL</b>	<b>\$ 1,086,569</b>	<b>\$ 1,068,664</b>	<b>\$ 1,008,940</b>	<b>\$ 1,043,456</b>	<b>\$ 34,516</b>	<b>3.4%</b>

The Executive Office provides executive management and guides the implementation of MWRA policies established by the Board of Directors. It is responsible for developing and implementing specific goals and programs to achieve MWRA's primary mission of providing reliable and efficient water and sewer services, improving water quality, and for creating a framework within which all divisions can operate effectively. The Executive Office oversees a centralized MWRA-wide security program to preserve and protect MWRA facilities and systems and MWRA employees.

The Executive Office includes the Internal Audit and Planning Departments and has direct oversight of the Public Affairs Department.

The goals of the Executive Office are to:

- Ensure delivery of reliable and cost-effective water and sewer services to customer communities.
- Ensure that water supply and wastewater collection and treatment preserve public health and protect natural resources.
- Foster regional economic development through the maintenance and upgrading of the area's water and sewer systems.

The Executive Office budget supports the Executive Director's Office (which includes the Board of Directors cost center) and the MWRA Advisory Board and Advisory Committees cost centers. The Board of Directors formulates policies to guide MWRA actions and is responsible for major policy and fiscal decision-making. The MWRA Advisory Board was established by the Enabling Act to serve as a "watchdog" for MWRA's customer communities. The Advisory Board makes recommendations to MWRA on annual expense budgets and capital improvement programs. In addition, the Advisory Board reviews and comments on MWRA reports, hold hearings on related matters, and makes recommendations to the Governor and the legislature. The other advisory committees

supported by this budget are the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee. The Executive Office budget accounts for less than 1% of the proposed FY06 direct expense budget.

***Budget Highlights***

- *\$161,000 for **Professional Services**, an increase of \$3,000 or 2% from the FY05 budget. The budget funds the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee.*
- *\$427,000 for the MWRA Advisory Board staff and operating expenses, including space rental and general administrative office materials and supplies.*

## PLANNING AND COORDINATION DEPARTMENT

Final FY06 Current Expense Budget PLANNING DIVISION by Line Item						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ -	\$ 1,202,514	\$ 1,736,206	\$ 1,721,333	\$ (14,873)	-0.9%
OVERTIME	-	180	4	-	(4)	-100.0%
TRAINING & MEETINGS	-	4,183	9,833	18,304	8,471	86.1%
PROFESSIONAL SERVICES	-	-	18,335	20,000	1,665	9.1%
OTHER MATERIALS	-	1,348	22,102	148,475	126,373	571.8%
OTHER SERVICES	-	251,692	246,248	145,236	(101,012)	-41.0%
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 1,459,917</b>	<b>\$ 2,032,728</b>	<b>\$ 2,053,348</b>	<b>\$ 20,620</b>	<b>1.0%</b>

As previously noted, MWRA recently consolidated its planning functions into a new Planning and Coordination Department that reports to the Executive Office. The Department provides regulatory, public policy and public health advocacy for MWRA’s drinking water and wastewater programs. It provides decision support on planning, policy and operations matters, using a range of technical and analytic tools. Staff administer financial assistance programs to improve the infrastructure of member communities. The Department integrates staff efforts and coordinates MWRA activities related to system and capital planning, infrastructure renewal, and watershed management (in conjunction with the Commonwealth’s Department of Conservation and Recreation, DCR); strategic business planning; agency-wide performance measurement; and industry research. The following functions comprise the Department’s primary responsibilities:

**Mapping, Modeling, and Data Analysis.** Technical staff develop and maintain the Geographic Information Systems (GIS) for the water and wastewater systems, including integration of field and engineering records into GIS for access by planning, engineering, and operations staff; provide demand analysis and forecasting of water and wastewater flows for master planning and system operations; model reservoir operations, perform drought forecasting and planning, and evaluate system expansion requests; and develop and maintain water and sewer system models in support of master planning, system operations, and optimization.

**System Planning and Renewal.** Staff with expertise in engineering and planning are responsible for water and wastewater system master planning, infrastructure needs assessment, and capital project development. This work is done in coordination with staff across MWRA. Planning and Coordination staff review and process system expansion requests, water supply agreements, and emergency connection requests. Staff also provide assistance to the Operations Division on project siting, environmental reviews, and permitting, including impacts on MWRA facilities from other agency projects, and assists in the development of strategies for long-term emergency risk reduction and preparation for MWRA facilities and systems.

**Regulatory and Policy Matters.** Staff work with various regulatory entities to promote cost-effective rule-setting that protects the environment and promotes public health in a cost-effective way. Senior staff members activity work with industry associations and other groups with interests and agendas consistent with MWRA’s to advance water and wastewater regulations that make environmental and economic sense. Senior staff conducts strategic policy research on a broad range of topics and staff conducts public health research, including outreach and water quality reporting and the annual Consumer Confidence Report (CCR). Staff also coordinate with DCR to ensure water protection.

**Community Support Program.** Staff are responsible for inflow/infiltration (I/I) and sanitary sewer overflows (SSO) policy development, implementation, and reporting, provide oversight of and reporting on MWRA leak detection regulations and demand management programs, and report on the portions of MWRA's NPDES permit related to demand management and flow limitation activities. Staff administer community assistance programs including

sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial assistance, water distribution systems Best Management Practices technical assistance, and water leak detection technical assistance.

***Budget Highlights***

- *\$1.7 million for **Wages and Salaries**, an increase of \$29,000 or 2% from the FY05 budget, primarily due to wages and salaries adjustments.*
- *\$148,000 for **Other Materials**, a decrease of \$17,000 from the FY05 budget, due to a decrease in the mailing and distribution cost of the federally mandated Consumer Confidence Report (CCR), without a lead insert.*
- *\$145,000 for **Other Services**, a decrease of \$21,000 from the FY05 budget due to the elimination of funds for the reprinting of the Five Year report and Water System map, as these are being produced in FY05. The proposed FY06 budget includes \$128,000 for the production of the CCR, for combined funding of \$234,000.*



Operations Division  
Budget

## OPERATIONS DIVISION

Final FY06 Current Expense Budget OPERATIONS DIVISION by Line Item						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 59,876,891	\$ 58,432,405	\$ 59,227,760	\$ 60,871,110	\$ 1,643,350	2.8%
OVERTIME	3,264,743	3,631,487	3,672,896	3,561,638	(111,258)	-3.0%
FRINGE BENEFITS	75,499	84,769	78,472	79,262	790	1.0%
WORKERS' COMPENSATION	3,145,492	(244)	-	-	-	-
CHEMICALS	6,674,253	6,190,167	6,579,778	7,417,960	838,182	12.7%
UTILITIES	16,071,081	17,337,465	20,397,582	24,499,466	4,101,884	20.1%
ONGOING MAINTENANCE	13,878,580	14,953,854	16,434,371	16,919,565	485,194	3.0%
TRAINING & MEETINGS	75,998	134,060	145,553	166,168	20,615	14.2%
PROFESSIONAL SERVICES	5,493,100	4,797,618	4,491,663	5,124,882	633,219	14.1%
OTHER MATERIALS	2,284,366	3,852,233	3,704,188	2,819,687	(884,501)	-23.9%
OTHER SERVICES	15,106,669	15,627,752	15,277,148	15,265,054	(12,094)	-0.1%
<b>TOTAL</b>	<b>\$ 125,946,672</b>	<b>\$ 125,041,566</b>	<b>\$ 130,009,411</b>	<b>\$ 136,724,792</b>	<b>\$ 6,715,381</b>	<b>5.2%</b>

Final FY06 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
OPERATIONS ADMINISTRATION	\$ 6,528,592	\$ 4,388,375	\$ 3,892,261	\$ 3,146,244	\$ (746,017)	-19.2%
CSO PROGRAMS/ENERGY	2,803,473	1,401,931	890,734	956,268	65,534	7.4%
WASTEWATER TREATMENT	53,838,758	55,923,448	58,795,534	60,281,040	1,485,506	2.5%
FIELD OPERATIONS	45,562,263	46,608,310	50,251,601	55,786,019	5,534,418	11.0%
LABORATORY SERVICES	4,404,807	4,724,112	4,779,422	5,164,650	385,228	8.1%
ENQUAD	5,479,579	4,740,856	4,413,216	4,600,696	187,480	4.2%
ENGINEERING & CONSTRUCTION	5,130,527	4,992,108	4,861,895	4,752,661	(109,234)	-2.2%
CAPITAL ENG & CONSTR.	2,198,673	2,262,426	2,124,750	2,037,214	(87,536)	-4.1%
<b>TOTAL</b>	<b>\$ 125,946,672</b>	<b>\$ 125,041,566</b>	<b>\$ 130,009,411</b>	<b>\$ 136,724,792</b>	<b>\$ 6,715,381</b>	<b>5.2%</b>

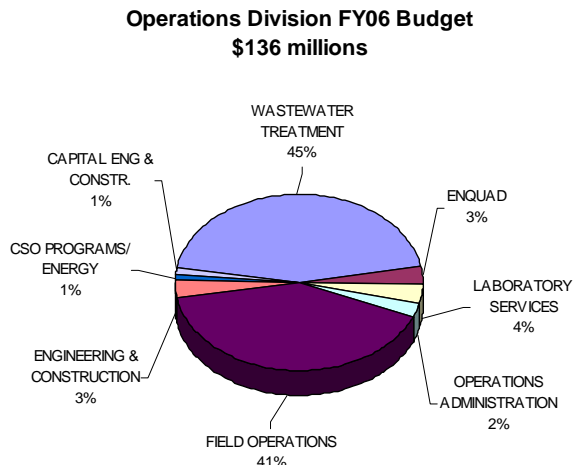
FY03-FY04 Actuals for the CSO Programs/Energy represent the former Operation Planning Department.

The Operations Division integrates wastewater and water system operations and maintenance, treatment, laboratory services, and engineering and construction functions, including oversight of the Combined Sewer Overflow (CSO) plan.

The FY06 Current Expense Budget and existing structure of the Operations Division is shown in the pie chart to the right and described below.

The **Wastewater Treatment Department**, which accounts for 44% of the Operations Division budget, operates and maintains the Deer Island and Clinton wastewater treatment plants and the Residuals Processing Facility at Fore River.

The **Field Operations Department**, which accounts for 40.8% of the Operations Division budget, is responsible for operating, maintaining, and metering the water and wastewater transport systems. The department also manages the water treatment and wastewater pretreatment functions.



Three departments in the Operations Division are responsible for the majority of the division's engineering and construction work. The **Engineering and Construction Department (E&C)** manages and coordinates the planning, design, and construction of ongoing system improvements in the wastewater transport and treatment and water distribution systems. The **Capital Engineering and Construction Department (CECD)** is responsible for managing engineering, design and construction of the Integrated Water Supply Improvement Program (IWSIP), which includes the Carroll Treatment Plant, the MetroWest Water Supply Tunnel, and seven covered storage facilities. CECD is also responsible for the planning, design, and construction of the program to rehabilitate MWRA's other water treatment, transmission and storage facilities as well as large water distribution mains. The **CSO/Energy Department** manages the CSO's, which includes long-term CSO central master planning and evaluation; CSO project permitting, community process, and engineering design; technical assistance during construction of MWRA managed CSO projects; oversight of community managed CSO design and construction activities; and start-up assistance for new CSO facilities. The department is also responsible for key Authority-wide energy initiatives including the procurement of competitive electricity supply. Operations are planning an organizational consolidation of the engineering and construction functions currently scheduled to be completed in FY06.

The **Environmental Quality Department (ENQUAD)** manages the monitoring of Boston Harbor and Massachusetts Bay water quality and oversees MWRA's compliance with its National Pollutant Discharge Elimination System (NPDES) permits.

The **Laboratory Services Department** supports various client groups in the Operations Division, in the Department of Conservation and Recreation, and in MWRA member communities, providing field sampling, laboratory testing and reporting services. Most of the testing is required to meet the strict guidelines of regulatory programs and permits including the Safe Drinking Water Act (SDWA) and MWRA's NPDES permits.

The **Operations Administration Department** provides oversight and general management support in the areas of finance, contract administration, personnel, and planning. The Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

The Operations Division's goals are to:

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment and delivery and wastewater transport and treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the SDWA, the Clean Water Act, and NPDES permits.
- Plan and implement rehabilitation of existing facilities and construction of new facilities including pipelines, pump stations, storage facilities, and treatment facilities on schedules that allow for sufficient system capacity and performance.
- Dispose of wastewater treatment by-products in a cost-effective and environmentally sound manner.



## **Major FY05 Accomplishments**

### **New Facilities Start-ups:**

- Completion of demonstration testing and vendor training of the new Carroll Treatment Plant. The plant started up on July 28, 2005.
- The completion of the Fore River Siphon which allowed the start-up of the Braintree-Weymouth Intermediate Pump Station and North Weymouth Interceptor in December 2004, and the end of barging sludge from Deer Island to Fore River in April 2005.
- Full start-up of the Norumbega Covered Storage Tank in August 2004.
- In April 2005, the MWRA Board or Directors voted to reaffirm support for the Blue Hills Covered Storage Project as currently planned and designed.
- Installation and start-up of the new Wastewater Metering System. All 217 wastewater meters have been installed and all 188 rates meters have been accepted. Staff continues to monitor performance of sites and direct maintenance by the vendor for problem sites. Staff also continued work on analyses of flow impacts to MWRA communities and began 30-day system performance test in April 2005. Field training and software training was conducted in May 2005.
- Brought in-house laboratory work for the Department of Conservation and Recreation, including operations of the Quabbin laboratory.
- Phase I design completion of the Wastewater SCADA system.

### **Engineering & Construction:**

- Rehab of Spot Pond Supply Mains South (Cambridge / Boston) in October 2004.
- Awarded 23 contracts valued at \$124 million. Major construction contracts include East/West Spot Pond Supply Mains Contract 3 (\$16.8 million), Braintree-Weymouth Replacement Pump Station (\$15.9 million), BOS019 CSO Storage Facility (\$10.5 million), Upper Neponset Valley Replacement Sewer Sections 685 and 686 (\$35.8 million) and Cummingsville Branch Sewer Replacement (\$4.2 million).
- Awarded four as-needed design contracts for total value of \$3.5 million as part of MWRA initiative to supplement existing engineering resources for specialized and/or complex engineering issues.
- Managed more than 70 Capital contracts resulting in more than \$180 million in spending through June 2005. Progress continued on key construction projects including the Carroll Treatment Plant, Braintree-Weymouth Fore River Siphons, Union Park Detention and Treatment facility, and Weston Aqueduct Supply Mains contract 4 (Allston and Western Avenue Sewer). Commenced design of the CSO Program's North Dorchester Bay and Reserved Channel project.

## **Operations:**

- Full compliance with National Pollutant Discharge Elimination System (NPDES) permit since April 2004 for both Deer Island and the Clinton treatment plants.
- Polymer system improvements at Deer Island resulted in polymer dosage reductions of 29% for the waste sludge operation.
- Complied with the lead and copper rule required by Department of Environmental Protection (DEP) and Environmental Protection Agency (EPA), which required dosage increases for soda ash (+4%), and carbon dioxide (+12%).
- Field Operations staff addressed a number of water breaks and main line repairs this year such as East Boston, Somerville, and Waltham and assisted the Town of Norwood in isolating a water main break in December 2004.
- Completed upgrades of Chelsea OCC with additional emergency capabilities to allow for a more efficient response.
- The Toxic Reduction and Control (TRAC) group continued the oversight of industries having difficulty meeting MWRA's mercury goals. During FY05 a settlement was reached with one large discharger and negotiations are continuing for three additional violators.
- TRAC has been directing efforts in the area of sulfide reduction with the Towns of Framingham and Natick.

## **Maintenance:**

YTD June 2005 the Operations Division spent \$16.4 million on maintenance of which \$8.3 million was for services and \$8.1 million for materials.

- Major projects completed YTD are: Dystor gas bag replacement in Deer Island, Ancillary Modifications - 3 (AM-3) consisting of a series of improvements to secondary clarifiers, Phase I of AM-1 gas system purge, major (5 year) maintenance of the steam turbine generators (STGs), boiler maintenance, HVAC system upgrade at Prison Point, Headworks windows, and Belleview water piping project. Rehabilitation of the grit facility was also completed, resulting in more grit removal.
- Expanded Condition Monitoring program in FY05. Staff was trained in advanced laser and precision belt alignment, infrared camera use, and vibration monitoring.

## **Energy:**

- Executed power procurement for Deer Island (six month contract starting December 1, 2004) and for FOD, Clinton and Support Services (21 month contract for smaller accounts and 33 months for larger accounts, commencing March 2005).
- During FY05 Deer Island continued to leverage its self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) price response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$1.6 million YTD June 2005.

- Deer Island was the recipient of two energy related awards: AMSA Operations Award for “Deer Island Comprehensive Energy Cost Reduction Program” and 2004 ISO New England Demand Response Achievement Award.

### **Environmental:**

- Detailed review of NPDES permit issues; applications for renewal of Deer Island Treatment Plant (including CSOs) and Clinton permits to EPA and DEP submitted.
- Submission on time of all NPDES-required deliverables (DMRs, environmental monitoring reports).
- Successful implementation of modified monitoring plan, resulting in savings of approximately \$900,000 in FY05, including the first full year of in-house laboratory testing of water quality for the Harbor and Outfall Monitoring programs (HOM) required for Deer Island’s NPDES permit.

### **Operations Division Budget Highlights:**

- The Total Operations Division FY06 Final budget is \$136.7 million, which is \$6.7 million or 5.2% higher than the FY05 actual. Of the \$6.7 million increase \$4.0 million or 60% is new facilities related specifically to: Carroll Treatment Plant (+\$4.1 million), Braintree Weymouth Intermediate Pump Station (+\$563,000), Union Park CSO (+\$337,000) and Braintree Weymouth Tunnel (-\$1 million for elimination of barging and polymer reduction).
- Other significant increases, which affected the FY06 budget, are for increased: energy pricing \$1.6 million, and contractual wage increases of \$1.8 million. These increases were offset by \$743,000 for lower diesel fuel usage (the load response program diesel usage not budgeted), and \$570,000 less for vehicle purchases.
- There are several expense categories that represent significant risk because they are budgeted at the low-end level of the estimates, or are not included at all in the FY06 budget. These are as follows: possible regulatory changes pertaining to “receiving water standards implementation” which will require increased use of chemicals, energy pricing, higher emergency-related maintenance needs, and higher overtime expenses related to wet weather events or emergencies.

### **FY06 Initiatives:**

#### **New Facilities Start-ups:**

- First full year of operation for major new facilities: Carroll Treatment Plant, (July 2005) Braintree Weymouth Intermediate Pump Station, (December 2004) and Braintree Weymouth Inter-Island Tunnel (April 2005).
- Partial year operation of Union Park CSO facility, (April 2006) based on agreement with Boston Water and Sewer Commission (BWSC). Revised date for Union Park is September 2006, but maintenance agreement will be in effect six months prior.
- Complete the relocation of the Somerville laboratory to the Chelsea facility.

## **Engineering & Construction:**

- Complete final design of the North Dorchester Bay CSO storage tunnel and commence construction by April 2006.
- Initiation of several study projects including Transmission Facility Engineering Evaluation and Cosgrove and Wachusett Aqueduct Redundancy study.
- Initiation of several design projects including Metro West Water Supply Tunnel (MWWST) CP-6, Weston Aqueduct Supply Main 3, Wachusett Reservoir Algae Treatment Facility, Repairs to Quabbin and Wachusett spillways, and Lynnfield Pipeline project.
- Initiation of several construction contracts including MWWST CP-9, Oakdale Phase I Improvement, and CVA Redundancy Pipeline project and substantial completion of Spot Pond Supply Main CP-2. Initiation of Blue Hills Covered Storage Facility Design Build contract and Field Oversight contract.

## **Operations & Maintenance:**

- Continue to manage and advance work on several critical headworks upgrade initiatives including heating system upgrades, screen replacement and facilities condition assessment.
- Commence the water pump station rehabilitation effort for: Spring Street, Brattle Court, Belmont, Hyde Park and Reservoir Road.
- Maintain compliance with the reporting requirements of MWRA's NPDES permits for the Deer Island and Clinton treatment plants.
- Commence construction of Wastewater SCADA system.
- Continuation of Ancillary Modifications Projects at Deer Island: Winthrop screening, residuals area upgrades, south system pump station electrical modifications, and improvements to the secondary treatment process area.
- Install a new soda ash system and replace the hypochlorite tank in Clinton.
- Implement and manage Carroll Treatment Plant service contracts, commence Preventive Maintenance program.
- Evaluate long-term grounds maintenance requirements and develop integrated in-house and contract approach.

## **Energy:**

- Support competitive procurement of electricity for MWRA facilities, including the Deer Island Treatment Plant and Carroll Treatment Plant.
- Implement energy information system and support energy demand-side management initiatives in key Field Operations facilities.

**Environmental:**

- Negotiate a new Deer Island Treatment Plant discharge permit. The current permit expired August 2005.
- Review and redesign harbor and outfall monitoring plan based on 5 years of post-outfall data and procure a new contract for laboratory and testing services in support of this program.
- Ensure that the permit-required outfall monitoring meets NPDES requirements, is scientifically credible, and is cost-effective.
- Implement new DEP air permit requirements for Deer Island.
- Bring in-house the Harbor and Outfall Monitoring data management.

