

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2013 CURRENT EXPENSE BUDGET

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MASSACHUSETTS WATER RESOURCES AUTHORITY

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September 2012

Katherine Haynes Dunphy, Chairwoman
MWRA Advisory Board
100 First Avenue
Boston, MA 02129

Dear Chairwoman Dunphy:

This letter transmits to the Advisory Board MWRA's Current Expense Budget (CEB) for Fiscal Year 2013. The CEB was approved by the MWRA's Board of Directors at its June 27, 2012 meeting.

The Final FY2013 budget resulted in a 3.0% final assessment increase as recommended by the MWRA Advisory Board. MWRA was able to reduce the rate revenue requirement in the Final budget by \$5.1 million by reducing Debt Service to reflect the increased defeasance, the latest State Revolving Fund (SRF) structure and the inclusion of \$350,000 in anticipated Debt Service Assistance funds. Additionally, the recognition of lower healthcare costs and higher projected investment yields also contributed to lower the Rate Revenue Requirement.

The FY2013 total expenses are \$635.9 million, of which 59.0% or \$375.3 million is for capital financing costs, \$214.9 million for direct expenses, and \$45.7 million for indirect expenses. Debt Service remains the largest component of the budget and represents the greatest rate management challenge in the future, as significant debt obligations come due.

The overall increase from the FY2012 budget is \$17.7 million or 2.9%. In line with MWRA's multi-year rates strategy and past practice, the Authority used the available surplus fund from FY12 to defease debt to achieve targeted rate relief in future years where is needed the most.

Additional budget information and a copy of this document are available online at www.mwra.com. Questions or comments on this document should be directed to the MWRA Budget Department at (617) 788-2268.

Thank you for your continued support.

Sincerely,

Frederick A. Laskey
Executive Director

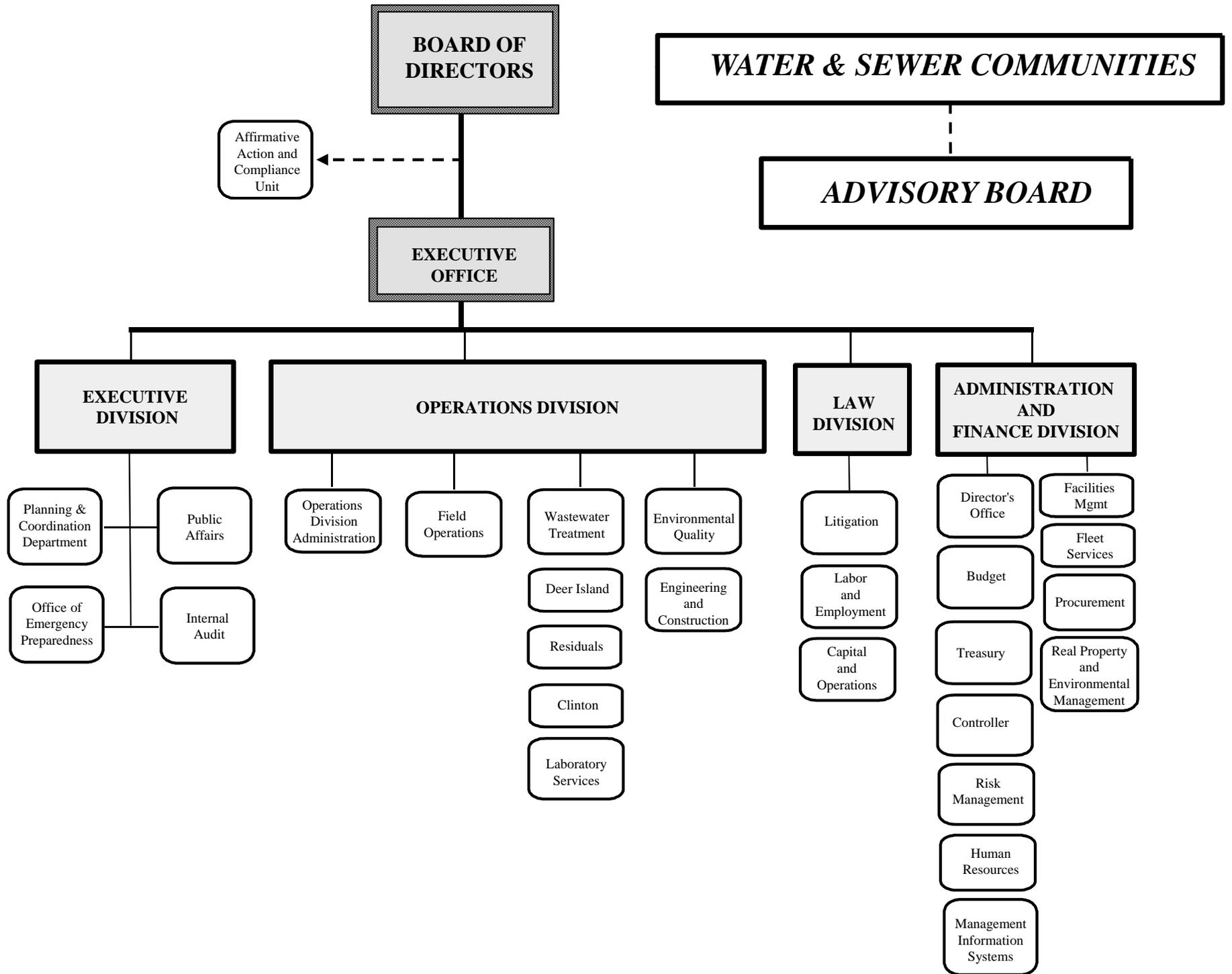


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Executive Summary

Executive Summary

MWRA Mission

The Massachusetts Water Resources Authority (MWRA) is an independent authority that provides wholesale water and sewer services to its member 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 by working in partnership with its member communities. The need to achieve and maintain a balance between these two goals continues to be the critical issue facing MWRA. A brief history and organizational summary of MWRA is included at the end of the Executive Summary.

During the year, MWRA measures actual performance on a monthly basis using various reporting tools. The monthly financial staff summary reports on actual spending versus the budget and provides summary explanations of the variances at the line item level. At least twice a year staff prepares projections for the year-end with a similar level of explanations. The performance indicator reports (the Orange and Yellow Notebooks) capture a variety of parameters regarding performance of each major functional area, on a monthly and quarterly basis.

Overview

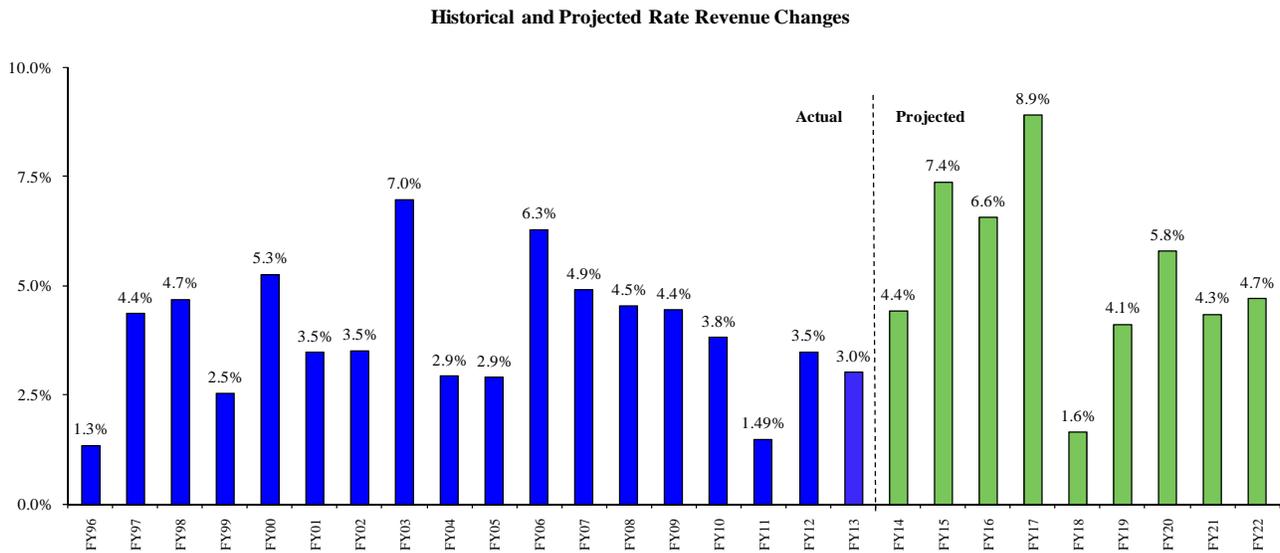
Each year, MWRA prepares a budget that reflects the best available information for anticipated expenditures and revenues. MWRA transmitted its FY13 Budget to the Advisory Board in February. The Advisory Board has sixty days to review, comment, and provide recommendations. MWRA also hosts a public hearing to solicit comments on the budget and community assessments from citizens in its service area. 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 Board decisions from the hearings and presents a final budget for approval in June. The FY13 Budget was approved by the Board on June 27, 2012.

FY13 Budget Summary

The FY13 Final Budget resulted in a 3.0% final assessment increase versus the 3.9% increase put forth in the FY13 Proposed CEB. MWRA was able to further reduce the Rate Revenue Requirement in the FY13 Final Budget by \$5.1 million by reducing Debt Service to reflect the increased defeasance, the latest State Revolving Fund (SRF) structure, and the inclusion of \$350,000 in anticipated Debt Service Assistance funds. Additionally, the recognition of lower healthcare costs and higher projected investment income yields also contributed to lower the Rate Revenue Requirement.

However, these measures will not be sustainable in future years. The budget decisions made in the near term will have a long-term impact on the future. As MWRA rolls out the final year of the three-year strategy, it must keep to a multi-year rates management strategy and look beyond this three-year snapshot to plan for what lies ahead.

Based on the FY13 Budget, projected future rate changes are depicted in the following chart:



Total expenses of \$635.9 million, \$25.7 million or 4.2% above FY12 actual spending. Capital financing costs remain the largest component of the budget and account for 59% of total expenses. Debt Service Assistance (DSA) of \$350,000 is assumed for FY13. While capital financing cost remains the largest component of the budget, other escalating liabilities continue to put pressure on the operating budget.

Total expenses include \$375.2 million for capital financing costs, 59.0% of total costs, and \$260.6 million or 41.0% for operating expenses, of which \$214.9 million is for direct expenses and \$45.7 million is for indirect expenses. Total expenses increased \$25.7 million or 4.2% from the FY12 actuals, \$15.2 million which comes from higher operating expenses and \$10.5 million of which comes from increased capital financing expenses.

The \$15.2 million increase in operating expenses from FY12 actuals is mainly due to wages and salaries of \$4.2 million for negotiated cost of living adjustments (COLA), the decision to make an additional \$3.1 million contribution towards the Authority’s Pension liability, Maintenance of \$1.5 million due to increased projects, \$1.2 million in additional operating reserve requirements, Watershed of \$784,000 mainly for increased Payment in Lieu of Taxes (PILOT) expense, and higher professional services, other services, chemicals, fringe benefits, workers’ compensation, overtime, and utilities.

The \$10.5 million or 2.9% increase in capital financing expenses before offsets reflects debt service associated with the projected issuances of \$100.0 million in new money in June of 2013 as well as new State Revolving Fund (SRF) debt of \$64.7 million to be issued in June 2012 and an additional \$38.0 million in 2013. Offsetting these issuances, are the impacts of the FY12 \$38.7 million defeasance, which is estimated to yield savings of approximately \$1.8 million in FY13, \$12.2 million in FY14, \$18.0 million in FY15, and \$7.3 million in FY16.

Total Revenues of \$635.9 are budgeted for FY13. The FY13 Final Rate Revenue Requirement is \$607.5 million, an increase of \$17.8 million or 3.0% over the FY12 Rate Revenue Requirement. FY13 non-rate revenues total \$28.3 million, a decrease of \$1.9 million or 6.4% from FY12 actuals mainly due to lower investment income assumptions and lower use of Rate Stabilization funding offset by higher other user charges mainly for Chicopee Valley Aqueduct (CVA) adjustments and higher other revenue mainly for higher energy revenue. The FY13 non-rate revenue budget includes \$14.5 million for investment income and \$13.9 million in other user charges and other revenue – which includes an estimated \$2.4 million from the sale of renewable energy portfolio credits and participation in demand response programs.

Table I-1 shows MWRA's FY13 Budget for revenue and expenses compared with FY11 and FY12 actual spending. Changes from FY12 to FY13 are described in the Revenue and Expense section of the Executive Summary.

Table I-1

TOTAL MWRA	FY11 Actual	FY12 Actual	FY13 Final	Change FY13 Final Budget vs FY12 Actual	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 88,505,698	\$ 89,887,813	\$ 94,059,400	\$ 4,171,587	4.6%
OVERTIME	3,899,296	3,086,175	3,573,496	487,321	15.8%
FRINGE BENEFITS	17,357,068	17,662,544	18,241,926	579,382	3.3%
WORKERS' COMPENSATION	2,228,175	1,600,726	2,100,000	499,274	31.2%
CHEMICALS	8,697,048	9,271,528	9,963,496	691,968	7.5%
ENERGY AND UTILITIES	21,977,295	22,766,837	23,127,198	360,361	1.6%
MAINTENANCE	27,964,126	26,776,012	28,229,070	1,453,058	5.4%
TRAINING AND MEETINGS	127,569	184,229	385,617	201,388	109.3%
PROFESSIONAL SERVICES	5,638,343	5,099,517	5,900,785	801,268	15.7%
OTHER MATERIALS	4,327,538	5,513,699	5,591,291	77,592	1.4%
OTHER SERVICES	23,551,459	22,985,817	23,743,608	757,791	3.3%
TOTAL DIRECT EXPENSES	\$ 204,273,615	\$ 204,834,898	\$ 214,915,886	\$ 10,080,991	4.9%
INSURANCE	\$ 1,002,044	\$ 2,076,962	\$ 2,097,875	\$ 20,913	1.0%
WATERSHED/PILOT	24,709,345	25,629,604	26,413,175	783,571	3.1%
HEEC PAYMENT	3,875,371	3,561,130	3,741,915	180,785	5.1%
MITIGATION	1,474,834	1,744,579	1,566,923	(177,656)	-10.2%
ADDITIONS TO RESERVES	(407,581)	195,467	1,398,329	1,202,862	615.4%
RETIREMENT FUND	5,342,856	7,363,170	10,474,376	3,111,206	42.3%
POSTEMPLOYMENT BENEFITS	-	-	-	-	N/A
TOTAL INDIRECT EXPENSES	\$ 35,996,869	\$ 40,570,912	\$ 45,692,593	\$ 5,121,681	12.6%
DEBT SERVICE (before offsets)	\$ 360,157,926	\$ 365,136,323	\$ 375,598,070	\$ 10,461,747	2.9%
VARIABLE RATE DEBT					
VARIABLE RATE DEBT/OTHER			-		
BOND REDEMPTION					
DEBT SERVICE ASSISTANCE		(384,323)	(350,000)	34,323	-8.9%
TOTAL DEBT SERVICE	\$ 360,157,926	\$ 364,752,000	\$ 375,248,070	\$ 10,496,070	2.9%
TOTAL EXPENSES	\$ 600,428,410	\$ 610,157,809	\$ 635,856,549	\$ 25,698,742	4.2%
REVENUE & INCOME					
RATE REVENUE	569,800,000	589,700,000	\$ 607,512,000	\$ 17,812,000	3.0%
OTHER USER CHARGES	7,218,641	7,264,794	7,766,693	501,899	6.9%
OTHER REVENUE	7,335,377	5,655,582	6,116,844	461,262	8.2%
RATE STABILIZATION	5,029,744	1,091,780		(1,091,780)	-100.0%
INVESTMENT INCOME	15,193,091	16,267,462	14,461,012	(1,806,450)	-11.1%
TOTAL REVENUE & INCOME	\$ 604,576,853	\$ 619,979,621	\$ 635,856,549	\$ 15,876,931	2.6%

FY12 Year-End Accomplishments:

- DITP treated 99.2% of flow through secondary and met secondary permit limits at all times without any NPDES Permit violations.
- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively.
- Continued the new construction and rehabilitation of facilities including integrated security and surveillance system improvements.
- Successfully negotiated and implemented successor collective bargaining agreements with five collective bargaining units.
- Presented to the Board the recommendation of two major studies initiated in FY11 regarding an agency-wide Staffing Assessment and a Five-Year Strategic Information Technology Plan. Both of these studies will serve as a road map of shaping the implementation of new technologies and future staffing needs.
- Successfully operated both the water and sewer systems during Tropical Storm Irene in late August 2011 and the unseasonable snow and ice storm in late October 2011. Work included extensive clean-up of downed trees and branches which were limiting access to MWRA's mid-state aqueducts and waterworks facilities. Staff also assisted with restoration of a downed power line at the Quabbin Reservoir.
- Completed the 2011C transaction for an All-In-True Interest Cost of 3.95%, the lowest in MWRA history to that point. On December 8, 2011 MWRA issued \$327M in Refunding Bonds. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of 7.17% or \$25.3M
- Completed the Series 2012 A&B transaction for an All-In-True Interest Cost of 3.93%, the lowest in MWRA history. On April 19, 2012 MWRA issued \$150M in New Money Bonds for the ongoing construction program and \$86.8M in Refunding Bonds. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of 5.09% or \$5.2M.
- Provided information and worked with communities expressing interest in joining the Authority.
- Distributed a total of \$14 million in grants and interest free loans (\$6.3 million in grants and \$7.7 million in 5-year loans) to member sewer communities through the Inflow/Infiltration (I/I) Local Financial Assistance Program and \$22.7 million in 10-year interest free loans to member water communities as part of the Local Pipeline and Water System Assistance Loan Program.
- Generated revenue at two water hydroelectric facilities: \$569,000 at the Oakdale Station, \$152,000 at the Cosgrove Station, and \$42,000 at the Loring Road Station.
- Competitively bid Calendar Year 2011 Renewable Energy Portfolio Standard certificates which resulted in FY12 revenues of \$319,000 (Class II) and \$885,000 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.
- Conducted a "Reverse Auction" for the purchase of electricity for 43 of the MWRA's smaller energy accounts that represent four percent of overall electricity demand.
- Continued to leverage MWRA's 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) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) credits resulted in \$1.8 million in revenue for FY12. Deer Island also self-generated 24% of the plant's total required power in FY12.

- MWRA is rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition (MAFC). The Authority continues to fuel diesel powered vehicles/equipment with bio-diesel.
- Installation and start-up of the Charlestown Wind Turbine at the DeLauri Sewer Pump Station.
- Awarded the following major contracts in FY12: Spot Pond Storage Facility Design Build; Deer Island Treatment Plant (DITP) North Main Pump Station (NMPS) Variable Frequency Drives (VFDs); DITP Air Emissions Testing; Northern Intermediate High (NIH) Stoneham-Reading Connection; Five-Year Strategic Information Technology Plan; Bond Counsel Services; North System Hydraulic Study; Purchase and Supply of Electricity Profile Accounts; Wachusett Aqueduct Pump Station Design; Hatchery Pipeline and Hydroelectric Design; Alewife Brook Pump Station Improvements Design; Alewife Brook Combined Sewer Overflow (CSO) Improvements Design; Union Park Operating Contract; Oakdale Phase 1A Electrical Upgrade; Brookline Overflow Conduit Cleaning; Clinton Aeration Efficiency Improvements; Upper Hultman Aqueduct Interconnections; DITP Primary and Secondary Clarifier Flushing System; FY13 Insurance Program; Disclosure Counsel Services; Residuals Processing Facility Technology Options Assessment; South Dike Tree Removal at Wachusett Reservoir; and DITP Fuel Oil Line Abandonment.
- Advertised or received bids/proposals/statements for the following: DITP Expansion Joint Repair Construction 2; Sudbury Aqueduct Pressurization and Connections; Letters of Credit, Liquidity Facilities or Direct Purchases; Nut Island Switchgear Modifications; Caruso Pump Station Improvements Design; Wachusett Aqueduct Emergency Interconnection Valves; DITP Concrete Steel Restoration and Coating, Phase IV; North Dike Tree Removal at Wachusett Reservoir; and DITP Replacement of Four Gravity Thickener Center Columns.
- Procured the Authority's vehicle purchases at the beginning of Fiscal Year 2012 (FY12) including 19 vehicles procured through the use of a "Reverse Auction" format, allowing for ample production and on-time delivery of all vehicles.
- Migrated to a dedicated printer/fax/scanner system that replaced the mechanical three-part colored form Purchase Order printer. Purchase orders are now printed on plain paper and faxed directly from the machine, rather than mailed to vendors. Estimated cost savings are \$11,000 per year.
- Managed nine (9) permit agreements (six at Turkey Hill and three at Walnut Hill). Coordinated with Operations for approval of the equipment changes and improving the invoicing system for maintenance reimbursements. Total revenue for the nine agreements is \$490,700 of which MWRA and the host community each receive half.
- Identified \$1.1 million in savings related to: internal audits, management advisory services, consultant audits, construction contracts regarding labor burden, and true-ups of CY2010 billings by Harbor Energy Electric Company (HEEC) and CY2011 CSO force account billings by the Boston Water and Sewer Commission (BWSC).
- Recycled 40.2 tons of paper, 262.2 tons of scrap metal, and 42,900 pounds of brass, copper, stainless steel and aluminum, generating \$68,482 in revenues.

FY13 Initiatives:

- Continue close monitoring of financial markets to better position the Authority to take advantage of any opportunities to reduce debt financing obligations, refund bonds for savings, and maximize investment income.
- Continue to prepare for the start-up of Ultra-Violet (UV) Treatment at the CWTP.
- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Evaluate and implement the recommendations of the Five-Year MIS Strategic Plan.
- Participate in the evaluation of the Staffing Study recommendations and work with senior management and collective bargaining units to implement as needed specific recommendations adopted by the Board of Directors.
- Implement New Lawson modules including Strategic Sourcing and Contract Management. The new applications will allow MIS to retire custom applications including in-house developed Contracts and MBE/WBE applications. In addition, further automate identified workflows facilitating processes and reducing paper usage.
- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.

SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. Funds supporting the current expense budget are not subject to appropriation with the exception of debt service assistance. Table I-2 shows MWRA's sources and uses of funds for the FY13 Budget.

Table I-2

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$7.8	1.2%
Other Revenue	6.1	1.0%
Investment Income	14.5	2.3%
Rate Revenue	607.5	95.5%
Rate Stabilization	0.0	0.0%
TOTAL REVENUE	\$635.9	100.0%
<i>Uses of Funds</i>		
Total Expenses before Debt		
Service Offsets	\$635.9	
Less:		
Debt Service Assistance	(0.4)	
Bond Redemption	0.0	
Sub-Total Net Expenses	635.5	
Capital Financing	375.2	59.0%
Direct Expenses	214.9	33.8%
Indirect Expenses	45.7	7.2%
TOTAL EXPENSES	\$635.9	100.0%
TOTAL EXPENSES Less Offsets	\$635.5	
*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, and debt service, as well as meeting required reserve levels.

In the FY13 Budget, 95.5% of revenue is derived from rate revenue. The remaining 4.5% of revenue will come 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 (TRAC), penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

Under the FY13 Budget, the MWRA will raise \$607.5 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$607.5 million, \$411.5 million will fund the sewerage system, an increase of 1.4% as compared to FY12; and \$196.0 million will fund the water system, an increase of 6.6% as compared to FY12.

Non-Rate Revenue

Other User Charges

Other User Charges include revenues derived from the provision of water and sewer services to communities and other entities under special agreements. Other User Charges in the FY13 Budget total \$7.8 million, an increase of \$502,000 or 6.9% from the FY12 actuals and includes \$4.3 million paid by the Chicopee Valley Aqueduct communities, \$1.5 million in water revenue collected from sewer ratepayers to offset the cost of water used for operation at Deer Island, \$651,000 in entrance fees paid by Stoughton and Wilmington, \$500,000 for the Commonwealth's partial reimbursement for Clinton Wastewater Treatment Plant expenses, and \$492,000 in water revenue and \$325,000 in sewer revenue to contract communities and others.

Other Revenue

Other Revenue is budgeted at \$6.1 million, an increase of \$461,000 or 8.2% from FY12 actuals mainly due to higher pricing for Renewable Energy Portfolio Credits and the addition of the Charlestown Wind Turbine.

Other Revenue includes \$2.2 million in permit fees and penalties, in addition to \$2.4 million for the sale of Deer Island's Renewable Portfolio Credits and revenues for demand response programs.

Permit Fees and Penalties

The FY13 Budget includes \$2.2 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.

Miscellaneous Revenue

The FY13 Budget includes \$3.9 million in miscellaneous revenues of which \$2.4 million pertains to the Authority's energy programs for the sale of Renewable Portfolio Standard credits and participation in the demand response program, \$1.0 million for a large number of miscellaneous revenue items, \$303,000 is for hydro-power generated at MWRA's facilities including the Cosgrove Intake facility, and \$128,000 for wind power generated by the Charlestown Wind Turbine.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY13 Budget includes \$14.5 million in investment income, a decrease of \$1.8 million or 11.1% from FY12 actuals. The FY13 short-term interest rate is 0.50%, unchanged from the FY12 Budget assumption.

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 may transfer 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 the rate stabilization reserve as revenue in that fiscal year. For the FY13 Budget, no Rate Stabilization fund usage is projected.

Direct Program Expenses

The FY13 direct expense budget is \$214.9 million, an increase of \$10.1 million or 4.9% above FY12 actual spending. The principal drivers for the increases are wages and salaries due to wage increases, maintenance due to increased projects, professional services, other services, and chemicals due to price increases. To address rising direct costs, the MWRA has actively moved to consolidate operation and maintenance facilities, reorganized and automated facilities, reduced leased space, sold surplus assets, negotiated competitive purchase agreements for energy and chemicals, and increased self-generation and utilization of digester gas for energy production.

Line Item Budget Summary

Figure I-1 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 and meetings) are the largest component of the direct expense budget (55%), followed then by maintenance (13%), other services (11%), and utilities (11%).

Within the labor cost category, Wages and Salaries account for \$94.1 million, \$4.2 million or 4.6% above FY12 actual spending. Of the \$94.1 million, \$92.6 million is for regular pay. The FY13 Budget assumes a staffing level of 1,200, with an average funded level of 1,195, which is ten (10) positions fewer than funded in the FY12 Budget. New hires and backfills of vacant positions will be managed in the aggregate and addressed on a case-by-case basis by senior management.

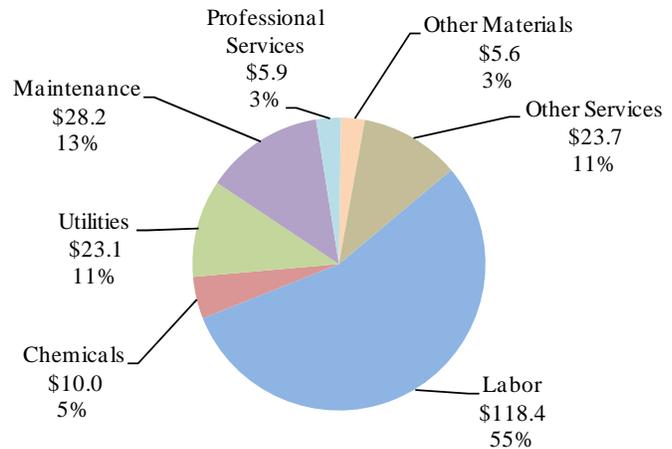
Filled positions at MWRA have declined by 580 positions or 33% since the peak of 1,775 in March 1997 to a funded staffing level of 1,195 for FY13.

As the Authority's major mandated capital initiatives near completion, maintenance expenses to preserve these operating assets will continue to grow. The FY13 Budget for maintenance is \$28.2 million, an increase of \$1.5 million or 5.4%, compared to the FY12 actual spending. The FY13 funding level is in line with FY11 actual spending.

The FY13 Budget includes \$23.7 million for other services, an increase of \$758,000 or 3.3% from FY12 actual spending. The budget includes funding of \$14.6 million for sludge pelletization, \$3.6 million for Space/Lease rentals and related expenses for the CNY and Chelsea facilities, and \$1.4 million for voice and data costs.

The FY13 Budget includes \$23.1 million for utilities, an increase of \$360,000 or 1.6% from FY12 actual spending. The increase for utilities is primarily associated with a \$669,000 increase for diesel fuel, mainly at Deer Island due to current year planned purchases and FY13 projected usage. The FY13 Budget assumes funding of \$16.1 million for electricity, \$4.4 million for diesel fuel, \$1.9 million for water, and \$515,000 for natural gas. The FY13 energy and utilities budget reflects the most recent pricing outlook based on energy futures and on the latest power purchase contracts for Deer Island, Carroll Water Treatment Plant, and other large FOD facilities. As a result of projected increased self-generation at Deer Island due to improved Steam Turbine Operations and new green energy initiatives, along with efficiency improvements in Field Operations, the total projected electricity usages is 4.6 million kWh or 2.7% lower than the FY12 Budget. In November 2010, a new 4 MW, three-year, fixed block power purchase agreement for the Authority's larger electrical accounts in Field Operations, including the Carroll Water Treatment Plant, went into effect whereby 80% of demand will be fixed. In May 2011, the Authority entered into a two-year power purchase agreement for Deer Island where the Authority purchased a fixed 10 MW block of power and will purchase the remaining plant energy

FIGURE I-1
Direct Expenses by Category
(in millions)



demand in the real-time market. This past February, the Authority entered into a 36-month contract to provide up to 5.8 kWh of power to smaller accounts for a fixed commodity price. With the addition of this new contract, the MWRA has fixed pricing for over 60% of its electricity load, with remaining demand being purchased in the real-time market.

The FY13 Budget includes \$10.0 million for chemicals, an increase of \$692,000 or 7.5% from FY12 actual spending. The majority of the increase in the budget is for increased usage of several chemicals for process and odor control in the wastewater system based on historical trends and increases in chemical usage associated with ultraviolet dosing changes. The balance of the increase is tied to projected chemical cost increases.

Functional Area Budget Summary

For a broader perspective on MWRA's direct expense budget, Figure I-2 presents direct expenses by MWRA functional area and shows that 46% of the FY13 direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution.