## OPERATIONS ADMINISTRATION

Final FY06 Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 2,762,719	\$ 2,499,709	\$ 2,365,950	\$ 2,231,103	\$ (134,847)	-5.7%
OVERTIME	123	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
WORKERS' COMPENSATION	3,145,492	(244)	-	-	-	-
ONGOING MAINTENANCE	(3,452)	19,752	17,797	-	(17,797)	-100.0%
TRAINING & MEETINGS	1,736	1,803	6,708	4,000	(2,708)	-40.4%
PROFESSIONAL SERVICES	9,854	4,088	-	-	-	-
OTHER MATERIALS	125,526	1,598,907	1,253,942	676,729	(577,213)	-46.0%
OTHER SERVICES	486,594	264,360	247,864	234,412	(13,452)	-5.4%
<b>TOTAL</b>	<b>\$ 6,528,592</b>	<b>\$ 4,388,375</b>	<b>\$ 3,892,261</b>	<b>\$ 3,146,244</b>	<b>\$ (746,017)</b>	<b>-19.2%</b>

The Operations Administration Department is comprised of the Office of the Chief Operating Officer and Division level support staff. The department goal is to oversee, manage, and implement MWRA policies and procedures for the Operations Division pertaining to the following functions: labor relations, finance, contract administration and general administration.

### **Budget Highlights**

- \$2.2 million for **Wages and Salaries**, which represents 71% of the total FY06 budget. The FY06 budget includes funding for 33 positions, the same level as in FY05. The FY06 budget funds fewer than the number of filled positions to reflect an agency-wide initiative to reduce staffing through attrition. As of July '06 there are 36 positions filled in Operations Administration.
- \$4,000 for **Training & Meetings** a decrease of \$2,708 or 40% from FY05 actuals due to cost containment strategies.
- \$676,729 for **Other Materials**, a decrease of \$577,213 or 46% as compared to FY05 actuals. Other Materials represents 22% of the total budget. The majority of the expenses are for the Authority-wide vehicle replacement program (\$667,500), which is a decrease of \$569,789 or 46% from FY05 actuals due to initiatives to contain rate increases. Actual vehicle and equipment purchases for the past four years are as follows:

FY02:	\$622,000
FY03	\$120,000
FY04:	\$1,580,000
FY05:	\$1,237,289

From FY00 to FY03, MWRA limited replacement of vehicles pending completion of an extensive fleet review. In FY03 the active fleet was reduced by more than 10% (from 561 to 496 vehicles) as a result of this program. Staff identified opportunities to meet the needs of the new waterworks system facilities through redeployment of existing vehicles, rather than adding to the fleet. The \$1.6 million actual spending for FY04 includes accelerated purchase of 26 vehicles initially planned for FY05 at an estimated cost of \$560,000.

- \$234,412 for **Other Services**, which is 7% of the total FY06 Administration budget. This includes \$233,312 for Authority-wide memberships; which is a decrease of \$13,452 or 5% from FY05 actuals due to initiatives to contain rate increases.

## CSO PROGRAMS/ENERGY

Final FY06 Current Expense Budget CSO PROGRAMS/ENERGY						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 2,266,275	\$ 1,330,025	\$ 866,181	\$ 912,131	\$ 45,950	5.3%
OVERTIME	1,905	988	513	900	387	75.4%
FRINGE BENEFITS	72	57	-	45	45	-
UTILITIES	41	-	-	-	-	-
ONGOING MAINTENANCE	74,587	-	-	-	-	-
TRAINING & MEETINGS	3,675	8,138	2,193	5,480	3,287	149.9%
PROFESSIONAL SERVICES	30,849	17,916	16,089	30,000	13,911	86.5%
OTHER MATERIALS	33,112	26,134	1,874	2,672	798	42.6%
OTHER SERVICES	392,957	18,673	3,884	5,040	1,156	29.8%
<b>TOTAL</b>	<b>\$ 2,803,473</b>	<b>\$ 1,401,931</b>	<b>\$ 890,734</b>	<b>\$ 956,268</b>	<b>\$ 65,534</b>	<b>7.4%</b>

Budget and actuals for FY03-FY04 represent the former Operations Planning Department.

The CSO Program/Energy Department, which was formed in FY2004 as a result of Board of Directors approved organizational changes to MWRA's planning functions, comprises the following programs:

**Combined Sewer Overflows Program** is responsible for the \$747 million CSO control plan. Responsibilities include long-term CSO control master planning and evaluation; CSO project permitting; engineering design; technical assistance during construction of MWRA managed CSO projects; oversight of community managed CSO design and construction activities; and start-up assistance for new CSO facilities.

**Energy Program** is responsible for development, implementation and oversight of MWRA's comprehensive energy strategy including electricity supply procurements, demand side management initiatives, and other programs.

### **Budget Highlights**

- \$912,131 for **Wages and Salaries**, which represents 95% of the total FY06 budget. The \$45,950 increase from FY05 actuals is for estimated wage increases. The funding is for 12 positions for both years.
- \$30,000 or 3% of the total FY06 budget for **Professional Services** is for an energy consultant to support the resolution of Authority-wide energy issues, including major energy purchases.

## WASTEWATER TREATMENT

Final FY06 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 15,381,303	\$ 14,923,865	\$ 15,235,246	\$ 15,421,880	\$ 186,634	1.2%
OVERTIME	925,479	1,138,132	1,049,301	1,044,528	(4,773)	-0.5%
FRINGE BENEFITS	21,098	27,844	22,279	20,093	(2,186)	-9.8%
CHEMICALS	3,378,941	2,728,690	2,697,738	2,723,464	25,726	1.0%
UTILITIES	10,932,336	11,979,324	14,165,306	15,242,651	1,077,345	7.6%
ONGOING MAINTENANCE	9,343,432	9,601,769	10,284,866	10,618,412	333,546	3.2%
TRAINING & MEETINGS	37,067	38,346	66,280	52,100	(14,180)	-21.4%
PROFESSIONAL SERVICES	850,257	1,001,608	1,001,047	1,105,188	104,141	10.4%
OTHER MATERIALS	493,081	398,500	470,153	322,755	(147,398)	-31.4%
OTHER SERVICES	12,475,764	14,085,370	13,803,317	13,729,969	(73,348)	-0.5%
<b>TOTAL</b>	<b>\$ 53,838,758</b>	<b>\$ 55,923,448</b>	<b>\$ 58,795,534</b>	<b>\$ 60,281,040</b>	<b>\$ 1,485,506</b>	<b>2.5%</b>

Final FY06 Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
DEER ISLAND	\$ 39,559,412	\$ 40,325,656	\$ 43,523,952	\$ 45,117,162	\$ 1,593,210	3.7%
RESIDUALS	13,360,145	14,602,892	14,282,939	14,055,589	(227,350)	-1.6%
CLINTON	919,201	994,900	988,643	1,108,289	119,646	12.1%
<b>TOTAL</b>	<b>\$ 53,838,758</b>	<b>\$ 55,923,448</b>	<b>\$ 58,795,534</b>	<b>\$ 60,281,040</b>	<b>\$ 1,485,506</b>	<b>2.5%</b>

The Deer Island Treatment Plant, the Residuals Management Program, and the Clinton Treatment Plant comprise the Wastewater Treatment Department. Together, the budgets for these programs represent 44% of the Operations Division's FY06 Final budget and 32% of MWRA's Final FY06 direct expense budget.

The **Deer Island Treatment Plant** budget accounts for 33% of the Operations Division's FY06 Final budget. DITP has a primary treatment peak capacity of 1.27 billion gallons per day (bgd) and secondary treatment peak capacity of 540 million gallons per day (mgd).

Incoming wastewater from MWRA customer communities is piped to several headworks facilities where bricks, logs, and other large objects are screened out before the influent is transmitted to Deer Island through underground tunnels. At Deer Island, wastewater from the north system is pumped through chambers that remove grit and detritus for disposal in an off-island landfill. South system flows undergo preliminary treatment at the Nut Island headworks and are then pumped directly into the primary treatment facility, bypassing the grit removal chambers. The primary treatment facility consists of stacked clarifiers where scum rises to the top and the sludge settles to the bottom. Secondary reactors and clarifiers remove organic matter through biological and gravity treatment. Primary and secondary sludge and scum are thickened, anaerobically digested, and further thickened to reduce the volume of sludge before it was barged (through March 2004) and pumped through the Braintree Weymouth tunnel (starting April 2005) to MWRA's Residuals Processing Facility at Fore River. Methane, a byproduct of anaerobic digestion, is used to fuel the plant's boilers, which produce steam to provide heat and generate electricity.

In FY05, major operational changes occurred regarding sludge processing at Deer Island, transportation of sludge to Fore River, and sludge processing at the Residuals Processing Facility by a third party contractor, the New England Fertilizer Company (NEFCo). The new Braintree Weymouth cross-harbor tunnel came on-line in April 2005. The previous practice of thickening and barging sludge from Deer Island to Fore River ceased. Deer Island began pumping a much lower concentration of sludge (about 2.3% average total suspended solids) from Deer Island to the Residuals Processing Facility.



## Deer Island Operating Assumptions for Fiscal Year 2006

The budget, which is based on a 5-year running average, assumes secondary treatment of 357 million gallons per day of combined flows for the north and south systems. Deer Island's treatment capacity is 540 million gallons per day.

Sludge quantities for FY06 are assumed to average 94.7 tons per day of total suspended solids (TSS). The assumed average solids content for digested sludge is 2% - 3% after the Braintree Weymouth tunnel is on line.

### **Budget Highlights**

- *\$14.9 million for **Wages and Salaries** represents 33% of the Deer Island FY06 budget, of which \$14.7 million is for regular pay to fund 245 positions. The FY06 budget does not include any funds for temporary employees and interns.*
- *\$999,503 for **Overtime** represents 2% of the FY06 budget, and is a \$7,500 or 0.8% increase from the FY05 actual mostly for contractual increases and Maintenance & Operations Specialist training.*
- *\$2.6 million or 67% of the FY06 budget is for **Chemicals**, including \$1.4 million for sodium hypochlorite for disinfection and odor control, \$360,000 for polymer for sludge thickening, \$238,000 for activated carbon for odor control, \$107,000 for ferrous chloride for struvite control, \$120,000 for sodium hydroxide for odor and oxidation prevention, and \$199,000 for hydrogen peroxide used for corrosion control.*

*The FY06 budget for chemicals is \$3,900 or 0.2% more than the FY05 actual. The change is the net of a \$104,000 decrease in polymer usage due to the start-up of the Braintree Weymouth tunnel offset in part by a \$43,000 increase in sodium hydroxide for odor control and a \$46,000 increase in ferrous chloride for struvite prevention.*

- *\$15.0 million or 33% of the FY06 budget is for **Utilities**, including \$12.5 million for electricity, \$1.3 million for water and \$1.2 million for diesel fuel. The FY06 budget for utilities is \$1,092,000 more than the FY05 actual primarily due to price increases for electricity of \$1,981,000, offset in part by decreases in diesel fuel of \$744,000 primarily due to lower quantity and a decrease in water of \$132,000. The increase for electricity is the result of higher energy prices, WR transition charges and increased secondary operation usage. Similar to FY05, Deer Island did not budget for participation in the load response program (self-generation when economical), which resulted in lower diesel cost.*
- *\$9.4 million or 21% of the FY06 budget is for **Maintenance**. The \$269,000 or 3% increase is mostly for corrective and preventive maintenance materials, based on FY04 actual spending. The budget includes \$776,000 for facilities painting, \$2.6 million in various service contracts, and \$2.5 million for preventive and corrective maintenance materials. Staff anticipates that maintenance expenses will increase in the future due to the age of the plant and more need for on-going maintenance.*
- *\$50,000 for **Training and Meetings** represents a \$14,000 or a 22% decrease from the FY05 actual.*
- *\$1.1 million for **Professional Services** represents a \$104,000 or 10% increase from the FY05 actual. The FY06 budget includes \$1.045 million for the perimeter and access security contract at Deer Island, \$25,000 for engineering support, and \$34,000 for lab and testing analysis.*
- *\$296,000 for **Other Materials** represents a \$140,000 or a 32% decrease from the FY05 actual. The majority of the \$140,000 decrease is in health and safety materials for \$62,000 and work clothes for \$43,000. The FY06*

*budget includes \$89,000 for work clothes, \$58,000 for health and safety, \$55,000 for vehicles expense, \$32,000 for office supplies, \$28,000 for lab and testing and \$34,000 for all other materials.*

- *\$723,000 for **Other Services**, a \$142,000 or 24% increase from the FY05 actual. The FY06 budget includes \$320,000 for Health and Safety for the ambulance services contract and hazardous materials disposal service, \$53,000 for Telephone expenses, \$118,000 for Permit Fees and \$198,000 for other services such as security cameras, door alarms, copier rentals, spill containment, and maintaining the radio network. The increase from the FY05 actual is mainly due to an increase of \$60,000 for security cameras and \$60,000 for door alarms.*

The **Residuals Management Program** manages the processing and disposal of sludge from the anaerobic digestion process at Deer Island, as well as the disposal of grit and screenings. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

MWRA has a three-pronged approach to the processing and disposal of waste material:

- Grit and screenings from MWRA's transport system are disposed of in landfills.
- Liquid sludge from Deer Island which is pumped through the new Braintree Weymouth cross-harbor tunnel to the Fore River processing facility where it is dewatered, dried, and shipped by rail either for use as fertilizer or to appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable. MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the processing facility and market and ship sludge products. A 15-year contract with NEFCo became effective March 1, 2001.
- Landfill capacity is reserved as a backup to the beneficial use efforts (per agreement with the Federal Court, EPA, and DEP) for disposal of all sludge produced.

### ***Budget Highlights***

- *\$94,919 for **Wages and Salaries**, which represents 1% of the total FY06 budget.*
- *\$969,000 or 7% of the total FY06 budget is for **Maintenance**, in accordance with the NEFCo contract, which is a fixed level per year subject to inflationary adjustments. FY06 costs are \$15,682 lower than FY05 actuals. The maintenance budget includes \$112,998 for inflation, and \$667,000 for cooling tower.*
- *\$11.0 million or 79% of the total FY06 budget is for **Sludge Pelletization**. The \$100,000 decrease from FY05 actuals reflects a reduction of \$774,000 for the elimination of barging expenses due to the Braintree-Weymouth tunnel start-up, a decrease of \$20,000 for FY05 cost associated with MWRA's request to send plant wastewater to Quincy sewer during the Braintree-Weymouth start-up in FY05, an \$8,000 reduction in fixed quantities, and a \$4,000 decrease for miscellaneous FY05 expenses. These decreases are offset by \$419,000 increase for inflation, mostly for gas and electric, \$157,000 for excess quantities (above the contractual 90 tons per day based on fixed pricing), which is based on 4.7 tons per day (TSS) vs 4.0 tons per day (TSS) FY05 actuals, and \$130,000 for an FY05 excess quantity adjustment.*
- *\$1,068,968 or 8% of the total FY06 budget is for **Grit and Screening** disposal, a decrease of (\$117,493) or 10% from FY05 actuals. \$109,553 of the decrease is attributable to lower pricing, due to the new contract that began in May 2005. The current contract expires in May 2007.*
- *Other Services includes \$817,000 or 6% for the East Carbon Development Corporation contract for reserved landfill space in Utah, and \$20,000 contingency for technical support and consulting services regarding the operating permit renewal, which expires in September 2005.*

The **Clinton Wastewater Treatment Plant** provides sewage treatment services to the Town of Clinton and the Lancaster Sewer District. The plant provides secondary treatment using an activated sludge process in combination with advanced nutrient removal and dechlorination. The major facilities include a headworks, primary settling tanks, digesters, sludge processing, trickling filters, aeration tanks, secondary tanks, and a chemical addition building. The plant treats an average of 2.5 mgd. Residual materials are pressed and transported to an MWRA owned landfill for disposal. Staff also performs regular monitoring of the landfill site.

### ***Budget Highlights***

- *\$465,000 or 42% of the FY06 budget is for **Wages and Salaries** to fund seven positions, the same number of positions as in FY05. The \$53,000 increase from FY05 actual is the result of one employee being on leave of absence (LOA) for part of the year in FY05 and the contractual increases.*
- *\$45,000 for **Overtime**, a \$12,000 or 21% reduction compared to the FY05 actual. This is part due to one employee being on LOA during part of FY05.*
- *\$216,000 for **Utilities**, which represents 19% of the total FY06 budget, and is \$15,000 or 6.5% less than the FY05 actual. This reduction reflects the potential electricity energy savings with the new contract with Constellation Energy.*
- *\$129,000 or 12% of the FY06 budget is for **Chemicals**, an increase of \$22,000 from the FY05 actual.*
- *\$207,000 or 19% of the FY06 budget is for **Maintenance**, a 63% increase from the FY05 actual. The FY06 budget includes \$85,000 for replacement of the hypochlorite tank. The plant will be 14 years old in FY06; staff anticipates increased maintenance needs in the future.*
- *\$26,000 for **Other Materials**, including \$16,000 for clean fill for the landfill operation.*

## FIELD OPERATIONS

Final FY06 Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 28,123,992	\$ 28,261,648	\$ 29,575,047	\$ 31,126,769	\$ 1,551,722	5.2%
OVERTIME	2,216,695	2,372,201	2,479,307	2,383,564	(95,743)	-3.9%
FRINGE BENEFITS	52,218	54,749	54,325	56,675	2,350	4.3%
CHEMICALS	3,295,313	3,461,477	3,882,039	4,694,495	812,456	20.9%
UTILITIES	5,003,268	5,233,183	6,121,114	9,123,746	3,002,632	49.1%
ONGOING MAINTENANCE	4,130,814	4,931,775	5,714,598	5,666,215	(48,383)	-0.8%
TRAINING & MEETINGS	19,969	75,224	54,659	82,213	27,554	50.4%
PROFESSIONAL SERVICES	193,968	102,704	213,164	559,835	346,671	162.6%
OTHER MATERIALS	935,430	981,075	1,049,257	948,113	(101,144)	-9.6%
OTHER SERVICES	1,590,596	1,134,274	1,108,090	1,144,394	36,304	3.3%
<b>TOTAL</b>	<b>\$ 45,562,263</b>	<b>\$ 46,608,310</b>	<b>\$ 50,251,601</b>	<b>\$ 55,786,019</b>	<b>\$ 5,534,418</b>	<b>11.0%</b>

Final FY06 Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WASTEWATER OPERATIONS	\$ 12,796,990	\$ 12,126,032	\$ 13,213,000	\$ 13,786,546	\$ 573,546	4.3%
WATER OPERATIONS & MAINT	11,729,277	12,981,667	14,183,116	18,529,362	4,346,246	30.6%
METRO MAINTENANCE	13,802,342	14,138,631	15,309,686	14,865,523	(444,163)	-2.9%
OPERATIONS SUPPORT	6,155,807	6,055,558	6,414,840	6,744,355	329,515	5.1%
FOD ADMIN	1,077,847	1,306,422	1,130,959	1,860,233	729,274	64.5%
<b>TOTAL</b>	<b>\$ 45,562,263</b>	<b>\$ 46,608,310</b>	<b>\$ 50,251,601</b>	<b>\$ 55,786,019</b>	<b>\$ 5,534,418</b>	<b>11.0%</b>

The primary goal of the Field Operations Department (FOD) is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. Field Operations includes wastewater transport operations and maintenance, waterworks operations and maintenance, and Toxic Reduction and Control (TRAC). The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection and transport of wastewater flow from MWRA communities to the Deer Island Treatment Plant. Through TRAC, FOD manages MWRA's industrial pretreatment, permitting, and monitoring program. FOD consists of five operating units: Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

**Wastewater Operations** is comprised of Wastewater Operations and TRAC. Wastewater Operations operates MWRA's wastewater transport facilities, including 12 pumping stations (eleven of which are unstaffed); four headworks facilities (all of which are continuously staffed); and five CSO facilities (all of which are unstaffed). This unit commenced operating the Braintree Weymouth Intermediate Pump Station in November 2004. During the construction of the new Braintree Weymouth Replacement Pump Station scheduled to come on line in the spring of FY07, by-pass pumping will be done by a contractor.

**Water Operations and Maintenance** is responsible for the treatment and delivery of water from the Quabbin and Wachusett reservoirs to the community water systems. The water system encompasses a service area from Chicopee in the western part of the state to Wakefield, Marblehead, and Norwood in the metropolitan area. Additionally, this unit maintains MWRA's western waterworks facilities, including the Ware Water Treatment Plant, the Interim Corrosion Control Facility in Marlborough, the Cosgrove Intake Facility, and the Norumbega Reservoir. This unit also oversees covered storage facilities, operates the MetroWest Tunnel, and will operate the Carroll Treatment Plant scheduled to be on line in July 2005. There are two operations centers that provide for monitoring and control of the water system on a 24-hour per day basis. The Metropolitan Operations and Control Center (OCC), formerly in Chestnut Hill, is now located at MWRA's Chelsea facility. The Western Operations

Center (WOC) is located at the Cosgrove Intake adjacent to the Wachusett Reservoir. The WOC moved to the Carroll Water Treatment Plant in July 2005.

**Metropolitan Maintenance** is responsible for maintenance of MWRA's wastewater and water systems and facilities within the Route 128 area. Staff maintains pipelines, valves, interceptors, pumps, facility equipment, buildings, and grounds. Metropolitan Maintenance staff maintains a waterworks network of 275 miles of water mains, 3,500 valves, 18 miles of deep rock tunnels, ten pump stations, eight tunnel shafts, ten distribution storage tanks and reservoirs, and 240 miles of wastewater interceptors and appurtenances. In addition, this unit performs TV inspections of the wastewater interceptor system.

**Operations Support** provides technical support to FOD in the areas of engineering, quality assurance, data management, metering, and monitoring. Engineering staff coordinates all engineering issues related to the operation of the water and wastewater systems. The Quality Assurance Unit monitors water treatment effectiveness, identifies treatment issues, and develops recommendations for water treatment improvements. Data management activities include performance reporting on water quality, development and maintenance of water quality treatment and optimization models, and tracking and analyzing chemical and hydraulic flow data. The Metering and Monitoring unit maintains 150 community water meters, 16 contract community water meters, 14 master water meters, and 212 wastewater meters. This unit collects meter data for operational and revenue generating purposes from the water and wastewater systems. It is also responsible for the maintenance of the water and future wastewater SCADA systems.

**FOD Administration** provides financial, administrative, planning, and policy oversight functions for the entire Field Operations Department.

### ***Budget Highlights***

- *\$31.1 million or 56% of the total FY06 budget for **Wages and Salaries** of which \$30.8 million or 99% is for regular pay, to fund approximately 521 positions, which is one less position than FY05 year-end filled positions of 520. The budget also includes \$283,000 for stand-by pay to support operational and maintenance needs and \$10,000 for interns for QA support in Waterworks. The Wages and Salary line item has been increased by \$1.5 million compared with the FY05 budget due to wage increases.*
- *\$2.4 million for **Overtime**, including \$1,061,000 for operational coverage needs, \$759,000 for emergency related overtime of which \$200,000 in contingency funding, \$389,000 for planned overtime for scheduled maintenance and \$31,000 for planned training. The FY06 budget includes \$100,000 for OT reserves for contractual wage increases.*

*The Overtime line item in comparison with the FY05 actual shows a decrease of (\$95,000). The FY05 actual contained more than \$300,000 in overspending for wet weather events and snow removal activities and was the basis for including an additional \$200,000 in emergency overtime contingency funding in FY06.*

- *\$4.7 million or 8% of the total budget for **Chemicals**, of which \$4.2 million is for water treatment and \$0.5 million, is for wastewater treatment. The budget includes \$2.0 million for soda ash, \$1.1 million for sodium hypochlorite, \$543,000 for liquid oxygen for Carroll Treatment Plant ozone generation, \$306,000 for carbon dioxide to control the water alkalinity, \$247,000 for hydrofluosilicic acid, (fluoride) and \$225,000 for nitrazyme for Framingham Extension Relief Sewer odor and corrosion control.*

*The increase in comparison with the FY05 actual is \$812,000 of which the majority relates to the first full year operation of Carroll Treatment Plant vs four months budgeted in FY05 and the increased unit pricing of many chemicals, most notably sodium hypochlorite.*

- \$9.1 million or 16% of the total budget for **Utilities**, including \$6.6 million for electricity, \$1.7 million for diesel fuel, \$525,000 for natural gas, and \$312,000 for water.

*Utilities increased \$3.0 million in comparison with the FY05 actual. Of this amount, \$1.9 million relates to the first full year operation of Carroll Treatment Plant for electricity (\$1.3 million), diesel fuel (\$345,000), and natural gas (\$176,000). Other increases relate to the first full year of operation of the Braintree Weymouth IPS (\$320,000), the start-up of the Union Park CSO facility (\$138,000) and the significant price increase for utilities, specifically electricity and diesel fuel.*

- \$5.7 million or 10% of the total budget for **Maintenance**, including \$2.2 million for materials and \$3.5 million for services.

*Maintenance decreased (\$49,000) in comparison with the FY05 actual spending.*

- \$82,000 for **Training and Meetings**, a \$27,500 increase as compared to the FY05 actual, mostly for Facilities Asset Management Program/Reliability Centered Maintenance (FAMP/RCM) related training.
- \$560,000 for **Professional Services**, including \$50,000 for engineering, \$100,000 for Other and \$383,000 for security.

*Professional Services increased \$347,000 in comparison with the FY05 actual spending. Of this amount, \$253,000 pertains to Carroll Treatment Plant security services for a full year operation vs four months in FY05 and the remaining \$100,000 is for the DCR to support a reservoir hydrodynamic study at Wachusett.*

- \$948,000 for **Other Materials**, including \$502,000 for vehicle expenses for gas, mileage reimbursements and tolls, \$160,000 for work clothes, \$151,000 for health and safety supplies, and \$85,000 for lab and testing supplies.

*This represents a (\$101,000) decrease from the FY05 actual spending mainly due to lower FY06 projected spending for health and safety materials and vehicle expenses.*

- \$1.1 million for **Other Services**, including \$520,000 for telephone and SCADA needs at various facilities, \$421,000 for required police details, and \$60,000 for permit fees.

*The Other Services line item increased by \$36,000 in comparison with the FY05 actual spending, mostly for permit fees.*

## LABORATORY SERVICES

Final FY06 Current Expense Budget LABORATORY SERVICES						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 3,267,086	\$ 3,391,346	\$ 3,360,258	\$ 3,473,348	\$ 113,090	3.4%
OVERTIME	61,291	61,066	62,265	74,107	11,842	19.0%
FRINGE BENEFITS	1,144	1,213	1,128	1,200	72	6.4%
UTILITIES	135,436	124,958	111,162	133,069	21,907	19.7%
ONGOING MAINTENANCE	199,218	245,116	262,634	530,540	267,906	102.0%
TRAINING & MEETINGS	2,789	3,573	3,435	5,000	1,565	45.6%
PROFESSIONAL SERVICES	62,395	68,441	66,267	93,659	27,392	41.3%
OTHER MATERIALS	579,619	736,653	820,128	744,196	(75,932)	-9.3%
OTHER SERVICES	95,829	91,746	92,145	109,531	17,386	18.9%
<b>TOTAL</b>	<b>\$ 4,404,807</b>	<b>\$ 4,724,112</b>	<b>\$ 4,779,422</b>	<b>\$ 5,164,650</b>	<b>\$ 385,228</b>	<b>8.1%</b>

The Department of Laboratory Services (DLS) goals are to provide high quality and responsive laboratory services to MWRA's water and wastewater treatment programs, including the Department of Conservation and Recreation and the MWRA member water communities. This includes timely and cost-effective laboratory tests to meet the strict testing guidelines required by all regulatory programs and permits, including the Safe Drinking Water Act (SDWA), Clean Water Act, and NPDES permits. The Department supports these functions at the following five locations: Southborough, Somerville, Quabbin, the Central Laboratory at Deer Island, and the Clinton Wastewater Treatment Plant. Testing supports drinking water transmission and treatment processes, wastewater operations and control at Deer Island and Clinton, NPDES compliance, harbor and outfall monitoring, TRAC, and wastewater residuals. DLS also conducts the Boston Harbor monitoring program, which involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor. The results are tracked and analyzed and compliance reports are regularly submitted to the Environmental Protection Agency and the Massachusetts Department of Environmental Protection.

Most MWRA laboratory testing is done in-house. Certain highly specialized or low volume tests are outsourced, such as tests for dioxins and radioactivity. In January 2004, MWRA brought the bulk of the laboratory testing for the Harbor and Outfall Monitoring (HOM) in-house including the water column laboratory work and the monthly boat samples of Massachusetts Bay to collect bacteria samples. In July 2004, MWRA brought laboratory testing for the Department of Conservation and Recreation in-house, including operation of the Quabbin Laboratory.

### ***Budget Highlights***

- *\$3.5 million or 67% of the budget is for **Wages and Salaries**, of which \$3.4 million is in regular pay for the funding of 54 positions. Laboratory Services has seven fewer positions funded in FY06 vs FY05 budget, and one more position in comparison with FY05 year-end.*
- *\$530,000 or 10 % of the budget for **Maintenance**. It includes \$250,000 for HVAC humidity project, \$173,000 for equipment service contracts and \$83,930 for building and grounds services, of which \$25,000 is for replacement of metal laboratory hoods and exhaust vents and \$10,000 for replacement of countertops. \$17K for Hood certification previously funded by DITP. The increase of \$267,000 from FY05 actual spending relates to the HVAC system improvement.*
- *\$94,000 for lab and testing analysis, an \$27,000 or 41% increase from the FY05 actual. Outside labs are used for emergencies, "second opinions", capacity constraints, unavailability of specialized equipment or economic justification.*

- *\$744,000 for **Other Materials**, a \$76,000 or –10% decrease as compared to the FY05 budget. The FY06 budget includes \$502,000 for laboratory supplies and \$196,000 for equipment replacement. The \$76,000 reduction pertains to lower estimated spending for lab and testing supplies and equipment and furniture.*



## ENVIRONMENTAL QUALITY

Final FY06 Current Expense Budget						
ENVIRONMENTAL QUALITY						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 1,086,720	\$ 1,112,367	\$ 1,182,212	\$ 1,229,670	\$ 47,458	4.0%
OVERTIME	2,354	421	6,404	625	(5,779)	-90.2%
FRINGE BENEFITS	-	-	-	20	20	-
ONGOING MAINTENANCE	819	3,400	16,305	3,000	(13,305)	-81.6%
TRAINING & MEETINGS	609	2,674	4,835	3,375	(1,460)	-30.2%
PROFESSIONAL SERVICES	4,345,708	3,602,861	3,195,096	3,336,200	141,104	4.4%
OTHER MATERIALS	11,615	11,787	2,889	17,545	14,656	507.3%
OTHER SERVICES	31,754	7,346	5,475	10,261	4,786	87.4%
<b>TOTAL</b>	<b>\$ 5,479,579</b>	<b>\$ 4,740,856</b>	<b>\$ 4,413,216</b>	<b>\$ 4,600,696</b>	<b>\$ 187,480</b>	<b>4.2%</b>

The Environmental Quality Department (ENQUAD) reports on environmental findings that may be linked to MWRA operations and projects. The department's main activities are monitoring sewage influent and effluent quality; monitoring the water quality of Boston Harbor, its tributary rivers, and Massachusetts Bay; data management and quality assurance; and compliance with the reporting requirements of MWRA's NPDES permits. These permit reports are submitted to state and federal regulators, the Outfall Monitoring Science Advisory Panel and its sub-committees, and several libraries. As required by the permits, ENQUAD also posts many of these reports on MWRA's web site. All technical reports and several reports on water quality in the harbor and the bay are also posted on the web site. The department also produces the State of Boston Harbor Report.

### ***Budget Highlights***

- *\$1.2 million or 27% of the total budget is for **Wages and Salaries** for 16 positions, the same staffing level as in FY05.*
- *\$3.3 million or 72% of the total budget is for **Professional Services** for outside laboratory testing and analysis, an increase of 141,000 (4%) from the FY05 actual. The majority of the increase is related to the startup of the latest Harbor and Outfall Monitoring Contract (HOM5) with Battelle, for harbor and outfall monitoring. The remaining funds are for Massachusetts Bay monitoring cost-shared with the U.S. Geological Survey; Gulf of Maine Ocean Observing System cost-shared with the Navy and others; permit-required water quality modeling cost-shared with UMass Boston; and permit-required biotoxicity testing for Clinton WWTP, CSO facilities, and DITP.*

## ENGINEERING AND CONSTRUCTION

Final FY06 Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 4,958,936	\$ 4,832,438	\$ 4,681,359	\$ 4,584,224	\$ (97,135)	-2.1%
OVERTIME	56,864	58,678	75,106	57,913	(17,193)	-22.9%
FRINGE BENEFITS	967	899	734	1,229	495	67.4%
ONGOING MAINTENANCE	10,320	8,948	9637	8397	(1,240)	-12.9%
TRAINING & MEETINGS	7,949	771	1900	4000	2,100	110.5%
PROFESSIONAL SERVICES	68	-	0	0	-	-
OTHER MATERIALS	80,837	72,928	82727	78198	(4,529)	-5.5%
OTHER SERVICES	14,586	17,446	10432	18700	8,268	79.3%
<b>TOTAL</b>	<b>\$ 5,130,527</b>	<b>\$ 4,992,108</b>	<b>\$ 4,861,895</b>	<b>\$ 4,752,661</b>	<b>\$ (109,234)</b>	<b>-2.2%</b>

The Engineering and Construction Department (ECD) manages and coordinates the planning, design, and construction of system improvements that will ensure the reliable operation of the wastewater collection, transport, and treatment systems, and maintain and improve the waterworks infrastructure and physical plant to ensure a safe and adequate supply of water.

ECD is organized into two units. The **Engineering Unit** provides in-house engineering, consultant management (during the facilities planning, environmental review, and design stages of capital projects), drafting, surveying, and other technical assistance required for the maintenance, repair, and rehabilitation of the wastewater and waterworks systems. In addition, unit staff provide specialized technical services in the electrical, structural, mechanical, and civil engineering disciplines; maintain the Design Information Services Center (DISC); provide engineering and project management support, computer-aided design and drafting (CADD) services, and survey and design services; and manage construction document control. The **Construction Unit** provides contract management and resident inspection on water and wastewater construction and rehabilitation projects. Staff administer, oversee, and monitor construction projects to ensure timely, cost-effective, high quality construction for a variety of infrastructure improvement projects. Staff manages contractor activities to ensure projects are completed in accordance with approved plans and specifications with quality construction practices, timely project completion, and cost efficiency.

### **Budget Highlights**

- \$4.6 million for **Regular Pay**, which represents 96% of the total FY06 department budget and funds 62 positions. The decrease of \$97,000 is the result of a lower staffing level. FY06 has two fewer positions funded vs FY05.
- \$57,900 for **Overtime**, mostly to cover resident inspection after regular work hours at construction sites to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings and meeting deadlines. The \$17,000 decrease from FY05 is based on the number of construction jobs projected to be active in FY06.
- \$78,000 for **Other Materials**, a \$4,500 decrease compared with FY05. The budget includes \$57,000 for vehicle expense for staff traveling to construction sites and \$17,000 for office supplies. The decrease is based on a reduction for engineering supplies and specialty supplies for the DISC Unit.
- \$19,000 for **Other Services**, a \$8,000 increase compared with FY05. The budget includes \$7,000 for printing of in-house designed plans and specifications. FY05 had a decrease in-house printing services, while FY06 is funded at historical levels.

## CAPITAL ENGINEERING AND CONSTRUCTION

Final FY06 Current Expense Budget						
CAPITAL ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 2,029,859	\$ 2,081,007	\$ 1,961,506	\$ 1,891,987	\$ (69,519)	-3.5%
OVERTIME	33	-	-	-	-	-
FRINGE BENEFITS	-	6	6	-	(6)	-100.0%
ONGOING MAINTENANCE	122,842	143,095	128,534	93,000	(35,534)	-27.6%
TRAINING & MEETINGS	2,204	3,532	5,544	10,000	4,456	80.4%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	25,146	26,249	23,217	29,480	6,263	27.0%
OTHER SERVICES	18,589	8,537	5,943	12,747	6,804	114.5%
<b>TOTAL</b>	<b>\$ 2,198,673</b>	<b>\$ 2,262,426</b>	<b>\$ 2,124,750</b>	<b>\$ 2,037,214</b>	<b>\$ (87,536)</b>	<b>-4.1%</b>

The Capital Engineering and Construction Department (CECD) is responsible for managing engineering, design, and construction of major waterworks facilities and pipelines, in particular MWRA's Integrated Water Supply Improvement Program (IWSIP). IWSIP is comprised of the Carroll Water Treatment Plant, the MetroWest Water Supply Tunnel, and seven covered storage facilities. Together with the Planning and Field Operations departments, CECD assesses the condition of waterworks facilities and pipelines to determine and document the improvements needed to eliminate deficiencies and bring the water system up to current standards. These improvements are broken down into a series of design and construction contracts, which are prioritized and scheduled to allow safe and reliable operation of the system during construction.

The department also manages the engineering design, construction, start-up and training, and testing of other major waterworks capital projects. Staff defines scopes of work for consultant contracts and manages consultants conducting conceptual studies, preliminary designs, environmental reports and final designs. In addition, staff coordinates with cities and towns, regulatory agencies, and citizens groups to ensure acceptance of the projects by all stakeholders. The department monitors technical and regulatory standards to ensure that at completion facilities fulfill all of their essential functions in a cost-effective manner.

### ***Budget Highlights***

- *\$1.8 million or 93% of the FY06 budget is for **Wages and Salaries** for 21 positions. Two fewer positions funded than filled positions (23) at the FY05 year-end.*
- *93,000 or 5% is for **Maintenance**, including \$92,000 for closing and taking away trailers at the temporary ammonia and feed facilities at eight chloramination sites after the Carroll Water Treatment plant comes on line. This represents a \$36,000 reduction as compared to the FY05 actual, during which chloramination was done all year.*



Law Division  
Budget

## LAW DIVISION

Final FY06 Current Expense Budget LAW DIVISION by Line Item						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 1,817,314	\$ 1,532,656	\$ 1,553,854	\$ 1,526,493	\$ (27,361)	-1.8%
OVERTIME	402	40	93	-	(93)	-100.0%
TRAINING & MEETINGS	5,606	5,200	4,390	4,000	(390)	-8.9%
PROFESSIONAL SERVICES	293,437	278,636	211,672	256,584	44,912	21.2%
OTHER MATERIALS	1,653	3,208	4,140	5,539	1,399	33.8%
OTHER SERVICES	54,027	31,453	29,210	50,539	21,329	73.0%
<b>TOTAL</b>	<b>\$ 2,172,439</b>	<b>\$ 1,851,193</b>	<b>\$ 1,803,359</b>	<b>\$ 1,843,155</b>	<b>\$ 39,796</b>	<b>2.2%</b>

The Law Division provides legal counsel to the Board of Directors and staff on compliance with federal and state laws; regulations; court and administrative orders; litigation matters; real estate matters; labor/employment issues; and construction issues. The General Counsel interprets the MWRA Enabling Act and provides advice on conflict of interest and Code of Conduct issues. Division attorneys provide or supervise through outside counsel the representation of MWRA in all litigation. The budget for the Division accounts for 1% of MWRA's FY05 direct expense budget.

Law Division goals include:

- Timely and cost effective resolution of legal disputes involving MWRA, through litigation or alternative means of dispute resolution.
- High quality legal services to support the business and operational needs of MWRA in the areas of real estate, labor and employment, regulatory compliance, litigation, construction and business law.
- Advocacy of MWRA interests in new and developing regulatory issues.

### ***Budget Highlights***

- *\$1.5 million for **wages and salaries**, an increase of \$67,000 compared to the FY05 budget. The proposed FY06 budget includes funding for one intern position to assist in legal research and litigation.*
- *\$257,000 for **Professional Services**, a decrease of \$60,000 as compared to the FY05 budget. Litigation expenses for trial preparation, including expert witnesses, outside counsel, deposition and copying expense, are difficult to predict in advance because they depend on the nature and complexity of new litigation filed, on actions taken by litigants, and discovery and trial schedules set by the courts. The budget funds outside legal counsel to assist in handling cases that require special expertise (such as insurance, eminent domain and, energy issues) or resources beyond those available in the Division, as well as representation in the Boston Harbor Case. In-house staff handle all other matters*
- *Law Division continues to exhaust all opportunities to shift the cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.*
- *Law Division staff attorneys have successfully defended or favorably settled a number of cases within the last year that has made possible a projection that outside counsel and expert witness expenditures can be reduced over prior year levels.*
- *Law Division staff, though usually representing MWRA in a defensive posture recently completed two cost recovery actions against two design firms that yielded a total of \$7.1 million payments to MWRA.*
- *Law Division, in conjunction with the Operations Division has stepped up efforts to resolve contractor and vendor claims prior to litigation so as to resolve same as favorably and early as possible and reducing litigation costs and interest payable upon such claims when litigated.*



Finance Division  
Budget

## FINANCE DIVISION

Final FY06 Current Expense Budget FINANCE DIVISION by Line Item						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 3,054,196	\$ 2,652,874	\$ 2,672,016	\$ 2,658,987	\$ (13,029)	-0.5%
OVERTIME	78	50	63	-	(63)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	5,796	1,717	3,918	3,975	57	1.5%
PROFESSIONAL SERVICES	221,528	288,609	405,016	342,300	(62,716)	-15.5%
OTHER MATERIALS	984	3,056	7,025	8,353	1,328	18.9%
OTHER SERVICES	14,111	25,481	22,563	22,435	(128)	-0.6%
<b>TOTAL</b>	<b>\$ 3,296,693</b>	<b>\$ 2,971,787</b>	<b>\$ 3,110,601</b>	<b>\$ 3,036,050</b>	<b>\$ (74,551)</b>	<b>-2.4%</b>

Final FY06 Current Expense Budget FINANCE DIVISION by Department						
DEPARTMENT	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
DIVISION DIRECTOR'S OFFICE	\$ 270,649	\$ 227,366	\$ 214,455	\$ 195,818	\$ (18,637)	-8.7%
PLANNING/COORDINATION	249,688	45,140	500	-	(500)	-
BUDGET	577,146	479,092	382,787	313,711	(69,076)	-18.0%
TREASURY	998,270	830,900	986,497	940,966	(45,531)	-4.6%
CONTROLLER	1,200,940	1,389,289	1,526,362	1,585,555	59,193	3.9%
<b>TOTAL</b>	<b>\$ 3,296,693</b>	<b>\$ 2,971,787</b>	<b>\$ 3,110,601</b>	<b>\$ 3,036,050</b>	<b>\$ (74,551)</b>	<b>-2.4%</b>

The Finance Division is responsible for overseeing rates and revenue management, budgeting, capital financing, accounting, disbursements, investments, and grant and loan management. At its September 17, 2003 meeting, the Board of Directors approved organizational changes to MWRA's planning functions. The changes consolidated the separate planning activities of the Operations and Finance divisions under a single Director of Planning who reports to the Executive Director. The organization change is reflected in the FY05 Current Expense Budget.