FIGURE I-2
Staffing by Functional Area

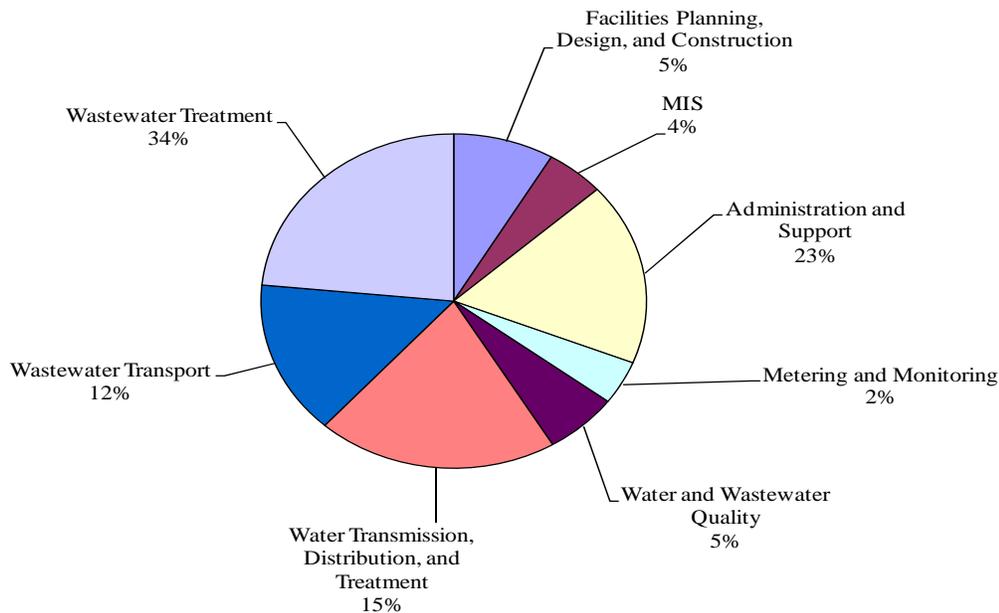
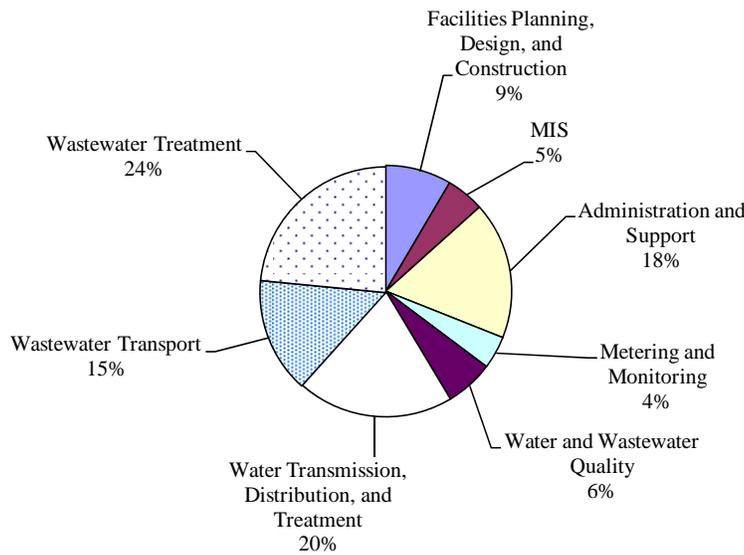


Figure I-3 below illustrates staffing by Functional Area and shows the breakdown of the 1,183 filled positions as of June 2012. Of the 1,183 positions, 59% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS functions, and 9% to facilities planning, design, and construction. Water and Wastewater Quality functions and Meter and Monitoring account for the remaining 10% of staff.

FIGURE I-3
Staffing by Functional Area



Capital Financing

Outstanding Debt and Debt Management

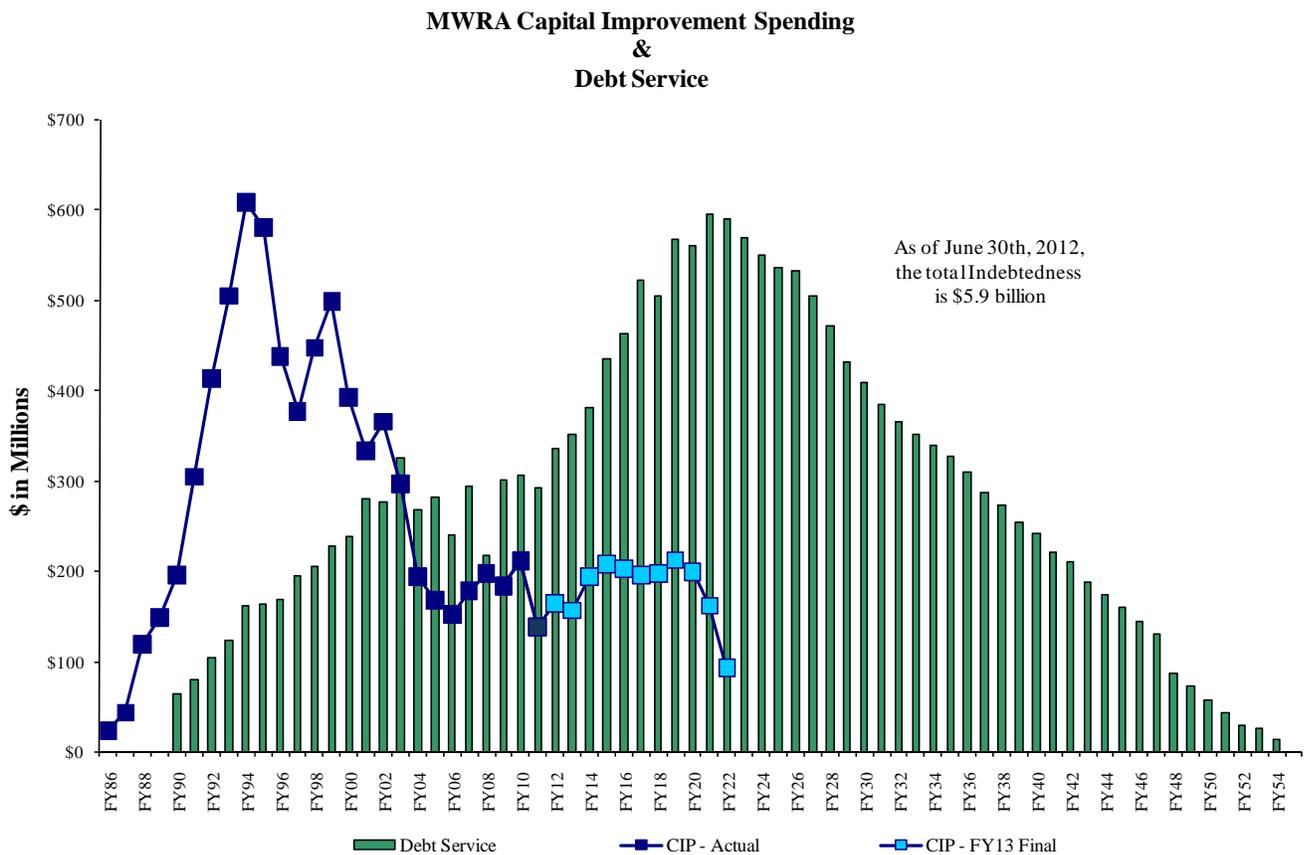
The \$7.5 billion spent on MWRA's modernization efforts to date, has relied heavily on debt financing. Total debt as of June, 30 2012 was \$5.9 billion consisting of senior and subordinated debt, as well as Tax-Exempt Commercial Paper. The MWRA enjoys strong unenhanced senior debt ratings of Aa1, AA+, and AA+ from Moody's, Standard & Poor, and Fitch, respectively.

The Authority's debt service obligation as a percent of total expenses has increased from 36% in 1990 to 59% in the FY13 Final Budget. Much of this debt service is for completed projects. MWRA's capital spending, from its inception, has been dominated by court-mandated projects, which in total have accounted for 80% of capital spending to date. Going forward, the majority of capital spending will be geared towards asset protection and water redundancy initiatives.

The FY13 Final capital financing costs total \$375.2 million which reflects the \$350,000 in anticipated Debt Service Assistance (DSA).

The MWRA expects to finance the capital expenditures identified in the FY13 Capital Improvement Program (CIP) through the issuance of revenue bonds as provided for in the Enabling Act, and from the proceeds of federal and state grants and operating revenues. As of June 30, 2012, the MWRA's indebtedness included \$3.5 billion of senior revenue bonds, \$1.2 billion of subordinated revenue bonds, approximately \$1.1 billion of loans with the SRF, and \$144 million of tax-exempt commercial paper notes.

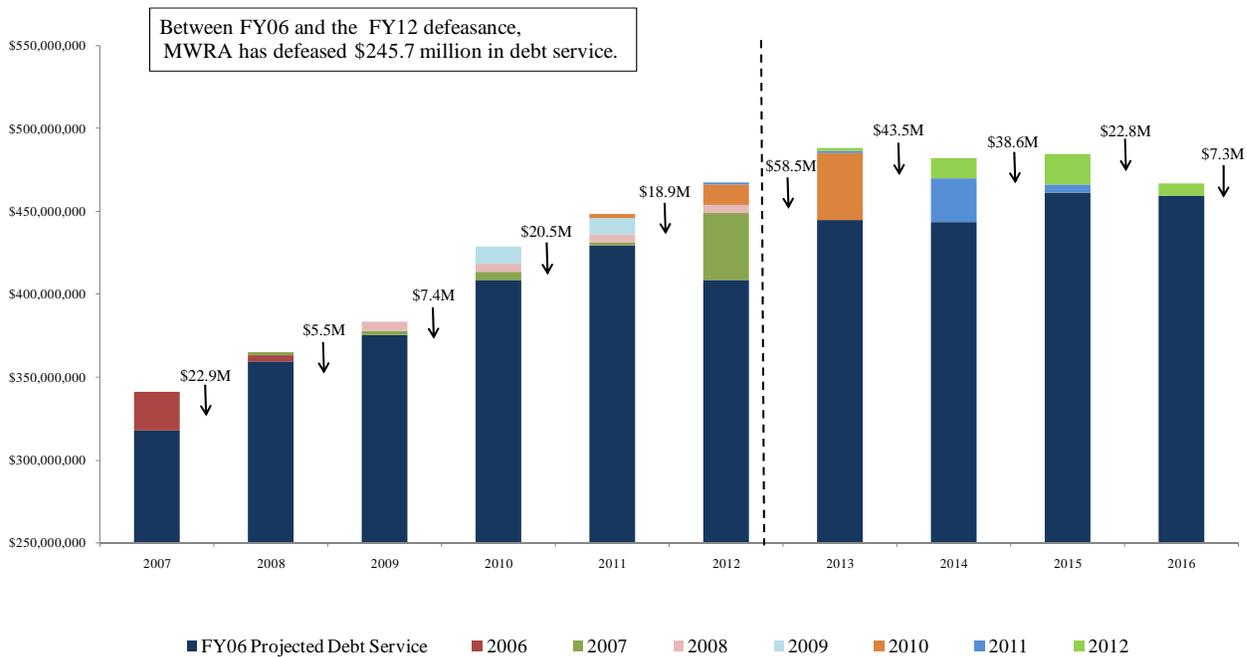
The following graph illustrates the relationship between MWRA's CIP and outstanding debt as of June 2012.



The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include maximizing use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, current and advanced refunding of outstanding debt, swap agreements, and the use of surplus revenues to defease debt. MWRA also uses Tax Exempt Commercial Paper to minimize the financing cost of construction in process.

In June 2012, MWRA executed a \$38.7 million defeasance to achieve debt service reductions through the use of FY12 surplus funds and released reserves. These actions will result in debt service reductions of \$1.8 million in FY13, \$12.2 million in FY14, \$18.0 million in FY15, and \$7.3 million in FY16.

Impact of Defeasances FY06-FY12



As shown on the chart above, since 2006 the Authority has used defeasances to reduce future year's debt service requirements by \$245.7 million.

The FY13 Final capital financing cost totals \$375.2 and remains the largest portion of the MWRA's budget, accounting for 59% of total expenses. The FY13 Final capital financing costs increased (after offsets) by \$10.5 million or 2.9% compared with FY12 actual spending. The increase in MWRA's debt service requirements is the result of new money issues in FY12 and projected FY13 issuances partially offset by the impact of the defeasance and refundings.

The FY13 Final capital financing budget includes:

- \$193.4 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$1.8 million to support issuance of \$100 million in June 2013;
- \$93.3 million in principal and interest payments on subordinate bonds;
- \$73.8 million in principal and interest payments on SRF loans. This amount includes \$7.4 million to support issuances of \$64.7 million in June 2012 and \$38 million in 2013;
- \$8.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$3.6 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

The FY13 Final Budget assumes a 3.25% interest rate for variable rate debt which is the same level as in FY12. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series, liquidity fees for the Standby Bond Purchase Agreement and Letter of Credit providers, and remarketing fees. While MWRA continues to experience unusually low interest rates, they are not reflective of historical averages and there is no guarantee that rates will stay low. The 20-year SIFMA interest rate average for variable rate debt is 2.43% and MWRA current average liquidity and remarketing costs are 74 basis points. The combination of these two costs results in an all-in average cost of approximately 3.17% which is on par with the FY13 Final Budget assumption.

Table I-3 provides detail on the FY13 Budget capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Nearly 70% of the FY13 capital finance budget is for wastewater improvements. A complete list of the Authority's indebtedness by series is presented in Appendix F.

TABLE I-3
FY13 Final Current Expense Budget - Capital Financing Detail (as of 6/30/12)
\$ in Millions

	Amount Outstanding	Total FY13 Final Capital Costs	Sewer	Water
Total SRF ¹ Debt	\$1,120	\$73.8	\$59.1	\$14.7
Total Senior Debt	3,487	193.4	118.6	74.8
Total Subordinate Debt	1,192	93.3	76.8	16.5
Total SRF and Debt Service²	\$5,799	\$360.5	\$254.6	\$105.9
Water Pipeline Commercial Paper	144	3.6	0.0	3.6
Current Revenue/Capital ³		8.2	6.2	2.1
Capital Lease		3.2	2.2	1.0
Sub-Total	\$144	\$15.1	\$8.4	\$6.7
Total Capital Financing (before Debt Service Offsets)	\$5,943	\$375.6	\$263.0	\$112.6
Debt Service Offsets:				
Debt Service Assistance				
Total Capital Financing	\$5,943	\$375.6	\$263.0	\$112.6

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects.

Indirect Expenses

The FY13 Final Indirect Expenses total \$45.7 million, an increase of \$5.1 million or 12.6% compared to FY12 actual spending. Below are the highlights of major changes:

Insurance

MWRA purchases property and casualty insurance from external insurance carriers with a self-insured retention of \$2.5 million dollars and Worker's Compensation Excess insurance with a self-insured retention of \$500,000 per claim. The FY13 Final Budget includes \$2.1 million for Insurance, an increase of \$21,000 or 1.0% from FY12 actual spending. The FY13 Budget was based on actual average spending for the past five year, FY07-11. The budget includes \$1.8 million for premiums and fees and \$283,000 for the projected cost 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. The Insurance Reserve Fund was reduced from \$19 million to \$14 million based on the recommended range provided in the most recent review prepared by the outside consultant indicated that the appropriate funding range was between \$12 million and \$16 million. The released funds were used to cover the costs associated with the May 2010 water main break and August 2010 water leak while the Authority pursues litigation to recover these expenses.

Watershed Reimbursement/PILOT

The Enabling Act directs MWRA to pay the Commonwealth of Massachusetts for several statutory obligations: Payment in Lieu of Taxes (PILOT) for Commonwealth-owned land in the watersheds, operating expenses of the Division of Water Supply Protection, and debt service costs for purchases of land around the supply reservoirs to protect the watersheds. The FY13 Final Budget includes \$26.4 million for the Division of Water Supply Protection (formerly MDC Division of Watershed Management), an increase of \$784,000 or 3.1% over FY12 actual spending. The budget is comprised of \$13.2 million for reimbursement of operating expenses, \$7.6 million for Payment in Lieu of Taxes (PILOT), and \$5.6 million for debt service expenses on prior land purchases financed by the Commonwealth.

Harbor Electric Energy Company (HEEC)

The FY13 Final Budget includes \$3.7 million for the Harbor Energy Electric Company (HEEC), an increase of \$181,000 or 5.1% from FY12 actual spending. This funding is for the repayment of the capital investment of the Deer Island electric cable and substation which provides electric power to the treatment plant.

Mitigation

MWRA disburses mitigation funds to communities affected by MWRA projects or facilities pursuant to MWRA's Statement of Mitigation Principles and/or specific agreements with communities. MWRA mitigation may include relieving the direct impacts of construction, meeting environmental and 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 impact of a project or facility 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 FY13 Final Budget includes \$1.6 million for community compensation for impacts, including \$820,000 for the City of Quincy and \$747,000 for the Town of Winthrop, based on Memoranda of Agreement with the communities. The budget decreased \$178,000 or 10.2% from FY12 actual spending mainly due to a one-time payment in FY12 to the Town of Winthrop for ambulance services. Going forward, the Town of Winthrop will supply ambulance services to the Deer Island Treatment Plant.

Retirement System Contribution

The FY13 Final Budget includes \$10.5 million for the Retirement Fund, an increase of \$3.1 million or 42.3% over FY12 actual spending. The FY13 funding of \$10.5 million includes the required contribution of \$5.8 million and an optional contribution of \$4.7 million originally directed towards the Authority's Other Post Employment Benefit (OPEB) liability.

GASB 45 – Accounting and Reporting by Employers for Postemployment Benefits Other than Pensions

The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. The Authority's fiscal 2013 annual OPEB expense is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an on-going basis, is projected to cover the normal cost per year and amortize the unfunded actuarial liability over a period of thirty years. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a strategy to aggressively pay down our pension liability and upon reaching full funding move to address the OPEB obligation. Additional optional pension contributions were included in the FY08, FY09, FY10, and FY12 approved budgets in line with this funding strategy. In an effort to restore the Authority's long-term commitment for its liabilities, \$4.7 million was included for OPEB in the FY13 Proposed Budget which represented 50% of the actuarial report funding level, under assumption of pre-funding option, issued in January 2010. As of June 2012, the Authority's OPEB liability was \$75.0 million, \$14.8 million above the prior year's level.

Operating Reserves

Funding for the Operating Reserve for FY13 is \$1.2 million greater than FY12 actual spending. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY13 Final Budget, the required balance is \$38.8 million versus the \$37.4 million required in FY12.

Community Profile and Assessments

MWRA provides wholesale water and sewer services to 61 communities or local bodies. Fifty-one local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty-five local bodies purchase both. Approximately 2.8 million people, or 43% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from the MWRA.

The MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the FY13 Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-20, lists MWRA communities, the services received, and the Final MWRA assessments for FY13.

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-5 on page I-21 presents the calculation of the MWRA's FY13 Rate Revenue Requirement. The table shows that most of the 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 FY13 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 revenues offset water and sewer expenses. The resulting net cost of water and sewer services is the amount the 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 the share of wastewater flow and strength parameters, and capital costs based on proportion of maximum flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. Flow averaging moderates the short-term impact of year-to-year changes in community flow, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.

Table I-4

**Massachusetts Water Resources Authority
Final FY13 Water and Sewer Assessments**

27-Jun-12

MWRA Fully Served Water and Sewer Customers	Final FY12 Water Assessment	Final FY13 Water Assessment	Percent Change from FY12	Final FY12 Sewer Assessment	Final FY13 Sewer Assessment	Percent Change from FY12	Final FY12 Combined Assessment	Final FY13 Combined Assessment	Dollar Change from FY12	Percent Change from FY12
ARLINGTON	\$4,111,254	\$4,706,235	14.5%	\$7,190,694	\$7,404,065	3.0%	\$11,301,948	\$12,110,300	\$808,352	7.2%
BELMONT	2,253,543	2,263,350	0.4%	4,490,781	4,593,647	2.3%	6,744,324	6,856,997	112,673	1.7%
BOSTON (BWSC)	66,577,763	71,651,462	7.6%	115,180,467	116,347,350	1.0%	181,758,230	187,998,812	6,240,582	3.4%
BROOKLINE	5,175,607	5,656,061	9.3%	12,047,440	12,401,739	2.9%	17,223,047	18,057,800	834,753	4.8%
CHELSEA	3,056,409	3,406,236	11.4%	6,315,106	6,451,121	2.2%	9,371,515	9,857,357	485,842	5.2%
EVERETT	4,157,781	4,334,567	4.3%	6,907,659	7,243,065	4.9%	11,065,440	11,577,632	512,192	4.6%
FRAMINGHAM	6,859,304	7,355,228	7.2%	10,365,277	10,385,748	0.2%	17,224,581	17,740,976	516,395	3.0%
LEXINGTON	5,049,999	5,145,927	1.9%	6,802,875	6,954,177	2.2%	11,852,874	12,100,104	247,230	2.1%
MALDEN	5,428,405	6,053,825	11.5%	10,847,823	11,319,673	4.3%	16,276,228	17,373,498	1,097,270	6.7%
MEDFORD	5,063,263	5,534,818	9.3%	10,794,857	10,766,699	-0.3%	15,858,120	16,301,517	443,397	2.8%
MELROSE	2,278,579	2,405,858	5.6%	5,382,210	5,437,804	1.0%	7,660,789	7,843,662	182,873	2.4%
MILTON	2,367,833	2,718,549	14.8%	4,797,042	4,985,169	3.9%	7,164,875	7,703,718	538,843	7.5%
NEWTON	8,939,785	9,695,370	8.5%	19,546,086	19,917,866	1.9%	28,485,871	29,613,236	1,127,365	4.0%
NORWOOD	3,181,474	3,372,954	6.0%	5,770,472	5,967,178	3.4%	8,951,946	9,340,132	388,186	4.3%
QUINCY	9,306,539	9,889,803	6.3%	17,658,232	18,073,247	2.4%	26,964,771	27,963,050	998,279	3.7%
READING	1,772,389	1,811,212	2.2%	4,128,058	4,326,182	4.8%	5,900,447	6,137,394	236,947	4.0%
REVERE	4,159,759	4,362,470	4.9%	9,203,347	9,486,795	3.1%	13,363,106	13,849,265	486,159	3.6%
SOMERVILLE	5,834,796	6,167,896	5.7%	13,719,348	13,887,278	1.2%	19,554,144	20,055,174	501,030	2.6%
STONEHAM	2,877,398	3,104,419	7.9%	4,253,379	4,357,938	2.5%	7,130,777	7,462,357	331,580	4.6%
WALTHAM	7,698,671	7,792,300	1.2%	12,347,461	12,485,924	1.1%	20,046,132	20,278,224	232,092	1.2%
WATERTOWN	2,658,770	2,925,467	10.0%	5,542,951	5,471,720	-1.3%	8,201,721	8,397,187	195,466	2.4%
WINTHROP	1,240,299	1,387,397	11.9%	3,125,822	3,036,088	-2.9%	4,366,121	4,423,485	57,364	1.3%
TOTAL	\$160,049,620	\$171,741,404	7.3%	\$296,417,387	\$301,300,473	1.6%	\$456,467,007	\$473,041,877	\$16,574,870	3.6%

MWRA Sewer and Partial Water Customers	Final FY12 Water Assessment	Final FY13 Water Assessment	Percent Change from FY12	Final FY12 Sewer Assessment	Final FY13 Sewer Assessment	Percent Change from FY12	Final FY12 Combined Assessment	Final FY13 Combined Assessment	Dollar Change from FY12	Percent Change from FY12
CANTON	\$2,215,262	\$2,138,489	-3.5%	\$3,250,840	\$3,313,092	1.9%	\$5,466,102	\$5,451,581	(\$14,521)	-0.3%
NEEDHAM	610,028	964,345	58.1%	5,291,080	5,381,187	1.7%	5,901,108	6,345,532	444,424	7.5%
STOUGHTON	628,192	700,394	11.5%	4,438,406	4,420,052	-0.4%	5,066,598	5,120,446	53,848	1.1%
WAKEFIELD	1,477,779	1,617,772	9.5%	5,414,681	5,512,303	1.8%	6,892,460	7,130,075	237,615	3.4%
WELLESLEY	1,043,230	854,839	-18.1%	4,999,950	5,078,134	1.6%	6,043,180	5,932,973	(\$110,207)	-1.8%
WILMINGTON	493,375	296,556	-39.9%	2,187,544	2,241,570	2.5%	2,680,919	2,538,126	(\$142,793)	-5.3%
WINCHESTER	1,014,617	974,666	-3.9%	3,605,752	3,634,180	0.8%	4,620,369	4,608,846	(\$11,523)	-0.2%
WOBBURN	2,295,113	2,535,816	10.5%	9,041,505	8,959,770	-0.9%	11,336,618	11,495,586	158,968	1.4%
TOTAL	\$9,777,596	\$10,082,877	3.1%	\$38,229,758	\$38,540,288	0.8%	\$48,007,354	\$48,623,165	\$615,811	1.3%

MWRA Sewer-only Customers	Final FY12 Water Assessment	Final FY13 Water Assessment	Percent Change from FY12	Final FY12 Sewer Assessment	Final FY13 Sewer Assessment	Percent Change from FY12	Final FY12 Combined Assessment	Final FY13 Combined Assessment	Dollar Change from FY12	Percent Change from FY12
ASHLAND				\$1,996,318	\$2,081,319	4.3%	\$1,996,318	\$2,081,319	\$85,001	4.3%
BEDFORD				2,951,458	2,909,153	-1.4%	2,951,458	2,909,153	(\$42,305)	-1.4%
BRAINTREE				7,226,112	7,597,309	5.1%	7,226,112	7,597,309	371,197	5.1%
BURLINGTON				4,736,577	4,723,848	-0.3%	4,736,577	4,723,848	(\$12,729)	-0.3%
CAMBRIDGE				21,495,855	20,768,232	-3.4%	21,495,855	20,768,232	(\$727,623)	-3.4%
DEDHAM				4,809,110	4,864,300	1.1%	4,809,110	4,864,300	55,190	1.1%
HINGHAM SEWER DISTRICT				1,501,652	1,513,205	0.8%	1,501,652	1,513,205	11,553	0.8%
HOLBROOK				1,425,395	1,434,900	0.7%	1,425,395	1,434,900	9,505	0.7%
NATICK				4,460,551	4,634,401	3.9%	4,460,551	4,634,401	173,850	3.9%
RANDOLPH				5,177,242	5,393,673	4.2%	5,177,242	5,393,673	216,431	4.2%
WALPOLE				3,252,627	3,300,822	1.5%	3,252,627	3,300,822	48,195	1.5%
WESTWOOD				2,268,632	2,317,405	2.1%	2,268,632	2,317,405	48,773	2.1%
WEYMOUTH				9,865,795	10,131,271	2.7%	9,865,795	10,131,271	265,476	2.7%
TOTAL				\$71,167,324	\$71,669,838	0.7%	\$71,167,324	\$71,669,838	\$502,514	0.7%

MWRA Water-only Customers	Final FY12 Water Assessment	Final FY13 Water Assessment	Percent Change from FY12	Final FY12 Sewer Assessment	Final FY13 Sewer Assessment	Percent Change from FY12	Final FY12 Combined Assessment	Final FY13 Combined Assessment	Dollar Change from FY12	Percent Change from FY12
LYNNFIELD WATER DISTRICT	\$424,008	\$401,149	-5.4%				\$424,008	\$401,149	(\$22,859)	-5.4%
MARBLEHEAD	1,829,892	1,825,752	-0.2%				1,829,892	1,825,752	(\$4,140)	-0.2%
NAHANT	323,512	309,977	-4.2%				323,512	309,977	(\$13,535)	-4.2%
SAUGUS	2,896,537	3,151,506	8.8%				2,896,537	3,151,506	254,969	8.8%
SOUTHBOROUGH	727,775	595,717	-18.1%				727,775	595,717	(\$132,058)	-18.1%
SWAMPSCOTT	1,474,802	1,661,956	12.7%				1,474,802	1,661,956	187,154	12.7%
WESTON	1,751,901	1,684,844	-3.8%				1,751,901	1,684,844	(\$67,057)	-3.8%
TOTAL	\$9,428,427	\$9,630,901	2.1%				\$9,428,427	\$9,630,901	\$202,474	2.1%

MWRA Partial Water-only Customers	Final FY12 Water Assessment	Final FY13 Water Assessment	Percent Change from FY12	Final FY12 Sewer Assessment	Final FY13 Sewer Assessment	Percent Change from FY12	Final FY12 Combined Assessment	Final FY13 Combined Assessment	Dollar Change from FY12	Percent Change from FY12
DEDHAM-WESTWOOD WATER DISTRICT	\$47,238	\$28,781	-39.1%				\$47,238	\$28,781	(\$18,457)	-39.1%
LYNN (LWSC)	202,576	259,592	28.1%				202,576	259,592	57,016	28.1%
MARLBOROUGH	2,966,308	2,753,457	-7.2%				2,966,308	2,753,457	(\$212,851)	-7.2%
NORTHBOROUGH	747,515	883,118	18.1%				747,515	883,118	135,603	18.1%
PEABODY	666,251	621,271	-6.8%				666,251	621,271	(\$44,980)	-6.8%
TOTAL	\$4,629,888	\$4,546,219	-1.8%				\$4,629,888	\$4,546,219	(\$83,669)	-1.8%
SYSTEMS TOTAL	\$183,885,531	\$196,001,401	6.6%	\$405,814,469	\$411,510,599	1.4%	\$589,700,000	\$607,512,000	\$17,812,000	3.0%

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; and
- 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 retail rate survey.

TABLE I-5
Calculation of the FY13 Rate Revenue Requirement
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$149,032	\$65,883	\$214,916
Allocated Indirect Expenses	\$14,644	\$31,049	\$45,693
PLUS			
Capital Expenses:			
Debt Service (less offsets)	\$254,312	\$105,878	\$360,190
Current Revenue for Capital	\$6,150	\$2,050	\$8,200
Other Capital Expenses	\$1,989	\$4,868	\$6,858
PLUS			
Non-Rate Revenue:			
Investment Income	-\$9,422	-\$5,039	-\$14,461
Fees and Other Revenue	-\$5,195	-\$8,689	-\$13,884
Rate Stabilization			
EQUALS			
Rate Revenue Requirement	\$411,511	\$196,001	\$607,512

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 change in concert with the changes in expenses each year. The Rate Revenue Requirement in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and debt service assistance from the Commonwealth (which directly reduces debt service expense). For FY13, community assessments will represent 95.5% of total 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. MWRA uses the planning estimates to model and project what future assessments might be based upon these assumptions, as well as to test the impact of changes to assumptions on future assessments. The planning estimates are not predictions of what assessments will be but rather they provide the context and framework for guiding MWRA financial policy and management decision making that ultimately determine the level of actual assessments on an annual basis. Conservative projections of future assessments benefit the MWRA by providing assurance to the rating agencies that MWRA anticipates to raise revenues sufficient to pay for its operations and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rate revenue ensure that member communities adequately plan and budget for their expenses.

MWRA also updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These estimates provide a context for budget discussions and allow MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget options.