In FY03, the separate payroll, claims and risk management, and insurance functions of the Operations and Finance divisions were consolidated in the Finance Division. As part of the organizational change, structural changes within the Finance Division were also implemented. Specifically, Treasury Department functions were reorganized and a new Controller Department was created.

The Controller Department consists of accounting, accounts payable, and payroll functions that were previously performed within the Treasury Department. The Controller has responsibility for ensuring financial system integrity and integration among the three functions. Department staff are also responsible for appropriate treatment and classification of MWRA revenues and expenditures in accordance with accounting principles generally accepted in the United States and prepare statements of MWRA's financial condition.

The Treasury Department is responsible for securing funds for ongoing operations and capital programs, and processing disbursements. The Treasury Department also manages water and sewer assessments to communities and planning estimates of future rate projections. Treasury Department staff collect revenue, disburse funds, and manage debt issuance and investments. As part of the division reorganization, the Grant and Loan Management Department was merged with the Treasury Department, and the claims, risk management and insurance functions became the Risk Management Department and reports to the Division Director.



**The Finance Division goals are to:**

- Ensure the fiscal strength of MWRA through judicious, informed, and farsighted allocation of resources.
- Develop strategies for minimizing increases in community assessments and charges.
- Maintain favorable credit ratings for MWRA's revenue bonds.
- Provide financial planning, control, and accountability for MWRA.
- Ensure effective, coordinated operating and capital budget planning throughout MWRA.
- The FY06 proposed budget for the Finance division accounts for less than 2% of MWRA's direct expense budget.

**DIVISION DIRECTOR’S OFFICE**

Final FY06 Current Expense Budget							
FINANCE DIVISION DIRECTOR'S OFFICE by Line Item							
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06		
WAGES & SALARIES	\$ 269,356	\$ 227,356	\$ 213,547	\$ 193,336	\$ (20,211)		-9.5%
OVERTIME	-	-	-	-	-		-
TRAINING & MEETINGS	-	-	898	1,500	602		67.0%
OTHER MATERIALS	10	10	10	-	(10)		-100.0%
OTHER SERVICES	1,283	-	-	982	982		-
<b>TOTAL</b>	<b>\$ 270,649</b>	<b>\$ 227,366</b>	<b>\$ 214,455</b>	<b>\$ 195,818</b>	<b>\$ (18,637)</b>		<b>-8.7%</b>

The Division Director's Office oversees the centralized financial functions of rates development, revenue collection, budgeting, capital financing, accounting, disbursement and payroll processing, debt and investment management, grant and loan management, and risk management. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all financial issues.

The division’s continuing challenge in FY05 will be maintaining agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services. This challenge is heightened by a significant loss in the amount of state debt service assistance received by the MWRA since 2002.

The Division Director’s Office’s goals are to:

- Guide and coordinate division activities to support MWRA and Finance Division objectives.
- Provide central and administrative support to the division's departments.

## BUDGET

Final FY06 Current Expense Budget BUDGET by Line Item						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 570,339	\$ 463,610	\$ 371,573	\$ 304,393	\$ (67,180)	-18.1%
TRAINING & MEETINGS	-	-	262	450	188	71.8%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	58	41	70	300	230	328.6%
OTHER SERVICES	6,749	15,441	10,882	8,568	(2,314)	-21.3%
<b>TOTAL</b>	<b>\$ 577,146</b>	<b>\$ 479,092</b>	<b>\$ 382,787</b>	<b>\$ 313,711</b>	<b>\$ (69,076)</b>	<b>-18.0%</b>

The Budget Department provides the financial analysis that allows MWRA to translate its goals, and legal and financial commitments into cost-effective annual and multi-year programs and budgets. Department staff work closely with division staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to schedule and budget. Staff also coordinate development of MWRA's annual Current Expense Budget (CEB) and monitor spending compared to budget throughout the year. In addition, the department works closely with the Treasury Department to forecast near- and long-term expense and rate revenue requirements.

### ***Budget Highlights***

- *Total budget of \$304,000 for **Wages and Salaries**, a decrease of \$67,000 from FY05 actual expenditures due to less staffing. Budget department staff rely on and work in conjunction with division finance staff to support the annual budget development, monitoring and reporting.*
- ***Other Services** include \$3,200 for a WEFA membership for inflation projections and \$5,000 to cover the costs of printing a limited number of budget documents and reports.*

**TREASURY**

Final FY06 Current Expense Budget TREASURY by Line Item						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 769,438	\$ 634,667	\$ 754,298	\$ 754,669	\$ 371	0.0%
OVERTIME	-	30	63	-	(63)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	835	831	2,185	1,000	(1,185)	-54.2%
PROFESSIONAL SERVICES	221,528	184,282	215,016	172,300	(42,716)	-19.9%
OTHER MATERIALS	770	2,257	4,790	3,300	(1,490)	-31.1%
OTHER SERVICES	5,699	8,833	10,145	9,697	(448)	-4.4%
<b>TOTAL</b>	<b>\$ 998,270</b>	<b>\$ 830,900</b>	<b>\$ 986,497</b>	<b>\$ 940,966</b>	<b>\$ (45,531)</b>	<b>-4.6%</b>

The Treasury Department secures funds for ongoing operations and capital programs, and processes disbursements. In addition, the Risk Management Department is included in the Treasury Department for budgeting purposes. Department staff collect revenue, disburse funds, and manage debt issuance and investments. The Treasury Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA’s customer communities and planning estimates of future rate projections.

- Budget Highlights**
- \$755,000 for **Wages and Salaries**, a slight increase of \$350 from FY05 actual expenditures.
  - \$172,000 for **Professional Services**, a decrease of \$43,000 or 20% from FY05 actual expenditures. The budget includes funds for trustee and bank deposit services, as well as insurance consultant services.

**CONTROLLER**

Final FY06 Current Expense Budget CONTROLLER by Line Item							
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06		
WAGES & SALARIES	\$ 1,200,481	\$ 1,282,234	\$ 1,332,597	\$ 1,406,589	\$ 73,992	5.6%	
OVERTIME	78	19	-	-	-	-	
FRINGE BENEFITS	-	-	-	-	-	-	
TRAINING & MEETINGS	-	823	573	1,025	452	78.9%	
PROFESSIONAL SERVICES	-	104,327	190,000	170,000	(20,000)	-10.5%	
OTHER MATERIALS	-	679	1,656	4,753	3,097	187.0%	
OTHER SERVICES	381	1,207	1,536	3,188	1,652	107.6%	
<b>TOTAL</b>	<b>\$ 1,200,940</b>	<b>\$ 1,389,289</b>	<b>\$ 1,526,362</b>	<b>\$ 1,585,555</b>	<b>\$ 59,193</b>	<b>3.9%</b>	

The Controller Department consists of the Accounting, Accounts Payable, and Payroll units. The department has the responsibility for ensuring integrity within the financial accounting system and integration among the three functions. The department is also responsible for the appropriate treatment, classification and reporting of the MWRA’s revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

***Budget Highlights***

- *\$1.4 million for **Wages and Salaries**, an increase of \$74,000 or 5.6% from FY05 actual expenditures. The increase reflects the filling of positions previously vacant during the transition from the early retirement program. These increases were offset through less backfill in other areas.*
- *\$170,000 for audit services, consistent with FY05 actual expenditures for these services.*



Support Services Division  
Budget

## SUPPORT SERVICES DIVISION

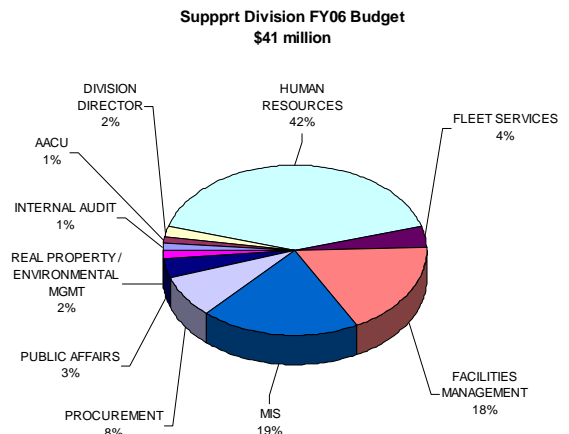
Final FY06 Current Expense Budget SUPPORT DIVISION by Line Item						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 15,083,467	\$ 14,092,833	\$ 13,736,162	\$ 14,148,873	\$ 412,711	3.0%
OVERTIME	98,564	50,779	57,103	61,603	4,500	7.9%
FRINGE BENEFITS	12,245,009	10,771,098	12,197,305	13,602,672	1,405,367	11.5%
WORKERS' COMPENSATION	49,627	1,687,301	1,038,298	1,200,000	161,702	15.6%
CHEMICALS	-	-	-	-	-	-
UTILITIES	999,467	1,039,882	975,625	839,169	(136,456)	-14.0%
ONGOING MAINTENANCE	3,335,286	3,657,632	3,734,642	3,572,023	(162,619)	-4.4%
TRAINING & MEETINGS	44,894	52,698	73,794	58,643	(15,151)	-20.5%
PROFESSIONAL SERVICES	799,145	812,896	927,672	1,117,090	189,418	20.4%
OTHER MATERIALS	696,945	1,009,591	437,074	797,103	360,029	82.4%
OTHER SERVICES	9,255,805	5,941,170	5,678,773	5,643,581	(35,192)	-0.6%
<b>TOTAL</b>	<b>\$ 42,608,209</b>	<b>\$ 39,115,880</b>	<b>\$ 38,856,448</b>	<b>\$ 41,040,757</b>	<b>\$ 2,184,309</b>	<b>5.6%</b>

Final FY06 Current Expense Budget SUPPORT DIVISION by Department						
DEPARTMENT	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
DIVISION DIRECTOR	\$ 444,099	\$ 429,759	\$ 473,915	\$ 788,945	\$ 315,030	66.5%
INTERNAL AUDIT	524,413	500,572	525,367	540,670	15,303	2.9%
PUBLIC AFFAIRS	1,704,957	1,364,023	1,330,809	1,416,445	85,636	6.4%
FACILITIES MANAGEMENT	11,538,026	7,915,969	7,375,557	7,286,444	(89,113)	-1.2%
FLEET SERVICES	1,144,995	1,085,856	1,211,148	1,614,598	403,450	33.3%
AACU	581,657	501,178	519,847	536,265	16,418	3.2%
HUMAN RESOURCES	14,247,134	14,289,480	14,949,227	16,784,059	1,834,832	12.3%
MIS	8,710,490	9,355,643	8,329,376	7,962,373	(367,003)	-4.4%
PROCUREMENT	2,987,067	3,070,600	3,334,042	3,379,729	45,687	1.4%
REAL PROPERTY / ENVIRONMENTAL MGMT	725,371	602,800	807,160	731,229	(75,931)	-9.4%
<b>TOTAL</b>	<b>\$ 42,608,209</b>	<b>\$ 39,115,880</b>	<b>\$ 38,856,448</b>	<b>\$ 41,040,757</b>	<b>\$ 2,184,309</b>	<b>5.6%</b>

<sup>1</sup>The budget for Workers' Compensation was transferred from Operations to Human Resources in FY04.

The Support Services Division oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action, procurement, materials warehousing, facility security, occupational health and safety, internal audit, fleet services, computer system development and management, facilities and office supplies management, library and records management, and mail and employee shuttle services. The division also manages the FRSA in Quincy, the Chelsea Facility and the Charlestown headquarters.

The division budget includes ten departments: Division Director, Internal Audit, Public Affairs, Facilities Management, Fleet Services, Affirmative Action and Compliance (AACU), Human Resources, Management Information Systems (MIS), Procurement, and Real Property and Environmental Management (RPEM). Internal Audit, AACU, and Public Affairs, funded as part of the Support Services budget, report to the MWRA's Executive Director. The \$41 million FY06 budget accounts for 22% of MWRA's direct expense budget. The division budget includes \$13.6 million for fringe benefits for all MWRA personnel, as well as \$4.3 million for lease, taxes and



insurance, and operating and maintenance costs for the Charlestown Navy Yard (CNY) headquarters and the Chelsea facility, and \$1.2 million for workers' compensation claims and medical expenses. Net of these agency-wide expenses, the Support Services Division budget accounts for 12% of direct expenses.

## DIVISION DIRECTOR

Final FY06 Current Expense Budget						
DIVISION DIRECTOR						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 438,896	\$ 424,503	\$ 385,908	\$ 427,011	\$ 41,103	10.7%
OVERTIME	73	522	1,579	-	(1,579)	-100.0%
FRINGE BENEFITS	-	44	-	-	-	-
ONGOING MAINTENANCE	-	24	81,062	350,000	268,938	331.8%
TRAINING & MEETINGS	248	49	834	1,300	466	55.9%
OTHER MATERIALS	2,166	1,693	1,948	7,827	5,879	301.8%
OTHER SERVICES	2,716	2,924	2,584	2,807	223	8.6%
<b>TOTAL</b>	<b>\$ 444,099</b>	<b>\$ 429,759</b>	<b>\$ 473,915</b>	<b>\$ 788,945</b>	<b>\$ 315,030</b>	<b>66.5%</b>

The Division Director department consists of administrative and security/emergency response staff.

The division's goals are to:

- Provide comprehensive administrative, professional and technical support services to all divisions to create a cooperative framework within which MWRA can operate effectively.
- Develop and implement policies and programs to ensure facility and water/wastewater system security, public health and staff safety.
- Ensure proper and effective communication between MWRA and the communities served, other agencies, and state and local officials.

### ***Budget Highlights***

- *Total budget of \$789,000, an increase of \$315,000 or 66.5% over FY05 actual spending.*
- *This budget includes \$427,000 for **regular pay** to support 6 positions, an increase of \$41,000 as compared with FY05 spending.*
- *Ongoing **Maintenance** includes \$350,000 for support and maintenance of MWRA's electronic security systems.*



## INTERNAL AUDIT

Final FY06 Current Expense Budget INTERNAL AUDIT							
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06		
WAGES & SALARIES	\$ 511,926	\$ 489,795	\$ 512,994	\$ 525,725	\$ 12,731		2.5%
OVERTIME	29	-	-	-	-		-
TRAINING & MEETINGS	11,076	8,038	9,903	11,975	2,072		20.9%
OTHER MATERIALS	1,272	889	1,455	2,100	645		44.3%
OTHER SERVICES	110	1,850	1,015	870	(145)		-14.3%
<b>TOTAL</b>	<b>\$ 524,413</b>	<b>\$ 500,572</b>	<b>\$ 525,367</b>	<b>\$ 540,670</b>	<b>\$ 15,303</b>		<b>2.9%</b>

The Internal Audit Department monitors the efficiency and integrity of MWRA's operations and capital programs by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws and regulations; and coordinating the formulation and revisions to MWRA policies and procedures. Internal Audit reports to MWRA's Executive Director.

The Internal Audit Department's goals are to:

- Encourage more economical and efficient operations, adherence to sound management procedures, and the use of controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have accounting and billing systems adequate to provide current, complete, and accurate cost and price information and project billings. In FY05, Internal Audit identified approximately \$2,035,000 in savings, including \$484,000 related to consultant billings to MWRA, \$1,429,000 related to vendor audits and contract negotiation support, and \$122,000 related to construction change orders and claims.

### ***Budget Highlights***

- \$526,000 for **Wages and Salaries** for staff to perform internal audits, management advisory services, preliminary review and incurred cost audits, and consultant disclosure statement reviews.
- \$12,000 for **Training and Meetings**, of which 53% is for travel to consultant offices required to perform cost audits.

**PUBLIC AFFAIRS**

Final FY06 Current Expense Budget PUBLIC AFFAIRS						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 1,619,632	\$ 1,308,363	\$ 1,272,436	\$ 1,304,536	\$ 32,100	2.5%
OVERTIME	-	18	147	-	(147)	-100.0%
TRAINING & MEETINGS	4,273	4,561	2,651	3,550	899	33.9%
PROFESSIONAL SERVICES	5,050	1,025	1,050	1,050	-	0.0%
OTHER MATERIALS	17,548	18,675	20,193	22,178	1,985	9.8%
OTHER SERVICES	58,454	31,381	34,332	85,131	50,799	148.0%
<b>TOTAL</b>	<b>\$ 1,704,957</b>	<b>\$ 1,364,023</b>	<b>\$ 1,330,809</b>	<b>\$ 1,416,445</b>	<b>\$ 85,636</b>	<b>6.4%</b>

The Public Affairs Department is the institutional link to all MWRA constituencies. The **Community Relations Section** deals directly with cities and towns in the service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives. Community Relations staff also work *in conjunction with Planning Department staff* to ensure compliance with the Massachusetts Environmental Policy Act (MEPA), the Massachusetts Historical Commission (MHC), DEP, local conservation commissions, and the Boston Landmarks Commission (BLC). The **Communications Section** manages media relations, issues press releases and responds to information requests, oversees the design and distribution of MWRA publications, manages the web site, and provides design, editorial, and graphics services for other sections of MWRA. The **Education Section** is responsible for curriculum development, teacher training workshops, as well as providing to all grade levels school education materials on water quality, water conservation, wastewater topics, and environmental issues. The **Intergovernmental Affairs Section** works for passage of legislation necessary to carry out MWRA’s mission, monitors legislation, responds to inquiries by elected and appointed officials, and pursues funding from the state legislature for MWRA projects. Public Affairs reports to the Executive Director.

The goals of the Public Affairs Department are to:

- Enhance overall public understanding of MWRA’s mission, goals, and benefits to the public through aggressive outreach and effective communication.
- Develop and implement proactive strategies for educating and informing key MWRA constituencies and the public at large about MWRA’s mission, progress, and effective management.
- Gain public support for MWRA programs and projects, and respond to the needs and concerns of elected and appointed public officials.
- Provide support to MWRA staff to ensure that MWRA projects meet regulatory requirements in a cost-effective and efficient manner, and provide input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.

**Budget Highlights**

- \$1.3 million for **Wages and Salaries**, an increase of \$32,000 or 2% from the FY05 budget, primarily due to wages and salaries adjustment. The budget supports 18 positions.
- \$107,000 for **Other Materials and Other Services**, including \$75,000 to fund services associated with the publication and distribution of MWRA's Annual Report, as well as production of materials to inform the public about MWRA activities and to educate school children about Boston Harbor and other environmental matters.

## FACILITIES MANAGEMENT

Final FY06 Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 1,106,183	\$ 971,144	\$ 995,985	\$ 1,010,094	\$ 14,109	1.4%
OVERTIME	53,098	25,466	25,059	28,488	3,429	13.7%
FRINGE BENEFITS	1,014	549	253	50	(203)	-80.2%
UTILITIES	998,994	1,039,111	974,175	837,669	(136,506)	-14.0%
ONGOING MAINTENANCE	380,112	370,028	312,151	345,450	33,299	10.7%
TRAINING & MEETINGS	1,490	117	38	140	102	268.4%
PROFESSIONAL SERVICES	435,172	399,908	586,796	638,446	51,650	8.8%
OTHER MATERIALS	244,989	139,645	77,351	17,679	(59,672)	-77.1%
OTHER SERVICES	8,316,974	4,970,001	4,403,749	4,408,428	4,679	0.1%
<b>TOTAL</b>	<b>\$ 11,538,026</b>	<b>\$ 7,915,969</b>	<b>\$ 7,375,557</b>	<b>\$ 7,286,444</b>	<b>\$ (89,113)</b>	<b>-1.2%</b>

Final FY06 Current Expense Budget FACILITIES MANAGEMENT SUPPORT by Area						
AREA	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
FRSA	\$ 608,703	\$ 572,488	\$ 337,090	\$ 211,052	\$ (126,038)	-37.4%
FACILITIES MANAGEMENT	10,005,406	6,622,895	6,022,429	6,063,865	41,436	0.7%
ADMINISTRATIVE SERVICES	923,917	720,586	1,016,038	1,011,527	(4,511)	-0.4%
<b>TOTAL</b>	<b>\$ 11,538,026</b>	<b>\$ 7,915,969</b>	<b>\$ 7,375,557</b>	<b>\$ 7,286,444</b>	<b>\$ (89,113)</b>	<b>-1.2%</b>

The Facilities Management Department provides a wide range of support services to MWRA staff located at the Charlestown Navy Yard (CNY), Chelsea and Fore River Staging Area (FRSA) facilities. The department previously comprised two sections: Facilities Management and Administrative Services. In FY05 all department personnel costs were consolidated in the Administrative Services cost center. The FRSA and Facilities Management cost centers include all other costs associated with each of the three facilities managed by the department. These expenses include CNY rent and utility, maintenance, and other operating costs for the FRSA, CNY and Chelsea Facilities. Non-personnel expenses that were previously included in the Administrative Services area, such as copier and mail costs, are now included in the facility budgets.

**Facilities Management** is responsible for coordinating site management activities at the Chelsea facility, CNY, and FRSA. Staff institute maintenance procedures; respond to facilities requests from building occupants; coordinate workspace planning; provide office furnishings; and develop and implement appropriate measures to ensure the safety of MWRA staff and protect and preserve MWRA assets.

Staff are also responsible for the security, operation, and maintenance of the utilities and various structures and buildings located at FRSA. MWRA uses this facility for the operation of its sludge processing facility, the warehousing of records and geological samples and the Fore River Railroad Corporation's office, storage tracks and main rail line crossing the parcel. MWRA is continuing to pursue and execute options to surplus and sell those portions of FRSA not needed to support MWRA operations. This budget assumes that ownership will be transferred by CY06.

In addition, staff provides administrative and office support services that facilitate efficient use of MWRA resources. These responsibilities include providing and managing the motor pools at Chelsea and CNY, copying and printing services, general office equipment repairs, transportation, mail and courier services, and receptionist coverage at CNY and the Chelsea facility. Staff are also responsible for developing and managing an expanded recycling program.

The goals of the Facilities Management Department are to:

- Provide a safe and well-maintained working environment for all MWRA staff at the Chelsea Facility, CNY, and FRSA and provide appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
- Maintain the Chelsea, CNY and FRSA facilities to prevent loss or deterioration of MWRA assets.
- Assist staff in their activities at FRSA and the Chelsea Facility by coordinating overall site development plans and monitoring the activities of operations at the site.
- Contain MWRA operating costs by carefully managing resources, implementing a cost effective maintenance program and removing recyclable materials from the waste stream.
- Provide efficient, cost-effective and customer-focused administrative services to support CNY, FRSA and Chelsea Facility staff.
- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.

#### ***Budget Highlights***

- *Total budget of \$7.3 million, a decrease of \$89,000 or 1.2% as compared to FY05 actual spending.*
- *\$28,000 for **Overtime** for coverage of facility maintenance and support services, an increase of \$3,400 or 13.7% over FY05 . Funds are used to provide coverage of daily services, such as shuttles, reception services and security, at Chelsea, CNY and FRSA during vacations or other periods when staff are away.*
- *\$838,000 for **Utilities**, a decrease of \$137,000 or 14.0% from FY05 actual spending. Savings are expected primarily at FRSA as portions of the site are surplusd*
- *\$345,000 for **Maintenance**,an increase of \$33,000 or 10.7% over FY05 actuals. Opportunities for cost savings resulted in lower than projected spending in FY05. These opportunities may not reoccur in FY06.*
- *\$638,000 for **Professional Services**, an increase of \$52,000 or 8.8 % over FY05 spending, primarily for environmental services needed to remove and dispose of an oil plume at FRSA.*
- *\$4.4 million for **Other Services**, an increase of \$4,700 or 0.1%, as compared to FY05 actual spending, primarily due to an increase in the Chelsea Facility rent, offset in part by continued reductions in operating costs.*

## **FY05 Accomplishments**

### **Facilities Management**

- Awarded a new cleaning contract in Chelsea resulting in savings of \$10,000.
- Identified tasks/services that FOD trades staff could provide, eliminating the necessity to outsource and resulting in savings of \$10,000.
- Wired CNY card readers to be monitored by Chelsea security staff resulting in savings of \$6,000.
- Completed a lighting project in CNY that is expected to reduce electricity cost by approximately \$4,000 annually.
- Implemented an Authority-wide recycling committee: a mixed paper recycling program at the Chelsea facility and a scrap metal recycling program. First year revenues from the mixed paper and scrap metal programs were approximately \$8,500. Avoided trash disposal cost, resulting from the mixed paper recycling, was approximately \$2,000.

**FLEET SERVICES**

Final FY06 Current Expense Budget						
FLEET SERVICES						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 559,326	\$ 543,768	\$ 600,409	\$ 620,060	\$ 19,651	3.3%
OVERTIME	34,399	18,720	20,078	20,000	(78)	-0.4%
FRINGE BENEFITS	1,335	768	1,044	-	(1,044)	-100.0%
UTILITIES	473	771	1,450	1,500	50	3.4%
ONGOING MAINTENANCE	506,059	454,673	506,201	510,500	4,299	0.8%
TRAINING & MEETINGS	1,278	(75)	-	-	-	-
OTHER MATERIALS	41,656	63,706	78,224	458,000	379,776	485.5%
OTHER SERVICES	469	3,525	3,742	4,538	796	21.3%
<b>TOTAL</b>	<b>\$ 1,144,995</b>	<b>\$ 1,085,856</b>	<b>\$ 1,211,148</b>	<b>\$ 1,614,598</b>	<b>\$ 403,450</b>	<b>33.3%</b>

**Fleet Services** manages and maintains MWRA's motor vehicle and equipment fleet and the radio communications network that provides communications and emergency support services to MWRA headquarters and field personnel. Fleet Services also manages development and processing of specifications for new vehicles and equipment, as well as managing the gas card program and fuel facility in Chelsea.

The goal of the Fleet Services Department is to maintain MWRA's vehicle and equipment fleet to minimize downtime and extend the life of the assets.

**Budget Highlights**

- \$1.6 million total final FY06 budget, an increase of \$403,451 or 33% over FY05 actuals.
- \$620,000 for **Wages & Salaries**, an increase of \$19,652 or 3.37% over FY05 actuals. The increase is attributed to settlement of the union contracts..
- \$458,000 for **Other Materials**, an increase of \$379,776 or \$485.5% over FY05 actuals. Fleet Services FY05 budget included vehicle/equipment fueling funds; however, program activity did not begin until March, gradually adding department vehicles/equipment throughout the remaining months of the fiscal year and into FY06.
- **Ongoing Maintenance** budget of \$510,500 an increase of \$4,299 or 0.8% over FY05 actuals. This line item includes funds for automotive materials & services to maintain MWRA's vehicle fleet. The increase was to bring the FY06 budget in line with FY05 actuals.

**FY05 Accomplishments**

**Fleet Services**

- Implemented new fuel facility in Chelsea and eliminated gas credit cards for vehicles assigned there; bulk purchase of fuel expected to result in 10% savings compared to commercial gas stations.

## AFFIRMATIVE ACTION and COMPLIANCE

Final FY06 Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 568,945	\$ 498,465	\$ 517,460	\$ 532,494	\$ 15,034	2.9%
OVERTIME	109	-	94	-	(94)	-100.0%
TRAINING & MEETINGS	-	1,400	1,345	1,450	105	7.8%
PROFESSIONAL SERVICES	11,500	-	-	-	-	-
OTHER MATERIALS	903	313	448	1,621	1,173	261.8%
OTHER SERVICES	200	1,000	500	700	200	40.0%
<b>TOTAL</b>	<b>\$ 581,657</b>	<b>\$ 501,178</b>	<b>\$ 519,847</b>	<b>\$ 536,265</b>	<b>\$ 16,418</b>	<b>3.2%</b>

The Affirmative Action and Compliance Unit (AACU) develops, administers, and monitors compliance with all aspects of MWRA's Affirmative Action Plan, programs, and policies of affirmative action, equal opportunity, and non-discrimination. The Special Assistant for AACU reports to the Board of Directors through the Executive Director.

The goals of AACU are to:

- Assist divisions and departments in the implementation of MWRA's affirmative action program and promote MWRA's policy of non-discrimination for all persons in or recruited for its work force.
- Maintain internal audit and reporting systems adequate to measure MWRA's accomplishments in areas of identified underutilization of minorities and females.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Provide for the equitable participation of minority and women-owned businesses (MBE/WBE) in procurement opportunities and ensure that minorities and women are represented in the labor force on construction contracts.
- Assist divisions and departments in understanding MBE/WBE program policies and practices and monitor and report on contractor compliance.

### ***Budget Highlights***

- *Total budget of \$536,000, an increase of \$16,000 or 3% over the FY05 budget primarily due to wages and salaries adjustment. The budget supports 8 positions.*



## HUMAN RESOURCES

Final FY06 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 1,580,550	\$ 1,362,099	\$ 1,320,455	\$ 1,437,636	\$ 117,181	8.9%
OVERTIME	378	138	344	437	93	27.0%
FRINGE BENEFITS	12,242,555	10,769,692	12,195,892	13,602,622	1,406,730	11.5%
WORKERS' COMPENSATION	49,627	1,687,301	1,038,298	1,200,000	161,702	15.6%
ONGOING MAINTENANCE	138	-	52	1,200	1,148	2207.7%
TRAINING & MEETINGS	7,058	3,314	3,711	7,698	3,987	107.4%
PROFESSIONAL SERVICES	350,150	411,681	338,911	467,594	128,683	38.0%
OTHER MATERIALS	8,278	19,842	22,312	25,760	3,448	15.5%
OTHER SERVICES	8,400	35,413	29,252	41,112	11,860	40.5%
<b>TOTAL</b>	<b>\$ 14,247,134</b>	<b>\$ 14,289,480</b>	<b>\$ 14,949,227</b>	<b>\$ 16,784,059</b>	<b>\$ 1,834,832</b>	<b>12.3%</b>

Final FY06 Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
EMPLOYEE/COMP/BEN	\$ 768,319	\$ 610,099	\$ 610,445	\$ 685,234	\$ 74,789	12.3%
LABOR RELATIONS	554,070	608,367	691,158	735,948	44,790	6.5%
TRAINING	607,775	585,776	388,832	527,569	138,737	35.7%
CENTRALIZED FRINGE BENEFITS	12,316,970	12,485,238	13,258,792	14,835,308	1,576,516	11.9%
<b>TOTAL</b>	<b>\$ 14,247,134</b>	<b>\$ 14,289,480</b>	<b>\$ 14,949,227</b>	<b>\$ 16,784,059</b>	<b>\$ 1,834,832</b>	<b>12.3%</b>

The Human Resources Department is comprised of the following three units:

The **Employment, Compensation, Benefits and HRIS Unit** coordinates and oversees all external recruitment and selection activities including hiring, lateral transfers and promotions to meet the business needs of MWRA, develops and coordinates MWRA compensation and benefits strategies and programs and ensures the proper processing and recording of personnel actions. The compensation function also ensures that all MWRA employees possess the necessary licenses and certifications required by their positions. The **Labor Relations Unit** is responsible for fulfilling MWRA's collective bargaining and contract administration obligations under Massachusetts' public sector collective bargaining law, its workers' compensation responsibilities, and its responsibilities for employee occupational safety and health. The **Training Unit** develops, coordinates, delivers, and evaluates MWRA technical and professional development training programs and other programs directed at the improvement of employee knowledge, skills, productivity, and the quality of workplace interaction. It is responsible for MWRA performance evaluation programs oversight and tracking, Employee Assistance, and Tuition Reimbursement programs. In addition, the Human Resources Department includes the **Centralized Fringe Benefits** cost center, which includes the budgets for fringe benefits for all MWRA employees, as well as for mandatory payments for unemployment expenses and Medicare.

The goals of the Human Resources Department are to:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation (salary and benefits) package to all employees.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that fosters safety consciousness and productive work, maximize the number of early returns to work by

employees who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.

#### ***Budget Highlights***

- *\$1.4 million for **Wages and Salaries**, an increase of \$117,190 or 9% over FY05 actual spending.*
- *\$13.6 million for **Fringe Benefits**, an increase of \$1.4 million or 12% over FY05 actual spending. The budget includes \$11.7 million for MWRA's share of health insurance costs, \$1 million for MWRA's share of Medicare taxes, \$822,261 for MWRA's share of dental insurance costs and union health and welfare fund contributions, \$60,000 for unemployment insurance payments, and \$31,000 for tuition reimbursement.*
- *\$1.2 million for **Workers' Compensation** expenses, an increase of \$162,000 or 16% over FY05 actual spending. Human Resources is responsible for management of this program and coordination with the third-party administrator.*
- *\$468,000 for **Professional Services**, an increase of \$129,000 or 38% over FY05 actual spending. The proposed FY06 budget includes \$162,000 for technical training, \$57,820 for professional development, \$25,500 for the Employee Assistance Program, and \$52,274 for specialized investigation services and medical evaluation services \$115,000 for Workers Compensation claims administration and \$55,500 for arbitration expenses.*

### **FY05 Accomplishments**

#### **Human Resources**

- Delivered to 1,278 employees mandatory training on the MWRA Drug and Alcohol Testing Policy.
- Managed the technical training needs associated with the start-up of new water facilities. FY05 Training consisted of vendor, system, and Facility Handbook training for the start-up and operation of the John J. Carroll Water Treatment Plant. A total of 2,122 training seats were filled in 102 unique classes (706 class hours) delivered by the contractor and more than 65 equipment providers. With the multiple offerings of classes, over 8700 hours of training were offered.
- Completed negotiations on five collective bargaining agreements.

## MANAGEMENT INFORMATION SYSTEMS (MIS)

Final FY06 Current Expense Budget							
MIS							
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06		
WAGES & SALARIES	\$ 5,111,419	\$ 4,871,640	\$ 4,677,687	\$ 4,638,449	\$ (39,238)		-0.8%
OVERTIME	2,491	1,603	1,943	2,678	735		37.8%
FRINGE BENEFITS	-	-	4	-	(4)		-100.0%
ONGOING MAINTENANCE	2,502,857	3,027,277	2,636,929	2,364,873	(272,056)		-10.3%
TRAINING & MEETINGS	13,986	26,817	49,122	15,490	(33,632)		-68.5%
PROFESSIONAL SERVICES	(1,695)	-	-	-	-		-
OTHER MATERIALS	374,648	658,762	133,109	164,787	31,678		23.8%
OTHER SERVICES	706,784	769,544	830,582	776,096	(54,486)		-6.6%
<b>TOTAL</b>	<b>\$ 8,710,490</b>	<b>\$ 9,355,643</b>	<b>\$ 8,329,376</b>	<b>\$ 7,962,373</b>	<b>\$ (367,003)</b>		<b>-4.4%</b>

The MIS Department provides MWRA with the information processing capacity necessary to carry out its mission. Applications in use range from financial to operational, and enhance MWRA's ability to access data and improve internal controls, reporting, and management performance. In addition to computing systems, the department also provides library and records management services.

In FY06 MIS will continue to provide three categories of services:

- *Operational services* are day-to-day routine activities required for applications and systems to work, including preventive maintenance; replacement programs; minicomputer, server, network, and voice equipment availability; back-up and recovery; accounts payable and payroll generation; period closings; and scheduled report productions. Up-time goals based on industry norms have been established, as well as schedules for annual replacement programs. Cyber Security will continue to be a major work item in FY06.
- *Responsive services* are provided as a result of calls for assistance, training, troubleshooting, repair of systems or requests for materials, research, and records. A variety of performance measures have been adopted based on business impact and problem type. For example, the target response rate to close any of the aforementioned types of calls is 90% within three days, except for calls regarding system outages, the target for which is 100% within one business day. Staff also track backlogs, average closure rates, and rolling averages to ensure responsiveness.
- *Developmental services* respond to requests for new or enhanced products, services, reports, and applications. These requests are generally turned into projects with plans, defined deliverables, and agreed upon schedules. MIS-generated projects based on infrastructure limitations, changing technology, and expiration of leased equipment may also be included. All activities seek to balance business demands with costs and the desire to be neither leading nor lagging in the use of technology. Measurement is based on timely completion of milestones and a +/- 10% of budget and schedule target is established for all major projects. In addition, for projects with large capital or CEB requirements, a customization cap is established and reported on.

The goal of MIS is to support more than 1,000 MWRA users, including those at the Charlestown Navy Yard, Chelsea, Deer Island, Southboro and other remote sites, by ensuring that:

- Existing applications, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced.
- Information system development efforts are consistent with the MWRA Business Plan, reflecting management priorities.

- System security and integrity are maintained.
- Flexible tools and system capabilities are provided consistent with industry standards and norms.

Major focus areas and key projects for FY06 include:

- Cyber and network security, expanded support for OCC and EOC, and information security/document support for classified documents.
- Conversion of Lawson to a new operating system and MAXIMO system upgrades/data consolidation.
- Expanded Water Quality reporting requirements and support for Walnut Hill.
- TRAC, LIMS and Document Management system replacements.
- Continuation of TV Inspection software changes, GIS improvements, metering improvements and support for the Wastewater Automation project.
- Implementation of planned upgrades and continued improvement with storage management, clustering, and unattended operations solutions to expand services reduce costs and improve management of growing data and resources.
- Programming support for the over 400 annual reports and development requests.
- Records Center relocation.

#### ***Budget Highlights***

- *Total budget of \$7.9 million, a decrease of \$367,000 or 4% from FY05 actual spending, reflecting a reduction of staff and the decision to defer until FY07 replacement of approximately 75% of PCs and related equipment.*
- *\$2.3 million for **license and maintenance** fees to support administrative, operations, and database applications used by MWRA staff. This represents a decrease of 10% from FY05 actual spending due to reducing a number of non-critical business requests and maintenance contracts.*
- *\$164,000 for **Other Materials**, an increase of \$31,678 or 248% over FY05 actual spending, reflecting a partial restoration of PC and related hardware replacements.*
- *\$776,000 for **Other Services**, a decrease of \$54,000 or 7% from FY05 actual spending due primarily to upgrade costs associated with the data network connection from Deer Island to the Chelsea Computer Center, data and voice communications for Walnut Hill Treatment Plant and networking the new Quabbin laboratory. The proposed FY06 budget also includes MWRA network services to all staffed facilities, telephone services, leased lines for security connectivity to key water facilities and blackberry devices.*

## **FY05 Accomplishments**

### **Management Information Systems (MIS)**

- A new Chelsea EOC was opened in July with technology improvements to assist incident command staff. Staff also designed a smaller center for Western Operations.
- The data and voice communication infrastructure for the new John J. Carroll Treatment Plant was completed, as was network connectivity for the new Quabbin Laboratory.
- Staff completed hundreds of security patch installs, virus updates and spam control enhancements.
- The first year of 24-hour by 7-day intrusion detection monitoring was successful.
- LIMS, TRAC, MAXIMO and Lawson multi-year replacement and upgrade projects were kicked-off.
- Staff continued to expand SCADA and PICS management information system and developed new modules for Water Quality monitoring.

## PROCUREMENT

Final FY06 Current Expense Budget						
PROCUREMENT						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 2,970,520	\$ 3,090,184	\$ 2,948,357	\$ 3,198,158	\$ 249,801	8.5%
OVERTIME	7,987	4,312	7,587	10,000	2,413	31.8%
FRINGE BENEFITS	93	45	112	-	(112)	-100.0%
CHEMICALS	-	-	-	-	-	-
ONGOING MAINTENANCE	(53,880)	(194,370)	198,247	-	(198,247)	-100.0%
TRAINING & MEETINGS	4,008	6,397	4,847	14,600	9,753	201.2%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	3,044	105,077	101,093	95,112	(5,981)	-5.9%
OTHER SERVICES	55,295	58,955	73,799	61,859	(11,940)	-16.2%
<b>TOTAL</b>	<b>\$ 2,987,067</b>	<b>\$ 3,070,600</b>	<b>\$ 3,334,042</b>	<b>\$ 3,379,729</b>	<b>\$ 45,687</b>	<b>1.4%</b>

The Procurement Department includes three units. The **Purchasing Unit** operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The **Contract Management Unit** reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff direct the bid, review, and selection process, and maintain a contracts database. The **Materials Management Unit** manages an authority-wide inventory control and management system for better control, storage, distribution, and accounting of MWRA's inventory. The unit has consolidated existing inventory locations into three regional warehouses/distribution centers that will support all MWRA activities. The consolidation will result in better control, reduce inventory levels, and establish consistency across MWRA.

The goals of the Procurement Department are to:

- Procure materials, equipment, supplies, and construction, professional, and non-professional services in a timely, efficient, and openly competitive process in accordance with MWRA policies and procedures, including those related to meeting affirmative action goals.
- Maintain centralized, efficient, cost-effective management of spare parts and operating supplies inventory.
- Provide timely and high quality services to initiating divisions to enable MWRA programs to meet their public, production, and schedule responsibilities.

### **Budget Highlights**

- Total budget of \$3.4 million, represents a 1% increase over FY05 actual spending; includes \$3.295 million to support 49 positions.

## **FY05 Accomplishments**

### **Procurement**

- Competitively bid in CY04 Renewable Portfolio Standard certificates, resulting in revenues of \$635,000.
- Competitively bid electric power for Deer Island Treatment Plant and for selected Field Operations and Support Division facilities.
- Completed Phase I and II of John J. Carroll Water Treatment Plant fit out.

**REAL PROPERTY and ENVIRONMENTAL MANAGEMENT**

Final FY06 Current Expense Budget REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY03 Actual	FY04 Actual	FY05 Actual	FY06 Final	Change FY05 to FY06	
WAGES & SALARIES	\$ 616,072	\$ 532,870	\$ 504,471	\$ 454,711	\$ (49,760)	-9.9%
OVERTIME			271	-	(271)	-100.0%
FRINGE BENEFITS	12	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	1,477	2,080	1,343	2,440	1,097	81.7%
PROFESSIONAL SERVICES	(1,033)	283	916	10,000	9,084	991.7%
OTHER MATERIALS	2,441	989	942	2,038	1,096	116.3%
OTHER SERVICES	106,402	66,578	299,217	262,040	(37,177)	-12.4%
<b>TOTAL</b>	<b>\$ 725,371</b>	<b>\$ 602,800</b>	<b>\$ 807,160</b>	<b>\$ 731,229</b>	<b>\$ (75,931)</b>	<b>-9.4%</b>

The Real Property and Environmental Management Department negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects. Staff participate in selecting sites, negotiating acquisitions or easements, and managing the sale or lease of MWRA surplus real property. In addition, staff have developed and are maintaining the Real Property Database, the compilation of more than 100 years of easements and land rights for the water and sewer systems. Department staff manage environmental regulatory compliance at MWRA facilities and also provide special expertise and assistance to MWRA staff regarding air quality and hazardous material issues. Assistance includes management of oil and hazardous materials site assessment and remediation, and air emission permits negotiation and preparation and submittal of /quarterly/annual monitoring reports.