The table below and Appendix D (in greater detail) present the combined estimated future rate increases and household charges based on the FY13 Final Budget. The planning estimates shown below assume the receipt of \$350,000 annually in Debt Service Assistance from the Commonwealth and the use of Rate Stabilization and Bond Redemption reserves through FY2021 to manage the rate increases. For planning purposes, the yearly use of combined reserves is currently limited to a maximum of \$12 million. MWRA anticipates the release of additional reserves starting in FY16 as a result of Bond Indenture changes to mitigate rate increases in future years. The release of these reserves are not yet reflected in these projections.

Rates & Budget Projections										
FY13 CEB	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Total Rate Revenue (\$ in Mil)	\$ 607,512	\$ 634,426	\$ 681,237	\$ 725,991	\$ 790,699	\$ 803,707	\$ 836,790	\$ 885,216	\$ 923,702	\$ 967,157
Rate Revenue Change from Prior Year (\$000)	\$ 17,812	\$ 26,914	\$ 46,811	\$ 44,754	\$ 64,707	\$ 13,008	\$ 33,084	\$ 48,426	\$ 38,486	\$ 43,456
Rate Revenue Increase	3.0%	4.4%	7.4%	6.6%	8.9%	1.6%	4.1%	5.8%	4.3%	4.7%
Use of Reserves (\$ in Mil)	\$ -	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ -	\$ 12,000	\$ 12,000	\$ 866	\$ -

Estimated Household Bill

Based on water usage of 61,000 gallons per year	\$ 923	\$ 967	\$ 1,025	\$ 1,084	\$ 1,155	\$ 1,207	\$ 1,257	\$ 1,325	\$ 1,396	\$ 1,469
Based on water usage of 90,000 gallons per year	\$ 1,361	\$ 1,426	\$ 1,512	\$ 1,600	\$ 1,704	\$ 1,781	\$ 1,855	\$ 1,954	\$ 2,059	\$ 2,167

Increasing debt service to finance the capital improvement program is the most important factor driving estimates of future budget increases. Over the past several years MWRA's tax-exempt commercial paper program, debt refinancing, 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 new financing will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (e.g. refunding for savings, 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 factor is projected growth of base operating costs. The estimated \$91.1 million increase in direct expenses from FY13 to FY22 is primarily the result of an assumed annual inflation rate of 4.0%. Also, over the next ten years, there will be increases in direct expenses as a result of capital improvement projects. The largest increases will be for the operation of new/updated facilities such as the North Dorchester Bay CSO and Carroll Plant UV disinfection project.

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 4.0% starting in FY14;
- 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 30-year terms and 5.5% interest rates in FY13 and 5.75% rates in FY14, and 40-year terms and 6.00% rates from FY15-30;
- Variable rate interest projected at 3.25% in FY13, 3.50% in FY14, 3.75% in FY15, and 4.0% thereafter.

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

The planning estimates generally use conservative assumptions to help communities plan for future payments to MWRA.

As each year passes and more up-to-date information becomes available, the planning estimate projections change based on:

- Borrowing rates or expected investment income rates;
- The planning estimates do not factor in any positive year-end variances which may be used to defease debt or are reserved to offset Rate Revenue Requirements in future years;
- Fewer opportunities for SRF borrowing than expected due to Federal Budget cuts; a dollar borrowed through the SRF at 2% replaces the need to borrow a dollar long-term at an assumed 5% rate;
- Debt refinancing opportunities;

- Capital spending; and
- Growth in direct expenses, greater than current assumptions 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.

FY13 Capital Improvement Program

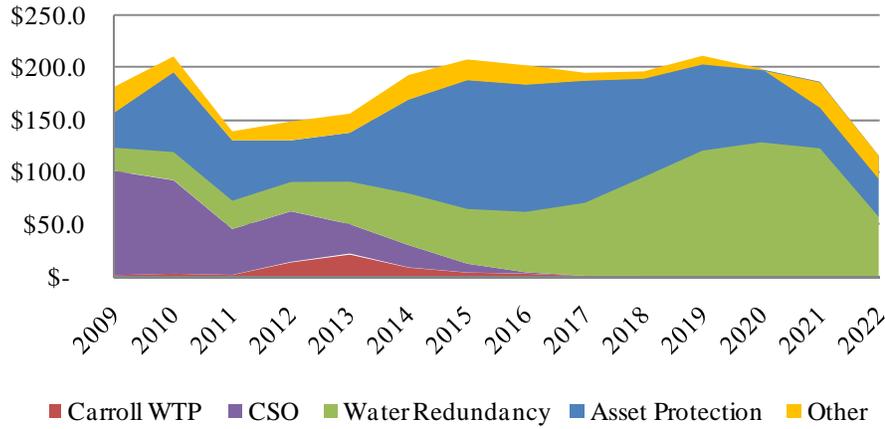
Of the total \$7.5 billion expended to-date, nearly 80% has funded court-mandated projects such as the Boston Harbor Project, the MetroWest Supply Tunnel, the Carroll Water Treatment Plant, and the Combined Sewer Overflow (CSO) program. The mandated projects represent nearly 46% of projected FY09-13 spending.

Asset Protection and Water Redundancy initiatives account for 30.2% and 17.8% of FY09-13 spending. These percentages grow substantially to 54.6% and 32.9% respectively for the FY14-18 timeframe.

	Total Contract	FY09-13	FY14-18	Beyond FY18
Asset Protection	\$ 1,909.8	\$ 253.4	\$ 544.2	\$ 476.8
Carroll WTP	\$ 430.0	\$ 41.3	\$ 16.0	\$ -
Water Redundancy	\$ 1,822.9	\$ 149.3	\$ 328.6	\$ 482.4
CSO	\$ 837.5	\$ 308.7	\$ 31.2	\$ 0.0
Other	\$ 524.7	\$ 85.4	\$ 77.2	\$(132.7)
Total	\$ 5,524.9	\$ 838.1	\$ 997.3	\$ 826.5
Asset Protection	34.6%	30.2%	54.6%	57.7%
Carroll WTP	7.8%	4.9%	1.6%	0.0%
Water Redundancy	33.0%	17.8%	32.9%	58.4%
CSO	15.2%	36.8%	3.1%	0.0%
Other	9.5%	10.2%	7.7%	-16.1%
Total	100.0%	100.0%	100.0%	100.0%

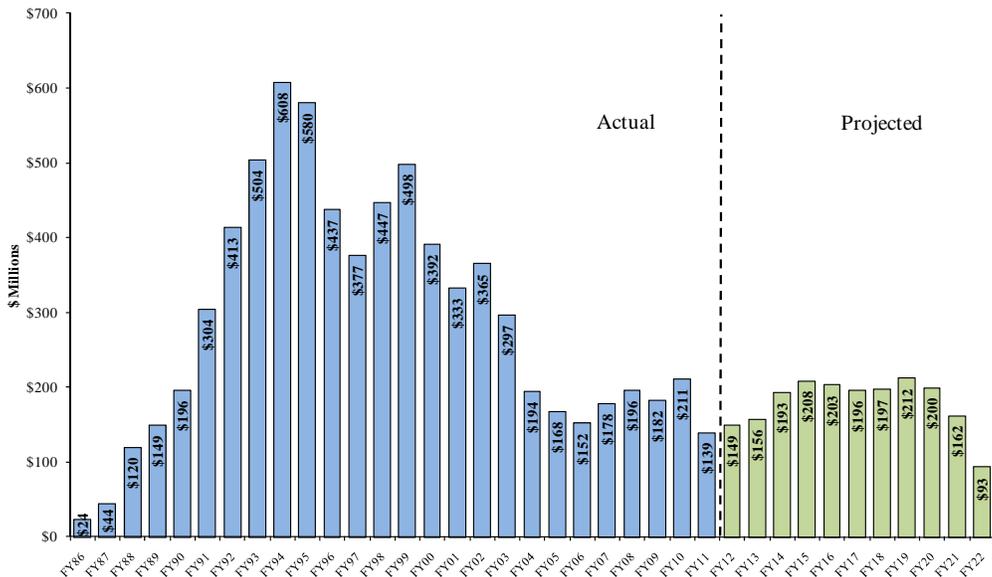
The graph below displays the projected trend of expenditures by major category for the FY09-22 time period.

FY13 Final Expenditure Forecast by Major Category



The following graph represents historical CIP spending through FY11 and projected spending to FY22 based on the FY13 Final CIP.

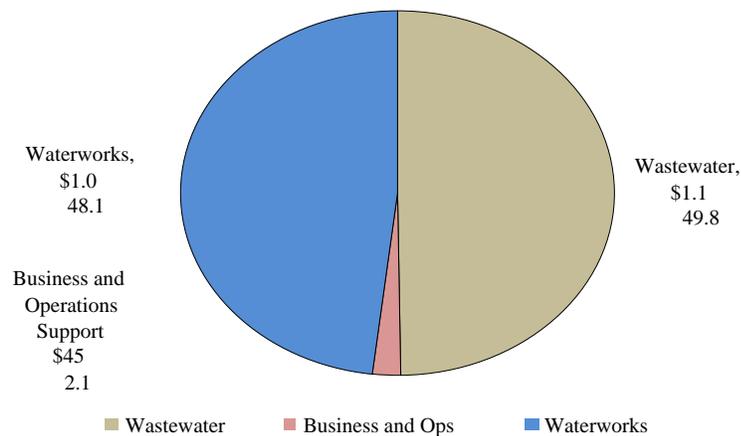
MWRA Capital Spending



FY13 Final CIP Expenditures

The FY13 Final Capital Improvement Program (CIP) budget totals \$5.5 billion, of which \$3.4 billion has been expended through FY11 with \$2.1 billion in projected future spending. Of the future spending, Wastewater System Improvements represent \$1.1 billion or 49.8%, Waterworks System Improvements are \$1.0 billion or 48.1%, and Business and Operations Support are \$44.6 million or 2.1%.

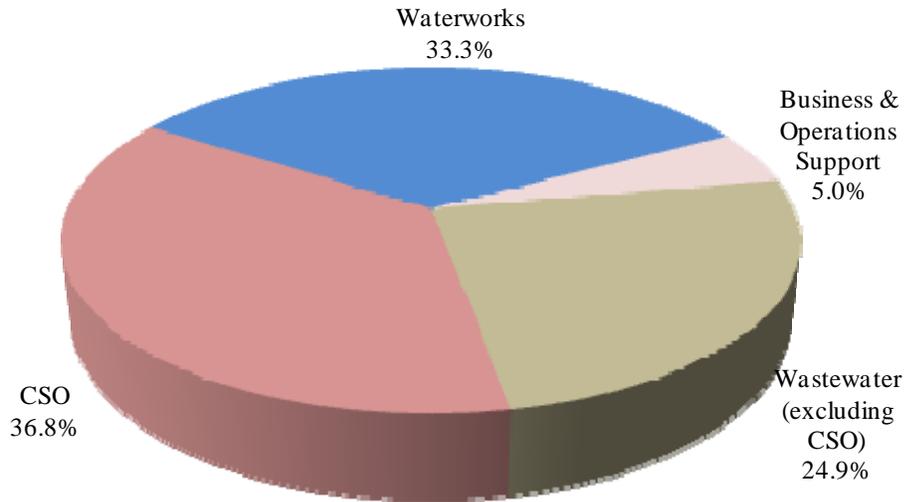
FY 13 CIP Future Spending



The FY13 Final CIP (without contingency) includes planned expenditures of \$148.8 million and 156.3 million for FY12 and FY13 respectively, and total projected expenditures of \$838.1 million for the FY09-13 timeframe.

Combined Sewer Overflow (CSO) program continues to drive spending in the FY09-13 timeframe, accounting for \$308.7 million or 36.8% of total projected spending. Staff anticipates that by the end of the Cap period, more than 96% of the total CSO program will be completed. For the remainder of the Cap period, specifically FY12 and FY13, the largest spending is projected for the Reserved Channel, Brookline, and Cambridge CSO projects, the Carroll Water Treatment Plant Ultra-violet Disinfection, Spot Pond Design/Build, Lower Hultman (CP6A), and Deer Island's North Main Pump Station VFD Replacement and Digester Module 1&2 Pipe Replacement.

The graph below illustrates a breakdown of the major program spending percentages for the FY09-13 period.



Major Planned Spending for Fiscal Year 2013

Capital spending in FY13 is estimated to be \$156.3 million. Spending will be driven by several large projects, including the 10 projects listed below, which account for over 78% of budgeted FY13 spending:

Project	FY13 Spending
Deer Island Plant Asset Protection	\$ 31.6
Carrol Water Treatment Plant	21.9
Spot Pond Storage Facility	21.8
Cambridge Sewer Separation	12.2
Reserved Channel Sewer Separation	12.0
MetroWest Tunnel	9.9
NIH Redundancy and Storage	3.8
Facility Asset Protection	3.6
Watershed Land	2.9
Long Term Redundancy	2.9

Top Ten Projects	\$ 122.6
Total FY13 Spending	\$ 156.3
Top Ten Projects as a percent of FY13 Spending	78.4%

CIP Impact on 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, the Carroll Water Treatment Plant, and the residuals processing facility in Quincy resulted in significant increases in operating expenses. New facilities are adding operating costs of approximately \$725,000 and MIS program related maintenance initiatives are increasing operating costs by nearly \$753,000 by FY22. These increases are offset by anticipated savings for energy initiatives at Deer Island, most notably the digester gas fueled Steam Turbine Generator (STG) upgrade as well as water and wastewater Alternative Energy Initiatives including solar, wind, and hydroelectric power projects which will result in energy savings of approximately \$1.5 million over the next 10 years. The following table summarizes projected CIP impact by project over the next nine years, beginning in FY14.

Fiscal Year	CEB Impacts (000)									
	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	Total
DI Asset Protection	\$0	\$0	(\$323)	(\$58)	(\$153)	\$0	\$0	(\$164)	\$0	(\$699)
FERS Biofilter	0	0	0	0	(122)	0	0	0	0	(122)
Clinton Wastewater Treatment Plant/Aeration Efficiency Improvement	(18)	0	0	0	0	0	0	0	0	(18)
Wastewater Alternative Energy Projects	0	(131)	(382)	0	0	0	0	0	0	(513)
North Dorchester Bay	31	0	0	409	0	0	0	0	0	441
Total Wastewater (inflated)	\$13	(\$131)	(\$705)	\$351	(\$275)	\$0	\$0	(\$164)	\$0	(\$911)
Carroll Water Treatment Plant	\$208	\$114	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$322
Quabbin Water Treatment Plant	0	24	0	0	0	0	0	0	0	24
Wachusett Algae Treatment Facility	0	0	0	29	30	0	0	0	0	60
Alternative Energy	0	0	0	(70)	(169)	0	0	0	0	(239)
Total Water (inflated)	\$208	\$137	\$0	(\$41)	(\$139)	\$0	\$0	\$0	\$0	\$166
Phase II: TRAC Replacement	\$156	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$156
Phase V: LIMS Replacement, GIS & OMS	194	0	0	0	0	0	0	0	0	194
SAN II	0	108	0	0	0	0	0	0	0	108
SAN III	0	0	0	0	0	127	0	0	0	127
NET 2020	52	0	0	0	0	0	0	0	0	52
Telecommunications	0	0	0	0	0	32	0	0	0	32
NET 2020 DITP & Southborough	0	0	84	0	0	0	0	0	0	84
Total Business and Operations Support (inflated)	\$402	\$108	\$84	\$0	\$0	\$158	\$0	\$0	\$0	\$753
TOTAL MWRA	\$623	\$115	(\$621)	\$310	(\$414)	\$158	\$0	(\$164)	\$0	\$7

Capital Financing and Grant Revenues

In the past, MWRA has been able to finance approximately 20 percent of its capital spending with grant receipts, totaling approximately \$1.1 billion through FY03. However, since FY03, the MWRA has only received \$4.9 million in capital grants. In addition to participating in federal and state grant programs, the MWRA benefitted from the American Recovery and Reinvestment Act of 2009 which is projected to forgive approximately \$33.0 million in State Revolving Fund loan principal. The Authority continues to pursue grant funding and take advantage of any possible program available to maximize grant funding opportunities.

MWRA expects to borrow the majority of funds necessary for future capital spending. Borrowing will include 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.

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.

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.

In 1987, the legislature transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to the MWRA.

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 Combined Sewer Overflow (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 (MassDEP) 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 an average of more than \$326 million per year between (FY90 to FY11). 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 the 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.

As debt service costs resulting from mandated capital investment have steadily increased, MWRA's dependence on rising debt service assistance (DSA) allocations have similarly increased. DSA reached a high of \$52.9 million in FY02. In FY03, in response to a state-wide recession, debt service assistance was eliminated and as a result, MWRA was forced to have an unprecedented mid-year rate adjustment, increasing the rate increase from 2.9% to 6.9% as part of an overall strategy in response to cover the loss. The Authority cut \$420.0 million from its capital improvement program and \$47.2 million from the current expense budget through various budget cuts including layoffs. Reductions in debt service assistance result in greater reliance on reserves, budget cuts or a combination of these two elements. In response to a strengthening local economy, debt service assistance was restored in FY05 at the level of \$8.0 million. In the following three years, the debt service allocation increased to \$9.6 million in FY06, \$19.0 million in FY07, and \$17.0 million in FY08. In light of the economic downturn in FY09, the Commonwealth was forced to eliminate the \$15.0 million appropriation in October 2008. The MWRA, after an aggressive budget cutting process, combined with favorable spending trends, was able to make-up this shortfall without a mid-year rate increase. For the FY13 Budget, \$350,000 Debt Service Assistance is assumed.

Planning estimates for 2013 through 2022 forecast rate revenue requirement increases of 3.0% in FY13, 4.4% in FY14, 7.4% in FY15, 6.6% in FY16, 8.9% in FY17, 1.6% in FY18, and 4.1, 5.8%, 4.3%, and 4.7% in years FY19, FY20, FY21, and FY22 respectively.

In FY06, the MWRA formed a Rates Management Committee to evaluate the Authority's debt portfolio and credit structure to propose recommendations that deliver responsible short-term solutions for mitigating imminent rate spikes and long-term strategies for achieving predictable and sustainable rates. In line with the Board of Directors' strategy to deliver long-term predictable and sustainable rates for our 61 ratepayer communities, the MWRA initially preserved the scheduled use of its reserves for future years when projected rate increases are more significant. The changes to the indenture will release \$112.0 million in reserves that can be used to mitigate future rate increases, but the release date is now projected to occur in FY16 based on current borrowing projections. While this is a sizable release, it is not the panacea that will address an average Rate Revenue Requirement increase of almost \$38.0 million over the next ten years.

The FY13 Budget:

- Continues to refine planning estimates assumptions to provide greater predictability of future assessments;
- Judiciously uses reserves to lower rate increases, but maintain adequate balances; and
- Continues a multi-year strategy initiated in FY11 to promote moderate and predictable rate increases over the FY11-FY13 horizon.

MWRA Organization

MWRA has four separate divisions and the Affirmative Action and Compliance Unit Department (AACU).

Each division provides operations or support services to carry out MWRA's activities under the direction of the Executive Office. MWRA's organizational structure is included in the document before the Table of Contents.

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. It includes the following departments: Office of Emergency Preparedness; Public Affairs; Internal Audit; and Planning and Coordination.

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 **Administration and Finance Division** was created in 2009 and is responsible for managing the finance and support service functions necessary to support daily operations of the Authority and insure the implementation of the Authority's long-term goals and strategies.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director's Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

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 **Affirmative Action and Compliance Unit (AACU) Department** develops, administers and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority Procurement activities.

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 Accepted Accounting Principles in the United States of America (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2011 and 2010 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

FY13 Final Current Expense Budget EXECUTIVE DIVISION						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 412,601	\$ 422,374	\$ 483,283	\$ 520,918	\$ 37,635	7.8%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	695	900	205	29.5%
PROFESSIONAL SERVICES	160,031	154,323	142,888	155,432	12,544	8.8%
OTHER MATERIALS	4,576	4,231	1,187	3,860	2,673	225.2%
OTHER SERVICES	457,955	454,553	439,109	455,490	16,381	3.7%
TOTAL	\$ 1,035,162	\$ 1,035,480	\$ 1,067,161	\$ 1,136,600	\$ 69,439	6.5%

FY13 Final Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 420,339	\$ 430,528	\$ 489,399	\$ 529,817	\$ 40,418	8.3%
ADVISORY BOARD / OTHER COMMITTEES	614,823	604,952	577,762	606,783	29,021	5.0%
TOTAL	\$ 1,035,162	\$ 1,035,480	\$ 1,067,161	\$ 1,136,600	\$ 69,439	6.5%

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, systems and employees.

The Executive Office has direct oversight of the Office of Emergency Preparedness, Internal Audit, Public Affairs, and the Affirmative Action and Compliance Unit (AACU) Department.

FY13 Goals:

- 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.
- Provide overall management of the agency and ensure adherence to all applicable policies and regulations.
- Continue to aggressively pursue renewable and sustainable energy resources to reduce the environmental impacts of daily operations, increase energy efficiencies and reduce overall operating costs.
- Manage communication and garner support from key constituents for MWRA programs.

The Executive Office budget supports the Executive Director's Office (which includes the Board of Directors' cost center), 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 "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, holds 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 MWRA FY13 Direct Expense Budget.

Budget Highlights:

- The FY13 Final Budget is \$1.1 million, an increase of \$69,000 or 6.5% from FY12 Actual spending.
- \$521,000 for **Wages and Salaries**, an increase of \$38,000 or 7.8% as compared to FY12 Actual spending. The final budget includes funding for five positions.
- \$451,000 or 39.7% of the Executive Office final budget in **Other Services** is needed to fund the MWRA Advisory Board staff. The final budget increased by \$16,000 or 3.7% from FY12 Actual spending. It supports its operating expenses, including wages and salaries, space rental, and general administrative office materials and supplies.
- \$155,000 or 13.7% of the Executive Office final budget in **Professional Services** is needed to fund the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee. This is level funded from the FY12 Budget.

OFFICE OF EMERGENCY PREPAREDNESS

FY13 Final Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	401,615	476,285	357,479	346,517	\$ (10,962)	-3.1%
ONGOING MAINTENANCE	412,907	223,758	235,838	387,000	151,162	64.1%
TRAINING & MEETINGS	1,989	0	2,117	0	(2,117)	-100.0%
PROFESSIONAL SERVICES	1,526,557	1,473,337	1,476,020	1,715,303	239,283	16.2%
OTHER MATERIALS	64,892	42,642	50,343	58,185	7,842	15.6%
OTHER SERVICES	13,477	20,563	21,000	21,600	600	2.9%
TOTAL	\$ 2,421,436	\$ 2,236,586	\$ 2,142,796	\$ 2,528,605	\$ 385,809	18.0%

The **Office of Emergency Preparedness (OEP)** was created in November 2005 to consolidate Authority-wide security and emergency response functions. It is responsible for oversight of the MWRA’s security and emergency response plans, policies and procedures; implementation and training for the Emergency Response Plan; and management, training, and outfitting of the Emergency Service Unit, which will respond to any intentional or accidental contamination of the water supply. The Director of Operations Support & Emergency Preparedness reports directly to the Executive Director on Emergency Preparedness matters.

FY13 Goals:

- Develop and implement policies and programs to provide security, critical infrastructure protection, and emergency planning for the MWRA’s water and wastewater systems.
- Equip, train, and command the Emergency Service Unit (ESU).
- Develop and exercise emergency plans and procedures.
- Manage and direct contract security guard and security maintenance contracts.

FY13 Initiatives:

- Continue to enhance Emergency Response Plans for all water and wastewater facilities. Update Emergency Action Plans (EAPs) as needed, including Dam EAPs.
- Continue updating of radios as part of the Department of Conservation and Recreation’s (DCR’s) planned transition from analog equipment to digital equipment. Deploy radios purchased at the end of FY12, continue work on changing the MWRA radio system to new frequencies as part of the national frequency reallocation program, and continue implementation of a phased radio purchase plan that minimizes purchase cost through reduced deployment and purchasing strategies.
- Continue the process of ensuring that new construction and rehabilitation of facilities includes an integrated security and surveillance system improvement component. Continue task order security enhancement designs for selected water and wastewater critical sites, fencing installation, and other facility hardening initiatives. Continue planning for updating the security monitoring system to replace obsolete equipment.
- Implement notification drills, tabletop exercises, and field training exercises (FY13 planned water contamination drill). Continue the community emergency response training program and tabletop exercise series for critical service areas with community staff.

- Complete security improvements funded by the FY12 awarded Department of Homeland Security (DHS) Grant associated with the Regional Resiliency review, including purchase of hardened gates for CWTP, Smart boards and security equipment and cyber security improvements.

FY12 Accomplishments:

- Continued to enhance Emergency Response Plans for all water and wastewater facilities.
- Completed procurement of a new security services contract. Also, completed procurement of a contract to consolidate security monitoring at non-critical MWRA field facilities.
- Completed procurement of the new security guard services contract.
- Updated spill control Emergency Action Plans to all water and wastewater facilities subject to spill regulations. Provided refresher training to all operations staff on spill control procedures.
- Purchased 250 vehicle, base and handheld radios to begin updating MWRA radio equipment for DCR's planned transition from analog equipment to digital equipment.
- Responded to the DHS Regional Resiliency review of critical MWRA facilities and was awarded a DHS grant for implementation of hardening improvements.
- Continued the process of ensuring that new construction and rehabilitation of facilities including an integrated security and surveillance system improvement component.
- Implemented a major training exercise for a cyber incident response. Also, implemented a five module emergency response training program and a tabletop exercise series for critical service areas for community staff.

Budget Highlights:

- The FY13 Final Budget is \$2.5 million, an increase of \$386,000 or 18.0% from FY12 Actual spending.
- \$347,000 for **Wages and Salaries**, a decrease of \$11,000 or 3.1% from FY12 Actual spending. The final budget includes funding for four positions.
- \$387,000 for **Ongoing Maintenance**, an increase of \$151,000 or 64.1% from FY12 Actual spending, primarily due to FY12 underspending on the MWRA-wide security systems maintenance services and materials in FY12. The final budget includes funding of \$260,000 to cover the MWRA-wide security systems preventative maintenance and repair service, \$105,000 for MWRA-wide Security systems maintenance materials and equipment, including cameras, intrusion detection, card readers, and \$22,000 for the intrusion alarm annual and semi-annual monitoring services contracts.
- \$1.7 million for **Professional Services**, an increase of \$239,000 or 16.2% from FY12 Actual spending, primarily due to increased funding for security guard services at the various MWRA facilities. The FY13 Final Budget includes \$567,000 for security services contract for the Chelsea facility, \$607,000 for DITP facility, \$348,000 for the Carroll Water Treatment Plant, \$40,000 for Charlestown Navy Yard (CNY) facility, \$87,000 for the Account Manager, and \$47,000 for the Patrol vehicle and Equipment.

- \$58,000 for **Other Materials**, an increase of \$8,000 or 15.6% from FY12 Actual spending, primarily due to increased Lab and Testing supplies for contamination monitoring alarms. The final budget includes \$28,000 for the annual operation and maintenance of equipment assigned to the Mobile Emergency Laboratory and \$27,000 for Health and Safety equipment needs.
- \$22,000 for **Other Services**, which is level funded with FY12 Actual spending. The final budget includes \$20,000 for mandatory monthly testing and inspection of Self-Contained Breathing Apparatus (SCBA).

PLANNING AND COORDINATION DEPARTMENT

FY13 Final Current Expense Budget PLANNING AND COORDINATION						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	1,967,082	1,786,851	1,795,643	1,901,401	\$ 105,758	5.9%
OVERTIME	211	18	0	0	-	-
FRINGE BENEFITS	-	-	-	-	-	-
TRAINING & MEETINGS	4,841	1,478	(69)	6,000	6,069	-8795.7%
PROFESSIONAL SERVICES	1,975	1,800	3,028	3,100	72	2.4%
OTHER MATERIALS	152,250	147,660	161,963	158,375	(3,588)	-2.2%
OTHER SERVICES	77,336	94,793	74,589	158,062	83,473	111.9%
TOTAL	\$ 2,203,694	\$ 2,032,599	\$ 2,035,152	\$ 2,226,938	\$ 191,784	9.4%

The **Planning and Coordination 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 analytical tools. Staff administers financial assistance programs to improve the infrastructure of member communities and to promote water conservation. 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 develops and maintains 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. Provides demand analysis and forecasting of water and wastewater flows for master planning and system operations; model reservoir operations, performs drought forecasting and planning; evaluates system expansion requests; and develops and maintains water and wastewater system models in support of master planning, system operations, and optimization.

System Planning and Renewal - Staff with expertise in engineering and planning is 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 reviews water and wastewater system expansion requests, water supply agreements, and emergency withdrawal requests. Staff also assists 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. Senior staff members actively 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 coordinates with DCR to ensure water protection.

Community Support Program - Staff are responsible for inflow/infiltration (I/I) reduction policy development, implementation, and reporting, provide oversight of and reporting on MWRA leak detection and demand management programs, and report on the portions of MWRA’s NPDES permit related to demand management and flow limitation activities. Staff administers community assistance programs including sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial assistance, water distribution systems

technical assistance, water leak detection technical assistance, and water conservation programs.

FY13 Goals:

- With staff from Engineering and Operations, complete the next iteration of the MWRA Master Plan and MWRA Business Plan, and assist in developing the next five-year CIP cap.
- Continue to advance other hydro-electric projects toward design, and seek appropriate agreements and certifications to maximize revenue for existing hydro facilities.
- Continue to implement MWRA's water system expansion strategy.
- With staff from Engineering and Operations, continue work on the North System Hydraulic Optimization study and the design of Northern Intermediate High (NIH) redundancy improvements, and begin work on the metro area transmission redundancy project.
- In conjunction with Engineering and Operations staff, continue to advance concept planning, design, and environmental review for capital projects, including storage, treatment, and pipeline projects and development of long-term transmission and system redundancy options.
- Effectively communicate water quality information to customers and health officials.
- Continue to implement the Local Pipeline and Water System Assistance Program to provide interest-free loans for local water projects. Continue outreach assistance for water conservation and water system leak detection and repair programs. Continue implementation of the Infiltration/Inflow (I/I) Local Financial Assistance Program to provide grants and interest-free loans for local I/I reduction and sewer system rehabilitation projects.