The goals of the Real Property and Environmental Management Department are to:

- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner, and manage the disposition of surplus real property in an efficient manner, as well as to provide staff and others with current information regarding MWRA's real property rights.
- Manage the centralized environmental management program, providing technical assistance regarding hazardous waste management, air quality compliance, and related issues during all phases of MWRA projects; and monitoring of and providing assistance in maintaining environmental regulatory compliance at MWRA facilities.

***Budget Highlights***

- *The total proposed FY06 budget of \$731,243 represents a decrease of 9% from FY05 actual spending.*



## **FY05 Accomplishments**

### **Real Property and Environmental Management**

- Completed the sale of 11.6 acres of land and water at FRSA to the MBTA for \$1.2 million, for the MBTA's continued use for water transportation service between Boston/Logan and the Quincy area.
- Executed the Purchase and Sale agreement for one more surplus parcel of land at FRSA known as the "Route 3A parcel" and anticipate the execution of a Purchase and Sale agreement for a second surplus parcel known as "Cleverly Court West" - anticipate closing on both parcels within 6 months. The Route 3A parcel sale price will be \$2,225,006. The Cleverly Court sale price will be \$2,145,000.
- Negotiated the final Deer Island Clean Air Act Operating Permit.



# Appendices

## APPENDIX A

### DESCRIPTIONS OF FUNCTIONAL AREAS

**Facilities Planning, Design, and Construction** - Management of planning, design, and construction activities to repair, rehabilitate, and construct MWRA transport, treatment, distribution, and support facilities. Functions include in-house engineering, drafting, surveying, technical assistance, environmental review, management of consultants, and construction project management, including contract management and administration.

**Wastewater Transport** - The continuous transportation and delivery of an average of more than 350 million gallons per day of wastewater from user communities to the Deer Island and Clinton treatment plants. Includes operation and maintenance of a large network of interceptors, and numerous pump stations, CSOs, and headworks facilities, as well as regular inspection of interceptors and tidegates. System operation requires 1) very careful attention to wet weather flows which can double or even triple average daily flows, and 2) response to emergency conditions such as flooding, back-ups, and illegal sewer discharges.

**Wastewater Treatment** - The continuous treatment of wastewater to meet NPDES requirements at the Deer Island and Clinton treatment plants, as well as the conversion of wastewater residuals from the Deer Island plant into fertilizer pellets or sludge cake at the residuals processing facility in Quincy. Includes operation, maintenance, and technical and administrative support for all treatment facilities.

## DESCRIPTIONS OF FUNCTIONAL AREAS – CONTINUED

**Water Transmission, Distribution, and Treatment** - The transmission, pumping, treatment, and delivery of 250 million gallons per day of potable water from the Quabbin and Wachusett reservoirs to MWRA user communities. Includes operation and maintenance of aqueducts, tunnels, pipelines, pump stations, and treatment facilities. Also includes generation and sale of hydroelectric power.

**Water and Wastewater Quality** - Activities which work to ensure that the water MWRA delivers to user communities and that the wastewater discharged from MWRA treatment plants meet appropriate quality standards. Includes the Environmental Quality Department, which monitors sewage influent and effluent quality and the resulting impact on Boston Harbor; the Laboratory Services Department, which performs more than 150,000 analyses per year, including 30,000 tests to monitor and ensure the purity and quality of MWRA water at the system and community levels; and the TRAC Department, which operates a multi-faceted program to minimize and control the inflow of hazardous and toxic materials into the sewer system and includes permitting and monitoring of more than 800 industries.

**Metering and Monitoring** - Operation and maintenance of MWRA's 150 water meters, more than 200 wastewater meters, and a variety of instrumentation devices to ensure the accuracy and integrity of the meter systems and the information MWRA uses to support hydraulic modeling, planning, pipeline maintenance and rehabilitation, and customer assessments.

## DESCRIPTIONS OF FUNCTIONAL AREAS – CONTINUED

**Facilities and Equipment Management and Support** - Management and maintenance of approximately 500 MWRA vehicles and pieces of communications equipment; management of the Fore River Staging Area and MWRA headquarters, including more than \$5.75 million in leases for CNY and Linden Street; management of the new Chelsea Facility; provision of supply- and demand-side energy management services; office supplies and postage; and provision of library and records management services, copying and printing services, and other general office services.

**Administration** - Senior management and support staff in the offices of the Executive Director, Finance Division Director and Operations Division Administration; also includes funding for the Advisory Board and other MWRA advisory committees (WSCAC, WAC).

**Financial Management** - Management of budgeting, accounting and payments, payroll, rates and revenue, capital financing, investments, grants and loans, auditing, and review of compliance with accounting and management control systems related to MWRA's annual spending.

**Law** - Provision of legal analysis and counsel to MWRA's operating and support areas including environmental regulation, real estate, labor relations, and claims management, as well as representation of MWRA in all court-related matters.

## DESCRIPTIONS OF FUNCTIONAL AREAS – CONTINUED

**Human Resources** - Management and administration of human resources policies and programs for MWRA's employees, including recruitment and hiring; wage and salary compensation and fringe benefits of more than \$104 million; labor relations and collective bargaining for five bargaining units; development, implementation, and evaluation of occupational health and safety programs and practices; health screening and CDL testing; a \$1 million workers' compensation program; and annual provision of technical and non-technical training to MWRA employees.

**Procurement** - Management of the purchase of goods and professional and construction services needed to support MWRA's operating and capital programs and to ensure compliance with statutory, regulatory, and policy requirements, including MBE/WBE procurement goals. The Procurement Department annually manages the procurement of more than \$40 million of goods and materials as well as the procurement of an estimated 575 contracts, amendments, and change orders valued at approximately \$475 million.

**Public Affairs** - Activities to enhance public understanding of MWRA's mission, goals, and services through media outreach, public information, and educational initiatives. Responds to legislative inquiries from the 82 representatives and 26 senators representing the MWRA service area. Coordinates MWRA response to construction-related, operations, and financial issues in each of the 61 MWRA member communities.

## DESCRIPTIONS OF FUNCTIONAL AREAS – CONTINUED

**MIS** - Provides hardware, software, network/voice communications, systems training, and programming resources including telephones, personal computers, word processing and spreadsheet software, electronic mail, and communications between remote sites and CNY. Specific applications and technologies are provided to support financial (budget, receivables/payables, rates, investments), operational (flow/meter capture, maintenance, materials management, safety), engineering (modeling, mapping, geographical information systems, project planning, computer-aided design), regulatory (TRAC, NPDES, water and wastewater quality), and administrative/support (payroll, training, contracts, purchasing) activities. This function is supported by the MIS Department, the FIS group at Deer Island, and other staff.

**Planning** - Coordinates development of the MWRA Business Plan and prepares other short-term and long-term plans to guide MWRA development and increase the overall efficiency and effectiveness of MWRA operations, maintenance, and capital programs; also includes the Real Property and Environmental Management Department, which negotiates the purchase or lease of real estate and land needed to support MWRA capital projects and provides special environmental and policy expertise and assistance to MWRA staff.

## APPENDIX B

### DIRECT EXPENSE BUDGET LINE ITEMS

#### **Introduction**

MWRA's direct expense budget funds the annual expenses of its operating and support divisions. Though the direct expense budget constitutes less than half of MWRA's total budget, it is these expenses which directly support the provision of water and sewer services to MWRA's customers. The direct expense budget includes the annual costs of operating the water and sewer systems, and funds the policy direction, administrative, financial, and legal support services for MWRA's ongoing operations. The direct expense budget also includes the personnel costs for management and oversight of MWRA's extensive capital programs.

There are 11 line items in the division budgets. The line items are:

**Wages and Salaries** - This line item includes funds for regular pay, shift differential, and holiday pay for MWRA staff, as well as funds for interns and temporary staff.

**Overtime** - This line item includes funds for overtime related to operations, emergencies, and training.

**Fringe Benefits** - This line item includes funds for health and dental insurance, unemployment compensation, Medicare, and overtime meals.

**Workers' Compensation** - This line item includes funds for compensation payments, medical payments, and settlements of compensation claims.

**Chemicals** - This line item includes funds for the chemicals used in water and wastewater treatment, such as chlorine, sodium hypochlorite,

potassium permanganate, and hydrofluosilicic acid.

**Utilities** - This line item includes funds for electricity, fossil fuels, and other utilities such as water and sewer services paid by MWRA to the towns in which it operates facilities.

**Maintenance** - This line item includes funds to purchase materials and services for the maintenance of MWRA's plants and machinery, water and sewer pipelines, grounds, and buildings.

**Training and Meetings** - This line item covers the costs of staff training, meetings, and professional seminars.

**Professional Services** - This line item funds outside consultants supporting MWRA activities, including engineering and construction services, laboratory and testing contracts, computer system consultants, and legal and audit services.

**Other Materials** - This line item includes funds for office materials, equipment, postage, laboratory supplies, MWRA vehicles, work clothes, and computer hardware and software.

**Other Services** - This line item includes funds for space leasing, health and safety initiatives, removal of grit and screenings from the sewerage system, and the contracted operation of MWRA's residuals processing plant.

Sections II – VI present summaries of the MWRA's five division budgets with a detailed description of program budgets and highlights within each division section.



**APPENDIX C**

**BUDGET PROCESS AND TIMETABLE**

MWRA operates on a fiscal year that starts July 1. The Current Expense Budget development process begins in September and, as described below, continues through a series of interactive reviews and revisions until June, when the Board of Directors approves the final budget. Throughout the formal budget process, MWRA staff maintain an ongoing dialogue with the Board of Directors and Advisory Board to discuss issues, the status of budget development, and other concerns.

**September** Divisions receive budget targets, guidelines, and manuals for the development of budget requests, and can begin to access MWRA’s interactive budgeting system.

**Nov-Dec** After the divisions return their budget requests, Rates and Budget Department staff compare the requests to the previous years’ budgets and expenses, review the justifications for the requests, and meet with program staff to clarify resource needs and identify opportunities for efficiencies.

**January** The Executive Director, supported by senior management, determines proposed funding levels required to meet service priorities. Staff may seek appropriate policy direction from the Board.

**February** MWRA transmits the Proposed Current Expense Budget to the Advisory Board for a 60-day review, during which time MWRA staff meet with Advisory Board staff, respond to questions, and provide updated information on plans and prices. (FY04 was an exception to this timetable since there is a first-time Governor and the House 1 budget was released in February versus January).

**Mar-April** MWRA hosts public hearings to solicit comments on the proposed budget community assessments from citizens in its service area. The Board of Directors may hold briefing sessions on the proposed budget. The Advisory Board transmits comments and recommendations on the proposed budget to MWRA.

**May** The Board of Directors holds a hearing on the proposed budget and the Advisory Board’s comments and recommendations.

**June** The Board of Directors adopts a final Current Expense Budget and a schedule of final wholesale water and sewer assessments.

## **APPENDIX D**

### **MASSACHUSETTS WATER RESOURCES AUTHORITY BUDGET AND ASSESSMENT POLICIES AND PROCEDURES**

**(Revised August 2003 to incorporate changes to capital budget section of Management  
Policies adopted by the Board of Directors June 11, 2003)**

These policies and procedures govern certain budget, assessment, and rates management practices at the Massachusetts Water Resources Authority (MWRA). Policies and procedures may be amended from time to time, provided that changes in provisions governing reporting to or approvals by the Board of Directors or the Advisory Board must be approved by the Board of Directors. If any sections of these policies and procedures are at variance with requirements of MWRA's financing agreements, the latter shall govern.

#### **ASSESSMENT POLICIES AND PROCEDURES**

##### **Basis of MWRA Assessments**

MWRA is required by its enabling act to establish assessments which, with other revenues, provide sufficient funds each year to pay all current expenses, debt service, and obligations to the Commonwealth; to pay all costs of maintenance, replacement, improvements, extension, and enlargement of the sewer and waterworks systems; to create and maintain reserve funds; and to provide amounts required by financing agreements. These assessments are adopted by MWRA based on the rate revenue requirements set forth in the Current Expense Budget.

##### **Costs Recovered**

MWRA capitalizes certain of its asset costs in accordance with its capitalization policy. Capital expenditures are planned as set forth in the Capital Improvement Program and are recovered through assessments in accordance with MWRA financing agreements. The Current Expense Budget provides detailed information on capital and debt costs, additions to reserves, and all operations and maintenance costs to be recovered with current revenue.

##### **Sources of Current Revenue**

MWRA recovers most of its current expenses from users of the services it provides. In addition to rate revenue requirements, budgeted current revenue includes anticipated fines, fees, investment income on certain fund balances, and payments for contracted services. MWRA is committed to seeking additional sources of current revenue.

## **Coverage Requirements**

MWRA's financing agreements include coverage requirements which provide that each year revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds. The primary bond coverage requirement is that net revenue must be 120 percent of required debt service fund deposits for bonds outstanding excluding subordinated bonds. The secondary coverage requirement is that net revenue must be 110 percent of required debt service fund deposits for all bonds outstanding, including subordinated bonds. Revenue must be raised annually to meet the primary and secondary bond coverage requirements and may be used for additions to reserves or for payment of obligations to the Commonwealth. Amounts remaining after these uses are used to pay capital costs in order to reduce the need for future borrowing or to reduce current debt service costs. In addition, MWRA has a supplemental bond coverage requirement that amounts contained in its Community Obligation and Revenue Enhancement (CORE) Fund shall equal 10 percent of required debt service fund deposits for bonds outstanding, excluding subordinated bonds. Amounts required to be on deposit in the CORE Fund are recovered through assessments as necessary.

## **Budget Surpluses**

In any year in which current revenue exceeds both current expenses on a budget basis and amounts required to meet bond coverage tests, the amount of over-recovery is deposited first to reserve funds, if any, which are below the level specified in any financing agreements, and second into MWRA's rate stabilization fund or bond redemption fund. Amounts deposited in these funds are used to offset rate requirements in subsequent years. Use of rate stabilization and bond redemption fund amounts is carried out in furtherance of MWRA's budgeting objectives and in accordance with its financing agreements. MWRA consults with the Advisory Board concerning use of amounts in the funds.

## **Budgeting and Assessment Objectives**

MWRA intends to follow prudent budgeting practices, and has the following objectives in developing budgets and community assessments:

1. To minimize total costs, consistent with MWRA's statutory responsibilities to provide effective, environmentally sound wholesale water delivery and wastewater collection and treatment services;
2. To minimize the cost of debt;
3. To avoid single year assessment spikes by prudent management of cost and assessment increases, and
4. To support inter-generational equity by avoiding unfair assessment burdens on either current or future ratepayers.

## **Allocation of Costs and Revenue to Systems**

Most of MWRA's current expenses are directly attributable to either water or sewerage service costs or to investment in either the water or sewerage systems. Expenses which support both systems (indirect system costs) are allocated to the water or sewer system based on generally accepted cost allocation principles. Investment, contract, and other income offsets water and sewerage expenses on either a direct or allocated, indirect basis. The resulting net cost of water and sewerage services is the amount to be recovered through water and sewer assessments.

## **Allocation of Rate Revenue Requirements to User Assessments**

Users of MWRA wholesale water and sewerage services are assessed for those services according to MWRA's water and sewer assessment methodologies. Assessments for water services are computed by MWRA based on metered water use for the immediately preceding calendar year. The total assessment is allocated based on each community's share of water delivered in the immediately preceding calendar year.

Assessments for sewer services are computed on the basis of a combination of metered wastewater flow and loads, and population.

- O&M costs are allocated based on total annual metered wastewater flow, and total annual average strength, septage, and high strength flow loads.
- Capital (or debt service) costs are allocated based on a combination of metered wastewater flow and loads, and population. One quarter of capital costs are allocated based on maximum month flow, and total annual average strength, septage, and high strength flow loads. The remaining three-quarters of capital costs are allocated based on population. Half of the population allocation is based on census population and half is based on contributing population.

## **Schedule and Procedure for Adoption of Assessments**

During the preparation of the proposed Current Expense Budget, required water and sewer rate revenue is determined, and a preliminary calculation of the allocation of costs to user-specific assessments is made. This information is provided to MWRA customers to assist them in their own fiscal planning. As provided in the Enabling Act, the proposed Current Expense Budget and preliminary assessments undergo statutory review, including public hearings and review by MWRA's Advisory Board. Further refinements of projected expenses and revenues also occur during this period. If review and analysis of the proposed Current Expense Budget results in lower projected expenses or higher projected revenue, some or all of such savings from preliminary estimates of assessments can be included in the adopted budget as additions to the rate stabilization fund and used to reduce rate revenue requirements in subsequent years. Alternatively, some or all of such savings can be used to reduce final assessments to customers below preliminary estimates.

The Current Expense Budget and final water and sewer assessments are adopted in June for the fiscal year beginning in July. The budget adopted in June may differ from the proposed budget as a result of review and further refinement of the proposed budget, although final assessments adopted by MWRA must be sufficient to recover water and sewer rate revenue requirements specified in the adopted budget. Final water and sewer rate requirements and their allocation to users may thus change from preliminary estimates. In addition, any individual community's final assessment may be higher or lower than the preliminary estimate, both because of changes in the factors which effect the allocation of assessments among wholesale customers, and because of differences between MWRA's proposed and final budgets as approved by the Board of Directors.

### **Review and Dispute Resolution Process**

MWRA annually determines preliminary and final assessments for water and sewer services in February and June prior to the beginning of the new fiscal year. These assessments must satisfy the requirement that MWRA fully recover its water and sewer costs by apportioning total costs as assessments among its wholesale water and sewer customers pursuant to its water and sewer rate methodologies and to certain specified-data including:

- Calendar year metered water volume and metered wastewater flow obtained from MWRA's water and wastewater metering systems;
- Federal and state community census statistics, and sewer population estimates and other information supplied on Customer Service Update forms and Municipal Discharge Permits; and
- High strength user monitoring data and estimates of community septage volumes as obtained by MWRA's Toxic Reduction and Control Department.

The review and dispute resolution process provides MWRA's wholesale customers with the opportunity to review and comment on the reasonableness of the data used to calculate preliminary water and sewer assessments. During the year MWRA provides its customers with monthly summaries of water and wastewater flow data distributed, at a minimum, on a bimonthly basis. Because annual metered water and wastewater flows are major components for establishing water and sewer charges for each community, customers are strongly encouraged to review this data closely upon receipt and raise questions with MWRA staff concerning the data. MWRA expects that prompt customer review and comment on meter data will result in the resolution of most water and wastewater metering questions and assure the most consistency between preliminary assessments in February and final assessments announced in June. Community contributions of high strength flow and septage, and population data are made available with the release of preliminary assessments in February.

If after an initial review a community believes that specific data used to calculate assessments should be reevaluated, a community may submit a written objection to the Executive Director with a copy to the Rates Manager or their designee. The objection must be signed by the local

official on record with MWRA as responsible for water or sewer services in the city, town, or district. The objection should state the community's concern with the data used to calculate community assessments, and should also include information and technical data to support the community's objection.

In order for any data adjustments to be incorporated into the allocation of final fiscal year assessments, all objections to data used to calculate preliminary assessments must be received no later than the date of the final public hearing on the proposed budget and preliminary assessments, held pursuant to Section 10 of the MWRA Enabling Act. MWRA staff will review and evaluate the merits of all written objections. Customers are notified in writing of the results of this review prior to the release of final assessments.

Adjustments to preliminary data, if any, are not retroactive beyond the applicable calendar year for proposed assessments. Final fiscal year assessments are calculated incorporating adjustments, if any, resulting from the review and objection process, and final rate revenue requirements as adopted by the Board of Directors.

Written objection(s) may also be submitted following the adoption of final fiscal year assessments, but no later than the end of the fiscal year for which the assessments are applicable. Objections submitted in this manner must also be directed to the Executive Director with a copy to the Rates Manager or their designee.

Following MWRA staff review, adjustments to assessments resulting from the challenge of rate basis data that are submitted following the adoption of final fiscal year assessments will be applied to the subsequent year's assessments. Customers are notified in writing of the results of this review and any assessment adjustments prior to the release of the subsequent year's assessments.

### **Water and Sewer Assessment Payment Schedule**

MWRA adopts a schedule of assessments and a schedule of payments annually. Any adjustments for prior years resulting from the review and objection process are apportioned to each of the scheduled payment amounts. No interest is paid or billed by MWRA for previous year's adjustments.

Beginning in FY2001, assessments are payable to MWRA in ten equal installments due on the first day of August, September, October, November, December, February, March, April, May, and June.

### **Interest Charge on Delinquent Payments**

For payments received after a payment date MWRA levies an interest charge of one percent per month or 0.033 percent per day. Interest charges do not accrue until 45 days after the bills are mailed to MWRA's customer communities. Interest charges are added to subsequent regular billings.

## **Retail Rates**

MWRA assessments are for MWRA's provision of wholesale services. Local bodies which receive wholesale services in turn provide retail services to their users at the local level.

MWRA encourages its customers to establish retail rates which:

1. Recover the full cost of providing local water and/or sewerage services, including both direct costs and an allocation or estimate of indirect costs,
2. Charge users of local water and/or sewerage services in a manner which demonstrates to customers that increased use of services results in increased user costs,
3. Comply with MWRA policies directed to conservation of water; elimination of infiltration and inflow of surface water and ground water into the sewage collection, treatment, and disposal system; and removal or pretreatment of industrial wastes, and
4. To the extent consistent with #1 and #2, provide assistance to low income users through lifeline rates.

## CAPITALIZATION POLICY

It is the policy of MWRA that capitalization of expenditures conform with generally accepted accounting principles. Under such guidelines, MWRA has adopted the provisions of the Financial Accounting Standards Board's Statement No. 71, "Accounting for the Effects of Certain Types of Regulation," which is intended to assure that utility revenues are appropriately matched with incurred costs. Capital expenditures create assets or extend their useful lives. Assets are valued at their cost and provide benefits over an extended period of time. Sources of funds for capital expenditures include grants, proceeds of MWRA borrowing, loans, and current revenue.