FY12 Accomplishments:

- Completed procurement and kicked off the North System Hydraulic Optimization study.
- Provided information and worked with communities expressing interest in joining the Authority.
- With Engineering and Operations staff, developed a concept design for a pumping station alternative to provide redundancy for the Cosgrove Tunnel, advanced the Metropolitan Area Redundancy Plan, and advanced the concept plan for (NIH) redundancy through the completed Massachusetts Environmental Protection Agency (MEPA) review process.
- During FY12, MWRA distributed a total of \$14 million in grants and interest free loans (\$6.3 million in grants and \$7.7 million in 5-year loans) to member sewer communities through the Inflow/Infiltration (I/I) Local Financial Assistance Program and \$22.7 million in 10-year interest free loans to member water communities as part of the Local Pipeline and Water System Assistance Loan Program.
- Planning staff represented MWRA on Environmental Protection Agency's (EPA's) Mystic River Steering Committee and its Water Quality Subcommittee and on the Energy and Environmental Affairs (EEA) Sustainable Water Management Initiative and coordinated activities with the Water Supply Citizens Advisory Committee (WSCAC) and Wastewater Advisory Committee (WAC).
- Continued to assist local communities to advance water conservation education and water system leak detection and repair.

- Effectively communicated water quality information to customers and health officials through MWRA's website, e-mails, staff contact, and publication and distribution of the annual Consumer Confidence Report (CCR).

Budget Highlights:

- The FY13 Final Budget is \$2.2 million, an increase of \$192,000 or 9.4% from FY12 Actual spending.
- \$1.9 million for **Wages and Salaries**, an increase of \$106,000 or 5.9% from FY12 Actual spending primarily due to wage increases. The FY13 CEB includes funding for 22 positions.
- \$6,000 for **Training and Meetings** to cover participation in training and conferences primarily focused on water quality regulations and geographic information systems (GIS).
- \$3,100 for **Professional Services** to cover costs associated with the translation of the Consumer Confidence Report and also programming of the GIS user interface.
- \$158,000 for **Other Materials**, a decrease of \$4,000 or 2.2% from FY12 Actual spending. The FY13 CEB includes funding of \$131,000 for postage and mailing of the Consumer Confidence Report, \$15,000 for water conservation kits, \$10,000 for mapping supplies, and \$2,000 for office supplies.
- \$158,000 for **Other Services**, an increase of \$83,000 or 111.9% as compared with FY12 Actual spending. The FY13 CEB includes \$134,000 for printing the Consumer Confidence Report, \$10,000 for printing the Lead in Tap Water brochures, and \$10,000 for reprinting the water conservation bill stuffers. The FY13 Final Budget increase is due to anticipated increased printing cost for production of the Consumer Confidence Report when the current three-year contract expires.

AFFIRMATIVE ACTION and COMPLIANCE

FY13 Final Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	605,065	550,862	548,888	565,927	\$ 17,039	3.1%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	0	2,420	1,620	2,000	380	23.5%
OTHER MATERIALS	1,018	1,347	1,260	1,510	250	19.8%
OTHER SERVICES	387	308	580	632	52	9.0%
TOTAL	\$ 606,470	\$ 554,937	\$ 552,348	\$ 570,069	\$ 17,721	3.2%

The **Affirmative Action and Compliance Unit (AACU)** develops, administers, and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority Business Enterprises (MBE), Women Business Enterprises (WBE), and Disadvantaged Business Enterprises (DBE) in Authority procurement activities.

FY13 Goals:

- 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 into its work force.
- Maintain adequate internal audit and reporting systems to monitor MWRA’s accomplishments of goal attainment in identified underutilized job groups for female and minority representation.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Assist the Human Resources department in the coordination and oversight of all external/internal recruitment and selection activities including interviewing, hiring, transfers, and promotions of protected class candidates.
- Provide for the equitable participation of minority/women and disadvantaged-owned businesses in procurement opportunities, ensure that minorities and women are represented in the labor force on construction contracts, and coordinate with other public entities regarding state and federal requirements.
- Assist divisions and departments in the understanding and implementation of MBE/WBE/DBE program policies and practices and monitor and report on contractor compliance and expenditures.

FY12 Accomplishments:

- Provided management guidance in 31 selection committee interviews, sourced 74 outreach contacts, and referred two qualified candidates to Human Resources for underutilized positions.
- Conducted oversight of 72 construction and professional projects including 36 site visits and one compliance audit to ensure contractor compliance with the MWRA’s MBE/WBE/DBE Program.

Budget Highlights:

- The FY13 Final Budget is \$570,000, an increase of \$18,000 or 3.2% from FY12 Actual spending.
- \$566,000 for **Wages and Salaries**, an increase of \$17,000 or 3.1% from FY12 Actual spending, primarily due to contractual wage increases. The final budget includes funding for seven positions.

INTERNAL AUDIT

FY13 Final Current Expense Budget INTERNAL AUDIT							
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13		
WAGES & SALARIES	\$ 579,202	\$ 615,777	\$ 632,155	\$ 663,123	\$ 30,968		4.9%
OVERTIME	-	-	-	-	-		-
TRAINING & MEETINGS	3,872	6,267	5,070	7,238	2,168		42.8%
OTHER MATERIALS	2,157	1,880	1,394	2,320	926		66.4%
OTHER SERVICES	789	1,126	1,306	1,062	(244)		-18.7%
TOTAL	\$ 586,020	\$ 625,050	\$ 639,925	\$ 673,743	\$ 33,818		5.3%

The **Internal Audit Department** monitors the efficiency and integrity of MWRA operations by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws, and regulations; and coordinates the formulation and revisions to MWRA policies and procedures. Internal Audit also monitors MWRA contracts through its contract audit program, including approval of provisional consultant indirect cost rates and subsequent audit of consultant billings; performs labor burden reviews, construction change orders and claim audits, and vendor and other contract audits.

FY13 Goals:

- Encourage more economical and efficient operations, adhere to sound management procedures, and use controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and to provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have adequate accounting and billing systems to provide current, complete, and accurate cost and price information and project invoicing.

FY12 Accomplishments:

- Identified \$1.1 million in savings related to: internal audits, management advisory services, consultant audits, construction contracts regarding labor burden, and true-ups of CY2010 billings by Harbor Energy Electric Company (HEEC) and CY2011 CSO force account billings by the Boston Water and Sewer Commission (BWSC).
- Issued final audit reports on Fleet Services, the Financial Administration of the Workers' Compensation Program, DITP Data Center Access Controls, Fore River Railroad Financial and Management Controls, and completed eleven incurred cost assignments, eleven preliminary construction reviews, five consultant preliminary reviews, and true-up reports on HEEC and BWSC billings.
- Continued support and review of MWRA leases, and accounting and payment issues.

Budget Highlights:

- The FY13 Final Budget is \$674,000, an increase of \$34,000 or 5.3% from FY12 Actual spending.
- \$663,000 for **Wages and Salaries**, an increase of \$31,000 or 4.9% from FY12 Actual spending. The increase in budget is mainly due to contractual wage increases. The final budget includes funding for eight positions.

PUBLIC AFFAIRS

FY13 Final Current Expense Budget PUBLIC AFFAIRS							
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13		
WAGES & SALARIES	1,098,755	1,080,485	1,036,558	1,048,620	\$ 12,062	1.2%	
OVERTIME	27	67	0	0	-	-	
TRAINING & MEETINGS	1,226	5,327	(463)	3,365	3,828	-826.8%	
PROFESSIONAL SERVICES	3,085	2,328	1,050	1,050	-	0.0%	
OTHER MATERIALS	20,784	29,453	22,391	21,625	(766)	-3.4%	
OTHER SERVICES	35,323	16,974	41,861	47,967	6,106	14.6%	
TOTAL	\$ 1,159,199	\$ 1,134,634	\$ 1,101,397	\$ 1,122,627	\$ 21,230	1.9%	

The **Public Affairs Department** is the institutional link to all MWRA constituencies. The department 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.

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 and Coordination Department staff to ensure compliance with state and local regulations and restrictions.

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 section is lead by the Special Assistant to the Executive Director, located in the Executive Office.

The **Education Section** is responsible for curriculum development, teacher training workshops, as well as providing school education materials on water quality, water conservation, wastewater topics, and environmental issues.

FY13 Goals:

- Enhance overall public understanding of MWRA's mission, goals, and benefits to the public through extensive 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, projects and progress, and promote understanding for associated costs.
- 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, and provide input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.
- Maintains and updates MWRA's Community Contact Database. This Community Contacts tracking application is used to notify MWRA's communities of any emergencies affecting them or surrounding communities.

- Implement the recently approved MWRA-BOD Aqueduct Trails Initiative.

Budget Highlights:

- The FY13 Final Budget is \$1.1 million, an increase of \$21,000 or 1.9% from FY12 Actual spending.
- \$1.1 million for **Wages and Salaries**, an increase of \$12,000 or 1.2% from FY12 Actual spending, primarily due to contractual wage increases. The final budget includes funding for 12 positions.
- \$22,000 for **Other Materials**, a decrease of \$766 or 3.4% from FY12 Actual spending.
- \$48,000 for **Other Services**, an increase of \$6,000 or 14.6% from FY12 Actual spending, mainly due to underspending for printing/duplicating during FY12. This budget supports the printing needs of the department.



Operations Division
Budget

OPERATIONS DIVISION

FY13 Final Current Expense Budget OPERATIONS DIVISION						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 67,744,764	\$ 66,794,330	\$ 68,131,174	\$ 71,338,013	\$ 3,206,839	4.7%
OVERTIME	3,893,234	3,850,545	3,046,845	3,512,092	465,247	15.3%
FRINGE BENEFITS	69,620	67,373	54,278	69,358	15,080	27.8%
CHEMICALS	8,998,799	8,697,048	9,271,529	9,963,496	691,967	7.5%
UTILITIES	25,855,089	21,839,172	22,666,107	22,993,521	327,414	1.4%
ONGOING MAINTENANCE	22,575,229	24,604,384	23,609,567	24,716,539	1,106,972	4.7%
TRAINING & MEETINGS	48,987	74,268	84,117	140,300	56,183	66.8%
PROFESSIONAL SERVICES	3,451,755	3,079,940	2,132,514	2,588,257	455,743	21.4%
OTHER MATERIALS	3,250,608	3,237,336	4,316,068	3,984,169	(331,899)	-7.7%
OTHER SERVICES	19,006,986	18,227,609	19,363,042	19,294,304	(68,738)	-0.4%
TOTAL	\$ 154,895,070	\$ 150,472,004	\$ 152,675,240	\$ 158,600,049	\$ 5,924,809	3.9%

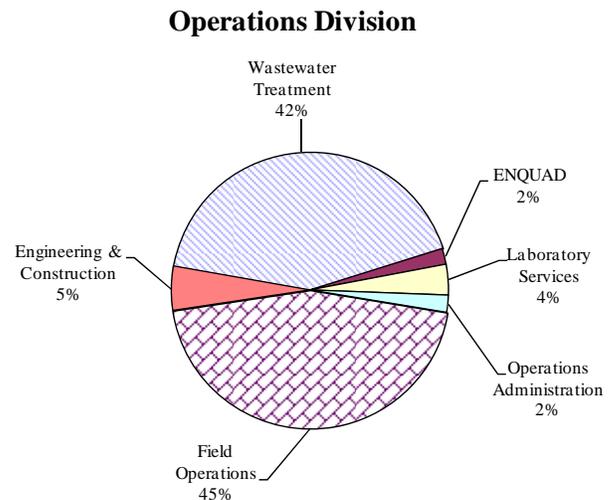
FY13 Final Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
OPERATIONS ADMINISTRATION	\$ 2,729,340	\$ 2,692,128	\$ 2,880,947	\$ 3,214,951	\$ 334,004	11.6%
WASTEWATER TREATMENT	68,821,838	61,246,913	64,934,921	66,395,058	1,460,137	2.2%
FIELD OPERATIONS	65,926,122	69,613,770	69,117,281	72,123,701	3,006,420	4.3%
LABORATORY SERVICES	5,272,058	5,400,095	5,312,799	5,688,037	375,238	7.1%
ENQUAD	3,822,093	3,637,550	2,860,161	2,978,192	118,031	4.1%
ENGINEERING & CONSTRUCTION	8,323,618	7,881,547	7,569,133	8,200,109	630,976	8.3%
TOTAL	\$ 154,895,070	\$ 150,472,004	\$ 152,675,240	\$ 158,600,049	\$ 5,924,809	3.9%

The **Operations Division** integrates wastewater and water system operations and maintenance, treatment, laboratory services, and engineering and construction functions, including implementation of the Combined Sewer Overflow (CSO) plan. The existing Operations Division is described below:

The **Wastewater Treatment Department**, which accounts for 42% of the Operations Division budget, operates and maintains the Deer Island Treatment Plant (DITP), the Clinton Wastewater Treatment Plant, and the Residuals Processing Facility at Fore River Staging Area (FRSA).

The **Field Operations Department (FOD)**, which accounts for 45% 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, including the Carroll Water Treatment Plant (CWTP).

The **Engineering and Construction Department** provides in-house engineering, consultant management, drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and



rehabilitation of wastewater and waterworks systems.

The **Environmental Quality Department (EnQuad)** manages and reports on 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, the Department of Conservation and Recreation (DCR), and the 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, and personnel. The Operations Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

FY13 Goals:

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment/delivery and wastewater transport/treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the Safe Drinking Water Act (SDWA), the Clean Water Act, and National Pollutant Discharge Elimination System (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.

FY13 Initiatives:

Operations, Energy, and New Facilities Start-ups:

- Continue to implement and optimize Supervisory Control and Data Acquisition (SCADA) in Wastewater Operations facilities.
- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Self-generate ~30% of Deer Island Treatment Plant's (DITP) required power through optimization of power generation assets, including the wind turbines and the Steam Turbine Generation (STG) back pressure system modifications.

Engineering & Construction:

- Award numerous contracts and/or issue Notices To Proceed including the following major contracts:

- Water System
 - Carroll Water Treatment Plant (CWTP) Existing Facilities Modification – CP7
 - Weston Aqueduct Supply Mains (WASM) MEPA/Design/Construction Administration (CA)/Resident Inspection (RI)
 - WASM Sect 36/Watertown/Waltham Connection Construction
 - Winsor Station Pipeline Rehabilitation and Improvement
- Wastewater System
 - DITP Clarifier Phase 2 Design
 - DITP Clarifier Tip Tube Replacement
 - North Dorchester Bay Outfall Dredging – Construction
 - DITP Ancillary Modifications – Final Design 4
 - DITP North Main Pump Stations Phase 2 Construction
 - Facility Asset Management Plan (FAMP) Rehabilitation of Section 186 and 4 Construction
 - DITP Fire Alarm System Replacement Construction
- Substantially complete numerous CIP design and construction phases including the following:
 - Water System
 - Northern International High (NIH) Redundancy & Storage Reading/Stoneham Interconnections
 - NIH Redundancy & Storage Gillis Pump Station Improvements
 - Lynnfield Pipeline Construction Phase 2
 - Dam Safety Modifications & Repairs Construction
 - Valve Replacement Construction 7
 - MetroWest Tunnel Lower Hultman Rehabilitation CP6A
 - Southern Spine Distribution Mains Sections 21, 43, & 22 Design
 - Wastewater System
 - Combined Sewer Overflow (CSO) Program North Dorchester Bay Tunnel Design
 - CSO Program North Dorchester Bay Outfall Dredging - Construction
 - CSO Program Brookline Sewer Separation Construction
 - CSO Morrissey Boulevard Drain Design
 - CSO Brookline Sewer Separation Design

Maintenance:

- Optimize staff resources, overtime, service contract scopes and use, and use of as-needed design contracts to complete routine and major maintenance projects.
- Continue work on numerous major projects at Deer Island including facility repainting and coating repairs, Zurn boiler maintenance and repairs, electrical system maintenance, motor bearing overhauls, digester mixer replacement, reactor gearbox rebuilds, and critical equipment maintenance.
- Work on numerous projects in Field Operations including meter inspection and repairs, manhole rehabilitation, HVAC and lighting efficiency upgrades in metro facilities, dam appurtenances inspections, and water tank inspections.

Environmental:

- Pending approval by regulators, plan for and implement requirements of the new National Pollutant Discharge Elimination System (NPDES) Permits for DITP (assume new permit as of January 2013) and Clinton Wastewater Treatment Plant (assume new permit as of July 2012).
- Continue work on other harbor and outfall monitoring initiatives including: calculating revised thresholds, working with the Department of Conservation and Recreation to implement appropriate beach management practices in South Boston, and improving instrumentation on National Oceanic and Atmospheric Administration's (NOAA's) weather buoy.
- Continue to optimize the new environmental information system in Toxic Reduction and Control (TRAC).
- Plan and implement the new round of NPDES-required Local Limit testing in TRAC to reassess industrial discharge limits. This work can commence after the Environmental Protection Agency (EPA) issues the new NPDES permits.
- Continue to prepare for the start-up of Ultra-Violet (UV) Treatment at the CWTP.
- Conduct invasive species removal and monitoring at water reservoirs.

FY12 Accomplishments:

Emergencies

- Successfully operated both systems during Tropical Storm Irene in late August 2011 and the unseasonable snow and ice storm in late October 2011. Work included extensive clean-up of downed trees and branches which were limiting access to MWRA's mid-state aqueducts and waterworks facilities. Staff also assisted with restoration of a downed power line at the Quabbin Reservoir.

Operations, Energy, and New Facilities Start-ups:

- Completed lighting upgrades at five water and wastewater facilities; initiated installation of Variable Frequency Drives (VFDs) on exhaust and supply fans and scrubber pumps at two headworks facilities and the Chelsea Screen House; completed the energy audit at Braintree-Weymouth Intermediate Pump Station (IPS).
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals for the water and wastewater system facilities. Chemicals procured included liquid oxygen, aqua ammonia, hydrofluosilicic acid, sodium hypochlorite, ferric chloride, carbon dioxide, hydrogen peroxide, sodium bisulfite and polymer.
- Generated revenue at two water hydroelectric facilities: \$569,000 at the Oakdale Station, \$152,000 at the Cosgrove Station, and \$42,000 at the Loring Road Station.
- Continued to leverage MWRA's 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) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) credits resulted in \$1.8 million in revenue for FY12. Deer Island also self-generated 24% of the plant's total required power during that period.
- Oversaw installation and start-up of the Charlestown Wind Turbine at the DeLauri Sewer Pump Station.

- Processed 109.7 average tons per day of sludge at the Pelletization Plant and disposed of 6,644 tons of grit and screenings through a contracted vendor.
- Staff prepared and executed operations plans for the shutdown of the eastern sections of the Hultman Aqueduct to allow the Shaft 5A contractor work to proceed.
- As part of a multi-year plan to modernize the communication system, MWRA procured 250 radios to replace older, obsolescent models and to ensure functionality after the state-wide system transition to digital signal transmission.

Maintenance:

- The Operations Division spent \$23.6 million on maintenance of which \$12.3 million was for materials and \$11.3 million was for services.
- Completed numerous major maintenance projects including the following:
 - Procured and implemented numerous contracts for maintenance services including: thermal and hydropower plant maintenance, Combustion Turbine Generator (CTG) maintenance, elevator maintenance and overhead door maintenance at DITP; janitorial services at the Chelsea facility; boiler and water heater service at numerous facilities; electrical system maintenance and HVAC system maintenance at CWTP; elevator maintenance and repair at numerous facilities; hydraulic equipment services for wastewater facilities; fuel storage tank maintenance and repair and Groundskeeping maintenance for numerous facilities; and paving services for MWRA pipeline projects.
 - Procured and implemented numerous contracts for maintenance projects including: energy efficient lighting upgrades at Prison Point; electrical equipment replacement at various sewer pump stations; section 22 pipeline easement clearing; variable drive replacement at Clinton Plant; replacement of two flow control gates at DITP; actuator replacement at CWTP; tree removal at Wachusett Reservoir; and Blue Hills Covered Storage Tank inspection.
 - Installed and commenced operation through Supervisory Control and Data Acquisition (SCADA) of seven units of Contaminant Monitoring Systems.
 - Cleared water and wastewater easements in addition to clearing grounds at numerous MWRA facilities.
- In the water system, exercised 511 and replaced 16 mainline valves; exercised 253 blow-off valves; and surveyed 131 miles of water mains for leaks.
- In the wastewater system, inspected 33.5 miles and cleaned 52.7 miles of MWRA pipeline. Also inspected 1,097 structures and rehabilitated 145 manholes.

Engineering, Construction, and Planning:

- Award of contracts or Notice to Proceed for numerous contracts including the following major projects:
 - Water System
 - Dam Safety Modifications & Repairs – Construction
 - NIH Redundancy and Storage – Reading/Stoneham Interconnections
 - Spot Pond Storage Facility Design/Build
 - Long Term Redundancy – Wachusett Aqueduct Pump Station Design/Resident Inspection
 - Metro West Tunnel – Upper Hultman Rehabilitation
 - Wastewater System
 - FAMP Section 156 Rehabilitation Design/Build
 - DITP Process Instrumentation Control System (PICS) Replacement Construction
 - DITP Digester Modules 1& 2 Pipe Replacement
 - DITP NMPS Variable Frequency Drive (VFD) Replacement Construction
 - FAMP Alewife Brook Pump Station Final Design
 - DITP Clarifier Flush System
- Substantially completed numerous projects including the following:
 - Water System
 - New Connecting Mains Shaft 7 Design
 - Energy Solar Construction at the Carroll Water Treatment Plant (CWTP)
 - Water Transmission Redundancy Plan
 - New Connecting Mains Shaft 7 Construction 5 Northeast Segment
 - Southern Spine – Section 107 Phase 2 Construction
 - Wastewater System
 - East Boston Branch Sewer Replacement Design 2 Construction Services (CS)
 - DITP Electrical Equipment Upgrade Construction 3
 - Energy Charlestown Wind Construction
 - Charles River Combined Sewer Overflow (CSO) Controls Brookline Connection Inflow Controls – Construction
 - Braintree-Weymouth Relief Design 2/Construction Services (CS)/Resident Inspection (RI)
 - DITP Primary and Secondary Clarifier Rehabilitation Construction
 - FAMP Prison Point HVAC Upgrade Construction

Environmental:

- The TRAC Department completed the following Environmental Protection Agency (EPA)-required work for significant industrial users: 210 inspections, 184 monitoring events, and 378 sampling of connections. This department also issued or renewed 301 permits to Significant Industrial Users (SIUs) and non-SIUs.
- The TRAC Department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY11 in October 2011.

- The TRAC Department continued work on the review of local limits at the Clinton Wastewater Treatment Plant as required under the NPDES permit renewal process.
- At DITP, treated 99.2% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations in FY12.
- EnQuad carried out permit-required environmental monitoring of Boston Harbor and Massachusetts Bay water column, sediments, fish and shellfish and CSO receiving water quality. The department finalized 14 technical reports, made monitoring results available on its website and sent reports to government regulators, the Outfall Monitoring Science Advisory Panel and interested members of the public.
- Met all water quality and treatment standards for giardia and cryptosporidium in the drinking water system during FY12.
- The Department of Laboratory Services (DLS) provided routine laboratory services and analysis for approximately 252,000 tests and also provided as-needed analytical support for numerous projects including the following: drinking water Lead and Copper Rule testing, Somerville Marginal CSO facility special project, National Associations of Clean Water Agencies (NACWA) review of EPA's proposed testing revisions.

Budget Highlights:

- The FY13 Current Expense Budget is \$158.6 million, which is \$5.9 million or 3.9%, more than FY12 Actual spending. The FY13 CEB continues to reflect efforts to contain rate increases by curtailing spending on less critical items or services wherever possible and implementing efficiency improvements that will result in long-term, sustainable reductions to the Operations Division's budget.
- Significant increases from FY12 Actual spending include:
 - Net increase of \$3.2 million or 4.7 % for **Wages and Salaries** primarily due to FY12 and FY13 wage increases offset by the division-wide reduction of \$400,000 for six positions to remain unfilled. The FY13 CEB funds 928 filled positions on average during the year; six positions fewer than funded in the FY12 Budget.
 - Net increase of \$1.1 million or 4.7% for **Maintenance** due to planned projects for FY13.
 - Net increase of \$692,000 or 7.5% for **Chemicals** primarily due to price increases for sodium hypochlorite, ferric chloride, nitrazyme, and other chemicals. The CEB also continues to assume reduced fluoride usage at the Carroll Water Treatment Plant when the new regulations take effect later in FY13.
 - Net increase of \$465,000 or 15.3% for **Overtime** primarily due to FY12 storm-related overtime spending was significantly less than average due to a relatively mild winter and spring. The FY13 CEB is sized based on multi-year spending patterns and includes adjustments for wage increases. The budget also incorporates reduction in overtime for FOD Operations Control Center and headworks facilities due to changes in staffing requirements.
 - Net increase of \$456,000 or 21.4% for **Professional Services** primarily due to lower than expected need in FY12 for as-needed task order work in the Harbor and Outfall program and as-needed engineering work at DITP. The FY13 Budget also includes increases for planned energy audits of facilities in the southern part of MWRA's service district and funding for design of repairs at the Wachusett Dam. Major items in the FY13 budget include \$1.4 million for Harbor and Outfall Monitoring; \$650,000 for as-needed engineering services to handle specialized work and peak workload; \$164,000 for dam analysis, design and inspection

services; \$137,000 for Central Lab's outsourcing of testing services for specialized work, peak workloads, and second opinions; and \$125,000 for energy services primarily for facility audits.

- Net increase of \$327,000 or 1.4% for **Utilities**. The \$23 million FY13 Utilities budget, which is 14.5% of the Operations Division's total budget, includes \$16 million for electricity, \$4.4 million for diesel fuel, \$1.9 million for water, and \$515,000 for natural gas. The increase from FY12 spending is due to larger budgets for diesel fuel, up \$669,000 and natural gas, up \$103,000. Diesel fuel increases because Deer Island's FY13 budget assumes seven days of wet-weather CTG use whereas actual use in FY12 was significantly less due to the mild winter/spring weather. The FY13 electricity budget is less than FY12 spending due to expected increases in self-generation and lower usage due to energy projects at Deer Island. The increase in natural gas is due to a budget increase in use based on historical trends versus lower than expected use in FY12.
- Net increases of \$56,000 or 67% for **Training and Meetings** primarily due to planned training for Deer Island mechanical staff, site visits to other plants in preparation for UV treatment start-up at the CWTP and electrical medium voltage training in FOD facilities.
- Significant decreases from FY12 spending include:
 - Net decrease of \$332,000 or 7.7% for **Other Materials** primarily due to unbudgeted replacement of radios in FY12 offset by budgeted increases for vehicle replacements in FY13 due to the aging fleet. Approximately 50% of the active fleet will be seven years or older at the beginning of FY13. The FY13 CEB fund replacement of 47 vehicles is 9.5% of the active fleet.
 - Net decrease of \$69,000 or 0.4% for **Other Services** primarily due to expiration of the Deer Island ambulance contract at the end of FY12. In lieu of procuring a new contract, MWRA has provided a lump sum payment to Winthrop to help defray the cost of a new fire truck and in return, Winthrop will provide ambulance services to the Deer Island Treatment Plant as-required. This reduction is offset by several increases in expenses for permit fees, other services, other rentals and grit and screenings removal. The major expense in FY13 Other Services is \$14.6 million for the pelletization contract. The FY13 CEB is based on an average of 105.7 Tons Per Day (TPD); the historical average through FY11, whereas average tonnage in FY12 was 109.7 TPD. The FY13 CEB also includes contractual inflation adjustments for components of the contract.
- The FY13 Final Budget is subject to risk in the following areas: timing of the implementation of Deer Island's new NPDES permit, chemical and utility usage and prices, sludge quantities, and more than expected emergency-related maintenance and overtime needs

OPERATIONS ADMINISTRATION

FY13 Final Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 1,789,319	\$ 1,865,867	\$ 1,905,682	\$ 1,497,144	\$ (408,538)	-21.4%
OVERTIME	798	238	101	-	(101)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	(342)	-	342	-100.0%
TRAINING & MEETINGS	468	2,284	6,812	3,700	(3,112)	-45.7%
PROFESSIONAL SERVICES	6,500	5,467	9,740	25,000	15,260	156.7%
OTHER MATERIALS	831,973	713,187	761,665	1,502,000	740,335	97.2%
OTHER SERVICES	100,283	105,084	197,288	187,106	(10,182)	-5.2%
TOTAL	\$ 2,729,340	\$ 2,692,128	\$ 2,880,947	\$ 3,214,951	\$ 334,004	11.6%

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 pertaining to the following functions: labor relations, finance, contract and general administration

Budget Highlights:

- The FY13 CEB is \$3.2 million, an increase of \$334,000 or 11.6%, from FY12 Actual spending.
- \$1.5 million for **Wages and Salaries**, a decrease of \$409,000 or 21.4%, from FY12 Actual spending. The funding supports 23 positions. The FY13 Final Budget decrease is due to the inclusion of the \$400,000 for a division level vacancy discount
- \$25,000 for **Professional Services**, an increase of \$15,000 or 156.7%, from FY12 Actual spending. Funding covers energy consulting services to support procurements and evaluation of projects. The increase from FY12 to FY13 is primarily due to the resizing of division-wide consulting services in FY13 to support on-going energy initiatives.
- \$1.5 million for **Other Materials**, an increase of \$740,000 or 97.2%, from FY12 Actual spending. Funding of \$1.5 million is for the replacement of aged vehicles in MWRA’s fleet. The \$740,000 increase reflects efforts to restore a more cost-effective replacement cycle that supports a 10 to 12 year average useful life for MWRA’s passenger vehicles. This is a change from recent years whereby funding was curtailed as part of efforts to contain rate increases. The FY13 Final Budget will allow MWRA to replace 42-50 vehicles which is approximately 8.5% to 10% of the active fleet. Actual spending for vehicle purchases for FY02-FY12 is as follows:

FY02:	\$ 622,000	FY06:	\$ 717,381	FY10:	\$826,513
FY03:	\$ 120,000	FY07:	\$1,846,396	FY11:	\$680,163
FY04:	\$1,580,000	FY08:	\$1,425,758	FY12:	\$784,146
FY05:	\$1,237,289	FY09:	\$1,134,779		

From FY00 to FY03, MWRA limited replacement of vehicles pending completion of an extensive fleet review. In FY03 MWRA reduced the active fleet by more than 10% (from 561 to 496 vehicles) as a result of this initiative. For example, staff identified opportunities to meet the needs of the new waterworks system facilities

through redeployment of existing vehicles rather than adding to the fleet. Approximately 50% of MWRA's active, operable fleet is seven years or older.

- \$187,000 for **Other Services** which are primarily level funded. The majority is for Authority-wide memberships including the American Waterworks Association Research Foundation (AWWARF), National Association of Clean Water Agencies (NACWA), Association of Metropolitan Water Agencies (AMWA), American Waterworks Association (AWWA), and the Boston Harbor Association (BHA) marine debris program. The FY13 Final Budget continues to include partial funding for MWRA's membership in AWWARF.

WASTEWATER TREATMENT

FY13 Final Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 17,553,076	\$ 16,976,936	\$ 17,557,330	\$ 18,219,738	\$ 662,408	3.8%
OVERTIME	1,379,720	950,891	764,149	1,063,530	299,381	39.2%
FRINGE BENEFITS	28,799	19,075	15,150	19,708	4,558	30.1%
CHEMICALS	2,887,823	2,271,711	2,773,772	3,167,788	394,016	14.2%
UTILITIES	16,184,157	12,296,072	13,537,849	13,319,505	(218,344)	-1.6%
ONGOING MAINTENANCE	13,737,428	12,772,381	13,672,935	13,920,802	247,867	1.8%
TRAINING & MEETINGS	23,581	1,787	5,439	38,400	32,961	606.0%
PROFESSIONAL SERVICES	353,515	346,188	111,911	273,200	161,289	144.1%
OTHER MATERIALS	515,596	504,687	525,659	562,991	37,332	7.1%
OTHER SERVICES	16,158,142	15,107,184	15,970,726	15,809,398	(161,328)	-1.0%
TOTAL	\$ 68,821,838	\$ 61,246,913	\$ 64,934,921	\$ 66,395,058	\$ 1,460,137	2.2%

FY13 Final Current Expense Budget WASTEWATER TREATMENT						
FACILITY	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
DEER ISLAND	\$ 50,400,723	\$ 44,246,489	\$ 46,886,554	\$ 48,141,547	\$ 1,254,993	2.7%
RESIDUALS	16,918,753	15,539,049	16,531,865	16,621,621	89,756	0.5%
CLINTON	1,502,362	1,461,375	1,516,502	1,631,890	115,388	7.6%
TOTAL	\$ 68,821,838	\$ 61,246,913	\$ 64,934,921	\$ 66,395,058	\$ 1,460,137	2.2%

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 42% of the Operations Division’s FY13 Final Budget and 31% of MWRA’s FY13 Final direct expenses.

Incoming wastewater from MWRA customer communities is piped to several headworks facilities where large objects are screened out before the influent is transmitted to Deer Island Treatment Plant 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 is pumped through the Braintree-Weymouth tunnel to MWRA's Residuals Processing Facility at Fore River Staging Area (FRSA). Methane, a byproduct of anaerobic digestion, is used to fuel the plant's boilers, which produce steam to provide heat and generate electricity.

DEER ISLAND TREATMENT PLANT

FY13 Final Current Expense Budget DEER ISLAND TREATMENT PLANT						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 16,854,157	\$ 16,278,877	\$ 16,822,253	\$ 17,462,536	\$ 640,283	3.8%
OVERTIME	1,316,066	916,406	717,421	1,011,030	293,609	40.9%
FRINGE BENEFITS	27,911	18,716	14,465	18,708	4,243	29.3%
CHEMICALS	2,710,193	2,066,352	2,559,694	2,886,242	326,548	12.8%
UTILITIES	15,887,447	11,985,464	13,270,049	13,035,371	(234,678)	-1.8%
ONGOING MAINTENANCE	12,300,411	11,736,526	12,504,338	12,698,571	194,233	1.6%
TRAINING & MEETINGS	22,999	1,127	5,439	34,500	29,061	534.3%
PROFESSIONAL SERVICES	263,157	344,215	110,273	270,500	160,227	145.3%
OTHER MATERIALS	450,148	397,774	385,968	414,200	28,232	7.3%
OTHER SERVICES	568,234	501,031	496,653	309,890	(186,763)	-37.6%
TOTAL	\$ 50,400,723	\$ 44,246,489	\$ 46,886,554	\$ 48,141,547	\$ 1,254,993	2.7%

Program Description and Goals:

The **Deer Island Treatment Plant** budget accounts for 30% of the Operations Division’s FY13 Final Budget. DITP has a primary treatment peak capacity of 1.27 billion gallons per day (bgd) and secondary treatment peak capacity of 700 million gallons per day (mgd).

Wastewater "influent" from MWRA customer communities arrives at the plant through four underground tunnels. Pumps then lift the influent 80 to 150 feet, depending on the tunnel, to the head of the plant.

North system flows pass through grit channels and bar screens at the Headworks that remove grit and screenings for disposal in an off-island landfill. South system flows are pre-treated for grit at Nut Island and the Braintree-Weymouth Intermediate Pump Station. Flow is routed to primary treatment clarifiers, which remove about half of the pollutants brought to the plant in typical wastewater (removes 50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants). In the clarifiers, gravity separates sludge and scum from the wastewater.

In secondary treatment, reactors and clarifiers remove non-settleable solids through biological and gravity treatment. The biological process is a pure oxygen-activated sludge system, using microorganisms to consume organic matter that remain in the wastewater flow. Secondary treatment raises the level of pollution removal to over 85%. Approximately 130 tons of pure oxygen is manufactured each day at Deer Island's cryogenic facility to support the biological treatment process.

Sludge from primary and scum from both primary and secondary treatment are thickened in gravity thickeners. Sludge from secondary treatment is thickened in centrifuges. Polymer is used in the secondary thickening process to increase its efficiency. Digestion occurs in the egg-shaped anaerobic digesters at the Deer Island Treatment Plant. There are a total of 12 digesters, each 90 feet in diameter and approximately 130 feet tall. Microorganisms naturally present in the sludge work to break sludge and scum down into methane gas, carbon dioxide, solid organic byproducts, and water. Digestion significantly reduces sludge quantity. The methane gas produced in the digesters is used in the plant's on-site power generating facility to save operating costs by reducing consumption of purchased energy. Digested sludge is pumped through the inter-island Braintree-Weymouth tunnel directly to the MWRA’s Pelletizing Facility at Fore River, where it is further processed into a fertilizer product.

Organizational Structure:

The Deer Island Plant has six major functional areas: Operations, Thermal Power Plant, Process Control, Maintenance, Capital Engineering, and Operations and Maintenance (O&M) Support.

- Operations staff manages the day-to-day operation of plant processing units, performs minor preventative maintenance activities, and oversees plant functions 24 hours per day, seven days per week.
- Thermal Power Plant staff manages and operates the Deer Island generation and thermal systems. Power Plant personnel provide 24 hour operation of the high-pressure, high temperature steam power plant. This facility is capable of producing up to 70 megawatts of emergency electrical power.
- Process Control manages and maintains the following programs in support of plant operations; real-time process instrumentation and control system (PICS), operational data system (OMS), plant performance monitoring and reporting programs, and regulatory compliance programs including all plant permits, water quality, and air quality. The Process Control Unit provides the technical expertise for plant unit operations and routinely performs process optimization studies to help increase performance and reduce operating costs.
- Maintenance performs preventive and predictive maintenance and corrective repairs on all equipment, utilizing a computerized maintenance management system (CMMS) to coordinate scheduling with Operations. Staff has developed the Reliability Centered Maintenance (RCM) program, which has improved plant performance by applying maintenance resources where they are most effective. RCM analyzes the operating systems with the objective of ensuring critical functions operate as required. Implementation of a preventive maintenance program using RCM helps reduce the cost of maintaining the plant and improves the efficiency by anticipating when maintenance will be required. An on-island warehouse, managed by Procurement Department staff, ensures there is adequate stock for maintenance repairs and plant operations.
- Capital Engineering provides technical support services for both the Operations and Maintenance Units. Staff is responsible for all aspects of plant engineering including developing, procuring, and implementing all service contracts, consultant designs, and capital improvement projects at Deer Island. This group also manages the on-island Technical Information Center, which provides services to the Deer Island Treatment Plant (DITP) community and external constituents, and ensures quick access to plant drawings and technical information for operational and maintenance needs.
- O&M Support Section is responsible for supporting the business needs of the plant. The Administration and Finance Unit provides financial and administrative support to meet daily operational needs of the plant. The Safety/Security Unit is responsible for ensuring a safe and healthful work environment for employees and minimizing MWRA's exposure to liability and property loss or damage.

The Deer Island Director's Office provides overall policy direction and support in the areas of public access and community agreements.

Operating Assumptions

Deer Island's FY13 Final Budget assumes treatment of an average flow of 362 mgd based on eleven years of historical data. The projected quantity of digested sludge to be pumped to FRSA (TSS basis) is 105.7 TPD. This is based on data from the six years after the discontinuation of the DSL centrifuges and the start-up of the Braintree-Weymouth tunnel.

Deer Island's FY13 Final Budget accounts for the impact of self-generation of electricity from the steam turbine generator, combustion turbine generators, hydroelectric generators, wind turbine generators, and photovoltaic panels. In total, these assets will meet approximately 30% of the total energy requirements.

Deer Island continues to comply with the conditions of the current National Pollutant Discharge Elimination System (NPDES) Permit which expired in FY06. Given the uncertainty regarding the timing of the permit renewal from the Environmental Protection Agency (EPA), Deer Island's FY13 Final Budget does not assume that the new permit will be in effect for FY13. When the new permit is issued, it is anticipated that Deer Island's treatment process will be required to kill enterococcus in addition to fecal coliform to comply with the new regulations.

Budget Highlights:

- The FY13 Final Budget is \$48.1 million, an increase of \$1.3 million or 2.7%, from FY12 Actual spending.
- \$17.5 million for **Wages and Salaries**, an increase of \$640,000 or 3.8%, from FY12 Actual spending. The FY13 Final Budget funds on average 233 filled permanent positions. The FY13 CEB also includes \$149,000 for stand-by pay to support operational and maintenance needs primarily during storms and emergencies.
- \$1.0 million for **Overtime**, an increase of \$294,000 or 40.9% from FY12 Actual spending. Overtime supports operational coverage, critical maintenance projects, and regulatory requirements (i.e. inspections). The increase is primarily due to lower than anticipated storm coverage and wet weather/high plant flow events in FY12.
- \$2.9 million for **Chemicals**, an increase of which is \$327,000 or 12.8%, from FY12 Actual spending. The FY13 Final Budget reflects management's expectation that a new NPDES permit will not be in effect for Deer Island for FY13. The budget includes \$1.1 million for sodium hypochlorite, \$585,000 for ferric chloride, \$314,000 for activated carbon, \$266,000 for polymer, and \$141,000 for sodium bisulfite. The majority of the increase from FY12 to FY13 is mainly due to the projected chemical price increases. The FY13 CEB usage estimates for disinfection chemicals are based on multi-year averages.
- \$13.0 million for **Utilities**, a decrease of \$235,000 or 1.8%, from FY12 Actual spending. The FY13 Final Budget includes \$9.4 million for electricity, \$2.1 million for diesel fuel, and \$1.5 million for water. The FY13 Final Budget reflects several years of historical power usage and self-generation and includes a full year's impact of renewable self-generation primarily from additional solar panels and the new back pressure steam turbine generator (STG), which in total contributes to an approximate decrease of \$500,000 in electricity costs from FY12 Actual spending.
- \$12.7 million for **Maintenance**, an increase of \$194,000 or 1.6%, from FY12 Actual spending. The FY13 Final Budget includes \$5.9 million for materials and \$6.8 million for services. Of the total, \$8.4 million or 66% is for plant and machinery services and materials, \$1.9 million is for electrical system maintenance, and \$1.3 million is for building and grounds work.
- \$271,000 for **Professional Services**, an increase of \$160,000 or 145.3%, from FY12 Actual spending. The increase reflects a greater amount for projected spending in the as-needed design contracts to support the development of major maintenance projects.

- \$414,000 for **Other Materials**, an increase of \$29,000 or 7.3%, from FY12 Actual spending. The FY13 Final Budget includes \$152,000 for health and safety materials, \$98,000 for work clothes, and \$68,000 for vehicles expenses (tolls, mileage, and gas).
- \$310,000 for **Other Services**, a decrease of \$187,000 or 37.6%, from FY12 Actual spending. The FY13 Final Budget decrease is due to the elimination of the ambulance service contract of \$250,000. The FY13 Final Budget includes \$86,000 for permit fees, \$50,000 for fax/copier leasing and servicing, \$36,000 for telephones, \$25,000 for freight charges, and \$20,000 for HAZmat/safety services.

RESIDUALS MANAGEMENT

FY13 Final Current Expense Budget RESIDUALS MANAGEMENT PROGRAM						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 119,702	\$ 107,382	\$ 113,188	\$ 114,899	\$ 1,711	1.5%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	1,226,841	843,858	965,977	1,021,790	55,813	5.8%
TRAINING & MEETINGS	582	-	-	3,400	3,400	-
PROFESSIONAL SERVICES	-	-	-	1,000	1,000	-
OTHER MATERIALS	-	-	-	1	1	-
OTHER SERVICES	15,571,628	14,587,809	15,452,700	15,480,531	27,831	0.2%
TOTAL	\$ 16,918,753	\$ 15,539,049	\$ 16,531,865	\$ 16,621,621	\$ 89,756	0.5%

Program Description and Goals:

The **Residuals Management Program** manages the processing and disposal of approximately 106 dry tons per day total suspended solids (TSS) of sludge from the anaerobic digestion process at Deer Island Treatment Plant, as well as the disposal of grit and screenings from all MWRA facilities. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

- MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the sludge processing facility, and to market and distribute sludge products. A 15-year contract with NEFCo became effective March 1, 2001 and will expire on December 31, 2015. Liquid sludge from Deer Island is pumped through the Braintree-Weymouth cross-harbor tunnel to the Fore River processing facility where it is dewatered, dried, and shipped by either rail or truck for use as fertilizer or to other appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable.

In FY11, MWRA completed a third-party independent condition assessment of the NEFCo facility. The report found the facility in excellent condition and recommended only minor modifications to several control system devices.

- The budget is based on 105.7 tons per day (TPD based on TSS), consistent with historical actual annual tonnage since the start-up of the Braintree-Weymouth tunnel through FY12.
- Grit and screenings (minor residuals) from MWRA's headworks and certain pump stations are collected and disposed of in landfills. MWRA contracts with a third party operator for this service. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes and include grit, screenings, and scum screenings. The current contract commenced in June 2011.

Budget Highlights:

- The FY13 Final Budget is \$16.6 million, an increase of \$89,700 or 0.5%, from FY12 Actual spending.
- \$115,000 for **Wages and Salaries**, an increase of \$1,700 or 1.5%, from FY12 Actual spending. The funding supports one position. This department also receives on-going management oversight and staff support from other departments of the MWRA including Deer Island, Treasury, and Operations Administration.

- \$1.0 million for **Maintenance**, an increase of \$56,000 or 5.8%, from FY12 Actual spending. The funding supports the capital repair, replacement, and improvement component of the NEFCo contract, which includes a specific level per year adjusted to account for inflation. The change from FY12 to FY13 is primarily due to increases in inflation based on market indices.
- \$14.6 million or 88% of FY13 CEB is for the **Sludge Pelletization** portion of the NEFCo contract. The FY13 Final Budget is \$24,000 or 0.2% less than FY12 Actual spending primarily due to increased spending for excess quantities in FY12. During FY12, short-term process adjustments at the Deer Island Treatment Plant to manage secondary operations resulted in increased sludge quantities. The FY13 CEB is based on an average of 105.7 tons per day, consistent with historical trends since the start-up of the Braintree-Weymouth tunnel through FY12.
- \$830,000 for **Grit and Screenings** disposal, an increase of \$28,000 or 3.5%, from FY12 Actual spending primarily due to expected increases in quantity during the clarifier rehabilitation project at the Deer Island Treatment Plant.
- \$38,000 for **Permit Fees**, an increase of \$27,000 from FY12 Actual spending due to the biennial testing of sludge dryer stacks as required by the Massachusetts Department of Environmental Protection (MassDEP).

CLINTON WASTEWATER TREATMENT PLANT

FY13 Final Current Expense Budget CLINTON WASTEWATER TREATMENT PROGRAM							
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13		
WAGES & SALARIES	\$ 579,217	\$ 590,677	\$ 621,889	\$ 642,303	\$ 20,414	3.3%	
OVERTIME	63,654	34,485	46,728	52,500	5,772	12.4%	
FRINGE BENEFITS	888	359	685	1,000	315	46.0%	
CHEMICALS	177,630	205,359	214,078	281,546	67,468	31.5%	
UTILITIES	296,710	310,608	267,800	284,134	16,334	6.1%	
ONGOING MAINTENANCE	210,176	191,997	202,620	200,441	(2,179)	-1.1%	
TRAINING & MEETINGS	-	660	-	500	500	-	
PROFESSIONAL SERVICES	90,358	1,973	1,638	1,700	62	3.8%	
OTHER MATERIALS	65,448	106,913	139,691	148,790	9,099	6.5%	
OTHER SERVICES	18,280	18,344	21,373	18,977	(2,396)	-11.2%	
TOTAL	\$ 1,502,362	\$ 1,461,375	\$ 1,516,502	\$ 1,631,890	\$ 115,388	7.6%	

Program Description and Goals:

The **Clinton Wastewater Treatment Program** provides advanced sewage treatment services to the Town of Clinton and the Lancaster Sewer District. MWRA assumed formal operational responsibility for the Clinton plant in 1987. Since then MWRA has designed and constructed new primary, secondary, and advanced treatment facilities which incorporated rehabilitated portions of the existing plant with new construction. The new facilities, designed to meet all current and projected National Pollutant Discharge Elimination System (NPDES) discharge standards, were completed in 1992.

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 processes, trickling filters, aeration tanks, secondary tanks, and a chemical addition building. The plant discharges its effluent into the South Nashua River in accordance with the discharge limits of the facility's NPDES permit which limits effluent flow to 3.01 million gallons per day (mgd). The plant has a potential peak flow rate of 12 mgd and a 6 mgd peak 24 hour rate. Residual materials are pressed and transported to an MWRA-owned landfill for disposal. Staff also performs regular monitoring of the landfill site.

Budget Highlights:

- The FY13 Final Budget is \$1.6 million, an increase of \$115,000 or 7.6%, from FY12 Actual spending.
- \$642,000 for **Wages and Salaries**, an increase of \$20,000 or 3.3%, from FY12 Actual spending primarily due to wage increases. The FY13 CEB funds eight positions and one part-time temporary contract clerical position.
- \$53,000 for **Overtime**, an increase of \$6,000 or 12.4%, from FY12 Actual spending. Overtime is used to meet the 24 hour, 7 day per week emergency coverage requirement and to provide increased maintenance resulting from an aging facility.
- \$282,000 for **Chemicals**, an increase of \$70,000 or 31.5% from FY12 Actual spending. Chemicals are used for sludge processing and disposal and wastewater treatment. The change from FY12 to FY13 reflects revised estimates for wastewater treatment chemical use associated with the additional requirements expected in the new National Pollutant Discharge Elimination System (NPDES) permit. The FY13 CEB assumes start-up as of July 2012.

- \$284,000 for **Utilities**, an increase of \$16,000 or 6.1%, from FY12 Actual spending. Utilities represent 17% of the FY13 CEB. The budget includes \$202,000 for electricity, \$62,000 for fuel oil, and \$20,000 for water.
- \$200,000 for **Maintenance**, a decrease of \$2,000 or 1.1%, from FY12 Actual spending primarily due to lower estimates for major project spending in FY13. The FY13 CEB includes \$50,000 for major projects based on the most current rolling priority list. The remainder of the budget is for routine materials and services. Maintenance represents 12% of the FY13 Final Budget.
- \$149,000 for **Other Materials**, an increase of \$9,000 or 6.5%, from FY12 Actual spending due to the expected price increase for landfill gravel. The Other Materials budget includes \$136,000 for clean fill for the landfill operation.

FIELD OPERATIONS

FY13 Final Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 34,959,350	\$ 34,976,521	\$ 35,927,958	\$ 37,861,047	\$ 1,933,089	5.4%
OVERTIME	2,333,975	2,655,359	2,102,678	2,318,760	216,082	10.3%
FRINGE BENEFITS	39,919	47,180	38,114	47,700	9,586	25.2%
CHEMICALS	6,110,976	6,425,336	6,497,757	6,795,706	297,949	4.6%
UTILITIES	9,654,098	9,526,403	9,111,793	9,652,882	541,089	5.9%
ONGOING MAINTENANCE	8,606,906	11,596,068	9,743,801	10,503,069	759,268	7.8%
TRAINING & MEETINGS	23,160	62,590	62,671	86,800	24,129	38.5%
PROFESSIONAL SERVICES	618,254	405,450	507,936	717,000	209,064	41.2%
OTHER MATERIALS	943,142	1,020,850	2,022,728	956,042	(1,066,686)	-52.7%
OTHER SERVICES	2,636,342	2,898,013	3,101,845	3,184,695	82,850	2.7%
TOTAL	\$ 65,926,122	\$ 69,613,770	\$ 69,117,281	\$ 72,123,701	\$ 3,006,420	4.3%

FY13 Final Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
TOXIC REDUCTION & CONTROL	\$ 3,436,145	\$ 3,504,134	\$ 3,524,789	\$ 3,602,738	\$ 77,949	2.2%
WASTEWATER OPERATIONS	11,624,424	12,120,182	11,877,271	12,971,958	1,094,687	9.2%
WATER OPERATIONS & MAINT	21,110,594	26,266,747	25,685,781	26,643,395	957,614	3.7%
METRO MAINTENANCE	17,732,922	14,402,761	14,586,284	14,638,114	51,830	0.4%
OPERATIONS SUPPORT	7,803,765	8,617,057	8,201,808	8,939,029	737,221	9.0%
FOD ADMIN	4,218,272	4,702,889	5,241,348	5,328,467	87,119	1.7%
TOTAL	\$ 65,926,122	\$ 69,613,770	\$ 69,117,281	\$ 72,123,701	\$ 3,006,420	4.3%

The primary goal of the **Field Operations Department (FOD)** is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. 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, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring program. FOD consists of six operating units: Toxic Reduction and Control, Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

The Toxic Reduction and Control (TRAC) Department operates a multi-faceted program to minimize and control the inflow of hazardous or toxic materials into the MWRA sewer system. TRAC operates MWRA's Environmental Protection Agency (EPA) approved Industrial Pretreatment Program and is responsible for all associated activities which include conducting inspections (approximately 700 annually), issuing permits (300 annually), conducting sampling (more than 2,000 events annually), and carrying out enforcement activities (approximately 400 annually). The program tracks more than 1,400 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application, Pre-treatment Information Management System (PIMS), to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements.

Wastewater Operations operates MWRA's wastewater transport facilities, including four continuously staffed Headworks facilities; 12 fully automated pumping stations; and seven Combined Sewer Overflow (CSO) facilities

which are similarly un-staffed. FY13 will be the first full-year of operation of the South Boston CSO facilities. The wastewater system is monitored and controlled from the operations control center (OCC) in Chelsea.

Water Operations and Maintenance is responsible for the treatment and delivery of approximately 207 million gallons per day (mgd) (three year average) 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 Lynnfield, Wakefield, Marblehead, Norwood and Canton in the metropolitan area. This unit operates and maintains MWRA's western waterworks facilities, including the Carroll Water Treatment Plant, the MetroWest Tunnel, the Ware Water Treatment Plant, the Cosgrove Intake Facility, the Norumbega Reservoir, and the covered storage facilities. 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) is located at MWRA's Chelsea facility and the Western Operations Center is located at the Carroll Water Treatment Plant.

Metropolitan Maintenance is responsible for the 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 approximately 300 miles of water mains, 4,900 valves, 18 miles of deep rock tunnels, ten pump stations, eight tunnel shafts, eleven distribution storage tanks, a wastewater network of 240 miles of wastewater interceptors and appurtenances, 12 pump stations, four headworks, and six CSO facilities. In addition, this unit performs TV inspections of the wastewater interceptor system and leak detection.

Operations Support provides technical support to Field Operations Department (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 179 revenue water meters, 26 master water meters, 187 revenue wastewater meters, and 35 other wastewater monitoring sites. 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 wastewater Supervisory Control and Data Acquisition (SCADA) systems.

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

Budget Highlights:

- The FY13 Final Budget is \$72.1 million, an increase of \$3.0 million or 4.3% from FY12 Actual spending.
- \$37.9 million for **Wages and Salaries**, which is \$1.9 million or 5.4% higher than FY12 Actual spending primarily due to wage increases. The Wages and Salaries line item accounts for 52% of the FY13 CEB and funds 512 positions. Of the remaining budget, \$422,000 is for stand-by pay to support operational and maintenance needs; \$97,000 is for temporary employees including two temporary SCADA Technicians and one Engineering Aide; and \$53,000 for interns for water quality analysis, grounds maintenance, and engineering assistance to augment engineering staff.
- \$2.3 million for **Overtime**, an increase of \$216,000 or 10.3% from FY12 Actual spending, due to the addition of more overtime for snow removal at the western facilities to align the budget with recent historical actuals. The budget includes \$1.1 million for emergency related overtime, \$578,000 for planned overtime covering scheduled maintenance and training, and \$564,000 for operational coverage needs.

- \$6.8 million for **Chemicals**, of which \$6.3 million is for water treatment and \$517,000 is for wastewater treatment. The FY13 CEB is \$298,000 or 4.6% higher than FY12 Actual spending primarily due to price increases in sodium hypochlorite, liquid oxygen and increased volume for Nitrazyme/VX based on historical usage. The FY13 Final Budget includes \$3.2 million for soda ash for alkalinity control, \$1.2 million for sodium hypochlorite, \$675,000 for hydrofluosilicic acid for fluoridation, \$651,000 for liquid oxygen for the Carroll Water Treatment Plant (CWTP) ozone generation, \$320,000 for nitrazyme and VX-456 for Framingham Extension Relief Sewer odor and corrosion control, \$310,000 for carbon dioxide to control water pH, \$218,000 for sodium bisulfite for dechlorination, \$200,000 for aqua ammonia for disinfection, and \$23,000 for sodium hydroxide to elevate pH and control odor.
- \$9.7 million for **Utilities**, an increase of \$541,000 or 5.9% from FY12 Actual spending primarily due to additions to the electricity budget for stations that have added SCADA, the return to service of the Hyde Park Pump Station after a multi-year rehab and a change in calculation method for revenue from the Charlestown Wind Turbine to revenue reimbursement from the previous method of a direct offset to electricity. The FY13 CEB includes \$6.3 million for electricity, \$2.3 million for diesel fuel which increased \$507,000 due to price increases, \$515,000 for natural gas which increased \$103,000 due to price increases and \$404,000 for water which reflects a \$99,000 decrease following the repair of several leaks.
- \$10.5 million for **Maintenance**, an increase of \$759,000 or 7.8% from FY12 Actual spending primarily due to FY13 maintenance project funding. The FY13 CEB includes \$3.7 million in day-to-day projects, \$3.5 million for services, \$2.8 million in major projects, and \$520,000 for energy initiatives. Some of the major projects planned for FY13 include:

Purchase 2 350KW Towable Emergency Generators	\$337,000
Wachusett Dam North Dike Tree Clearing	\$300,000
Manhole Rehabilitation Contract	\$180,000
Bellevue Roof Replacement	\$150,000
Carpet Replacement - Chelsea Facility	\$150,000
Replace 10 WW Flow Meters	\$125,000

- \$87,000 for **Training and Meetings**, an increase of \$24,000 or 38.5% from FY12 Actual spending primarily due to less than anticipated training in FY12. This line item primarily covers training required for job duties, health and safety compliance, and job-related licensures and certifications
- \$717,000 for **Professional Services**, an increase of \$209,000 or 41.2% from FY12 Actual spending due in part to two engineering design projects related to dam repairs along with additional funding for energy audits. The FY13 CEB includes \$609,000 for engineering, which is made up of \$400,000 for as-needed engineering services, \$87,000 for a multiyear dam services contract, and \$25,000 for spill control training evaluation; \$100,000 for energy audits at various south system facilities; \$77,000 for a one-time dam analysis/repair design; \$20,000 for the National Pollutant Discharge Elimination System (NPDES) permit related to the Local Limits Study slated for completion early in FY13; \$5,000 for lab and testing services related to water quality; and \$4,000 for the Dig Safe program.
- \$956,000 for **Other Materials**, a decrease of \$1.1 million or 52.7% from FY12 Actual spending. FY12 actuals were high due to the purchase of digital radios to replace the current analog radios due to the state phasing out analog transmitters. The FY13 CEB includes \$330,000 for vehicle expenses for gas, mileage reimbursements, and tolls; \$235,000 for health and safety supplies; \$190,000 for work clothes; and \$120,000 for lab and testing supplies.

- \$3.2 million for **Other Services**, an increase of \$83,000 or 2.7% from FY12 Actual spending. The FY13 Final budget includes \$1.7 million for annual lease payments for the Chelsea office building, \$569,000 for telecommunications equipment and services and SCADA needs at various facilities, \$381,000 for police details, and \$130,000 for invasives control.

LABORATORY SERVICES

FY13 Final Current Expense Budget LABORATORY SERVICES						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 4,000,086	\$ 4,029,511	\$ 3,983,943	\$ 4,221,617	\$ 237,674	6.0%
OVERTIME	64,595	61,556	67,731	65,102	(2,629)	-3.9%
FRINGE BENEFITS	423	405	445	1,200	755	169.7%
UTILITIES	16,834	16,697	16,464	21,134	4,670	28.4%
ONGOING MAINTENANCE	222,466	233,054	186,431	283,303	96,872	52.0%
TRAINING & MEETINGS	989	206	773	2,000	1,227	158.7%
PROFESSIONAL SERVICES	118,528	97,446	68,265	136,607	68,342	100.1%
OTHER MATERIALS	771,432	870,872	921,303	883,369	(37,934)	-4.1%
OTHER SERVICES	76,705	90,348	67,445	73,705	6,260	9.3%
TOTAL	\$ 5,272,058	\$ 5,400,095	\$ 5,312,799	\$ 5,688,037	\$ 375,238	7.1%

The **Department of Laboratory Services (DLS)** goal is to provide high quality and responsive laboratory services to MWRA's water and wastewater treatment programs, including the Department of Conservation and Recreation (DCR) and the MWRA member water and wastewater 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 National Pollutant Discharge Elimination System (NPDES) permits. The Department supports these functions at five locations: Chelsea, Southboro, Quabbin, the Central Laboratory at the Deer Island Treatment Plant (DITP), and the Clinton Wastewater Treatment Plant. Testing supports drinking water transmission and treatment processes, wastewater operations and process control at Deer Island and Clinton, NPDES compliance, Massachusetts Bay outfall monitoring, Toxic Reduction and Control (TRAC), and wastewater residuals. DLS also conducts the Boston Harbor monitoring program that involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor. Laboratory staff track and analyze results for submission to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MDEP).

Most MWRA laboratory testing is done in-house. Certain highly specialized or low volume tests are outsourced, such as tests for dioxins and radioactivity.