Asset value created by MWRA is of two kinds. One is the value of tangible assets either created or increased through MWRA capital investments. Such assets include land, buildings, plant, equipment, and the system infrastructure for water and wastewater. The cost of such fixed asset investment includes not only purchase, rehabilitation, and construction cost, but also ancillary expenses necessary to make productive use of the asset. Ancillary costs can include, but are not limited to, costs for planning studies, professional fees, transportation charges, site preparation expenditures, and legal fees and claims directly attributable to the asset.

The second kind of asset value created by MWRA investment is the value of intangible assets. While such investment does not result in tangible MWRA assets, it does create a benefit to MWRA and its users over several years. Such assets include the cost of MWRA efforts to establish base-line leak detection information for the water systems of MWRA customers. The cost of providing water consumption-limiting devices to households is another example.

Expenditures for tangible assets are included in the Capital Improvement Program and Budget if the expected cost of the individual asset or capital project is \$100,000 or more and if the expected useful life is more than one year. Expenditures for intangible assets are capitalized if the expected cost is \$100,000 or more and if the expected benefit period is three years or more. Annually recurring costs and expenditures for maintenance of assets are not capitalized, even though their cost may exceed \$100,000. Examples of such maintenance expenditures include replacement of vehicles or computers, replacement of inoperable valves or other equipment before the anticipated useful life has been reached, and pipeline or interceptor repairs that do not add significant life to the underlying asset.



## RESERVES FUNDED FROM CURRENT REVENUE

### **Operating Reserve**

The operating reserve has been established to provide a source of funds to be used to pay operating expenses of the sewer or water systems should there not be sufficient funds otherwise available for that purpose. Bond agreements specify that the fund level shall not be less than one-sixth of MWRA's annual operating expenses.

### **Insurance Reserve**

The insurance reserve has been established to provide funds to restore, replace, or reconstruct lost or damaged property or facilities of the water or sewer system. It provides funds reserved against risks for which MWRA does not currently maintain insurance. This self-insurance reduces the cost MWRA might otherwise incur for purchased insurance policies. MWRA periodically evaluates the level of its insurance reserve and every three years a consulting engineer or an insurance consultant recommends an appropriate insurance reserve fund requirement. The latest consultant review recommends an increase of \$3 million in the reserve's funding level over the next three years. Between FY2005 and FY2007, the budget includes an increase of \$1 million per year to increase the reserve to \$21 million.

### **Renewal and Replacement Reserve**

The renewal and replacement reserve has been established to fund a required capital improvement which is not provided for by moneys otherwise available. Amounts may not be withdrawn until MWRA has specified the project to which the amount will be applied and its estimated cost and estimated completion date. It must also certify that such expenditure is reasonably required for the continued operation of the systems or for maintenance of revenues and that other provisions have not been made for funding such expenditures. Every three years, MWRA receives recommendations from a consulting engineer as to the adequacy of the renewal and replacement reserve fund requirement. During FY2000, based on the recommendation of its consulting engineer, MWRA reduced the size of the renewal and replacement reserve to \$35 million from \$50 million.

## CURRENT EXPENSE BUDGET MANAGEMENT POLICIES AND PROCEDURES

### **A. Budget Allocations**

#### **Budget Contingency Holdbacks**

After the Board of Directors adopts the Current Expense Budget each year, the Executive Director, the Chief Operating Officer, or a division director may reserve between two percent and four percent of a division's approved budget as a budget contingency to be expended only upon approval of the Executive Director. The contingency holdback may be from any line item or cost center or combinations thereof, and any amount reserved as a budget contingency is not be included in the monthly budget allocation process described below. The Administration and Finance Committee will be notified of all budget contingency holdback amounts.

#### **Monthly Allocation of the Annual Current Expense Budget**

Initial monthly allocations are made for purposes of adopting and filing an operating budget in accordance with MWRA's financing agreements. Before the end of the first reporting period of the fiscal year, divisions, with the assistance of the Rates and Budget Department, allocate the approved budget, less any holdbacks, by month.. The allocations set forth planned expenditures and accruals for each of the 12 months of the year to be compared to actual expenditures and accruals as reported in MWRA's monthly variance reports.

### **B. Budget Variance Monitoring and Analysis**

At the close of each monthly accounting period, the Treasury Department prepares MWRA financial statements.. The Rates and Budget Department then prepares monthly variance reports that compare planned and actual revenues and expenses.

#### **Variance Analysis**

Division directors and staff review variance reports and explain variances between planned and actual expenditures as requested by the Rates and Budget Department. Variance explanations are prepared as needed, usually at the end of each quarter of the fiscal year. At least twice each year MWRA staff prepare forecasts of year-end expenditures and revenue . Barring extraordinary circumstances, division directors are responsible for controlling spending within the overall division budget. The Rates and Budget Department reviews all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA budget.

Variance explanations are submitted to the Rates and Budget Department in accordance with the schedule developed by the Rates and Budget Department. Each month the Rates and Budget Department prepares a summary of budget variances for inclusion in the Management Indicators Report (Yellow Notebook). The Rates and Budget Department also prepares a monthly staff summary (except for July and August) to the Board of Directors describing major budget

variances and a quarterly budget variance report for inclusion in the Board of Directors Report on Key Indicators of MWRA Performance (Orange Notebook). At least twice a year, the Rates and Budget Department prepares a staff summary to the Board of Directors on year-end projections of revenue and expenses.

### **C. Budget Amendments**

An amendment to an MWRA Current Expense Budget is defined as follows:

A proposed change in an adopted budget or a proposed budget transmitted to the MWRA Advisory Board in accordance with Section 8(b) of Chapter 372 of the Acts of 1984 which meets any of the following criteria:

1. Any increase in total current expenses.
2. An increase of five percent or more in total division expenses.
3. An increase in any expense line item (subsidiary account) of 15 percent or more if that line item is at least 2.5 percent of total current expenses.
4. An addition or deletion of a specific new program or initiative, the cost of which is greater than one percent of total current expenses, unless the addition or deletion has been specifically recommended by the Advisory Board.

The Executive Director, with the concurrence of the Chairman of the Board of Directors and the Chairman of the Administration and Finance Committee of the Board of Directors, submits proposed amendments to the Advisory Board for comment and recommendation. At the end of the Advisory Board 30-day review period, the Board of Directors may take action on the amendment.

## **CAPITAL BUDGET MANAGEMENT POLICIES AND PROCEDURES**

### **Capital Budget Spending Cap**

Every five years, beginning in June 2003 for the period FY04 through FY08, the Board will establish a five-year Capital Budget Spending cap and annual caps for each year of the cap period. Spending for any year in the cap period may, with Board approval, vary within plus or minus 20% of the annual cap, as long as total spending for the five-year period does not exceed the five-year cap. Before the end of each five-year cap period, the Board will adopt a cap for the next five-year period and annual caps for each year in the period.

## **Capital Budget Contingency**

A contingency for each fiscal year is incorporated into the Capital Improvement Program for the purpose of providing for unanticipated or unpredictable expenditures under the CIP spending cap.

## **Expenditures in Excess of the Spending Cap**

In the event of unanticipated spending requirements, the Executive Director may recommend to the Board of Directors that annual expenditures exceed an annual cap by more than 20% or that five-year expenditures exceed the current five-year CIP spending cap. In such an event, a proposed plan to adjust the five-year cap or any of the annual caps will be presented to the Board. Any such proposed plan will be submitted to the MWRA Advisory Board for review and comment for a period of thirty days. At the end of the thirty-day period, the Board of Directors may take action on the proposed plan.

## **Capital Budget Monitoring and Reporting**

The Authority shall continually monitor the progress of capital projects for purposes of managerial control and decision-making and for financial planning and management. Two capital budget variance analysis reports will be provided to the Board of Directors, one for the first six months of a year and one at year end. The reports will include planned project schedules and budgets compared to actual performance. The reports will highlight any major changes, either in scope or budget, of any project. Based on these reports, staff may recommend to the Board of Directors revisions, if appropriate, to the annual and five year caps based upon said changes. In addition, capital budget progress reports shall be provided to the Board of Directors on a regular basis, both as project specific updates and in Quarterly Orange Notebook reports that shall include discussions of project progress compared to schedules. Monthly Financial Summary reports shall include discussions of capital expenditures compared to budget.

## APPENDIX E

MWRA Planning Estimates FY2007 to FY2015									
	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
<b>EXPENSES</b>									
Direct Expenses	\$191,295	\$196,636	\$201,494	\$206,425	\$211,589	\$217,074	\$222,441	\$228,002	\$233,703
Indirect Expenses	44,804	41,566	41,614	42,774	46,127	49,499	49,540	53,201	50,966
Capital Financing (before offsets)	353,046	380,118	399,688	445,184	465,739	485,973	508,687	501,114	504,471
Sub-Total Expenses	\$589,145	\$618,320	\$642,796	\$694,383	\$723,454	\$752,547	\$780,668	\$782,317	\$789,139
Debt Service Assistance	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	(18,000)	(6,246)	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0
Total Expenses	\$571,145	\$612,074	\$642,796	\$694,383	\$723,454	\$752,547	\$780,668	\$782,317	\$789,139
<b>REVENUE &amp; INCOME</b>									
Non-Rate Revenue & Income									
Interest Income/Other Charges	\$41,024	\$39,910	\$40,784	\$41,929	\$42,714	\$42,786	\$43,238	\$43,414	\$43,614
Rate Stabilization	16,604	14,018	0	1,933	0	0	0	0	0
Total Non-Rate Revenue	\$57,628	\$53,929	\$40,784	\$43,861	\$42,714	42,786	43,238	43,414	43,614
Total Rate Revenue	\$513,518	\$558,146	\$602,012	\$650,521	\$680,740	\$709,761	\$737,430	\$738,903	\$745,525
Rate Revenue Increase	8.7%	8.7%	7.9%	8.1%	4.6%	4.3%	3.9%	0.2%	0.9%
Estimated Annual Household Charge **									
Charge based on DEP data (weighted)	\$677	\$727	\$779	\$834	\$874	\$913	\$951	\$998	\$1,020
Charge based on 90,000 gal. (weighted)	\$999	\$1,073	\$1,149	\$1,230	\$1,290	\$1,346	\$1,403	\$1,426	\$1,457
<b>WASTEWATER</b>									
<b>EXPENSES</b>									
Direct Expenses	\$131,632	\$136,001	\$139,241	\$142,507	\$145,566	\$149,064	\$152,869	\$156,261	\$160,703
Indirect Expenses	10,963	10,832	10,093	10,053	9,979	10,016	10,036	9,943	10,107
Capital Financing (before offsets)	238,799	257,664	271,631	309,427	316,294	341,882	361,875	350,751	350,292
Sub-Total Wastewater Expenses	\$381,394	\$404,496	\$420,965	\$461,987	\$471,839	\$500,962	\$524,780	\$516,956	\$521,102
Debt Service Assistance	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	(8,400)	(4,357)	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$372,994	\$400,139	\$420,965	\$461,987	\$471,839	\$500,962	\$524,780	\$516,956	\$521,102
<b>REVENUE &amp; INCOME</b>									
Non-Rate Revenue & Income									
Interest Income/Other Charges	\$24,811	\$23,635	\$23,880	\$24,623	\$24,756	\$25,019	\$25,372	\$25,328	\$25,337
Rate Stabilization	12,002	7,727	0	0	0	0	0	0	0
Total Non-Rate Revenue	\$36,813	\$31,362	\$23,880	\$24,623	\$24,756	25,019	25,372	25,328	25,337
Wastewater Rate Revenue	\$336,181	\$368,777	\$397,085	\$437,364	\$447,083	\$475,943	\$499,408	\$491,627	\$495,765
Rate Revenue Increase	6.5%	9.7%	7.7%	10.1%	2.2%	6.5%	4.9%	-1.6%	0.8%
Estimated Annual Household Sewer Charge **									
Charge based on DEP data (weighted)	\$393	\$427	\$457	\$499	\$513	\$544	\$571	\$589	\$600
Charge based on 90,000 gal. (weighted)	\$581	\$630	\$675	\$736	\$756	\$803	\$842	\$841	\$856
<b>WATER</b>									
<b>EXPENSES</b>									
Direct Expenses	\$59,663	\$60,636	\$62,254	\$63,918	\$66,022	\$68,010	\$69,572	\$71,741	\$73,000
Indirect Expenses	33,840	30,734	31,520	32,721	36,148	39,483	39,504	43,258	40,859
Capital Financing (before offsets)	114,247	122,044	127,646	135,347	149,034	143,681	146,401	150,362	154,179
Sub-Total Water Expenses	\$207,751	\$213,413	\$221,420	\$231,986	\$251,205	\$251,174	\$255,478	\$265,361	\$268,037
Debt Service Assistance	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	(9,600)	(1,889)	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$198,151	\$211,524	\$221,420	\$231,986	\$251,205	\$251,174	\$255,478	\$265,361	\$268,037
<b>REVENUE &amp; INCOME</b>									
Non-Rate Revenue & Income									
Interest Income/Other Charges	\$16,213	\$16,275	\$16,904	\$17,306	\$17,958	\$17,767	\$17,867	\$18,085	\$18,277
Rate Stabilization	4,602	6,291	0	1,933	0	0	0	0	0
Total Non-Rate Revenue	\$20,815	\$22,566	\$16,904	\$19,238	\$17,958	\$17,767	\$17,867	\$18,085	\$18,277
Water Rate Revenue	\$177,336	\$188,958	\$204,516	\$212,747	\$233,247	\$233,407	\$237,612	\$247,276	\$249,760
Rate Revenue Increase	13.3%	6.6%	8.2%	4.0%	9.6%	0.1%	1.8%	4.1%	1.0%
Estimated Annual Household Water Charge **									
Charge based on DEP data (weighted)	\$283	\$300	\$321	\$335	\$362	\$369	\$380	\$410	\$420
Charge based on 90,000 gal. (weighted)	\$418	\$443	\$474	\$495	\$534	\$544	\$560	\$585	\$600

\*\* Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Estimated household charges based on DEP data are based on average residential consumption of 61,000 gallons per year. The ratio of MWRA to local charge is assumed to be 31% local, 69% MWRA in FY05

## APPENDIX F

### GLOSSARY OF FINANCIAL AND OPERATING TERMS

**8M permit:** Permission granted by MWRA to persons who wish to construct property improvements on land either adjoining or overlapping MWRA property interests. Permission may be conditioned on various operational and/or engineering concerns.

**Accrued Costs:** Adjustments to paid expenditures to account for materials or services received but for which payment has not been made.

**Activated Sludge:** The sludge that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment.

**Advanced Waste Treatment:** Wastewater treatment beyond the secondary or biological stage that includes the removal of nutrients such as phosphorus and nitrogen and the removal of a higher percentage of suspended solids and organic matter than primary treatment.

**Advisory Board:** The agency that represents the interests of MWRA's 61 user communities to the Board of Directors in an advisory capacity in accordance with the provisions of MWRA's Enabling Act. The Advisory Board elects three members of the Board of Directors, reviews and comments on MWRA's CIP and CEB, and approves the addition of new communities to the wastewater and water systems.

**Aerobic:** In the presence of oxygen.

**Anaerobic:** Life or processes such as bacteria that digest sludge that require, or are not destroyed by, the absence of oxygen.

**AOC:** Assimilable Organic Carbon - One measure of the "food" available to bacteria within a water system. More complex carbon compounds can become assimilable when oxidized by strong disinfectants.

**Ash:** The inert material remaining after the combustion of wastewater sludge. Ash is either wet or dry depending on combustion system design.

**Bacteria:** One-celled microscopic organisms commonly found in the environment. Bacteria can be harmful, such as pathogens or helpful and perform a variety of biological treatment processes.

**BDOC:** Biologically Degradable Organic Carbon - Another, more precise, measure of the "food" available to bacteria within a water system.

**BGD:** Billion gallons per day.

**Biofilm:** Growth of various bacteria within a water distribution system on the pipe walls. Biofilm growth can contribute to iron corrosion, colored water, poor taste, excessive chlorine demand, and complications with coliform testing.

**Blow-off valves:** Valves operated during pipeline repair to de-water (drain) a portion of a pipeline.

**BOD:** Biochemical Oxygen Demand - An indicator of the amount of biodegradable contaminants in wastewater.

**Board of Directors:** The 11-member governing board of MWRA.

**Bond Resolution:** A document adopted by the Board of Directors that governs MWRA's issuance of revenue bonds and sets forth its obligations to bondholders.

**Boston Harbor Project:** An extensive plan of activities which MWRA developed and implemented to construct new wastewater treatment facilities in response to a federal court order to comply with the provisions of the U.S. Clean Water Act.

**Business Systems Plan (BSP):** The strategic planning framework for MWRA's management information systems. The BSP is updated annually to reflect ongoing business requirements, new opportunities identified by ongoing MWRA strategic planning efforts, technology changes, and user requests.

**BWSC:** Boston Water and Sewer Commission - The agency responsible for providing water and sewer services to the City of Boston, MWRA's largest customer.

**CAC:** Citizens' Advisory Committee.

**CADD:** Computer aided drafting and design.

**Capital Improvement Program (CIP):** A plan which identifies and estimates the nature, schedule, cost, and financing of long-term assets that MWRA intends to build or acquire during a specific period.

**Capital Investment:** Development of a facility or other asset that adds to the long-term value of an organization.

**CDF:** Cosgrove Disinfection Facility

**Cathodic Protection:** A form of corrosion protection that is particularly effective against galvanic corrosion. Galvanic corrosion occurs when pipe metal is in the presence of other metals while immersed in water. The interaction of these elements causes an electric current to flow away from the pipe, taking electrons with it and pitting the pipe as a result. Cathodic protection reverses the current, thereby stopping the corrosion.

**Centrifuge:** A machine that uses centrifugal force to separate substances of different densities and remove moisture. MWRA uses centrifuges at the Deer Island Wastewater Treatment Plant to de-water sludge.

**CFM:** Cubic Feet per Minute - A measure of the quantity of a liquid flowing through a pipe.

**Chloramination:** The process of adding chloramine to drinking water. Chloramine, a form of chlorine and ammonia, is used as a residual disinfectant because it lasts longer in the water distribution system than primary disinfectants.

**Chloramine:** A long lasting residual disinfectant created by combining measured amounts of chlorine and ammonia. Chloramine forms fewer disinfection by-products than chlorine.

**Chlorination:** The process of adding chlorine to drinking water to inactivate pathogens.

**Chlorine:** A relatively strong primary disinfectant, effective against bacteria, *giardia*, and viruses, but not *cryptosporidium*. Concerns exist about the health effects of its by-products, some of which are or will be regulated.

**Clarifiers:** Settling tanks or basins in which wastewater is held for a period of time, during which heavier solids settle to the bottom and lighter materials float to the surface.

**Clean Water Act:** A law passed by Congress in 1972, and subsequently amended, which sets national standards for pollution reduction, permits discharges from wastewater treatment plants, and promotes achievement of the national goal that all surface waters be "fishable and swimmable."

**Cleaning and Lining:** Cleaning and cement lining of unlined cast iron water mains to improve hydraulic capacity and extend useful life.

**Coliform bacteria:** A group of lactose fermenting bacteria, which while not of direct health concern, are used as a first line indicator of potential problems. See fecal coliform and *E.coli*.

**Comminutor** - A machine or process that pulverizes and reduces solids to minute particles.

**Commonwealth Debt Service Assistance (DSA):** Funds appropriated by the Commonwealth to offset MWRA capital financing expenses.

**Commonwealth Reimbursements:** Income received from the Commonwealth of Massachusetts as reimbursement for certain chemical and operational costs in accordance with prevailing legislation.

**Community Obligation and Revenue Enhancement (CORE) Fund:** A fund established by MWRA's bond resolution that is used to provide insurance against delays by communities in paying charges due to MWRA.

**Composting:** The process of converting wastewater treatment residuals to a soil-like humus material often used in the horticultural industry. The process involves the aerobic breakdown of the residuals and the addition of sawdust or wood chips.

**Corrosion Control:** Adjustments to the chemistry of treated water to reduce its ability to dissolve lead, copper, or other metals. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates.

**Coverage Requirement:** Requirement of MWRA's bond resolution which provides that pledged revenue available annually to pay debt service must exceed the annual debt service requirement by a certain percentage.

**Cross-Connection:** A point at which potable water piping is connected to a non-potable water source creating an opportunity for the introduction of pollutants into the potable water.

**Cryogenic oxygen plant:** MWRA operates a cryogenic oxygen-based facility as part of its secondary wastewater treatment program at Deer Island.



***Cryptosporidium***: A protozoan parasite that can cause severe gastrointestinal disease in healthy individuals, and may be fatal to people with compromised immune systems. *Cryptosporidia* exist in the environment as hard walled oocysts that are very resistant to chlorination, but can be inactivated by disinfection with ozone or ultraviolet light.

**CSO**: Combined Sewer Overflow – An overflow point in a combined sewer system that collects both sewage and storm water runoff for wastewater treatment. During rainstorms, systems can become overloaded, with the excess discharged directly into surface waters from CSO pipes. In the metropolitan Boston area there are approximately 63 CSOs that currently discharge into rivers or Boston Harbor.

**CSO Facilities**: MWRA has five facilities that intercept the flow from CSO pipes and provide limited wastewater treatment prior to discharge. The CSO facilities have some capacity to store flow and pump it to the Deer Island plant after rainstorms end.

**CT**: Concentration x Contact Time - A measure of disinfection effectiveness established under the Surface Water Treatment Rule. CT is the product of the concentration of disinfectant [C] and the time it has been in contact with the water [T]. Required CT varies by type of disinfectant, organism, temperature, and pH.

**Current Expense Budget**: A financial plan that estimates the revenues and expenses associated with MWRA's operations for a fiscal year.

**C-Value**: The carrying capacity of a water main for a specified length and pressure drop that is determined by its diameter and resistance to flow. The friction coefficient "C" of the main is often used as a measure of flow resistance. C-values for new pipe are about 120 for water mains that are 6- to 16-inches in diameter, and 130 and 140 for larger diameter mains.

**DAF**: Dissolved Air Flotation - A process of adding super saturated air into water to cause coagulated solids to rise to the top to be skimmed off. DAF replaces conventional gravity sedimentation (clarification) and is particularly cost-effective for low turbidity waters subject to periodic algae blooms.

**DBP**: Disinfection By-products - Complex compounds formed by the use of oxidizing agents such as chlorine or ozone in waters containing organic matter.

**D/DBP Stage 1**: Disinfectants/Disinfection By-products, Stage 1 Rule – Promulgated 11/1998, and effective 1/2002, this rule set DBP limits at 80 parts per billion for Trihalomethanes and 60 parts per billion for Haloacetic Acids, averaging all samples over four quarters.

**D/DBP Stage 2**: Disinfectants/Disinfection By-products Stage 2 Rule-. The federal government expects to issue this rule in draft form late in 2002 and promulgate the final rule in late 2003. The rule will further regulate the amount of DBPs allowed in water. The 80/60 values set in Stage 1 will now apply to each individual sample location in a "Locational Running Annual Average".

**Debt Service**: In a given fiscal year, the amount of money necessary to pay interest and principal on outstanding notes and revenue bonds.

**DEP**: Department of Environmental Protection - The Massachusetts agency that regulates water pollution control, water supplies, and waterways and dispenses federal and state grant funds to support these activities.

**Department**: A sub-unit of an MWRA division.

**De-watering:** The process of removing water from wastewater treatment residuals. De-watered sludge has the appearance of mud or wet soil material.

**Diffusers:** A system of shafts, rising from the end of MWRA's effluent outfall tunnel to the seabed, that disperses treated wastewater over a large area.

**Digesters:** Tanks for the storage and anaerobic or aerobic decomposition of organic matter present in sludge.

**Direct Program Expenses:** Costs directly associated with providing services or performing activities.

**Disinfection, Primary:** The inactivation (killing) of pathogenic organisms in a water system by the use of chemical or other disinfection agents.

**Disinfection, Residual:** The presence of a measurable residual of disinfectant within a water distribution system to help control bacterial re-growth and guard against contamination.

**Dissolved Oxygen (DO):** A measure of the amount of oxygen in a given amount of water. Adequate levels of DO are needed to support aquatic life. Low dissolved oxygen concentrations can result from inadequate wastewater treatment.

**Division:** A major organizational unit within MWRA, encompassing the activities and resources for providing a major service or function.

**Division of Watershed Management (DWM):** A division of the Metropolitan District Commission (MDC) responsible for watershed management activity. MWRA reimburses the Commonwealth for the cost of DWM's operations.

**E.coli:** A normal inhabitant of the digestive tract of mammals. The presence of *E.coli* indicates probable contamination by fecal matter.

**Effluent:** Treated wastewater discharged from a treatment plant.

**EIR:** Environmental Impact Report – A document prepared in adherence with the Massachusetts Environmental Policy Act (MEPA) to review the environmental impact of projects and ensure opportunities for public review and comment.

**EIS:** Environmental Impact Statement – A document prepared in adherence with the National Environmental Policy Act to review the environmental impact of projects and ensure opportunities for public review and comment.

**Enabling Act:** Legislation (Chapter 372 of the Acts of 1984) that established MWRA and defined its purpose and authority as of January 1, 1985.

**ENF:** Environmental Notification Form - The first step in the MEPA process.

**EOC:** Emergency Operations Center

**EOEA:** Executive Office of Environmental Affairs - The Massachusetts cabinet office that oversees state environment agencies.

**EPA:** Environmental Protection Agency - The federal government agency responsible for environmental enforcement and investigation.

**ESWTR:** Enhanced Surface Water Treatment Rule - A federal rule is being promulgated in three stages:

1) Interim Enhanced Surface Water Treatment Rule (IESWTR): The IESWTR was promulgated in 1998 and tightened the requirements for the operation of water filtration plants in large systems to take a first step toward controlling *cryptosporidium* in source waters. IESWTR also added *cryptosporidium* to the list of issues considered within watershed protection plans for unfiltered systems.

2) LT1ESWTR primarily extends the IESWTR to smaller systems

3) LT2ESWTR: The federal government expects to issue LT2ESWTR as a draft in late 2002, and to promulgate the final rule in late 2003. LT2ESWTR will further tighten the standards for the operation of filtration plants and add requirements for 99% inactivation of *cryptosporidium* and the use of two primary disinfectants for unfiltered systems. The concept of proportional treatment, with less treatment required for cleaner sources, will be implemented as part of the rule.

**Eutrophication:** Nutrient enrichment of a lake or other water body typically characterized by increased growth of planktonic algae and rooted plants. Eutrophication can be accelerated by wastewater discharges and polluted runoff.

**Expenditures:** Payments for goods and services received.

**Expenses:** Costs associated with the operating activities of a period, including expenditures and accrued costs.

**Facility Information System (FIS):** The management information system at the Deer Island Treatment Plant.

**Fecal coliform bacteria:** A group of bacteria used as a primary indicator organism for potential contamination from human or animal waste. Also called thermo-tolerant bacteria. Specific organisms in the group may or may not be of health concern (see *E.coli*).

**Filtration:** A water treatment process involving the removal of suspended particulate matter by passing the water through a porous medium such as sand or carbon.

**Fiscal Year:** The 12-month financial period used by MWRA that begins July 1 and ends June 30 of the following calendar year. MWRA's fiscal year is numbered according to the calendar year in which it ends.

**Flash coat:** A light coat of shotcrete used to cover minor blemishes on a concrete surface.

**Force Main:** A pressure pipe joining the pump discharge at a water or wastewater pumping station with a point of gravity flow.

**Giardia:** A protozoan parasite that can cause severe gastrointestinal disease, although there is medical treatment available. *Giardia* exist in the environment as hard-walled cysts, and are moderately resistant to chlorine disinfection.

**Goal:** A statement in general terms of a desired condition, state of affairs, or situation. Goals, which are long-term in nature and not usually directly measurable, provide general direction for the activities of operating units.

**Graphitization:** A corrosion mechanism that alters the molecular structure of the carbon/iron matrix of cast iron pipe. During the process, iron atoms are forced away from the metal leaving behind an unstable carbon matrix. The result is a weakened pipe, easily susceptible to ruptures. High frequency in the number of breaks causes leakage to be a major problem of graphitized pipe.

**Grit:** Sand-like materials that quickly settle out of wastewater.

**Groundwater:** A body of water beneath the surface of the ground. Groundwater is made up primarily of water that has seeped down from the surface.

**HAA:** Haloacetic Acids - A class of disinfection by-products related to chlorine disinfection. HAAs are regulated under D/DBP Stage 1 Rule at 60 ppb.

**Harbor Electric Energy Company (HEEC):** A subsidiary of the Boston Edison Company which installed a cross harbor power cable and built a sub-station to provide power for construction and operation of the new Deer Island Treatment Plant.

**Head House:** A structure containing the control gates to a conduit such as a sewer pipeline.

**Headworks:** A preliminary treatment structure or device, usually including a screening and de-gritting operation, that removes large or heavy materials such as logs and sand from wastewater prior to primary treatment.

**Heavy Metals:** Metals such as lead, silver, gold, mercury, bismuth, and copper that can be precipitated by hydrogen sulfide in an acid solution.

**ICC:** Interim Corrosion Control Facility - A facility located in Marlborough near Walnut Hill, where MWRA adjusts pH and alkalinity to reduce the leaching of lead from home plumbing.

**Incentives and Other Charges:** A fee system designed to help recover permitting, inspecting, and monitoring costs incurred by MWRA's TRAC Program and provide incentives to permitted users to reduce discharges.

**Indirect Expenses:** Costs not directly associated with providing services or performing activities.

**Infiltration/Inflow (I/I):** The problem of clean water flows entering sewers resulting in diminished pipe capacity for sanitary flows and in costly pumping and treatment of unnecessarily large wastewater volumes. Infiltration is groundwater that leaks into the sewerage system through pipe joints and defects. Inflow, primarily a wet-weather phenomenon, refers to water that enters sewers from improperly connected catch basins, sump pumps, land and basement drains, and defective manholes. Inflow also enters through improperly closed or defective tidegates during high tides.

**Influent:** The flow of water that enters the wastewater treatment process.

**Insurance Reserve:** A fund established to adequately reserve against risks for which MWRA does not currently maintain insurance.

**Interceptors:** The large pipes that convey wastewater from collection systems to treatment plants.

**Investment Income:** Income derived by investing certain operating and reserve fund balances in interest-yielding securities in accordance with the provisions of MWRA's bond resolution.

**Labor Costs:** Direct costs of employing permanent and temporary personnel, including wages, salaries, overtime pay, fringe benefits, and workers' compensation.

**Land Application:** The use of wastewater treatment residuals on land for agricultural benefits.

**Landfilling:** The disposal of residuals by burial. Modern landfills have double liners, leachate collection systems, and other design features to protect against groundwater contamination.

**LCR:** Lead and Copper Rule – A federal rule that set an action level for lead and copper at “worst case” consumer taps. Optimized corrosion control, notification, education, and lead service replacements are all components of compliance plans.

**Leachate:** Water that drains from a landfill after having been in contact with, and potentially contaminated by, buried residuals. Modern landfills are designed to collect leachate for subsequent treatment.

**Limnology:** The scientific study of physical, chemical, meteorological, and biological conditions in fresh waters.

**LIMS:** Laboratory Information and Management System – An automated database system used to transfer information between MWRA’s Central Laboratory and to its client groups and to process information obtained by the Central Laboratory to monitor substances that enter and leave the MWRA wastewater system. Use of LIMS removes the potential for human error in the sampling process by bar coding samples, eliminating the need to transcribe sample data, producing pre-printed project-specific sample check-off forms for field crews, and automating testing through pre-set test codes and project specific parameters.

**Mapping Protocols:** Sets of specifications defining the content and format of data to be collected.

**MCL:** Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available control technology.

**MCLG:** Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**MDC:** Metropolitan District Commission - Prior to 1985, the agency responsible for water and sewer services in metropolitan Boston, a responsibility MWRA assumed in July, 1985. MDC continues to oversee and manage parks and recreational areas, roadways in the metropolitan area, and the watershed system including the Quabbin, Wachusett, and Sudbury Reservoirs.

**Massachusetts Environmental Policy Act (MEPA) Unit:** A unit of the Commonwealth’s Executive Office of Environmental Affairs responsible for implementation of the state environmental review process.

**Methane:** A colorless, nonpoisonous, flammable gas produced as a by-product of anaerobic sludge processing. At Deer Island, MWRA uses methane as fuel to provide heat and hot water and to generate electricity.

**MGD:** Million gallons per day.

**MIS:** Management Information Systems

**Mission:** A description of the fundamental purposes and major activities of an operating unit or program.

**Mitigation:** Financial remuneration or non-financial considerations that MWRA provides to communities to alleviate the negative effects of major construction projects.

**Molybdenum (Mo):** A metallic element that resembles chromium and tungsten in many properties, and is used in strengthening and hardening steel. Mo is a trace element in plant and animal metabolism.

**NEFCo:** New England Fertilizer Company - The contractor responsible for the operation of barging and processing sludge into fertilizer pellets at MWRA's residuals processing plant located in Quincy. NEFCo is also responsible for marketing and distributing the pellets and disposing of any product that is not marketable.

**National Pollutant Discharge Elimination System (NPDES) Permit:** A permit issued by EPA in conjunction with DEP that governs wastewater discharges into surface waters.

**Nitrification:** An aerobic process in which bacteria changes the ammonia and organic nitrogen in wastewater into oxidized nitrogen (usually nitrate). Second-stage BOD is sometimes referred to as the nitrification stage (first-stage BOD is called the carbonaceous stage). Also, a similar process in the water distribution system, where ammonia from chloramine can be used by nitrifying bacteria, resulting in a reduced chlorine residual, and the potential for additional bacteria growth.

**OCC:** Metropolitan Operations Control Center, located at MWRA's Chelsea Facility.

**Operating Reserve:** A fund established to adequately reserve for operating contingencies, required by MWRA's bond resolution to be not less than one-sixth of the its annual operating expenses.

**Organic Matter:** Material containing carbon, the cornerstone of plant and animal life. It originates from domestic and industrial sources.

**Other User Charges:** Revenue received per agreements MWRA has for provision of water, sewer, and other services to entities other than communities which are charged assessments.

**Outfall:** The place where effluent is discharged into receiving waters.

**Ozonation:** The application of ozone to water, wastewater, or air, generally for the purposes of disinfection or odor control. MWRA is constructing a new water treatment plant at Walnut Hill that will use ozone to inactivate pathogens, including *cryptosporidium*, with lower levels of DBPs.

**Ozone:** A strong disinfectant made from oxygen and electrical energy. Ozone is effective against *cryptosporidium*.

**Pathogens:** Harmful organisms, often called germs that can cause disease. Waterborne pathogens (or the diseases they cause) include *giardia*, *cryptosporidium*, cholera, typhoid, *E.coli*, Hepatitis A, *legionella*, and MAC.

**Payments in Lieu of Taxes (PILOT):** Amounts which MWRA pays each fiscal year to cities and town for land owned by the Commonwealth in the Quabbin, Ware River, Wachusett, and Sudbury watersheds. Consistent with the provisions of MWRA's Enabling Act, these payments are based on the past commitments of the Commonwealth of Massachusetts.

**Penalty Revenue:** Revenue derived from penalties assessed by MWRA to violators of its sewer use regulations.

**Performance Measure:** An indicator of the work and/or service provided, defined by output, work or service quality, efficiency, effectiveness, or productivity.

**Performance Objective:** A statement of proposed accomplishments or attainments that is short-term in nature and measurable.

**Plume:** The rising discharge of treated wastewater effluent from a treatment plant outfall pipe.

**Preliminary Treatment:** The process of removing large solid objects, sticks, gravel, and grit from wastewater.

**Pretreatment:** The reduction or elimination of pollutant properties in wastewater prior to discharge into a sewer system.

**Primacy:** Primary enforcement authority for federal Safe Drinking Water Act regulations delegated to a state by EPA.

**Primary Treatment:** A wastewater treatment process that takes place in a rectangular or circular tank and allows substances in wastewater that readily settle or float to be separated from the water being treated. Primary treatment results in 50-60% removal of suspended solids and 30-34% removal of BOD.

**Program:** An organized group of activities and the resources to carry them out, aimed at achieving one or more related objectives.

**Rate Revenue:** Revenue received from annual assessments of communities within MWRA's service area for water and sewer services.

**Rate Stabilization Reserve:** A fund established by the Board of Directors that is used to reduce rate revenue requirements. MWRA finances this reserve with unexpended or surplus funds available from the Current Expense Budget at the end of each fiscal year.

**Relief Sewer:** A sewer built to carry flows in excess of the capacity of an existing sewer.

**Remote Headworks:** The initial structures and devices of a treatment plant set apart by some distance from the plant site.

**Renewal and Replacement Reserve:** A fund established to adequately reserve for the cost of capital improvements not provided for by funds available through the Capital Improvement Program or the Current Expense Budget.

**Residuals:** The by-products of the wastewater treatment process, including scum (floatables), grit and screenings, primary sludge, and secondary sludge.

**Revenue Bonds:** Bonds payable from a specific source of revenue and which do not pledge the full faith and credit of the issuer.

**Safe Yield Model:** The equation used to determine the maximum dependable draft that can be made continuously on a source of supply during a period of years during which the probable driest period or period of greatest deficiency in water supply is likely to occur.

**SAMS:** Sewerage Analysis and Management System – A database which contains specifications of the location, size, and condition of MWRA wastewater interceptors and appurtenances and which produces maps for use by MWRA and outside parties.

**Sanitary Sewers:** In a separate system, pipes that carry only domestic wastewater.

**SCADA:** Supervisory Control and Data Acquisition - Equipment for monitoring and controlling water or wastewater facilities remotely.

**Screenings:** Large items such as wood and rags that are collected from wastewater in coarse screens prior to primary treatment.

**Scum:** Floatable materials such as grease, oil, and plastics that are skimmed from the surface of wastewater as it flows through large settling tanks.

**SDWA:** Safe Drinking Water Act - A federal law enacted in 1986 and amended in 1996 that requires EPA to establish national primary drinking water regulations for water suppliers which consist of MCLs or treatment techniques.

**Secondary Treatment:** Usually following primary treatment, secondary treatment employs microorganisms to reduce the level of BOD and suspended solids in wastewater.

**Sedimentation Tanks:** Settling tanks where solids are removed from sewage. Wastewater is pumped to the tanks where the solids settle to the bottom or float on the top as scum. The scum is skimmed off the top, and solids on the bottom are pumped out for further treatment and/or final disposal.

**Seeding:** The initial filling of sludge into digesters.

**Sensitive user:** A member of a group within the general population likely to be at greater risk than the general population of adverse health effects due to exposure to contaminants in drinking water. Sensitive users include infants, children, pregnant women, the elderly, and individuals with histories of serious illness.

**Septic Tanks:** Tanks used for domestic wastes when a sewer line is not available to carry them to a treatment plant. Periodically, the septage is pumped out of the tanks, usually by commercial firms, and released into a wastewater treatment system.

**Sewer Jet Truck:** Vehicle used to clean and/or remove blockages from sewer lines by pushing fluids in the sewer.



**Shotcrete:** Mortar or concrete conveyed through a hose and projected at high velocity onto a surface; also known as air-blown mortar, pneumatically applied sprayed mortar, or gunned concrete.

**Siphon:** A closed conduit, a portion of which lies above the hydraulic grade line, resulting in a pressure less than atmospheric and requiring a vacuum within the conduit to start flow. A siphon utilizes atmospheric pressure to effect or increase the flow of water through the conduit.

**Slip Lining:** Insertion by pushing or pulling of lines fabricated of plastic, concrete cylinder pipe, reinforced concrete, or steel through existing conduits from access pits.

**Sludge:** Material removed by sedimentation during primary and secondary treatment. Sludge includes both settled particulate matter and microorganisms and is the single largest component of wastewater residuals. At the time sludge is removed during the treatment process, it contains only 0.5% to 5% solid content by weight. It has the appearance of muddy water.

**Sodium Hypochlorite (NaOCl):** A liquid form of chlorine that MWRA uses as the primary chemical in the disinfection and odor processes at the Deer Island Treatment Plant, and as the disinfectant at the Cosgrove and Ware water disinfection facilities. MWRA will also use sodium hypochlorite at the Walnut Hill water treatment plant.

**Storm Sewers:** Separate systems of pipes that carry only water runoffs from roofs, streets, and parking lots during storms.

**Surcharging:** Loads on a system beyond those normally anticipated; also, the height of wastewater in a sewer manhole above the crown of the sewer when the sewer is flowing completely full.

**Suspended Solids:** The particulate matter contained in wastewater.

**SWTR:** Surface Water Treatment Rule – A federal rule promulgated in 1989 that affects all utilities using surface waters or waters under the influence of surface waters. SWTR requires filtration unless certain criteria on source water quality, watershed control, and disinfection effectiveness can be met (see also ESWTR).

**Telemetry:** Remote measuring or monitoring devices connected to a central monitoring station via telephone lines.

**TCR:** Total Coliform Rule – A federal rule that requires monitoring of water distribution systems for coliform bacteria and chlorine residual. No more than 5% of the coliform samples in a month can be positive.

**TOC:** Total Organic Carbon - A measure of the amount of organic material in water. Often used as a surrogate for disinfectant demand or DBP precursors.

**Transition:** A short section of conduit used as a conversion section to unite two conduits having different hydraulic elements.

**TTHM:** Total Trihalomethanes - A class of disinfection by-products, related to primarily chlorine disinfection (see D/DBP Rule).

**TRAC:** Toxic Reduction and Control – The department responsible for MWRA's industrial pretreatment program.

**United States Geological Survey (USGS):** The federal agency that collects Geographic Information System (GIS) data for developing mapping protocols.

**Vector Jet Truck:** A vehicle used to clean and/or remove blockages from sewer lines by pushing and/or pulling fluids in the sewer.

**VMM:** Vehicle Management and Maintenance – The program responsible for management and maintenance of MWRA’s vehicles and heavy equipment.

**Wastewater:** The water carried by sewers serving residences and businesses that enters wastewater facilities for treatment.

**Wastewater Treatment Plant (WTP):** A series of tanks, screens, filters, and other equipment and processes for removing pollutants from wastewater.

**Watershed Reimbursement:** An amount that MWRA pays to the Metropolitan District Commission (MDC) each fiscal year for maintaining and managing the primary sources of MWRA's water supply (watersheds) in accordance with the laws of the Commonwealth of Massachusetts. The amount of the reimbursement is determined by prevailing legislation.

**Wholesale Water and Sewer Services:** Potable water and wastewater collection, transport, delivery, and treatment services that MWRA provides to communities. Communities provide the same services directly to retail customers or end users.

**WOCC:** Western Operations Control Center.