Budget Highlights:

- The FY13 Final Budget is \$5.7 million, an increase of \$375,000 or 7.1%, from FY12 Actual spending.
- \$4.2 million for **Wages and Salaries**, an increase of \$238,000 or 6.0%, from FY12 Actual spending primarily due to wage increases. The FY13 Final Budget funds 54 positions. The FY13 CEB also includes \$84,000 for up to three temporary employee positions to cover peak workload, Harbor and Outfall Monitoring, and the Carroll Water Treatment Plant special testing.
- \$21,000 for **Utilities**, an increase of \$5,000 or 28.4% from FY12 Actual spending. The FY13 CEB includes the purchase of gases and cryogenic liquids used for various lab instruments.
- \$283,000 for **Maintenance**, an increase of \$97,000 or 52.0%, from FY12 Actual spending. The FY13 CEB includes \$188,000 for equipment service contracts, \$40,000 for Laboratory modifications and \$21,000 for Heating Ventilation Air Conditioning (HVAC) services to annually maintain and certify the fume hoods.

- \$137,000 for **Professional Services**, an increase of \$68,000 from FY12 Actual spending and covers lab and testing analysis services. The Lab contracts out a variety of complex and/or low volume tests. Outside labs are used for emergencies, “second opinions”, capacity constraints, and unavailability of specialized equipment or economic justification.
- \$883,000 for **Other Materials**, a decrease of \$38,000 or 4.1%, from FY12 Actual spending. The FY13 CEB includes \$574,000 for laboratory and testing supplies and \$265,000 for replacement of obsolete or older equipment.
- \$74,000 for **Other Services**, an increase of \$6,000 or 9.3%, from FY12 Actual spending. The FY13 CEB primarily covers boat rental service on an as-needed basis, boat dockage for two boats, removal of hazardous waste, and courier service for shipping samples between laboratories.

ENVIRONMENTAL QUALITY

FY13 Final Current Expense Budget ENVIRONMENTAL QUALITY							
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13		
WAGES & SALARIES	\$ 1,451,658	\$ 1,405,236	\$ 1,465,986	\$ 1,518,112	\$ 52,126	3.6%	
OVERTIME	1,233	465	985	2,100	1,115	113.2%	
FRINGE BENEFITS	-	-	-	-	-	-	
ONGOING MAINTENANCE	390	142	(905)	-	905	-100.0%	
TRAINING & MEETINGS	43	1,644	1,405	3,000	1,595	113.5%	
PROFESSIONAL SERVICES	2,354,958	2,225,388	1,369,550	1,436,450	66,900	4.9%	
OTHER MATERIALS	9,951	2,104	18,157	14,330	(3,827)	-21.1%	
OTHER SERVICES	3,860	2,570	4,983	4,200	(783)	-15.7%	
TOTAL	\$ 3,822,093	\$ 3,637,550	\$ 2,860,161	\$ 2,978,192	\$ 118,031	4.1%	

The **Environmental Quality Department** manages and 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; managing and entering data; and complying with the reporting requirements of MWRA's National Pollutant Discharge Elimination System permits. MWRA submits these permit reports to state and federal regulators, the Outfall Monitoring Science Advisory Panel and its subcommittees, and several libraries; and, as required by the permits, MWRA posts many of these reports on its website, as well as technical reports and water quality information.

Budget Highlights:

- The FY13 CEB is \$3.0 million, an increase of \$118,000 or 4.1%, from FY12 Actual spending.
- \$1.5 million for **Wages & Salaries**, an increase of \$52,000 or 3.6% over FY12 Actual spending. The FY13 CEB includes funding for 17 positions.
- \$1.4 million for **Professional Services**, an increase of \$67,000 or 4.9%, from FY12 Actual spending. Outside laboratory testing and analysis associated with the Harbor and Outfall Monitoring (HOM) Program, including \$1.2 million for the HOM 8 contract, which will be completed by several vendors. The balance covers the following contracts which, except for biotoxicity testing, are co-funded through cost-sharing arrangements.
 - o Biotoxicity testing for Deer Island Treatment Plant, Clinton Treatment Plant, and Combined Sewer Overflow facilities
 - o National Oceanic and Atmospheric Administration's National Data Buoy Center for required continuous monitoring
 - o University of Maine's buoy off Cape Ann
 - o Algae monitoring on buoy off Cape Ann
 - o Cape Cod Bay water quality monitoring
 - o Bays Eutrophication Model
 - o Study of trace organic chemicals (personal care products, pharmaceuticals, and endocrine disruptors).

The FY13 Final Budget continues to reflect the reduction in scope of HOM monitoring that began in CY2011 based on the favorable findings of nine years of monitoring data and regulatory approval. MWRA is saving approximately \$800,000 per year in monitoring costs due to the changes compared to before the reductions.

ENGINEERING AND CONSTRUCTION

FY13 Final Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 7,991,274	\$ 7,540,258	\$ 7,290,274	\$ 8,020,356	\$ 730,082	10.0%
OVERTIME	112,912	182,036	111,200	62,600	(48,600)	-43.7%
FRINGE BENEFITS	479	713	569	750	181	31.8%
ONGOING MAINTENANCE	8,039	2,739	7,647	9,366	1,719	22.5%
TRAINING & MEETINGS	745	5,757	7,017	6,400	(617)	-8.8%
PROFESSIONAL SERVICES	-	-	65,112	-	(65,112)	-100.0%
OTHER MATERIALS	178,514	125,635	66,557	65,437	(1,120)	-1.7%
OTHER SERVICES	31,656	24,409	20,755	35,200	14,445	69.6%
TOTAL	\$ 8,323,618	\$ 7,881,547	\$ 7,569,133	\$ 8,200,109	\$ 630,976	8.3%

The **Engineering and Construction Department (ECD)** manages and coordinates the planning, design, and construction of system improvements that ensure a safe and adequate water supply and a reliable wastewater collection and treatment. Staff is organized into three units including Wastewater Engineering, Water Engineering, and Construction.

The department provides in-house engineering, consultant management (during the facilities planning, environmental review, design, and engineering services during construction stages of capital projects), drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems. The **Wastewater Engineering Unit** manages all wastewater design and engineering projects including Combined Sewer Overflow (CSO) engineering activities. The unit also maintains the Design Information Services Center (DISC), which provides computer-aided design and drafting (CADD) services. The **Water Engineering Unit** manages all water design and engineering projects as well as specialized technical services in electrical, structural, mechanical, and civil engineering disciplines. The **Construction Unit** provides contract management and resident inspection on all MWRA water and wastewater construction and rehabilitation projects, with the exception of Deer Island Treatment Plant.

Budget Highlights:

- The FY13 Final Budget is \$8.2 million, an increase of \$631,000 or 8.3%, from FY12 Actual spending.
- \$8.0 million for **Wages and Salaries**, an increase of \$730,000 or 10%, from FY12 Actual spending. Wages and Salaries represent 98% of the FY13 Final Budget and includes funding for 86 positions. FY12 Actual spending reflects seven fewer positions when compared to the FY13 CEB.
- \$63,000 for **Overtime**, a decrease of \$49,000 or 43.7%, from FY12 Actual spending. Overtime covers resident inspection at construction sites after regular work hours to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings, and meeting deadlines. FY13 overtime was reduced when ECD management changed shift hours of resident engineering staff covering the Hultman project. The shift change eliminated four hours of daily overtime.
- \$9,000 for **Maintenance** which covers two service contracts for the DISC Unit's specialized printers and plotters. FY12 spending decreased when a new copier was purchased and changed the timing of the annual maintenance payment, pushing the contract renewal into FY13.
- \$6,000 for **Training & Meetings**, a decrease of \$600 or 8.8%, from FY12 Actual spending.

- **Professional Service** spending in FY12 covered a one-time update of the Construction Unit's Resident Engineering Manual, performed by a consultant under the multi-discipline technical assistance contracts.
- \$65,000 for **Other Materials**, a decrease of \$1,000 or 1.7%, from FY12 Actual spending. Funding includes \$21,000 for Fast Lane Tolls, \$18,000 for vehicle expense for staff traveling to construction sites, \$13,000 for office supplies, \$6,000 for MWRA gas cards, and \$4,000 for work clothes.
- \$35,000 for **Other Services**, an increase of \$14,000 or 69.6%, from FY12 Actual spending. Funding includes \$16,000 for printing of in-house design plans and specifications, \$11,000 for telephone expenses, \$7,000 for memberships and dues, and \$1,000 for police details. FY12 Actual spending was lower than the historical average for printing of in-house design plans and specifications.



Law Division
Budget

LAW DIVISION

FY13 Final Current Expense Budget LAW DIVISION						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	1,653,543	1,612,193	1,556,666	1,640,127	\$ 83,461	5.4%
OVERTIME	-	-	99	-	(99)	-100.0%
TRAINING & MEETINGS	221	845	535	2,000	1,465	273.8%
PROFESSIONAL SERVICES	23,882	67,544	110,886	146,000	35,114	31.7%
OTHER MATERIALS	4,301	4,095	3,707	7,314	3,607	97.3%
OTHER SERVICES	26,042	25,702	25,512	29,147	3,635	14.2%
TOTAL	\$ 1,707,989	\$ 1,710,379	\$ 1,697,405	\$ 1,824,588	\$ 127,183	7.5%

The Law Division provides legal counsel to the Board of Directors, the Executive Director, and staff on compliance with federal and state laws, regulations, court cases, and administrative orders. Staff also handle and provide assistance with respect to litigation matters, real estate matters, labor/employment issues, procurement, 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 monitor the work of outside counsel when it is necessary to retain such services.

Law Division staff, though usually representing MWRA in a defensive posture, also work with Operations Division staff to effectuate cost recovery claims for design errors and omissions by MWRA design professionals. In addition, the Law Division assists in the early resolution of contractor and vendor claims prior to litigation so as to resolve them as favorably and early as possible thereby reducing or eliminating litigation costs and interest payable upon such claims were they to be litigated.

FY13 Goals:

- 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.
- Continue to exhaust all opportunities to shift cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.

Budget Highlights:

- The FY13 Final Budget is \$1.8 million, an increase of \$127,000 or 7.5% from FY12 Actual spending.
- \$1.6 million for **Wages and Salaries**, an increase of \$83,000 or 5.4% from FY12 Actual spending. The budget funds 17 positions. The increase from FY12 Actual spending is due to wage increases.
- \$146,000 for **Professional Services**, an increase of \$35,000 or 31.7% from FY12 Actual spending. The increases from FY12 Actual spending is anticipated need for outside legal counsel and litigation expenses including expert witnesses, depositions, and court filing fees.



Administration & Finance Division
Budget

ADMINISTRATION AND FINANCE DIVISION

FY13 Final Current Expense Budget ADMINISTRATION AND FINANCE						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	\$ 15,494,376	\$ 15,166,542	\$ 15,345,968	\$ 16,034,754	\$ 688,786	4.5%
OVERTIME	72,528	48,666	39,230	61,404	22,174	56.5%
FRINGE BENEFITS	15,925,897	17,289,695	17,608,265	18,172,568	564,303	3.2%
WORKERS' COMPENSATION	2,226,080	2,228,175	1,600,726	2,100,000	499,274	31.2%
UTILITIES	127,177	138,122	100,731	133,678	32,947	32.7%
ONGOING MAINTENANCE	2,573,184	3,135,984	2,930,602	3,125,531	194,929	6.7%
TRAINING & MEETINGS	33,728	36,965	90,611	223,814	133,203	147.0%
PROFESSIONAL SERVICES	922,605	859,070	1,233,132	1,291,642	58,510	4.7%
OTHER MATERIALS	1,310,988	858,895	955,387	1,353,932	398,545	41.7%
OTHER SERVICES	2,859,420	4,709,830	3,018,817	3,735,344	716,527	23.7%
TOTAL	\$ 41,545,984	\$ 44,471,944	\$ 42,923,470	\$ 46,232,665	\$ 3,309,198	7.7%

FY13 Final Current Expense Budget ADMINISTRATION AND FINANCE						
DEPARTMENT	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
DIR OFFICE (FINANCE)	\$ 233,549	\$ 322,759	\$ 341,064	\$ 345,630	\$ 4,566	1.3%
RATES AND BUDGET	746,583	741,028	761,977	781,386	19,409	2.5%
TREASURY	1,099,772	904,827	868,223	981,560	113,337	13.1%
CONTROLLER	1,533,605	1,538,224	1,492,769	1,519,203	26,434	1.8%
RISK MANAGEMENT	395,661	393,033	406,198	406,019	(179)	0.0%
DIVISION DIR (SUPP SER)	174,139	-	-	-	-	-
HUMAN RESOURCES	20,142,550	21,606,092	21,490,738	22,504,668	1,013,930	4.7%
MIS	8,810,394	8,532,999	8,900,651	10,350,041	1,449,390	16.3%
FACILITIES MANAGEMENT	2,438,927	2,551,180	2,370,827	2,556,309	185,482	7.8%
FLEET SERVICES	1,770,528	1,872,740	1,824,490	2,060,276	235,786	12.9%
PROCUREMENT	3,435,590	3,516,243	3,873,820	3,855,164	(18,656)	-0.5%
REAL PROPERTY / ENVIRONMENTAL MGMT	764,688	2,492,819	592,713	872,410	279,697	47.2%
TOTAL	\$ 41,545,984	\$ 44,471,944	\$ 42,923,470	\$ 46,232,665	\$ 3,309,195	7.7%

The **Administration and Finance Division** is responsible for managing the finance and support service functions of the Authority.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director's Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division performs a multitude of functions that support the daily operations and ensure the implementation of the Authority's long term goals and strategies.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

FY12 Accomplishments:

- Continued providing up-to-date, streamlined financial information to the Board of Directors and external constituencies on both the Current Expense Budget and Capital Improvement Program.
- Developed the FY13 Budget consistent with the FY12 planning estimates, for both the Current Expense Budget and the Capital Improvement Program.
- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.
- Completed the 2011C transaction for an All-In-True Interest Cost of 3.95%, the lowest in MWRA history to that point. On December 8, 2011 MWRA issued \$327M in Refunding Bonds. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of 7.17% or \$25.3M
- Completed the Series 2012 A&B transaction for an All-In-True Interest Cost of 3.93%, the lowest in MWRA history. On April 19, 2012 MWRA issued \$150M in New Money Bonds for the ongoing construction program and \$86.8M in Refunding Bonds. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of 5.09% or \$5.2M.
- Established an accounting software users group to provide an open forum for accounting and purchasing department collaboration with Management Information Systems (MIS).
- Developed specifications for 21 new replacement vehicles or pieces of equipment of which the majority of these units will utilize alternative fuel, consistent with the Authority's goal of purchasing environmentally friendly products.
- Created and implemented new Standard Operating Procedures (SOP's) for preventative maintenance, corrective maintenance, emergency maintenance, vehicle fuel programs, and 2-way radio communications.
- Successfully negotiated and implemented successor collective bargaining agreements with five collective bargaining units.
- Completed the MIS Five-Year IT Strategic Plan.
- Completed an Authority wide Staffing Study
- In accordance with the Commonwealth transparency and accountability law, staff implemented the MWRA Open Checkbook application. This application provides spending data by Employee, Vendor, and Categories of expense to the public and is accessible from MWRA's web site.
- Competitively bid Calendar Year 2011 (CY11) Renewable Energy Portfolio Standard certificates which resulted in FY12 revenues of \$319,000 (Class II). In addition, received FY12 revenues of \$885,000 from forward marketing of CY11 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.

- Awarded the following major contracts in FY12: Spot Pond Storage Facility Design Build; Deer Island Treatment Plant (DITP) North Main Pump Station (NMPS) Variable Frequency Drives (VFDs); DITP Air Emissions Testing; Northern Intermediate High (NIH) Stoneham-Reading Connection; Five-Year Strategic Information Technology Plan; Bond Counsel Services; North System Hydraulic Study; Purchase and Supply of Electricity Profile Accounts; Wachusett Aqueduct Pump Station Design; Hatchery Pipeline and Hydroelectric Design; Alewife Brook Pump Station Improvements Design; Alewife Brook Combined Sewer Overflow (CSO) Improvements Design; Union Park Operating Contract; Oakdale Phase 1A Electrical Upgrade; Brookline Overflow Conduit Cleaning; Clinton Aeration Efficiency Improvements; Upper Hultman Aqueduct Interconnections; DITP Primary and Secondary Clarifier Flushing System; FY13 Insurance Program; Disclosure Counsel Services; Residuals Processing Facility Technology Options Assessment; South Dike Tree Removal at Wachusett Reservoir; and DITP Fuel Oil Line Abandonment.
- Advertised or received bids/proposals/statements for the following: DITP Expansion Joint Repair Construction 2; Sudbury Aqueduct Pressurization and Connections; Letters of Credit, Liquidity Facilities or Direct Purchases; Nut Island Switchgear Modifications; Caruso Pump Station Improvements Design; Wachusett Aqueduct Emergency Interconnection Valves; DITP Concrete Steel Restoration and Coating, Phase IV; North Dike Tree Removal at Wachusett Reservoir; and DITP Replacement of Four Gravity Thickener Center Columns.
- Recycled 40.2 tons of paper, 262.2 tons of scrap metal, and 42,900 pounds of brass, copper, stainless steel and aluminum, generating \$68,482 in revenues.
- Staff acquired easements and negotiated licenses and extensions to support projects such as the Hultman Aqueduct Interconnections, Southern Spine Distribution System Section 156 (license with Berkeley Green), Brookline Conduit (license with Boston University), and Ward Street Headworks (license with Wentworth Institute of Technology). Additionally, provided real estate support on projects such as disposition of property at the former East Boston Steam and Pump Station to the Department of Capital Asset Management (DCAM). At year's end, working to acquire additional land from DCAM for Ware Disinfection Facility related uses and Massachusetts Department of Transportation (MassDOT) for acquisition of land for Shaft 5/5A.
- Continued with the assessment of the oil contamination resulting from the February 2010 spill at the Cottage Farm Combined Sewer Overflow (CSO) facility.
- Provided technical support for the assessment and remediation of PCBs at the Chicopee Valley Aqueduct (CVA) Intake Facility, Alewife Brook Pump Station, and Remote Headworks facilities in conjunction with on-going design of facility upgrades.

FY13 Goals:

- Ensure the fiscal strength of MWRA through judicious, informed, and strategic allocation of resources.
- Continue the multi-year assessment strategies to ensure predictable, sustainable and reasonable community assessments and charges.
- Ensure uniform contract language, standard safeguards, and competitive bids for the MWRA.

- Maintain favorable credit ratings for MWRA's revenue bonds.
- Provide upgrades and enhancements to the integrated Management Information Systems (MIS) to ensure efficiency, based on the IT Study recommendations.
- Ensure effective, coordinated operating and capital budget planning throughout MWRA.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility.

FY13 Initiatives

- Continue close monitoring of financial markets to better position the Authority to take advantage of any opportunities to maximize investment income, refund bonds for savings, and reduce debt financing obligations.
- Implement the first phase of the five-year MIS Strategic Plan
- Continue assessment, evaluation, and implementation of sustainable cost savings opportunities throughout the organization.
- Continue development of a long-term, detailed Strategic Information Technology Plan based on the IT Study recommendations.

ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE

FY13 Final Current Expense Budget ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE							
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13		
WAGES & SALARIES	229,685	316,476	333,417	337,852	\$	4,435	1.3%
TRAINING & MEETINGS	2,228	1,764	2,214	2,093		(121)	-5.5%
OTHER MATERIALS	1,204	3,922	4,352	3,200		(1,152)	-26.5%
OTHER SERVICES	433	597	1,081	2,485		1,404	129.9%
TOTAL	\$ 233,549	\$ 322,759	\$ 341,064	\$ 345,630	\$	4,566	1.3%

The **Administration and Finance (A&F) Division Director's Office** oversees a multitude of functions that support the daily operations and ensure the implementation of the Authority's long-term goals and strategies.

The Director's Office is responsible for the centralized financial functions of rates development, revenue collection, budgeting, capital financing, debt and investment management, accounting, payroll processing, and risk management as well as the support functions of procurement, human resources, management information systems, fleet services, facilities management, and real property and environmental management. Additionally, the Director's Office ensures that transactions comply with all rules, regulations, Authority policies and procedures, and contract terms. The Director's Office manages the development and implementation of policies to uphold the efficient utilization of resources and control of all monies. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all administrative and financial issues.

The division's continuing challenge in FY13 will be maintaining an agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services.

FY13 Goals:

- Manage and coordinate the Authority's finance and support service functions.
- Guide and coordinate division activities to support MWRA's goals and objectives.
- Continuously improve processes and performance for greater efficiency.
- Develop and implement long-term strategies to ensure reasonable rate increases to MWRA's communities.

Budget Highlights:

- The FY13 Final Budget is \$346,000, an increase of \$5,000 or 1.3% from the FY12 Actual spending.
- The FY13 Final Budget includes \$338,000 for **Wages and Salaries**, an increase of \$4,000 or 1.3% from FY12 Actual spending. The FY13 Final Budget funds three positions.

RATES & BUDGET

FY13 Final Current Expense Budget RATES AND BUDGET							
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13		
WAGES & SALARIES	744,737	739,705	760,849	780,618	\$	19,769	2.6%
TRAINING & MEETINGS	-	-	-	-		-	-
PROFESSIONAL SERVICES	0	0	0	0		-	-
OTHER MATERIALS	447	468	158	368		210	132.9%
OTHER SERVICES	1,400	856	970	400		(570)	-58.8%
TOTAL	\$ 746,583	\$ 741,028	\$ 761,977	\$ 781,386	\$	19,409	2.5%

The **Rates & 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 divisional staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to projected schedules and budgeted spending. Staff also coordinates the development of MWRA's annual Current Expense Budget (CEB) and monitors spending compared to the budget throughout the year. The Budget Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA's member communities and develops planning estimates of future rate projections.

FY13 Goals:

- Continually enhance processes and the management of resources to deliver the final CIP and CEB timely and accurately.
- Adhere to all MWRA policies, procedures, and administrative practices as well as all relevant statutory and regulatory authority, accounting, and budgeting principles.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's Board of Directors, Management, and the MWRA Advisory Board.

FY13 Initiatives:

- Continue to develop staff skills for cross functionality between CIP and CEB.
- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Develop options and recommendations to ensure predictable, sustainable, and reasonable assessments and charges to our communities.

FY12 Accomplishments:

- Developed the FY13 Budget consistent with the FY12 planning estimates, for both the Current Expense Budget and the Capital Improvement Program.
- Participated in discussions of reevaluating the current water assessment methodology.

- Drive the development of the next five-year CIP cap as part of the FY14 CIP budget process.
- Participated in evaluating options for potential water-system expansion opportunities.
- Participated in discussion regarding potential legislative changes to the Payment in Lieu of Taxes (PILOT) program at the state level.

Budget Highlights:

- The FY13 Final Budget is \$781,000, an increase of \$19,000 or 2.5% from FY12 Actual spending.
- \$781,000 for **Wages and Salaries**, an increase of \$20,000 or 2.6%, from FY12 Actual spending. The FY13 Final Budget funds eight positions.

TREASURY

FY13 Final Current Expense Budget TREASURY							
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13		
WAGES & SALARIES	725,927	641,248	677,941	715,090	\$	37,149	5.5%
OVERTIME	122	309	124	0		(124)	-100.0%
ONGOING MAINTENANCE	0	0	0	0		-	-
TRAINING & MEETINGS	0	0	0	0		-	-
PROFESSIONAL SERVICES	366,400	257,329	183,909	259,050		75,141	40.9%
OTHER MATERIALS	614	1,041	52	300		248	476.9%
OTHER SERVICES	6,709	4,900	6,196	7,120		924	14.9%
TOTAL	\$ 1,099,772	\$ 904,827	\$ 868,223	\$ 981,560	\$	113,337	13.1%

The **Treasury Department** secures funds for ongoing operations and capital programs in addition to processing cash disbursements. Department staff collect revenue, disburse funds, and manage grant and loan programs in addition to debt issuance and investments.

FY13 Goals:

- Manage MWRA's debt portfolio to contribute to the achievement of sustainable and predictable rate increases.
- Maximize investment return while maintaining compliance with the General Revenue Bond Resolution requirements regarding security and liquidity.

FY12 Accomplishments:

- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.
- Completed the 2011C transaction for an All-In-True Interest Cost of 3.95%, the lowest in MWRA history to that point. On December 8, 2011 MWRA issued \$327M in Refunding Bonds. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of 7.17% or \$25.3M
- Completed the Series 2012 A&B transaction for an All-In-True Interest Cost of 3.93%, the lowest in MWRA history. On April 19, 2012 MWRA issued \$150M in New Money Bonds for the ongoing construction program and \$86.8M in Refunding Bonds. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of 5.09% or \$5.2M.
- Successfully re-bid the Bond Counsel professional services contract attracting several well qualified firms and ensuring competitive pricing for bond deals and related legal work for the next three years.

Budget Highlights:

- The FY13 Final Budget is \$982,000, an increase of \$113,000 or 13.1% as compared with FY12 Actual spending.
- \$715,000 for **Wages and Salaries**, an increase of \$37,000 or 5.5% from the FY12 Budget. The final budget funds nine positions.
- \$259,000 for **Professional Services**, an increase of \$75,000 or 40.9% as compared with FY12 Actual spending mainly due to lower than projected need for services in FY12.

CONTROLLER

FY13 Final Current Expense Budget CONTROLLER						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	1,343,518	1,348,206	1,331,607	1,357,053	\$ 25,446	1.9%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	0	0	0	0	-	-
TRAINING & MEETINGS	10	0	0	0	-	-
PROFESSIONAL SERVICES	189,211	189,000	160,000	160,000	-	0.0%
OTHER MATERIALS	79	109	193	300	107	55.4%
OTHER SERVICES	787	909	969	1,850	881	90.9%
TOTAL	\$ 1,533,605	\$ 1,538,224	\$ 1,492,769	\$ 1,519,203	\$ 26,434	1.8%

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 assets, liabilities, revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

FY13 Goals:

- Implement process efficiencies in all department units.
- Enhance controls to safeguard Authority assets and ensure accurate and timely reporting.

FY13 Initiatives:

- Integrate new contract accounting software module with existing accounting software.
- Complete implementation of electronic vendor remittances.

FY12 Accomplishments:

- Rolled out electronic time sheet approval to nine additional Authority departments.
- Established an accounting software users group to provide an open forum for accounting and purchasing department collaboration with Management Information Systems (MIS).

Budget Highlights:

- The FY13 Final Budget is \$1.5 million, an increase of \$26,000 or 1.8% as compared to FY12 Actual spending.
- \$1.4 million for **Wages and Salaries**, an increase of \$25,000 or 1.9% as compared with FY12 Actual spending mainly due to contractual increases. The final budget funds 18 positions.
- \$160,000 for **Professional Services**, which is level funded with FY12 Actual spending. The contract for audit services expires in March, 2013. The FY13 Final Budget reflects anticipated costs associated with the annual financial statement audit, the A-133 Single Audit related to the receipt of federal funds, and the actuarial services related to GASB 45 Other Post Employment Benefits.

RISK MANAGEMENT

FY13 Final Current Expense Budget RISK MANAGEMENT						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	338,558	351,829	357,568	375,569	\$ 18,001	5.0%
OVERTIME	147	566	0	0	-	-
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	56,032	40,134	48,173	30,000	(18,173)	-37.7%
OTHER MATERIALS	21	(214)	7	0	(7)	-100.0%
OTHER SERVICES	903	720	450	450	-	0.0%
TOTAL	\$ 395,661	\$ 393,033	\$ 406,198	\$ 406,019	\$ (179)	0.0%

The **Risk Management Department** is responsible for all MWRA insurance and risk management functions. Department staff manage all administrative functions relating to the initial reporting, processing, and resolution of construction contract claims and self-insured auto, general liability, and property damage claims. Department staff is responsible for the annual procurement, renewals, and maintenance of all Authority-wide insurance policies and programs and also for managing all aspects of MWRA's Contractor Insurance Certificate program. Department staff serve as a liaison to insurance industry participants including brokers, insurers, insurance consultants, attorneys, and all MWRA departments.

FY13 Goals:

- Process self-insured automobile, general liability, property damage and construction contract claims in an efficient and timely manner.
- Secure the timely, cost effective renewal of Authority-wide insurance contracts.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by establishing insurance requirements and monitoring compliance.

Budget Highlights:

- The FY13 Final Budget is \$406,000, which is level funded with FY12 Actual spending.
- \$376,000 for **Wages & Salaries**, an increase of \$18,000 or 5.0% from FY12 Actual spending. The final budget funds four positions.
- \$30,000 for **Professional Services**, a decrease of \$18,000 or 37.7% from FY12 Actual spending based on a revised level of need for an insurance consultant services.

FACILITIES MANAGEMENT

FY13 Final Current Expense Budget FACILITIES MANAGEMENT							
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13		
WAGES & SALARIES	426,137	477,655	412,641	414,717	\$	2,076	0.5%
OVERTIME	20,268	16,019	16,527	24,154		7,627	46.1%
FRINGE BENEFITS	162	42	34	0		(34)	-100.0%
UTILITIES	125,725	136,412	98,749	130,678		31,929	32.3%
ONGOING MAINTENANCE	23,377	69,965	12,107	45,900		33,793	279.1%
TRAINING & MEETINGS	0	60	0	0		-	-
PROFESSIONAL SERVICES	0	0	3,200	0		(3,200)	-100.0%
OTHER MATERIALS	118,851	74,792	7,463	62,733		55,270	740.6%
OTHER SERVICES	1,724,406	1,776,235	1,820,106	1,878,128		58,022	3.2%
TOTAL	\$ 2,438,927	\$ 2,551,180	\$ 2,370,827	\$ 2,556,309	\$	185,483	7.8%

The **Facilities Management Department** provides a range of support services to MWRA staff located at the Charlestown Navy Yard (CNY).

Facilities Management is responsible for coordinating site management activities at CNY. 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.

In addition, staff provides administrative and office support services that facilitate the efficient use of MWRA resources. These responsibilities include providing and managing the motor pools at Chelsea and CNY, general office equipment repairs, transportation, mail, and courier services. Staff coordinates MWRA parking programs and corporate Massachusetts Bay Transportation Authority (MBTA) pass programs.

FY13 Goals:

- Provide a safe and well-maintained working environment for all MWRA staff at CNY and provide appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
- Maintain the CNY facility to prevent loss or deterioration of MWRA assets.
- Implement facility programs in conjunction with MWRA recycling and resource conservation efforts.
- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.

FY12 Accomplishments:

- Continued work with the landlord to implement facility improvements as provided in our lease agreements for Charlestown Navy Yard headquarters.
- Completed work with MIS and equipment providers to implement multi-function technology for copiers and printers. By utilizing this technology it was possible to replace up to four individual units (printer, copier, scanner and fax) with one piece of equipment that performs all of these functions

providing savings in floor space, power, equipment maintenance, and production costs (cost per page).

Budget Highlights:

- The FY13 Final Budget is \$2.6 million, an increase of \$186,000 or 7.8%, as compared with FY12 Actual spending.
- \$415,000 for **Wages and Salaries**, an increase of \$2,000 or 0.5%, as compared to the FY12 Actual spending. The budget supports six positions.
- \$24,000 for **Overtime**, an increase of \$8,000 or 46.1% as compared to FY12 Actual spending. This line item is for coverage of facility maintenance and support services.
- \$131,000 for **Utilities**, an increase of \$32,000 or 32.3%, as compared to FY12 Actual spending. This increase is due to charges on utility bills for lighting efficiency retrofit at CNY. Payments will be completed in FY13.
- \$46,000 for **Ongoing Maintenance**, an increase of \$34,000 or 279% as compared with FY12 Actual spending. This line item includes funding for facility and equipment maintenance and services including heating, ventilation and air conditioning (HVAC), plumbing and electrical services for the CNY headquarters and the Marlboro records center and warehouse.
- \$63,000 for **Other Materials**, an increase of \$55,000 or 740.6% as compared with FY12 actual spending. This line item includes funding for postage, supplies, furniture and equipment.
- \$1.9 million for **Other Services**, an increase of \$58,000 or 3.2% as compared with FY12 Actual spending. This item includes funding for rental and operating costs for CNY headquarters facility and the Marlboro Records Center and Warehouse space. The increase is due to escalation increases in the CNY lease agreements.

FLEET SERVICES

FY13 Final Current Expense Budget FLEET SERVICES						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	692,150	669,965	624,570	717,295	\$ 92,725	14.8%
OVERTIME	14,321	14,157	2,078	18,690	16,612	799.4%
FRINGE BENEFITS	136	110	15	1,000	985	6566.7%
UTILITIES	1,337	1,582	1,981	3,000	1,019	51.4%
ONGOING MAINTENANCE	687,044	684,807	650,070	702,750	52,680	8.1%
TRAINING & MEETINGS	-	-	-	-	-	-
OTHER MATERIALS	374,876	501,346	544,983	613,002	68,019	12.5%
OTHER SERVICES	664	772	792	4,539	3,747	473.1%
TOTAL	\$ 1,770,528	\$ 1,872,740	\$ 1,824,490	\$ 2,060,276	\$ 235,787	12.9%

The **Fleet Services Department** manages and maintains MWRA's motor vehicle and equipment fleet. 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. Fleet Services also manages the Chelsea fuel facility, the gas card program and the development and processing of specifications for new vehicles and equipment.

FY13 Goals:

- Continue to cost effectively maintain Authority fleet of vehicles and pieces of equipment.
- Install 275 new 2-Way Mobile and 56 portable radio units. Coordinate the Authority-wide radio re-banding project.

FY12 Accomplishments:

- Developed specifications for 21 new replacement vehicles or pieces of equipment of which the majority of these units will utilize alternative fuel, consistent with the Authority's goal of purchasing environmentally friendly products.
- Created and implemented new Standard Operating Procedures (SOP's) for preventative maintenance, corrective maintenance, emergency maintenance, vehicle fuel program, and 2-way radio communications.
- MWRA is rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition (MAFC). The Authority continues to fuel diesel powered vehicles/equipment with bio-diesel.
- Prepared documentation for the surplus sale of 28 vehicles and pieces of equipment and worked with the Procurement Department for the auction and disposal of the vehicles/equipment.
- Continued to work with MIS & Operations staff on the Maximo system upgrade which includes a transportation module specifically designed for a fleet environment.
- Developed and continued implementing the Federal Communications Commission (FCC) mandated frequency re-banding project with Motorola and Nextel.

Budget Highlights:

- The FY13 Final Budget is \$2.1 million, an increase of \$236,000 or 12.9% as compared to FY12 Actual spending.
- \$717,000 for **Wages & Salaries**, an increase of \$93,000 or 14.8% as compared to FY12 Actual spending. The final budget supports 11 positions.
- \$703,000 for **Ongoing Maintenance**, an increase of \$53,000 or 8.1% as compared to FY12 Actual spending. The final budget includes funds for automotive materials and services to maintain MWRA's vehicle fleet. FY13 maintenance decreased by \$21,000 compared to FY12 Budget.
- \$613,000 for **Other Materials**, an increase of \$68,000 or 12.5% as compared to FY12 Actual spending. The FY13 Final Budget includes funds for vehicle/equipment fueling which is based on historical fuel usage. Fleet Services procures bulk fuels from state contracts while continuing to meet all governmental alternative fuel directives. It should be noted that the volatility of fuel pricing could impact this line item.

HUMAN RESOURCES

FY13 Final Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	1,654,665	1,686,848	1,740,651	1,785,022	\$ 44,371	2.5%
OVERTIME	0	0	0	0	-	-
FRINGE BENEFITS	15,924,991	17,289,376	17,608,031	18,171,568	563,537	3.2%
WORKERS' COMPENSATION	2,226,080	2,228,175	1,600,726	2,100,000	499,274	31.2%
ONGOING MAINTENANCE	-	18	-	-	-	-
TRAINING & MEETINGS	2,692	2,323	1,685	3,963	2,278	135.2%
PROFESSIONAL SERVICES	310,962	372,608	512,618	408,020	(104,598)	-20.4%
OTHER MATERIALS	14,489	15,099	13,465	16,170	2,705	20.1%
OTHER SERVICES	8,670	11,647	13,562	19,925	6,363	46.9%
TOTAL	\$ 20,142,550	\$ 21,606,092	\$ 21,490,738	\$ 22,504,668	\$ 1,013,930	4.7%

FY13 Final Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
EMPLOYEE/COMP/BEN	\$ 628,993	\$ 657,772	\$ 798,093	\$ 678,467	\$ (119,626)	-15.0%
LABOR RELATIONS	995,472	1,035,454	1,041,023	1,078,532	37,509	3.6%
TRAINING	329,468	361,950	402,137	432,693	30,556	7.6%
CENTRALIZED FRINGE BENEFITS	18,188,616	19,550,916	19,249,485	20,314,975	1,065,490	5.5%
TOTAL	\$ 20,142,550	\$ 21,606,092	\$ 21,490,738	\$ 22,504,668	\$ 1,013,930	4.7%

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 for 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 designed to improve employee knowledge, skills, productivity, and the quality of workplace interaction. It is responsible for oversight and tracking of MWRA performance evaluation programs, Employee Assistance, and Tuition Reimbursement programs. In addition, the Human Resources Department includes the Centralized Fringe Benefits cost center, which includes the budget for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

FY13 Goals:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation package (salary and benefits) 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.

FY13 Initiatives:

- Lead procurement efforts for contracts associated with workers' compensation administrative and legal services and the MWRA Dental Plan.
- Provide training and guidance to MWRA managers in the areas of leave management, time and attendance issues, and matters of employee conduct issues.
- Investigate complaints of violations of MWRA policies and Code of Conduct as necessary.
- Organize compliance with the bi-annual online State Ethics Training for all employees and maintain training compliance documentation as required by the State Ethics Commission.
- Review, document, and streamline Human Resources processes through automation and procedure documentation.
- Assist with implementing recommendations resulting from the Staffing Study.
- Provide additional training for Administrative Certificate Program (ACP), Productivity Improvement Program (PIP), and Performance Management Review System (PMRS).

FY12 Accomplishments:

- Completed an Authority-wide Staffing Study
- Successfully negotiated and implemented successor collective bargaining agreements with five collective bargaining units.
- Successfully supported the Authority's efforts in defending itself in several arbitration hearings.
- Successfully provided project management for the Staffing Study contract and resulting consultant report.
- Implemented a full enrollment of all employees for GIC Health Insurance.
- Negotiated a one year extension of the MWRA Dental Program with no increase to insurance premiums.
- Developed, piloted, and implemented agency-wide harassment prevention training for all MWRA employees.
- Delivered Administrative Certification Program (ACP) training, Supervisory Development, Productivity Improvement Program (PIP) and Performance Management training.

- Collected the required acknowledgement of the State Ethics Commission's Summary of the Conflict of Interest Law from all employees.
- Completed a variety of technical training to MWRA employees including Confined Space Entry, Tower Climbing Safety, Spill Containment, Crane and Derrick Rigging and Signal person training, and OSHA Annual Refresher training.
- Procured and selected vendors for MWRA's Employee Assistance Program, medical services program, and the MWRA Dental Program.

Budget Highlights:

- \$1.8 million for **Wages and Salaries**, an increase of \$44,000 or 2.5% over FY12 Actual spending. The FY13 Final Budget includes funding for 21 positions.
- \$18.2 million for **Fringe Benefits**, an increase of \$564,000 or 3.2% over FY12 Actual spending. The budget includes \$15.7 million for health insurance costs, \$1.2 million for Medicare taxes, \$1.0 million for dental insurance costs, \$150,000 for unemployment insurance payments, and \$31,000 for tuition reimbursement.

The Health insurance budget increased 3.0% over FY12 Actual spending due to GIC rate increases and Dental insurance increased 4.7% than FY12 Actual spending as a result of increases in Health and Welfare contributions. Additionally, Medicare is 6.4% higher than FY12 Actual spending to reflect increased expenses due to contractual increases in FY13 and Unemployment insurance 16.0% lower than FY12 Actual spending based on historical spending.

- \$2.1 million for **Workers' Compensation**, an increase of \$449,000 or 31.2% as compared to FY12 Actual spending. The Human Resources Department is responsible for the management of this program and the coordination with the third-party administrator and legal counsel.
- \$408,000 for **Professional Services**, a decrease of \$105,000 or 20.4% as compared to FY12 Actual spending. The FY13 Final Budget includes \$155,000 for Professional Development and Technical Training, \$121,000 for Workers' Compensation Claims Administration and Legal Services, \$55,000 for Arbitrators and Arbitration Expenses, \$43,000 for Medical Evaluation Services, \$19,000 for the Employee Assistance Program, and \$15,000 for Specialized Investigation Services.

MANAGEMENT INFORMATION SYSTEMS (MIS)

FY13 Final Current Expense Budget MANAGEMENT INFORMATION SYSTEM						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	5,052,192	4,972,127	5,148,842	5,416,263	\$ 267,421	5.2%
OVERTIME	4,968	3,510	3,518	2,810	(708)	-20.1%
FRINGE BENEFITS	6	0	0	0	-	-
ONGOING MAINTENANCE	2,201,339	2,581,022	2,078,922	2,376,881	297,959	14.3%
TRAINING & MEETINGS	24,348	26,311	80,043	172,033	91,990	114.9%
PROFESSIONAL SERVICES	0	0	325,233	434,572	109,339	33.6%
OTHER MATERIALS	687,062	141,503	277,135	546,582	269,447	97.2%
OTHER SERVICES	840,478	808,526	986,958	1,400,901	413,943	41.9%
TOTAL	\$ 8,810,394	\$ 8,532,999	\$ 8,900,651	\$ 10,350,041	\$ 1,449,391	16.3%

The **MIS Department** provides MWRA with the information processing services 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.

FY13 Goals:

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

- The automated business services delivered increase the efficiency of MWRA’s business processes and improve the effectiveness of the staff while maintaining system security and integrity;
- Existing applications, operating systems, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced;
- Future changes for Information System reflect management priorities and are consistent with the MWRA Master Plan and the five-year IT Strategic Plan; and
- Information Technology Service Management is implemented to improve customer satisfaction and improved efficiencies in delivering services.

FY13 Initiatives:

- **Information Technology Management Program**
 - Establishment of an IT Governance Council.
 - Establishment of a MWRA Software Development Life Cycle (SDLC).
 - With the successful completion of the Information Technology Service Management (ITSM) Certification Program, MIS will proceed to implement a set of policies, procedures, standards, tools and techniques which implement the best practices for ITSM.
 - In parallel with the ITSM effort, MIS will be re-organizing to better deliver services. This will include updating Job Descriptions to reflect the changing technologies and the methods of delivery, re-aligning the organization to match the ITSM and SDLC best practices, and focusing

on how technology can be used to increase efficiency and improve the effectiveness of the Authority's business processes and staff.

- **Application Improvement Program**

- Computerized Maintenance Management System (CMMS) Enhancements
 - Complete the MAXIMO upgrade by combining the two existing systems of the Field Operations Department (FOD) and Deer Island Treatment Plant (DITP) into a single system.
 - Implement the MAXIMO Calibration Module.
- Geographic Information System (GIS) & Integration Enhancements
 - Implement the GIS FlexViewer in production after user enhancements have been installed and fully tested.
 - Implement the GIS module of our video inspection system, Granite XP, along with the Scoring Module.
- Enterprise Resource Planning (ERP) System Enhancements
 - Implement New Lawson modules including Strategic Sourcing and Contract Management. The new applications will allow MIS to retire custom applications including in-house developed Contracts and MBE/WBE applications. In addition, further automate identified workflows facilitating processes and reducing paper usage.
- Pretreatment Information Management System (PIMS) Enhancements
 - TRAC, MIS, and the vendor, IPS will continue to work through business functionality corrections and enhancements to better meet the needs of the Industrial Wastewater Pretreatment Program.
- Laboratory Information Management System (LIMS) Enhancements
 - Upgrade LIMS to version 6. This is the latest version of the application from the vendor, LabWare and will implement the electronic lab notebook and the Gas Chromatography equipment automation which will allow the lab technicians to go paperless.
- Develop an enterprise application integration architecture.
 - With the upgrade of LIMS to version 6, the LIMS/PIMS interface will need to be upgraded. This effort will be used to establish the architecture for the future and the LIMS/PIMS interface and will be the pilot project for the new solution.
- Email and Calendar Enhancements
 - Upgrade Microsoft Exchange to version 2010. This version will provide a more secure synchronization with mobile devices and enhance the management of in-boxes and archive files.
 - This effort will provide the design basis for network storage upgrades, archiving, de-duplication, and disaster recovery.

- **Information Security Program**

- Implement an Information Security Program for the MWRA in accordance with the Information Security Policy #ADM.31 approved May 22, 2012.
- Continue to explore and implement new technologies for security of desktop and mobile devices; network infrastructure, operating systems, and cyber security.

- **Technology Infrastructure Improvement Program**

- IT System Architecture Development
 - Establish cross-department standards for the following domains: Access, Information, Application, Integration, Management and Security.

- Implement wireless infrastructure of Distributed Antenna Systems (DAS) at key MWRA locations to provide in-building cell phone coverage signal improvement for service providers. This will allow the migration to the new wireless service provider to be completed.
- Select and implement a Mobile Device Management solution to allow a broader range of mobile devices (like iPads) and smartphones (beyond Blackberries) to be used by staff.
- Continuation of “Green Data Center” initiatives, including virtualizing more physical servers and reducing the variety of application infrastructure component versions and manufacturers (like web servers, application servers, and database servers).
- Explore new technologies for future implementation considerations including new networking technologies for upcoming network upgrade, web and mobile platforms for business and information services, and Voice-Over-IP (VOIP) for communications.
- Implement Core Switches for Phase 2 of Net2020 Project.
- Implement Print Management Services.
- Finalize and implement storage standards and consolidate configurations.

FY12 Accomplishments:

- **Information Technology Management Program**

- Completed the MIS Five-Year IT Strategic Plan
- 30 staff attended IT Infrastructure Library (ITIL) Foundation & Certification training to provide a foundation for the formal adoption of appropriate ITIL best practices for ITSM at the MWRA.
- Started the comprehensive evaluation of overall department training needs and developed an initial implementation schedule.

- **Application Improvement Program**

- Computerized Maintenance Management System (CMMS) Enhancements
 - Migrated the production of MAXIMO database from version 5.2 to 7.5 as a proof of concept for the MAXIMO upgrade effort.
- Emergency Notification System Enhancement
 - Developed an enhancement to the MWRA 911 application that allows a recorded audio file to be used as an alternative option to using the machine-generated voice file. In addition, developed a new Emergency Contacts Notification Systems (ENS) Launch page for opening the Community Contacts Database and Reverse 911 applications.
 - Assisted OEP with three drills to contact the ESU group using the remote activation function of Communicator! NXT. Worked with Public Affairs to prepare for communication drills they conducted for CNY, Southborough, and CWTP. The drills were conducted to ensure staff familiarity with the application use, exercise the application, and help validate that contact information is accurate.
 - Trained Office of Emergency Preparedness (OEP) staff, Public Affairs staff and key users identified by the Security Task Force in the systems that comprise the MWRA ENS (Community Contacts, MWRA 911, Communicator! NXT)
 - Implemented two new systems of Top View software for Southborough Water Quality and Wastewater Operations to provide automated notifications when operational issues are detected and require immediate communication to staff.
- Enterprise Resource Planning (ERP) System Enhancements
 - Added three new Lawson user fields (personal email, personal cell, work cell phone #2) and developed a new web application for staff to review their contact information. The new application was used prior to the CNY drill to help ensure staff was properly contacted.

- Implemented Lawson Mobile Supply Chain Management (MSCM) at the Chelsea, Southborough, and Deer Island Warehouses.
 - Planning and infrastructure preparations began for Lawson application upgrade from version 9.0 to 9.0.1 to maintain vendor support and in preparation for the implementation of new application modules. Related systems (check printing, tax software) were upgraded and user testing is currently underway.
 - Procured new application modules for Lawson which address functionality and application consolidation opportunities identified in the MIS Five-Year IT Strategic Plan.
 - Supported Payroll and HR with several year-end tasks including successful longevity payments due to all union employees and vacation milestone adjustments for unit 2, 3, and 9 employees.
 - Upgraded the Lawson database platform to Oracle 11g R2.
 - Laboratory Information Management System (LIMS) Enhancements
 - Upgraded the current version of the LIMS to version 6 in a test environment. The upgrade will be implemented in production after a full round of testing has been successfully completed.
 - MWRA Transparency Enhancements
 - In accordance with the Commonwealth transparency and accountability law, staff implemented the MWRA Open Checkbook application. This application provides spending data by Employee, Vendor, and Categories of expense to the public and is accessible from MWRA's web site.
 - MWRA Management Dashboards Enhancements
 - Updated the Community OMMS Website to be compatible with non-Microsoft web browsers.
 - System Integration Enhancements
 - Retired Commbridge application and implemented the state's new Interchange system for communicating with the Group Insurance Commission (GIC) and State Retirement Board for weekly and monthly exchanges of data.
- **Information Security Program**
 - Completed the development and approval process for the MWRA Information Security Program Policy #ADM.31.
 - Initiated three-year (with optional 4th year) contract with Integralis for cyber security monitoring and management (for Firewalls and Intrusion Detection/Prevention System).
 - **Technology Infrastructure Improvement Program**
 - Installed 32 new multi-function devices (MFDs) throughout MWRA facilities consolidating services (Print, FAX, Scan, Copier) onto one platform. The rollout is anticipated to replace 47 pieces of aged equipment for better than a 2:1 equipment reduction.
 - Installed Local Area Network switch replacements at the following sites Deer Island, CNY, Clinton, Fore River Pellet Plant, Nut Island, and Carroll Water Treatment Plant (CWTP). To date, 40 switches have been installed. Chelsea is the only site remaining as part of the Net2020 Project Phase I.
 - Continue to support efforts to implement the Contaminate Warning System (CWS) with the implementation of a private wireless network at 18 locations that allow the sampling devices to communicate with the application server located in the Chelsea Data Center.
 - Blackberry Enterprise Server (BES) was upgraded to the latest version. Redundancy solution based on Microsoft SQL Mirroring was implemented to ensure High Availability for the Blackberry Infrastructure.

Budget Highlights:

- The FY13 Final Budget is \$10.3 million, an increase of \$1.4 million or 16.3%, as compared to the FY12 Actual spending.
- \$5.4 million for **Wages and Salaries**, an increase of \$267,000 or 5.2%, as compared to FY12 Actual spending. The budget includes funding for 60 positions.
- \$2.3 million for **Ongoing Maintenance**, an increase of \$298,000 or 14.3%, as compared to FY12 Actual spending. Maintenance spending is for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff.
- \$172,000 for **Training and Meetings**, an increase of \$92,000 or 114.9%, as compared to FY12 Actual spending. Funding will support staff training in various computer applications as part of the MIS IT Strategic Plan.
- \$435,000 for **Professional Services**, an increase of \$109,000 or 33.6%, as compared to FY12 Actual spending. Funding will support the continued development of an MIS Strategic Plan and implementation services requested by the Board of Directors.
- \$547,000 for **Other Materials**, an increase of \$269,000 or 97.2%, as compared to FY12 Actual spending primarily due to specialized hardware needs.
- \$1.4 million for **Other Services**, an increase of \$414,000 or 41.9%, as compared to FY12 Actual spending primarily due to the multi-function machine leases, Global Positioning Software services for Authority vehicles, and the FY13 Photo Library Project.

PROCUREMENT

FY13 Final Current Expense Budget PROCUREMENT						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	3,563,732	3,513,516	3,497,314	3,654,211	\$ 156,897	4.5%
OVERTIME	32,689	14,105	16,983	15,750	(1,233)	-7.3%
FRINGE BENEFITS	602	167	185	0	(185)	-100.0%
UTILITIES	116	129	0	0	-	-
ONGOING MAINTENANCE	(338,576)	(199,828)	189,502	0	(189,502)	-100.0%
TRAINING & MEETINGS	3,066	4,462	5,435	7,725	2,290	42.1%
OTHER MATERIALS	112,590	120,162	106,745	109,608	2,863	2.7%
OTHER SERVICES	61,373	63,530	57,656	67,870	10,214	17.7%
TOTAL	\$ 3,435,590	\$ 3,516,243	\$ 3,873,820	\$ 3,855,164	\$ (18,656)	-0.5%

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 directs the bid, review, and selection process, and maintains 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 manages three regional warehouses/distribution centers that support all MWRA activities.

FY13 Goals:

- Procure materials, equipment, supplies, 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, and 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.
- Maintain a recycling program in order to contain MWRA operating costs by removing recyclable materials from the waste stream.

FY12 Accomplishments:

- Competitively bid Calendar Year 2011 (CY11) Renewable Energy Portfolio Standard certificates which resulted in FY12 revenues of \$319,000 (Class II). In addition, received FY12 revenues of \$885,000 from forward marketing of CY11 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.
- Awarded the following major contracts in FY12: Spot Pond Storage Facility Design Build; Deer Island Treatment Plant (DITP) North Main Pump Station (NMPS) Variable Frequency Drives (VFDs); DITP Air Emissions Testing; Northern Intermediate High (NIH) Stoneham-Reading

Connection; Five-Year Strategic Information Technology Plan; Bond Counsel Services; North System Hydraulic Study; Purchase and Supply of Electricity Profile Accounts; Wachusett Aqueduct Pump Station Design; Hatchery Pipeline and Hydroelectric Design; Alewife Brook Pump Station Improvements Design; Alewife Brook Combined Sewer Overflow (CSO) Improvements Design; Union Park Operating Contract; Oakdale Phase 1A Electrical Upgrade; Brookline Overflow Conduit Cleaning; Clinton Aeration Efficiency Improvements; Upper Hultman Aqueduct Interconnections; DITP Primary and Secondary Clarifier Flushing System; FY13 Insurance Program; Disclosure Counsel Services; Residuals Processing Facility Technology Options Assessment; South Dike Tree Removal at Wachusett Reservoir; and DITP Fuel Oil Line Abandonment.

- Advertised or received bids/proposals/statements for the following: DITP Expansion Joint Repair Construction 2; Sudbury Aqueduct Pressurization and Connections; Letters of Credit, Liquidity Facilities or Direct Purchases; Nut Island Switchgear Modifications; Caruso Pump Station Improvements Design; Wachusett Aqueduct Emergency Interconnection Valves; DITP Concrete Steel Restoration and Coating, Phase IV; North Dike Tree Removal at Wachusett Reservoir; and DITP Replacement of Four Gravity Thickener Center Columns.
- Continued to work with the Field Operations Department (FOD) and utility companies to establish energy conservation programs at FOD facilities, using the Green Communities Act, the utilities' municipal programs, and other programs.
- Prepared response for Water Infrastructure Finance Commission concerning qualifications-based selection of designers; reviewed legislation to Improve Administration of State Government and Finance for applicability to MWRA.
- Conducted a "Reverse Auction" for the purchase of electricity for 43 of the MWRA's smaller energy accounts that represent four percent of overall electricity demand.
- Procured the Authority's vehicle purchases at the beginning of Fiscal Year 2012 (FY12) including 19 vehicles procured through the use of a "Reverse Auction" format, allowing for ample production and on-time delivery of all vehicles.
- Bid the annual copy paper contract and received more favorable pricing than that listed on the State Blanket contract.
- Contract and purchasing staff worked cooperatively to redevelop the bid package for Deer Island janitorial services into a hybrid contract/PO model, which has since been successfully used for Chelsea and Southborough janitorial services. Purchasing and Contract staff worked together on two other hybrid bids: WRA-3224, to purchase Firewalls, IPS and related maintenance and monitoring Services; and WRA-3335, a contract to provide services to upgrade the existing Microsoft Exchange 2003 to 2010.
- In FY12, rather than bid clothing items separately, staff combined the yearly clothing items into one bid package in January of 2012. This has resulted in a more efficient method of clothing distribution and items are ordered well before they are needed.
- Processed 11,757 purchase orders in FY12 for a total of \$37,401,977.

- To date: processed 167 competitive bids, 15 State Blanket contracts, 8 contract amendments, 2 critical need, and 29 sole source purchases for items and services valued over \$25,000.
- Migrated to a dedicated printer/fax/scanner system that replaced the mechanical three-part colored form Purchase Order printer. Purchase orders are now printed on plain paper and faxed directly from the machine, rather than mailed to vendors. Estimated cost savings are \$11,000 per year.
- Developed a Request For Qualifications (RFQ) process to qualify automotive parts and service providers for Fleet Services.
- Updated buyer commodity assignments and distributed the list to Authority staff.
- Developed a “Purchasing Procedures Quick Reference Guide” and distributed it to staff in all departments involved in the purchasing process. This was followed up by visits from Purchasing staff to MWRA facilities to educate staff on the procurement process.
- Working with the Recycling committee, Purchasing staff continues to seek out environmentally friendly products, among them recycled toners, batteries, copy paper, hybrid vehicles, and bio-fuels.
- Recycled 40.2 tons of paper, 262.2 tons of scrap metal, and 42,900 pounds of brass, copper, stainless steel and aluminum, generating \$68,482 in revenues.

Budget Highlights:

- The FY13 Final Budget is \$3.9 million, a decrease of \$19,000 or 0.5% from FY12 Actual spending.
- **Wages and Salaries** funding of \$3.7 million, an increase of \$157,000 or 4.5%, as compared to FY12 Actual spending. The funding supports 47 positions.
- **Other Materials** budget of \$110,000, an increase of \$3,000 or 2.7% as compared to FY12 Actual spending. The increase is for centralized office supply purchases and is based on historical spending trends.
- **Other Services** budget of \$68,000, an increase of \$10,000 or 17.7% as compared to FY12 Actual spending and a decrease of \$6,000 or 7.5% from the FY12 Budget. This funding supports Advertising and Printing/Duplicating for contract documents and specifications.

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

FY13 Final Current Expense Budget						
REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY10 Actual	FY11 Actual	FY12 Actual	FY13 Final	Change FY12 to FY13	
WAGES & SALARIES	549,584	448,967	460,569	481,064	\$ 20,495	4.4%
OVERTIME	13	0	0	0	-	-
TRAINING & MEETINGS	1,385	2,045	1,234	38,000	36,766	2979.4%
PROFESSIONAL SERVICES	0	0	0	0	-	-
OTHER MATERIALS	691	668	835	1,670	835	100.0%
OTHER SERVICES	213,014	2,041,138	130,074	351,676	221,602	170.4%
TOTAL	\$ 764,688	\$ 2,492,819	\$ 592,713	\$ 872,410	\$ 279,698	47.2%

The **Real Property and Environmental Management Department** negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects and operations and manages the disposition of surplus real property. Staff participates in site selection and negotiates acquisitions or easements. In addition, staff has developed and is 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 manages 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, air emission permit negotiations, and preparation and submittal of quarterly/annual monitoring reports.

FY13 Goals:

- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and 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; monitor and provide assistance in maintaining environmental regulatory compliance at MWRA facilities.

FY13 Initiatives:

- Coordinate with Operations staff and Contractor to implement new underground storage tank monthly inspections and associated monitoring and recordkeeping requirements.
- Monitor progress of upcoming boiler and emergency generator air emissions regulations amendments and coordinate implementation of monitoring, maintenance, pollution control retrofits, and recordkeeping requirements.

FY12 Accomplishments:

- Provided ongoing real estate services, including appraisal and negotiation, on projects such as the Fore River Railroad track relocation project, Charlestown Navy Yard lease, Chelsea lease, Marlboro lease, and the surplus of land adjacent to Chelsea Headworks.

- Managed nine (9) permit agreements (six at Turkey Hill and three at Walnut Hill). Coordinated with Operations for approval of the equipment changes and improving the invoicing system for maintenance reimbursements. Total revenue for the nine agreements is \$490,700 of which MWRA and the host community each receive half.
- Managed fee assessment for long-term 8M permits on MWRA fee controlled land. 8M fees for these agreements total \$49,000 per year. Also provided assistance to Operations on short-term 8M permit agreements in which fees are assessed.
- Staff acquired easements and negotiated licenses and extensions to support projects such as the Hultman Aqueduct Interconnections, Southern Spine Distribution System Section 156 (license with Berkeley Green), Brookline Conduit (license with Boston University), and Ward Street Headworks (license with Wentworth Institute of Technology). Additionally, provided real estate support on projects such as disposition of property at the former East Boston Steam and Pump Stations to the Department of Capital Asset Management (DCAM). At year's end, working to acquire additional land from DCAM for Ware Disinfection Facility related uses and Massachusetts Department of Transportation (MassDOT) for acquisition of land for Shaft 5/5A.
- Provided real estate support services including deed research and coordination with Planning's Geographic Information System (GIS) group and Law to develop/improve comprehensive property maps for the Cochituate, Sudbury, Weston, and Wachusett Aqueducts, and other projects, such as Shafts 5 and 5A, as they arise, to support projects such as the aqueduct trail initiative. Provided real estate research to begin developing a comprehensive facility database which supported feasibility assessment for solar panel sites. Provided daily assistance in concert with Law and GIS to ongoing inquiries regarding MWRA real estate rights and ownership.
- Continued with remediation and assessment of oil contamination at the FRSA facility.
- Continued with the assessment of the oil contamination resulting from the February 2010 spill at the Cottage Farm Combined Sewer Overflow (CSO) facility.
- Provided technical support for the assessment and remediation of PCBs at the Chicopee Valley Aqueduct (CVA) Intake Facility, Alewife Brook Pump Station, and Remote Headworks facilities in conjunction with on-going design of facility upgrades.
- Completed the removal of the failing underground fuel tank at the Weston Reservoir facility, regulatory follow-up with the Department of Environmental Protection (DEP), and provided input to the design of a replacement fuel tank system.
- Completed the removal of the redundant underground fuel tank at the Lexington Street Pump Station in Waltham, and regulatory follow-up with the Waltham Fire Department
- Provided regulatory support following discovery of groundwater contamination at the Newton Street Pump Station in Brookline during an in-house valve replacement project. Regulatory follow-up with DEP is on-going.
- Provided regulatory follow-up for three chemical spills at Deer Island.
- Continued to provide technical and regulatory coordination of the fuel tank maintenance contract. Completed fuel tank monitoring system upgrades at three facilities and coordinated with Supervisory

Control and Data Acquisition (SCADA) support staff to provide real-time fuel tank system monitoring at wastewater and water Operations Control Center (OCC). Coordinated with Operations staff on new underground storage tank operator training requirements. Coordinated with the Contractor and Operations staff on preparation of training program.

- Provided technical support and regulatory liaison for preparation and follow-up response to information requests for the Carroll Water Treatment Plant National Pollutant Discharge Elimination System (NPDES) annual maintenance discharge application.
- Completed updates to Spill Prevention, Control, and Countermeasure (SPCC) Plans for three MWRA facilities and coordinated with Operations and Consultant to complete training of applicable staff. Implemented the annual inspection procedure for MWRA facilities with SPCC plans. Coordinated with the Field Operations Department (FOD) staff to complete facility modifications to secondary containment systems required by SPCC Plans.
- Provided oversight and regulatory support during an in-house installation of the new dry well at the Ludlow Monitoring Station.
- Continued with DEP-required periodic groundwater monitoring around the former wastewater holding tank at Clinton. Completed the five-year internal tank inspection.
- Continued to coordinate the periodic sampling requirements and quarterly reporting to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MDEP) for Hydroelectric General permits at the Cosgrove Intake Facility and Oakdale Power Station.
- Provided technical and environmental regulatory support regarding contaminated soil and groundwater issues on various design and construction projects, including Stoneham Low Service Covered Storage, Charlestown Wind Turbine, Remote Headworks Rehabilitation, North Dorchester Bay Combined Sewer Overflow (CSO) Pump Station and Force Main, Sections 18, 50, and 51 water line rehabilitation, MetroWest Water Supply Tunnel (MWWST) Shaft 5 Charles River sediment management and disposal, Southern Spine Distribution Mains, West Roxbury Tunnel, Northern Intermediate High Short-Term Improvements and Redundancy projects, Section 36 Watertown-Waltham Connection, DITP Underground Storage Tank (UST) Removals, Oakdale Power Station Electrical Upgrade, Phase VII Valve Replacements, Lynnfield/Saugus Pipeline, Cosgrove Transformer Replacement, and Cottage Farm Oil Spill Regulatory follow-up and the related fuel system upgrade project, Section 156 Sewer Rehabilitation, Sudbury Aqueduct Pressurization Study, Bellevue Tank Roof Repairs, Newton Street Pump Station valve replacement hazmat assessment, berm removal assessment at Chelsea facility, Hingham Pump Station asbestos pipe abatement, Alewife Brook Pump Station facility upgrades, MWR003 Gate, Siphon and Floatables Control project, Brookline Overflow Conduit project, Belchertown hatchery Dedicated Pipeline project, Weston Aqueduct Pump Station project.
- Participated in DEP asbestos regulatory reform stakeholder workgroup.
- Completed greenhouse gas reporting for Deer Island and the Bio-solids Processing Facility, and completed third party verification of the Deer Island report. Procured a new contract for Deer Island and Bio-solids Processing Facility air emissions testing and environmental compliance support. Purchased carbon dioxide allowances required for Deer Island CTs in the December 2011 Regional Greenhouse Gas Initiative (RGGI) auction. Compiled a list of all MWRA oil-fired boilers and

submitted the list to EPA in accordance with new boiler notification requirements. Worked with Engineering staff to incorporate new regulatory requirements into the annual boiler inspections. Coordinated with DEP and Deer Island staff on establishing new startup limits for the Deer Island boilers. Worked with EPA and Operations staff on defining and implementing diesel engine emission controls for Cottage Farm, Prison Point, and CWTP.

Budget Highlights:

- The FY13 Final Budget is \$872,000, an increase of \$280,000 or 47.2%, as compared to FY12 Actual spending.
- \$481,000 for **Wages and Salaries**, an increase of \$20,000 or 4.4%, as compared to FY12 Actual spending. The budget supports five positions.
- \$38,000 for **Training and Meetings**, an increase of \$37,000 as compared to FY12 Actual spending. This increase is due to the addition of Authority-wide training of Operations staff on underground storage tank systems as required by Massachusetts Department of Environmental Protection (MassDEP) regulation.
- \$352,000 for **Other Services**, an increase of \$222,000 or 170.4%, as compared to FY12 Actual spending. The increase is due to projected expenditures for the new Underground Storage Tank Inspection and Maintenance Contract which will now include monthly inspections of MWRA tanks.



Appendices

APPENDIX A

DIRECT EXPENSE BUDGET LINE ITEM DESCRIPTIONS

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, holiday pay, and standby pay for MWRA staff, as well as funds for interns and temporary staff.

Overtime - This line item includes funds for overtime related to operations, maintenance, 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, soda ash, sodium bisulfite, and hydrofluosilicic acid.

Utilities - This line item includes funds for electricity, diesel fuel, 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 – V present summaries of the MWRA's budgets with a detailed description of program budgets and highlights within each divisional section.

APPENDIX B

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 maintains an ongoing dialogue with the Board of Directors and Advisory Board to discuss issues, the status of budget development, and other concerns.

MONTH	ACTIVITY
September	Divisions receive budget targets, guidelines, and manuals for the development of budget requests, and can begin to access MWRA's interactive budgeting system.
December	After the divisions return their budget requests, the Rates and Budget Department consolidates the authority-wide budgets, develops briefing materials for senior management, and identifies major budget issues.
January	The Executive Director determines proposed funding levels required to meet operational and financial objectives. 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.
March – May	MWRA hosts public hearings to solicit comments on the proposed budget and community assessments from citizens in its service area. The Advisory Board reviews the proposed budget and transmits comments and recommendations to the MWRA.
June	The Board of Directors holds a hearing on the proposed budget and the Advisory Board's comments and recommendations. The Board of Directors adopts a final Current Expense Budget and a schedule of final wholesale water and sewer assessments.

APPENDIX C

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 and such, to provide rate relief for our communities. With Board approval, surplus funds can also be used for targeted defeasance in future years and/or to reduce future liabilities, as part of a multi-year rate strategy. MWRA consults with the Advisory Board regarding the yearly use of these funds.

Budgeting and Assessment Objectives

MWRA follows conservative 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 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.

- Operations and Maintenance (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 affect 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.

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 due date MWRA levies an interest charge of one percent per month or 0.033 percent per day. Interest charges do not accrue until 30 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 the MWRA that capitalization of expenditures conforms to 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 current funding level of \$14.0 million has been determined to be acceptable and reasonable based on a FY11 Insurance Reserve Fund review performed by an outside insurance consultant who estimated the required fund level in the range of \$12 to \$16 million. The next Insurance Reserve Fund review is expected to be finalized in February 2014.

Renewal and Replacement Reserve

The Renewal and Replacement Reserve has been established to pay the costs of emergency repairs or capital improvements to the system when funds are not available in either the Construction Fund or the Operating Fund. Amounts may not be withdrawn until MWRA has specified the project to which the amount will be applied, its estimated cost, and estimated completion date. It must also certify that such expenditures are reasonably required for the continued operation of the systems, or for maintenance of revenues, or 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. The Renewal and Replacement Reserve Fund requirement is presently established at \$35 million. The adequacy of the funding requirements for the Operating Reserve Fund and the Replacement Reserve Fund have been confirmed by the Consulting Engineer in its most recent triennial report dated October 2011, prepared and delivered in accordance with the General Resolution. The next Triennial Report is scheduled for October 2014.

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 to 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 to 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 prepares 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's 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, Finance, & Audit 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

General Guidelines

The Authority shall periodically adopt and revise capital facility programs for the Waterworks and Sewer Systems and capital budgets based on these programs. The Authority shall consult in the preparation of its capital facility programs for the Sewer and Waterworks Systems with the Authority's Advisory Board and the Executive Office of Environmental Affairs, and may consult with other agencies of federal, state and local government concerned with the programs of the Authority. Proposed capital facility programs and capital expenditure budgets for said systems shall be submitted to the Advisory Board for such consultation no less than sixty days prior to adoption or revision by the Authority. The Authority shall prepare a written response to reports submitted to it by the Advisory Board, which response shall state the basis for any substantial divergence between the actions of the Authority and the recommendations contained in such reports of the Advisory Board. The Authority shall capitalize expenditures in accordance with

generally accepted accounting principles. Capital expenditures will be planned in accordance with Authority financing agreements and policies for amortization of capital costs.

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.

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.

Capital Budget Spending Cap

Beginning in June 2003, the Board of Directors established a five-year Capital Budget Spending cap and annual caps for each year within the cap period. Spending for any year in the cap period may 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. The Board established the second five-year cap for the FY09-13 period at its June 2008 meeting.

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.

APPENDIX D

MWRA Planning Estimates FY2013 to FY2022

	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
COMBINED UTILITIES										
EXPENSES										
Direct Expenses	\$214,916	\$224,136	\$233,216	\$241,923	\$251,910	\$261,573	\$272,194	\$283,082	\$294,241	\$306,011
Indirect Expenses	45,693	47,270	48,764	48,411	48,277	54,856	51,997	54,153	58,522	60,958
Capital Financing (before offsets)	<u>375,598</u>	<u>404,521</u>	<u>443,450</u>	<u>483,229</u>	<u>539,187</u>	<u>524,982</u>	<u>563,272</u>	<u>599,617</u>	<u>612,456</u>	<u>642,049</u>
Sub-Total Expenses	\$636,207	\$675,927	\$725,430	\$773,563	\$839,375	\$841,411	\$887,463	\$936,853	\$965,219	\$1,009,018
Debt Service Assistance	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)
Bond Redemption Savings	0	(1,162)	(3,500)	(2,745)	(6,734)	0	(5,846)	(12,000)	(866)	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Expenses	\$635,857	\$674,415	\$721,579	\$770,467	\$832,291	\$841,061	\$881,267	\$924,503	\$964,003	\$1,008,668
REVENUE & INCOME										
Non-Member and Other Revenue	\$13,884	\$14,786	\$15,159	\$15,565	\$15,968	\$16,461	\$16,695	\$17,092	\$17,529	\$17,968
Interest Income	14,461	14,365	16,683	19,657	20,359	20,894	21,628	22,194	22,772	23,542
Rate Stabilization	0	<u>10,838</u>	<u>8,500</u>	<u>9,255</u>	<u>5,266</u>	0	<u>6,154</u>	0	0	0
Total Other Revenue	\$28,345	\$39,989	\$40,342	\$44,476	\$41,593	\$37,354	\$44,477	\$39,286	\$40,301	\$41,510
Total Rate Revenue	\$607,512	\$634,426	\$681,237	\$725,991	\$790,699	\$803,707	\$836,790	\$885,216	\$923,702	\$967,157
Rate Revenue Change	3.0%	4.4%	7.4%	6.6%	8.9%	1.6%	4.1%	5.8%	4.3%	4.7%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$923	\$967	\$1,025	\$1,084	\$1,155	\$1,207	\$1,257	\$1,325	\$1,396	\$1,469
Based on water use of 90k gpy (weighted)	\$1,361	\$1,426	\$1,512	\$1,600	\$1,704	\$1,781	\$1,855	\$1,954	\$2,059	\$2,167
WASTEWATER UTILITY										
EXPENSES										
Direct Expenses	\$149,032	\$155,264	\$161,416	\$167,234	\$174,269	\$180,969	\$188,310	\$195,842	\$203,515	\$211,655
Indirect Expenses	14,644	14,882	15,409	14,317	13,404	18,117	14,363	15,639	19,092	19,266
Capital Financing (before offsets)	<u>262,775</u>	<u>277,765</u>	<u>299,321</u>	<u>323,548</u>	<u>373,065</u>	<u>335,929</u>	<u>368,216</u>	<u>390,869</u>	<u>384,479</u>	<u>392,568</u>
Sub-Total Wastewater Expenses	\$426,451	\$447,912	\$476,146	\$505,099	\$560,737	\$535,014	\$570,889	\$602,351	\$607,085	\$623,489
Debt Service Assistance	(323.5)	(321)	(321)	(319)	(322)	(318)	(311)	(321)	(312)	(311)
Bond Redemption Savings	0	0	0	0	(5,783)	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$426,127	\$447,591	\$475,825	\$504,780	\$554,632	\$534,696	\$570,578	\$602,029	\$606,773	\$623,178
REVENUE & INCOME										
Non-Member and Other Revenue	\$5,195	\$5,302	\$5,424	\$5,547	\$5,691	\$5,787	\$5,931	\$6,077	\$6,207	\$6,353
Interest Income	9,422	8,845	10,261	12,123	12,619	12,739	13,104	13,422	13,571	13,789
Rate Stabilization	0	<u>3,803</u>	0	0	<u>1,436</u>	0	0	0	0	0
Total Other Revenue	\$14,617	\$17,950	\$15,685	\$17,670	\$19,746	\$18,527	\$19,036	\$19,499	\$19,778	\$20,142
Wastewater Rate Revenue	\$411,511	\$429,641	\$460,141	\$487,110	\$534,886	\$516,170	\$551,542	\$582,530	\$586,995	\$603,036
Rate Revenue Change	1.4%	4.4%	7.1%	5.9%	9.8%	-3.5%	6.9%	5.6%	0.8%	2.7%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$546	\$572	\$605	\$637	\$680	\$692	\$731	\$769	\$796	\$829
Based on water use of 90k gpy (weighted)	\$805	\$843	\$892	\$940	\$1,004	\$1,021	\$1,079	\$1,135	\$1,174	\$1,223
WATER UTILITY										
EXPENSES										
Direct Expenses	\$65,883	\$68,871	\$71,799	\$74,689	\$77,642	\$80,604	\$83,884	\$87,239	\$90,726	\$94,355
Indirect Expenses	31,049	32,388	33,355	34,094	34,873	36,739	37,634	38,514	39,430	41,693
Capital Financing (before offsets)	<u>112,823</u>	<u>126,756</u>	<u>144,129</u>	<u>159,680</u>	<u>166,123</u>	<u>189,053</u>	<u>195,056</u>	<u>208,748</u>	<u>227,977</u>	<u>249,481</u>
Sub-Total Water Expenses	\$209,756	\$228,015	\$249,283	\$268,464	\$278,638	\$306,396	\$316,574	\$334,502	\$358,133	\$385,529
Debt Service Assistance	(26)	(29)	(29)	(31)	(28)	(32)	(39)	(29)	(38)	(39)
Bond Redemption Savings	0	(1,162)	(3,500)	(2,745)	(951)	0	(5,846)	(12,000)	(866)	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$209,729	\$226,824	\$245,754	\$265,687	\$277,659	\$306,364	\$310,689	\$322,473	\$357,230	\$385,490
REVENUE & INCOME										
Non-Member and Other Revenue	\$8,689	\$9,484	\$9,735	\$10,018	\$10,277	\$10,673	\$10,764	\$11,015	\$11,321	\$11,616
Interest Income	5,039	5,520	6,422	7,534	7,739	8,154	8,523	8,772	9,202	9,753
Rate Stabilization	0	<u>7,035</u>	<u>8,500</u>	<u>9,255</u>	<u>3,831</u>	0	<u>6,154</u>	0	0	0
Total Other Revenue	\$13,728	\$22,039	\$24,657	\$26,806	\$21,847	\$18,827	\$25,441	\$19,787	\$20,523	\$21,369
Water Rate Revenue	\$196,001	\$204,785	\$221,097	\$238,881	\$255,812	\$287,537	\$285,248	\$302,686	\$336,707	\$364,121
Rate Revenue Change	6.6%	4.5%	8.0%	8.0%	7.1%	12.4%	-0.8%	6.1%	11.2%	8.1%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$377	\$395	\$420	\$448	\$475	\$515	\$526	\$555	\$600	\$640
Based on water use of 90k gpy (weighted)	\$557	\$583	\$620	\$660	\$700	\$761	\$776	\$819	\$886	\$944

** 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. Based on community responses to the 2011 MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey.

APPENDIX E

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 free oxygen.

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

AOOC: 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.

ARRA: American Recovery and Reinvestment Act of 2009 – principal forgiveness loans distributed based on the Department of Environmental Protection's Intended Use Plan.

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.

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 material 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.

CMMS (Computerized Maintenance Management System): *Maximo* is the computerized maintenance management system which is an essential component of successful asset management. This system is an important tool used in refining the long term maintenance strategy to ensure proper maintenance and replacement of plant assets.

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.

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, other metals, or form hydrogen sulfide. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates or oxidizers.

Coverage Requirement: Requirement of MWRA's bond resolution which provides that each year, revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds.

CP (Construction Package): Major construction projects such as the Carroll Water Treatment Plant or the North Dorchester Bay CSO project will group areas of work into individual construction contracts.

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 and the discharged flow from a combined sewer system intended to provide hydraulic relief to avoid system flooding and backups during large wet weather events. During large rainstorms, systems can become overloaded, with the excess discharged directly into surface waters. The discharged flow and the discharge location are called CSOs. In the metropolitan Boston area there are approximately 47 active, permitted CSOs that currently discharge into rivers or Boston Harbor.

CSO Facilities: MWRA has six facilities that intercept the flow from CSO pipes. Four of these facilities provide treatment and two provide storage 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.

CTG (Combustion Turbine Generator): CTGs are used to generate electricity during planned cable outages, wet weather operations and for participation in price response events.

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 rule further regulates 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.

Department of Conservation and Recreation (DCR): Created in 2003 through the merger of the Metropolitan District Commission and the Department of Environmental Management, DCR manages the Commonwealth's diverse parks system and protects and enhances natural resources and outdoor recreational opportunities throughout Massachusetts.

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, which disperses treated wastewater over a large area. Technically, the diffusers are the “sprinkler heads” mounted on top of the riser shafts that lead from the outfall tunnel and disperse wastewater into Massachusetts Bay.

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.

DLS (Department of Laboratory Services): Laboratory Services is a full service analytical testing and consulting group within the MWRA that primarily serves client groups primarily within the Operations Division. The analytical services that Laboratory Services provides include wet chemistry, metals, organics, and microbiology testing. Related services include field sampling, technical consultation, and contract laboratory management.

DMR (Discharge Monitoring Report): Monthly reports that are submitted to federal and state regulators. MWRA monitors the effluent (treated sewage) that is discharged into Massachusetts Bay, to ensure that it meets the standards set out in the NPDES permit. Analytical support to the effluent monitoring program is provided by the Department of Laboratory Services.

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 define 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 environmental agencies.

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

ESWTR: Enhanced Surface Water Treatment Rule - A federal rule that is 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: further tightens 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.

Enterococcus: A pathogen indicator, similar to fecal coliform, that is used in the Massachusetts Water Quality Standards for marine waters, consistent with the Federal Clean Water Act requirements, which indicates potential contamination from human or animal waste.

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.

FOD (Field Operations Department): Department within the Operations Division created to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. 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, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring programs.

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

FRSA (Fore River Staging Area): The site of the Sludge Pelletization Plant.

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.

Global Positioning System (GPS): Also known as an Automatic Vehicle Location system (GPS/AVL), this tool provides real-time transmission alerts utilizing a cell phone/satellite communication system and a web-based mapping system to track vehicles and operator-driven mobile equipment in MWRA's service area. The system allows MWRA to respond more quickly to emergencies, enhance driver and vehicle safety, reduce fuel costs, track mileage electronically, monitor unauthorized vehicle usage, and improve efficiency.

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 NStar 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.

HOM (Harbor and Outfall Monitoring): A comprehensive program to provide environmental data that helps to predict and measure the effect of Deer Island outfall discharge on the marine ecosystem.

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.

ISO - NE (Independent System Operator of New England): Non-profit wholesale operator of the regional grid system. The MWRA receives payment from ISO-NE when Deer Island and Carroll Water Treatment Plant remove themselves from the grid. Both plants participate in load response programs offered by ISO-NE which pays larger commercial and industrial electricity consumers to “shed load” during grid peaks. There are several programs available such as price, demand response and load response. MWRA constantly evaluates the options and participates in the most advantageous program.

Carroll Water Treatment Plant (CWTP): Water treatment facility for waters from Quabbin and Wachusett Reservoirs with capacity of 405 mgd using ozonation as a primary disinfectant.

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 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.

LOX (Liquid Oxygen): Liquid oxygen is used together with electrical energy to generate ozone at the Carroll Water Treatment Plant.

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.

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. The concentration of molybdenum in sludge products is strictly regulated.

NACWA (Nation Association of Clean Water Agencies): NACWA represents the interests of publicly owned wastewater treatment plants. NACWA is involved in all areas of water quality protection including the development of environmental legislation and assisting federal regulatory agencies in the implementation of environmental programs.

NEFCo: New England Fertilizer Company - The contractor responsible for the operation of 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.

NHS (Northern High Service): Project that involves a series of water system pipeline improvements in the MWRA's Northern High Service Area.

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.

OEP (Office of Emergency Preparedness): The Office of Emergency Preparedness has oversight over security, exercises, emergency operations, planning, the Emergency Services Unit and critical infrastructure protection.

OMS (Operations Management Systems): OMS correlates PICS data with laboratory analysis to track and analyze DITP's process performance with regard to the plant's discharge permit from EPA and DEP and with respect to cost effective operation.

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 pipe or structure 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. The Carroll Water Treatment Plant (CWTP) employs the ozonation process 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 towns 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.

PICS (Process Instrumentation and Control System): PICS provides real-time operations data from systems throughout Deer Island (including system status, flow, etc.).

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 the Environmental Protection Agency (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.

RCM (Reliability Centered Maintenance): A maintenance strategy adopted at Deer Island in FY00 for critical systems. RCM is a failure modes and effects process that involves maintenance, operations and engineering staff in the development of preventative maintenance and operation plans for plant systems.

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

RGGI: The Regional Greenhouse Gas Initiative is a mandatory, market-based program in the United States to reduce greenhouse gas emissions. The program involves selling emission allowances through auctions and investing the proceeds in demand-side management and clean energy technology projects.

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.

RPS (Renewable Portfolio Standards): State policies which mandate a state to generate a percent of its electricity from renewable resources. Qualified renewable generation facilities for the MWRA include: the Steam Turbine Generator (STG) and a variety of Hydroelectric, Wind and Solar units. The MWRA is issued electronic certificates for each megawatt hour of electricity produced from the digester gas, which is considered renewable energy. RPS credits are a source of revenue for the MWRA.

Safe Yield Model: The equation used to determine the maximum dependable draft that can be made continuously on a water supply source 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.

SCBA: Self-contained breathing apparatus.

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.

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 in the disinfection and/or odor processes at the Deer Island Treatment Plant, various other Wastewater facilities, and the Carroll Water Treatment Plant (CWTP).

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.

TSS (Total Suspended Solids): A measure of the settleable solids and non-settleable solids in wastewater. During the primary treatment process, flows are routed to primary treatment clarifiers that remove about half of the pollutants brought to the plant in typical wastewater (50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants are removed).

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

Vactor 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.

WASM (Weston Aqueduct Supply Mains): Project involving the rehabilitation of the four Weston Aqueduct Supply Mains that carry potable water to MWRA’s service area. When complete, they will transmit about one-third of the water to MWRA’s service area and the City tunnel will carry the remaining two-thirds.

Wastewater: The water carried by sewers serving residences and businesses that enters wastewater facilities for treatment. Wastewater is any water that has been adversely affected in quality by anthropogenic influence. It comprises liquid waste discharged by domestic residences, commercial properties, and/or agricultural and can encompass a wide range of potential contaminants and concentrations.

Wastewater Treatment Plant (WTP): A facility containing 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 Department of Conservation and Recreation (DCR) 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, located at the Carroll Water Treatment Plant.

**APPENDIX F
FY13 Current Expense Budget - Capital Financing Detail (as of 6/30/2012)**

	Projected Outstanding as of 6/30/2012	Total	Sewer	Water
SRF ¹				
Unrefunded (93A, 93D, 95A,98C)	\$ 7,655,000	\$ 20,844	20,844	-
1999E Sewer		390,871	390,871	-
1999E Water	13,344,771	578,237	-	578,237
1999F	279,865,000	18,619,101	18,619,101	-
2000E Sewer		2,818,620	2,818,620	-
2000E Water	63,407,792	574,868	-	574,868
2001C Water	2,900,000	248,362	-	248,362
2001D Sewer		377,905	377,905	-
2001D Water	5,113,117	81,935	-	81,935
2002H Sewer		3,150,262	3,150,262	-
2002H Water	93,540,000	1,550,069	-	1,550,069
2002I Sewer		102,003	102,003	-
2002I Water	2,064,594	1,495	-	1,495
2003A	954,801	69,658	-	69,658
2003B	2,619,311	222,136	-	222,136
2003C Sewer		1,360,019	1,360,019	-
2003C Water	40,588,000	967,930	-	967,930
2004C Sewer		542,368	542,368	-
2004C Water	9,997,991	90,368	-	90,368
2004D Sewer		3,860,454	3,860,454	-
2004D Water	60,039,673	646,550	-	646,550
2005C Sewer		419,733	419,733	-
2005C Water	6,731,284	69,270	-	69,270
2005D Sewer		3,391,064	3,391,064	-
2005D Water	66,354,502	805,913	-	805,913
2005E Sewer		24,961	24,961	-
2005E Water	368,519	5,479	-	5,479
2006C Sewer		488,110	488,110	-
2006D Sewer		3,741,313	3,741,313	-
2006D Water	78,580,085	1,616,040	-	1,616,040
2006E Sewer		22,883	22,883	-
2006E Water	426,135	10,281	-	10,281
2007C Sewer		310,573	310,573	-
2007C Water	5,869,623	192,303	-	192,303
2007D Sewer		1,151,501	1,151,501	-
2007E Sewer		3,298,419	3,298,419	-
2007E Water	70,268,960	1,264,733	-	1,264,733
2008G Sewer		406,755	406,755	-
2008G Water	6,016,494	82,446	-	82,446
2009C Sewer		5,762,162	5,762,162	-
2009C Water	106,977,026	1,892,459	-	1,892,459
2009D Sewer		650,227	650,227	-
2009D Water	11,356,628	85,955	-	85,955
2010C Sewer				
2010C Water	33,035,745			
2010D Sewer		1,427,299	1,427,299	-
2010D Water	47,697,355	1,442,144	-	1,442,144
2011A Sewer		384,544	384,544	-
2011A Water	10,859,878	372,557	-	372,557
2012C Sewer		524,630	524,630	-
2012C Water	11,995,195	254,577	-	254,577
Pool 16 SRF Sewer		3,131,660	3,131,660	-
Pool 16 SRF Water	52,637,872	584,671	-	584,671
Pool 17 SRF Sewer		2,761,800	2,761,800	-
Pool 17 SRF Water		954,035	-	954,035
Total SRF Debt	\$ 1,119,819,124	\$ 73,804,552	\$ 59,140,081	\$ 14,664,470

**APPENDIX F
FY13 Current Expense Budget - Capital Financing Detail (as of 6/30/2012)**

	Projected Outstanding as of 6/30/2012	Total	Sewer	Water
MWRA Senior Debt				
1993C New/Refunding	28,705,000	7,560,346	6,615,303	945,043
2002J Refunding	296,300,000	15,869,025	14,282,123	1,586,903
2002J New	1,000,000	50,000	25,000	25,000
2004B Refunding	48,950,000	2,447,500	2,141,563	305,938
2005A Refunding	356,665,000	18,304,925	8,237,216	10,067,709
2005B Refunding	80,290,000	4,014,500	1,338,033	2,676,467
2006A New	200,000,000	9,376,800	-	9,376,800
2006B Refunding	263,940,000	12,705,050	9,528,788	3,176,263
2007A New	198,000,000	8,933,188	1,518,642	7,414,546
2007B Refunding	647,950,000	34,017,375	28,574,595	5,442,780
2009A New	91,160,000	8,192,300	6,144,225	2,048,075
2009B Refunding	280,220,000	16,639,394	11,980,363	4,659,030
2010A New	98,895,000	4,757,050	3,329,935	1,427,115
2010B Refunding	183,570,000	9,178,500	5,323,530	3,854,970
2011B New	147,335,000	9,569,125	6,698,388	2,870,738
2011C	327,160,000	16,064,275	6,265,067	9,799,208
2012A	150,000,000	9,679,125	4,839,563	4,839,563
2012B	86,775,000	4,240,325	890,468	3,349,857
FY13 New Money (2013)		1,833,333	916,667	916,667
Total Senior	\$ 3,486,915,000	\$ 193,432,135	\$ 118,649,467	\$ 74,782,669
Subordinate Debt				
1999B	62,300,000	2,024,750	1,214,850	809,900
2002C Refunding	35,120,000	1,141,400	380,429	760,971
2002D Refunding	56,450,000	1,991,166	1,991,166	-
2008A Refunding	337,675,000	14,798,777	13,022,923	1,775,853
2008B Refunding	123,130,000	4,001,725	840,362	3,161,363
2008C Refunding	181,700,000	14,657,328	14,071,035	586,293
2008E Refunding	210,670,000	48,679,086	44,784,759	3,894,327
2008F Refunding	184,910,000	6,009,575	540,862	5,468,713
Potential Defeasanc/Restructuring		-	-	-
Total Subordinate Debt	\$ 1,191,955,000	\$ 93,303,807	\$ 76,846,386	\$ 16,457,421
Total SRF & MWRA Debt Service²	\$ 5,798,689,124	\$ 360,540,493	\$ 254,635,934	\$ 105,904,559
Water Pipeline Commercial Paper	\$ 144,000,000	\$3,640,517	\$ -	\$ 3,640,517
Current Revenue/Capital ³		8,200,000	6,150,000	2,050,000
Capital Lease		3,217,060	1,989,108	1,227,952
Sub-Total	\$ 144,000,000	\$ 15,057,577	\$ 8,139,108	\$ 6,918,469
Total Capital Financing (before Debt Service Offsets)	\$ 5,942,689,124	\$ 375,598,070	\$ 262,775,042	\$ 112,823,028
Debt Service Offsets				
Debt Service Assistance		350,000	323,530	26,470
Total Capital Financing	\$ 5,942,689,124	\$ 375,248,070	\$ 262,451,512	\$ 112,796,558

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects.