

# **MASSACHUSETTS WATER RESOURCES AUTHORITY**



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## **Fiscal Year 2014 Proposed CURRENT EXPENSE BUDGET**

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



## MASSACHUSETTS WATER RESOURCES AUTHORITY

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

March 2013

Dear Chairwoman Dunphy:

At its February 13, 2013 meeting, the MWRA Board of Directors voted to transmit the FY14 Proposed Current Expense Budget to the Advisory Board for its review and comment.

FY14 represents a significant milestone for both the Capital Improvement Program and the Current Expense Budget. FY14 is the first year of a significantly reduced five-year capital program, and marks the beginning of a new era in that principal payments will exceed projected borrowings, thus reducing MWRA's debt burden.

The Proposed FY14 budget recommends a combined assessment increase of 3.9%, which is lower than the 4.4% projected last year. MWRA achieved this lower increase by level funding direct expenses for the fifth time in six years and significantly reducing debt service over the last few years through a series of defeasances targeting the most challenging years.

Total expenses are \$660.6 million, a \$24.7 million or 3.9% increase over the FY13 budget. Capital financing costs at \$398.0 million remain the largest portion of the budget, representing 60% of the total expenses. Operating expenses are \$262.5 million of which \$214.8 million is for direct expenses and \$47.7 million is for indirect expenses.

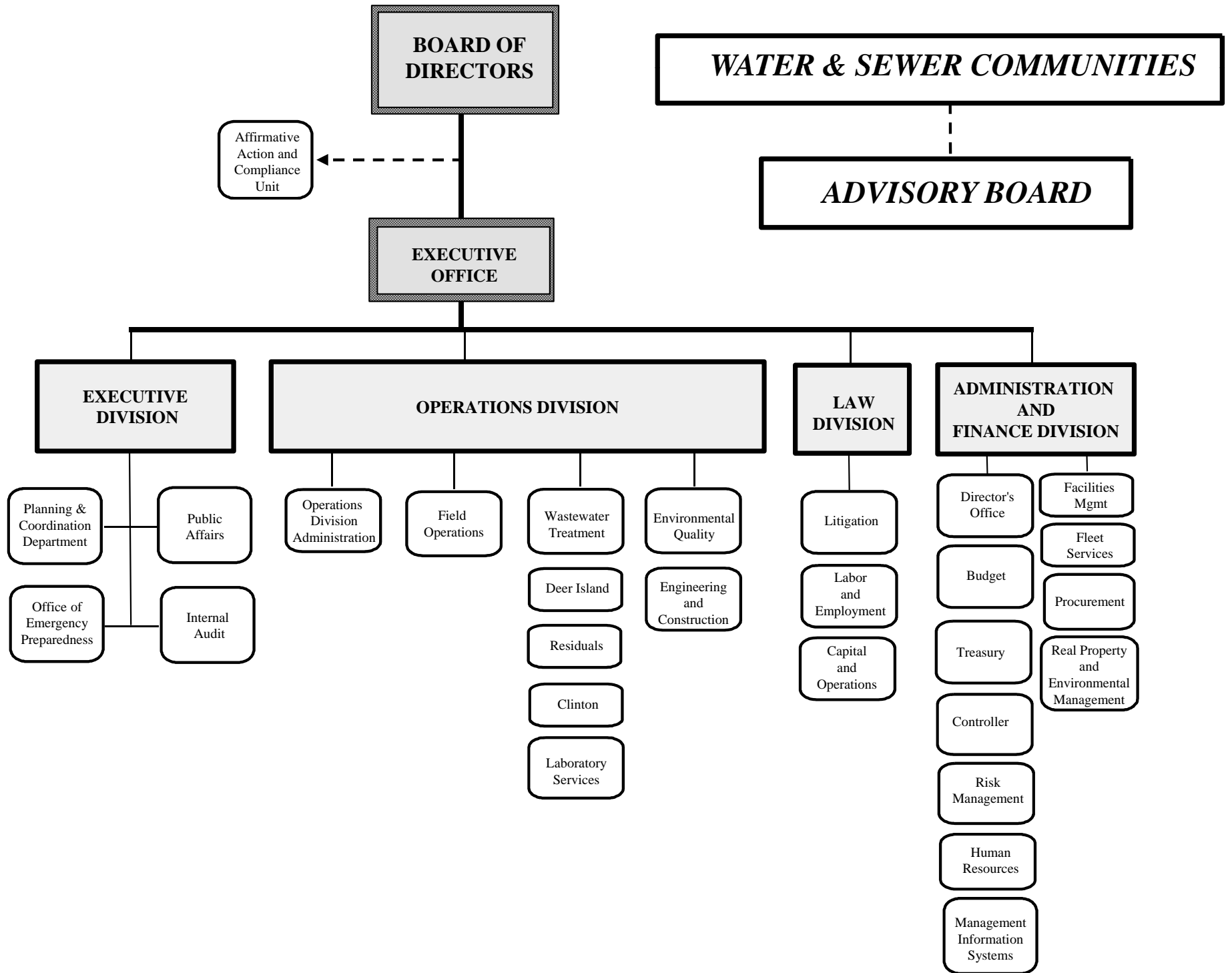
MWRA continues to pursue a rates management strategy which promotes predictable and reasonable assessment increases. However, many challenges remain especially related to the Other Post Employment Benefits (OPEB) and Pension liabilities. MWRA is planning to continue the current strategy of aggressively paying down the pension liability, and upon reaching full funding, move to address the OPEB obligation.

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

We look forward to working with the Advisory Board members and staff during your review of the FY14 Proposed Current Expense Budget. Thank you for your continued support and recommendations.

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 FY14 Proposed Budget to the Advisory Board in February. The Advisory Board then 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.

## FY14 Proposed Budget Summary

The FY14 Proposed Budget recommends a combined assessment increase of 3.9%.

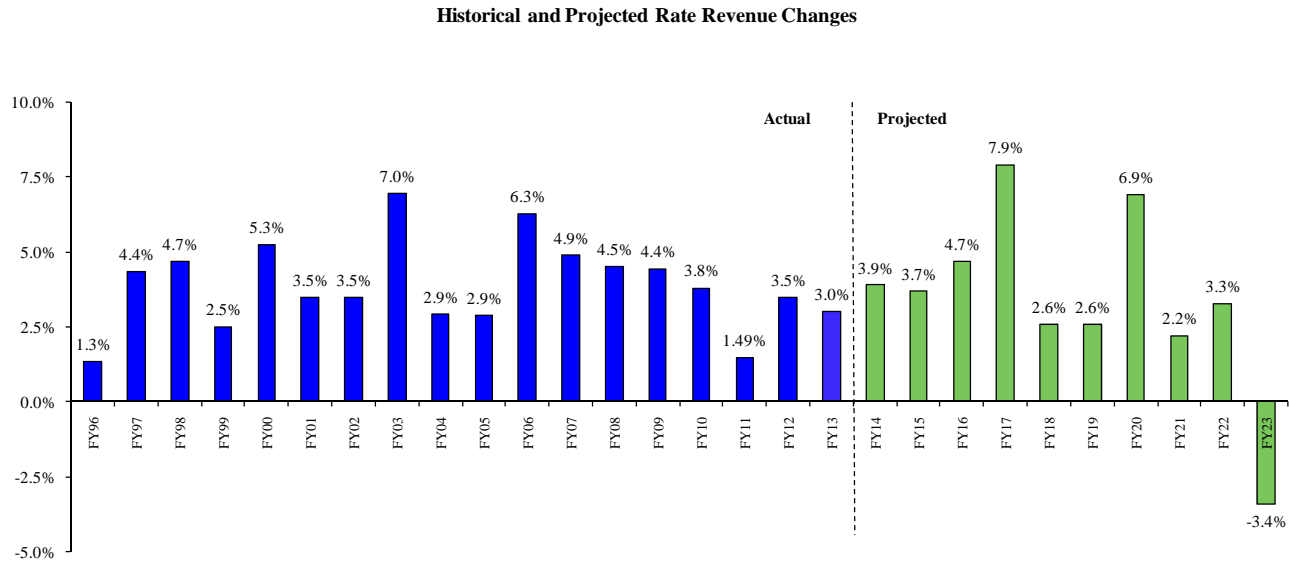
Measures taken by the Authority to achieve the 3.9% rate increase include:

- Level funded direct expenses for the fifth time in six years;
- Continued the practice of targeted defeasances;
- Reduced 20 positions to a funded headcount of 1,175 in line with the staffing study;
- Use of \$3.5 million in Rate Stabilization funds; and
- Assumed No Debt Service Assistance as none is included in the Governor's budget.



As MWRA continues to pursue a rate management strategy which promotes predictable and reasonable assessments, many challenges remain, mostly related to Other Post Employment Benefits (OPEB) and Pension related liabilities.

The graph below represents historical and projected assessment changes based on the FY14 Proposed Budget.



The FY14 Proposed Budget recommends a combined assessment increase of 3.9%. Capital financing costs remain the largest component of the CEB and account for 60.3% of total expenses.

Total expenses are \$660.6 million, \$24.7 million or 3.9% above the FY13 Budget. There are no offsets from Debt Service Assistance (DSA) assumed for FY14 or in any future years. Total expenses include \$398.0 million for capital financing costs and \$262.6 million for operating expenses, of which \$214.8 million is for direct expenses and \$47.7 million is for indirect expenses. Of the \$24.7 million overall increase, \$22.8 million is for capital financing and \$2.0 million is for indirect expenses.

The \$22.8 million or 6.1% increase in capital financing expenses before offsets reflects debt service associated with the projected issuance of \$100 million of new money in June 2014 as well as new State Revolving Fund (SRF) debt of \$38 million to be issued in April 2013 and an additional \$53.8 million in 2014. Offsetting these new issuances, are the impacts of planned defeasance of \$15 million targeting FY15 and FY16, which are projected to yield savings of approximately \$0.5 million in FY14.

The \$2.0 million increase in indirect expenses from the FY13 Budget is primarily due to the Authority’s decision to reflect the revised mortality tables into its retirement funding which accounts for \$2.2 million increase.

On the revenue side, the FY14 Proposed Rate Revenue Requirement is \$631.2 million, an increase of \$23.7 million or 3.9% over the FY13 Budget. FY14 non-rate revenues total \$29.3 million, an increase of \$986,000 or 3.5% from the FY13 Budget mainly due to the inclusion of \$3.5 million in Rate Stabilization funding offset by a \$2.7 million decrease in investment earnings due to lower investment income projections based on current trends. The FY14 non-rate revenue budget of \$29.3 million includes \$14.0 million in other user charges and other revenue, \$11.8 million for investment income, and \$3.5 million in Rate Stabilization.

Table I-1 shows MWRA's FY14 Proposed Budget for revenue and expenses compared with the FY13 Budget and FY12 Actual. Changes from FY13 to FY14 are described in the Revenue and Expense section of the Executive Summary.

**Table I-1**

TOTAL MWRA	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY14 Proposed vs FY13 Budget	
				\$	%
<b>EXPENSES</b>					
WAGES AND SALARIES	\$ 89,887,813	\$ 94,059,400	\$ 94,612,012	\$ 552,612	0.6%
OVERTIME	3,086,175	3,573,496	3,580,025	6,529	0.2%
FRINGE BENEFITS	17,662,544	18,241,926	17,613,825	(628,101)	-3.4%
WORKERS' COMPENSATION	1,600,726	2,100,000	2,025,000	(75,000)	-3.6%
CHEMICALS	9,271,528	9,963,496	10,653,746	690,250	6.9%
ENERGY AND UTILITIES	22,766,837	23,127,198	22,989,800	(137,398)	-0.6%
MAINTENANCE	26,776,012	28,229,070	27,963,425	(265,645)	-0.9%
TRAINING AND MEETINGS	184,229	385,617	355,617	(30,000)	-7.8%
PROFESSIONAL SERVICES	5,099,517	5,900,785	5,873,902	(26,883)	-0.5%
OTHER MATERIALS	5,513,699	5,591,291	6,044,284	452,993	8.1%
OTHER SERVICES	22,985,817	23,743,608	23,134,268	(609,340)	-2.6%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 204,834,898</b>	<b>\$ 214,915,886</b>	<b>\$ 214,845,904</b>	<b>\$ (69,982)</b>	<b>0.0%</b>
INSURANCE	\$ 2,076,962	\$ 2,097,875	\$ 2,143,618	\$ 45,743	2.2%
WATERSHED/PILOT	25,629,604	26,413,175	27,214,833	801,658	3.0%
HEEC PAYMENT	3,561,130	3,741,915	3,386,970	(354,945)	-9.5%
MITIGATION	1,744,579	1,566,923	1,566,797	(126)	0.0%
ADDITIONS TO RESERVES *	195,467	1,398,329	362,971	(1,035,358)	-74.0%
RETIREMENT FUND **	5,488,792	5,750,085	8,055,103	2,305,018	40.1%
POSTEMPLOYMENT BENEFITS/ ADDITIONAL PENSION DEPOSIT	1,874,378	4,724,291	4,976,411	252,120	5.3%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 40,570,912</b>	<b>\$ 45,692,593</b>	<b>\$ 47,706,703</b>	<b>\$ 2,014,111</b>	<b>4.4%</b>
DEBT SERVICE (before offsets)	\$ 365,136,323	\$ 375,598,070	\$ 398,010,515	\$ 22,412,445	6.0%
VARIABLE RATE DEBT/OTHER		-	-	-	
BOND REDEMPTION					
DEBT SERVICE ASSISTANCE	(384,323)	(350,000)	-	350,000	-100.0%
<b>TOTAL DEBT SERVICE</b>	<b>\$ 364,752,000</b>	<b>\$ 375,248,070</b>	<b>\$ 398,010,515</b>	<b>\$ 22,762,445</b>	<b>6.1%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 610,157,810</b>	<b>\$ 635,856,549</b>	<b>\$ 660,563,123</b>	<b>\$ 24,706,574</b>	<b>3.9%</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	589,700,000	\$ 607,512,000	\$ 631,233,000	\$ 23,721,001	3.90%
OTHER USER CHARGES	7,264,794	7,766,693	8,198,509	431,816	5.6%
OTHER REVENUE	5,655,582	6,116,844	5,850,795	(266,049)	-4.3%
RATE STABILIZATION	1,091,780		3,500,000	3,500,000	
INVESTMENT INCOME	16,267,462	14,461,012	11,780,819	(2,680,193)	-18.5%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 619,979,621</b>	<b>\$ 635,856,549</b>	<b>\$ 660,563,123</b>	<b>\$ 24,706,574</b>	<b>3.9%</b>

\* Reserves estimated based on OPEB being deposited into the Pension fund

\*\* FY14 includes \$2,151,996 for recognition of mortality table changes

## **FY13 Mid-Year Accomplishments:**

- At DITP, treated 99.5% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations during the first six months in FY13.
- 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 Massachusetts Water Pollution Abatement Trust Pool 16 borrowing. This \$52.6 million borrowing is made at subsidized interest rates contributing to a lower overall cost of debt for the Authority.
- Completed the 2012 Series E, F, and G transaction. These three bond series of \$62.8 million, \$60.3 million, and \$57.8 million respectively replaced the 2008B and 2008C1 variable rate bond series. These bonds were issued as direct competitive placement variable rate bonds. This mode provides additional diversification from liquidity bank risk.
- Completed pricing the 2013A \$170.6 million Refunding for savings transaction for an All-In-True Interest Cost of 2.45%, the lowest in MWRA history to that point. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of \$13.1 million or 7.46%.
- Directed the development of the next five-year CIP cap which is significantly lower than the prior two (2) caps, reflecting the changing nature of the capital program from mandated projects to asset protection and water redundancy initiatives.
- Procured Energy Management System for Southborough facility and LED outdoor lighting retrofits for numerous water and wastewater facilities. Completed indoor lighting retrofits at the Cottage Farm and Prison Point wastewater facilities. Completed energy audits at six MWRA facilities in the southern system.
- Received revenue for energy generated at numerous facilities including the following: hydroelectric \$270,000 from Oakdale Station, \$110,000 from Cosgrove Station, and \$14,000 from the Loring Road Pump Station; solar \$59,000 from CWTP; wind \$69,000 from Charlestown Pump 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 \$1.1 million in revenue for the first six months of FY13. Deer Island also self-generated 25.0% of the plant's total required power during that period.
- Competitively bid Renewable Energy Portfolio Standard certificates which resulted in FY12 revenues of \$253,000 (Class II). In addition, received FY12 revenues of \$773,000 from forward marketing of CY12 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.
- Started implementation of the IT Study recommendations.
- Began preparation for development and implementation of an electronic procurement (e-procurement) process for construction contracting based upon Lawson Strategic Sourcing.

- The TRAC Department completed the following Environmental Protection Agency (EPA)-required work for significant industrial users: 122 inspections, 23 monitoring events, and 284 sampling of connections. This department also issued or renewed 101 permits to Significant Industrial Users (SIUs) and non-SIUs.
- Met all water quality and treatment standards for giardia in the drinking water system during the first six months of FY13. Also, maximum turbidity results at Quabbin and Wachusett were within DEP standards.
- Commenced discussion with landlord about successor lease agreements for Charlestown Navy Yard (CNY) headquarters.
- In the wastewater system, inspected 15.7 miles and cleaned 14.1 miles of MWRA pipeline. Also inspected 464 structures and rehabilitated 117 manholes.
- In the water system, exercised 378 and replaced six mainline valves and exercised 202 and replaced nine blow-off valves.
- Recycled 20.8 tons of paper, 44.18 tons of scrap metal, and 13.84 pounds of brass, copper, stainless steel and aluminum, generating \$38,000 in revenues.

**FY14 Initiatives:**

- 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.
- 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 ~29% 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.
- Identify and implement strategies for workforce succession in preparation for expected retirement of many MWRA employees in the upcoming five to ten years.
- Manage the process for negotiating successor collective bargaining agreement with all five collective bargaining unions of the MWRA.
- Continue the implementation of the Strategic IT Study.
- Continue implementation of the electronic procurement (e-procurement) process.

## 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 FY14 Proposed Budget.

**Table I-2**

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$8.2	1.2%
Other Revenue	5.9	0.9%
Investment Income	11.8	1.8%
Rate Revenue	631.2	95.6%
Rate Stabilization	3.5	0.5%
<b>TOTAL REVENUE</b>	<b>\$660.6</b>	<b>100.0%</b>
<i>Uses of Funds</i>		
Total Expenses before Debt		
Service Offsets	\$660.6	
Less:		
Debt Service Assistance	0.0	
Bond Redemption	0.0	
Sub-Total Net Expenses	660.6	
Capital Financing	398.0	60.3%
Direct Expenses	214.8	32.5%
Indirect Expenses	47.7	7.2%
<b>TOTAL EXPENSES</b>	<b>\$660.6</b>	<b>100.0%</b>
<b>TOTAL EXPENSES Less Offsets</b>	<b>\$660.6</b>	
*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 FY14 Proposed Budget, 95.6% of revenue is derived from rate revenue. The remaining 4.4% 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 FY14 Proposed Budget, the MWRA will raise \$631.2 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$631.2 million, \$427.6 million will fund the sewerage system, an increase of 3.9% as compared to FY13; and \$203.7 million will fund the water system, an increase of 3.9% as compared to FY13.

### 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 FY14 Proposed Budget total \$8.2 million, an increase of \$432,000 or 5.6% from the FY13 Budget and includes \$4.7 million paid by the Chicopee Valley Aqueduct communities, \$1.5 million for the transfer of the water used 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

\$481,000 in water revenue and \$330,000 in sewer revenue to contract communities.

## **Other Revenue**

Other Revenue is budgeted at \$5.9 million, a decrease of \$266,000 or 4.3% from the FY13 Budget mainly due to lower projected demand response due to decreased pricing.

Other Revenue includes \$2.3 million in permit fees and penalties, in addition to \$2.7 million for the sale of Renewable Portfolio Credits, sale of generated power, and revenues for demand response programs.

### *Permit Fees and Penalties*

The FY14 Proposed Budget includes \$2.3 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 FY14 Proposed Budget includes \$3.6 million in miscellaneous revenues of which \$2.7 million pertains to the Authority's energy programs for the sale of Renewable Portfolio Standard credits, participation in the demand response program, and the sale of power including hydro, wind, and solar generated at various MWRA's facilities as well as \$876,000 for a large number of miscellaneous revenue items.

## **Investment Income**

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY14 Proposed Budget includes \$11.8 million in investment income, a decrease of \$2.7 million or 18.5% from the FY13 Budget due lower average fund balances and lower short-term interest rate projections. The FY14 short-term interest rate is 0.20%, 20 basis points less than the FY13 Budget of 0.40%.

## ***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 FY14 Proposed Budget, \$3.5 million in Rate Stabilization fund usage is projected.

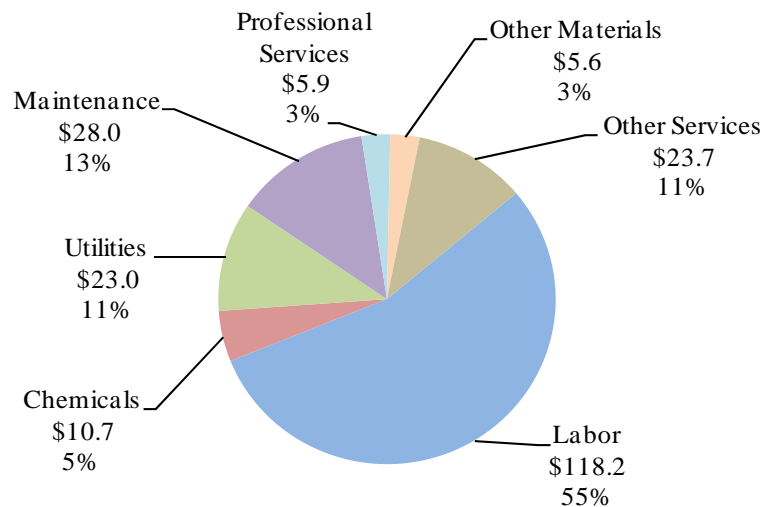
## Direct Program Expenses

The FY14 direct expense budget is \$214.8 million, level funded with the FY13 Budget. Higher chemical prices, increased wages and salaries due to contractual increases, and higher other materials mainly for vehicle replacements are offset by lower headcount funding, fringe benefit expense, other services mainly due to revised sludge indices, and maintenance. MWRA continues to manage direct expenses through implementing cost improvement initiatives, such as cross-training staff, competitive purchase of energy and chemicals, lease space reductions, and increased self generation of electricity.

## 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%).

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



**Wages and Salaries** – The proposed budget includes \$94.6 million for wages and salaries as compared to \$94.1 million in the FY13 Budget, an increase of \$553,000 or 0.6% largely due to contractual agreements offset by fewer funded positions. The proposed budget funds 1,175 positions, which is 20 positions lower than the FY13 funding level. As always, new hires and backfills of vacant positions will be managed at the agency level and addressed on a case-by-case basis by senior management.

**Overtime** – The proposed budget includes \$3.6 million for overtime which is primarily level funded from the FY13 Budget. The FY14 Proposed Budget assumes overtime will be limited to coverage, emergencies, and critical maintenance projects.

**Fringe Benefits** – The proposed budget includes \$17.6 million for fringe benefits, a decrease of \$628,000 or 3.4% from the FY13 Budget. Health insurance premiums total \$15.1 million, a decrease of \$631,000 or 4.0% from the FY13 Budget largely due to the lower headcount.

**Workers' Compensation** – The proposed workers' compensation budget of \$2.0 million is \$75,000 or 3.6% less than the FY13 Budget and is based on average actual spending for FY10-12.

**Chemicals** – The proposed budget includes \$10.7 million for chemicals, an increase of \$690,000 or 6.9% from the FY13 Budget. The majority of the increase is due to projected price increases. It should be noted that there is no funding imbedded in the FY14 Proposed Budget for the new Deer Island National Pollutant Discharge Elimination System (NPDES) permit which is projected to have more stringent requirements for enterococcus treatment compliance, requiring higher chemical dosing.

**Utilities** – The proposed budget includes \$23.0 million for utilities, which is a decrease of \$137,000 or 0.6% from the FY13 budget. The budget assumes funding of \$16.4 million for electricity, \$3.8 million for diesel fuel, \$2.0 million for water, and \$628,000 for natural gas. The FY14 Proposed energy and utilities budget reflects the most recent pricing outlook based on energy futures and the latest bids for contracts. Additionally, the FY14 Proposed Budget incorporates self-generation at Deer Island and new green energy initiatives, along with efficiency improvements in Field Operations.

**Maintenance** – The proposed budget includes \$28.0 million for maintenance projects, a decrease of \$266,000 or 0.9% from the FY13 budget, which is in line with the FY12 actual spending and FY13 projected levels. The lower spending is attributed to the large number of capital projects that are currently underway and planned for FY14.

**Training and Meetings** – The proposed budget includes \$356,000 for training and meetings, a \$30,000 or 7.8 % decrease from the FY13 Budget. It should be noted that trade related training supporting the core operational needs of the Authority are funded under in the Human Resources Department under the Professional Services line item.

**Professional Services** – The proposed budget includes \$5.9 million for professional services, a decrease of \$27,000 or 0.5% from the FY13 Budget. The budget reflects funding for Security of \$1.8 million, regulatory monitoring of \$1.7 million, and Other professional services funding of \$1.2 million to support items such as the professional staff development and services to locate utility lines for construction projects.

**Other Materials** – The proposed budget includes \$6.0 million for other materials, an increase of \$453,000 or 8.1% more than the FY13 Budget. The budget includes funding of \$1.7 million for vehicle purchases, \$1.1 million for vehicle expenses mostly for gasoline purchases, \$823,000 for lab and testing supplies, \$540,000 for equipment/furniture, and \$462,000 for computer hardware needs.

**Other Services** – The proposed budget includes \$23.1 million for other services, a decrease of \$609,000 or 2.6% from the FY13 Budget. The budget includes funding of \$14.1 million for sludge pelletization, \$3.6 million for Space/Lease rentals and related expenses for the CNY and Chelsea facilities, \$1.4 million for voice and data costs, and \$1.3 million for other services. The largest decrease, or \$451,000, is due to the decreased utility indices pertaining to the Sludge Pelletization contract.



## 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 FY14 direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution.

**FIGURE I-2**  
Direct Expenses by Functional Area

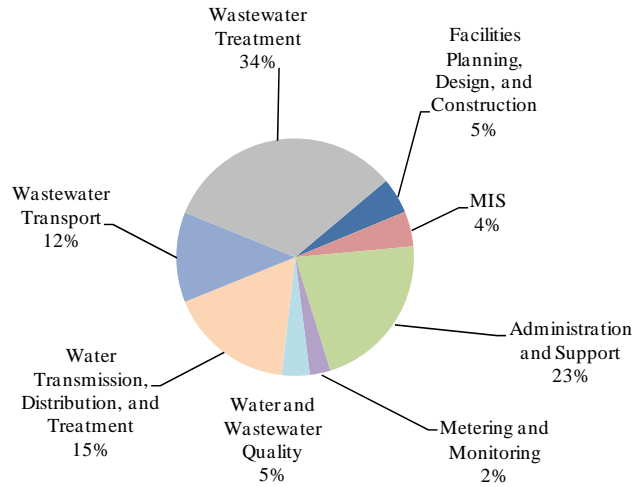
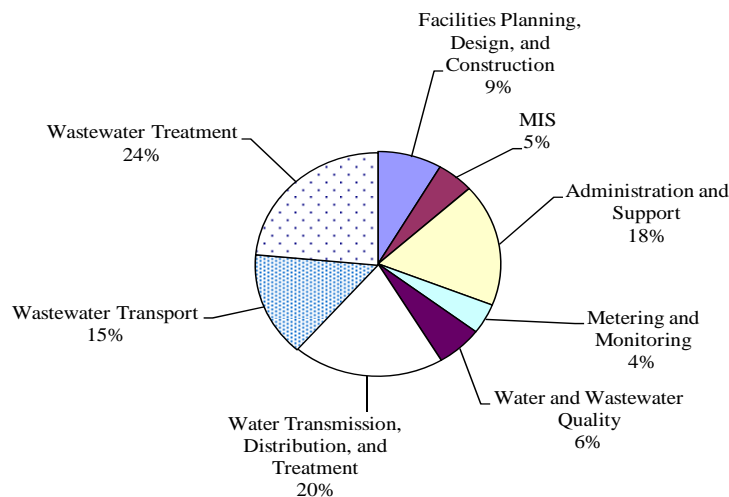


Figure I-3 below illustrates staffing by Functional Area and shows the breakdown of the 1,172 filled positions as of December 2012. Of the 1,172 positions, 58% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS 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

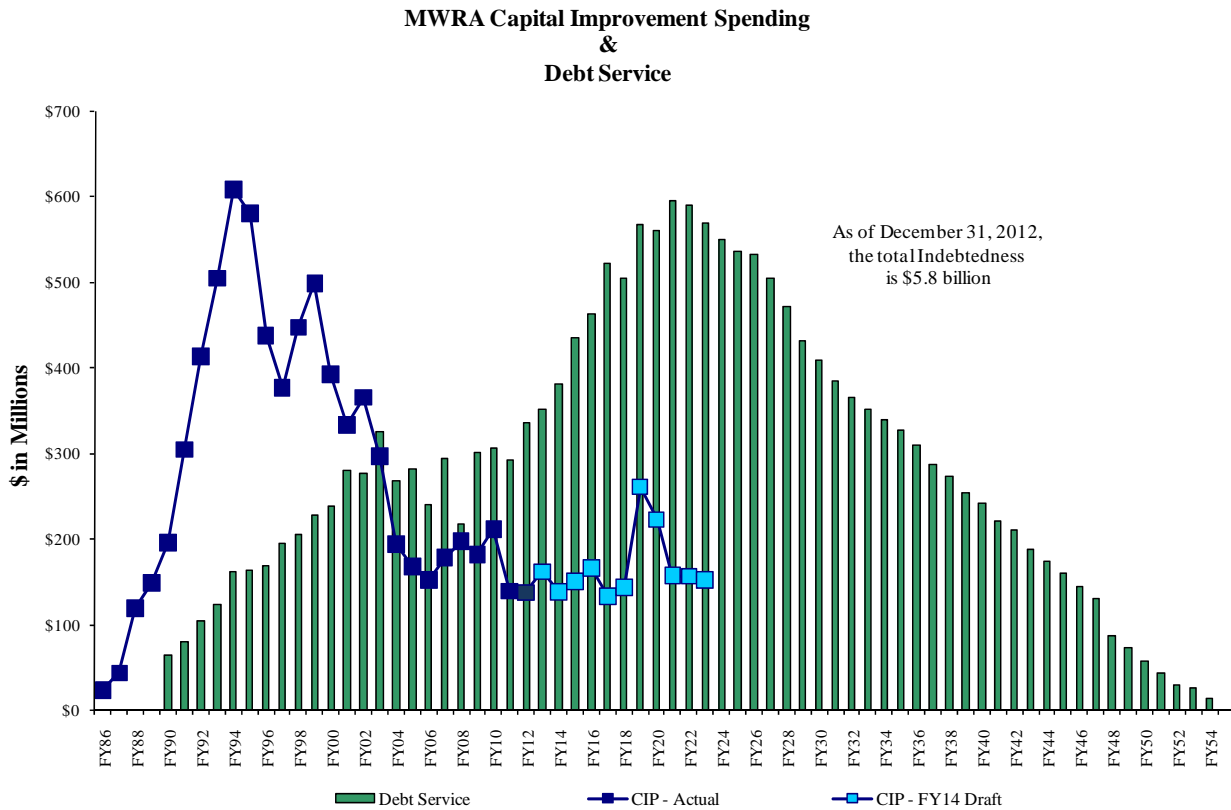
### Outstanding Debt and Debt Management

The \$7.6 billion spent on MWRA’s modernization efforts to date, has relied heavily on debt financing. Total debt as of December 31, 2012 was \$5.8 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 following graph was updated with the FY14 Proposed CIP spending and debt service projections to illustrate the relationship between the MWRA’s CIP and debt service.

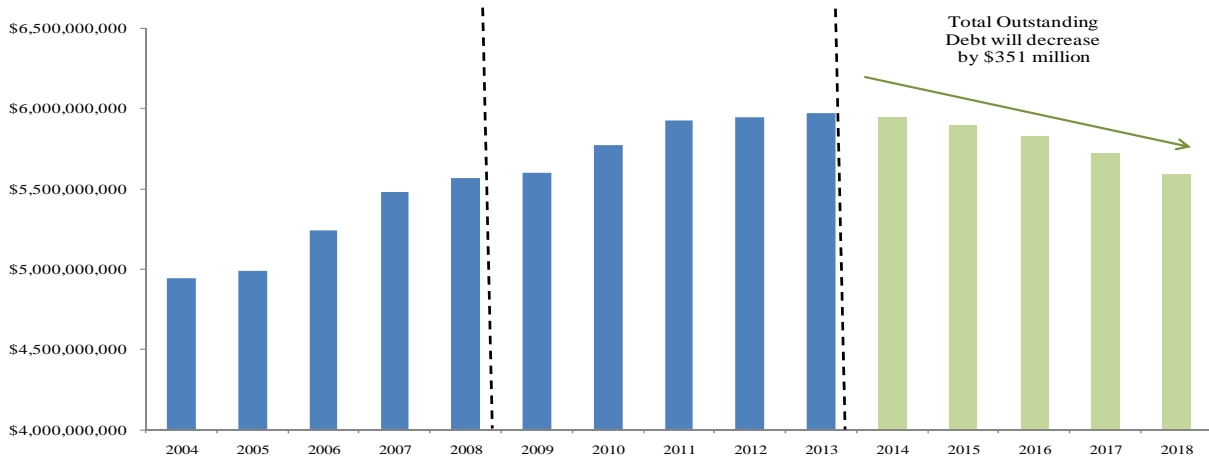
Over the past 25 years, MWRA has been focused on construction of new water and sewer facilities, many of which had been neglected for years, to bring the system into regulatory compliance. These efforts relied heavily on debt financing. Going forward, the majority of capital spending will be geared towards asset protection and water redundancy initiatives.

As indicated above, as of December 31, 2012 MWRA’s total debt was \$5.8 billion which results in significant increases in debt service obligations in the upcoming years. The Authority’s debt service obligation as a percent of total expenses has increased from 36% in 1990 to over 60% in the FY14 Proposed Budget, thus continuing to be the largest challenge for the Authority to manage assessments in future years.



It is important to note that FY14 represents the beginning of a new era for MWRA in that for the first time, the Authority will be reducing its total bonded indebtedness by paying off more principal on debt than the annual project borrowings.

### MWRA's Outstanding Debt

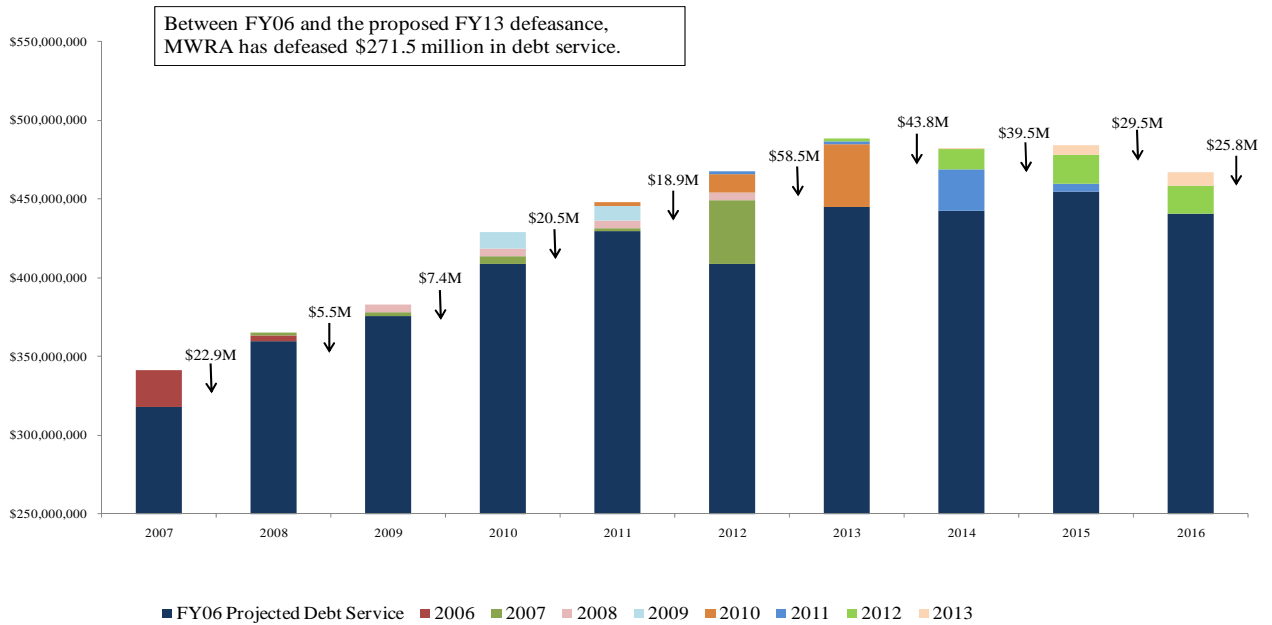


For the first time since its formation, outstanding debt will begin to fall in FY14 as principle payments exceed capital spending as the Authority achieves a steady state. Barring new mandated initiatives and as a maturing utility, ongoing annual capital expenditures are projected to be more modest and are projected not to exceed \$160 million. In FY14, the MWRA anticipates insuring \$154.0 million and new debt while making principal payments totaling \$167.2 million. As evidenced in the graph above, principal repayments will exceed new debt issues for the foreseeable future. Over the FY14-18 window, outstanding debt projected to drop by \$351 million.

MWRA continues to actively manage its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates increases 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.

As shown on the chart on the following page, since 2006 the Authority has used defeasances to reduce future year's debt service requirements by \$271.5 million.

## Impact of Defeasances FY06 - Proposed FY13



The FY14 Proposed capital financing costs total \$398.0 million and remain the largest portion of the MWRA’s budget, accounting for 60.3% of total expenses.

The FY14 Proposed Budget includes benefits from targeted defeasances of \$6.4 million and \$8.4 million for FY15 and FY16, respectively, which reduce FY14 debt service by approximately \$0.5 million.

The FY14 Proposed Budget assumes a 3.25% interest rate for variable rate debt which is the same level as in FY13. 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 2.29% and MWRA current average liquidity and remarketing costs are 74 basis points.

The FY14 Proposed Budget capital financing costs increased by \$22.8 million or 6.1% compared to the FY13 Budget. This increase in the MWRA’s debt service is the result of the new money issued in FY13 and projected FY14 issuances partially offset by the impact of the projected defeasance as detailed above. The FY14 Proposed capital financing budget includes the following:

- \$202.8 million in principal and interest payments on MWRA’s senior fixed rate bonds. This amount includes \$1.13 million to support issuances of \$100 million of new money in June 2014;
- \$102.7 million in principal and interest payments on subordinate bonds;
- \$76.0 million in principal and interest payments on SRF loans. This amount includes \$6.6 million to support issuances of \$38 million in April 2013 and \$53.8 million in 2014;
- \$9.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$4.1 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

Table I-3 provides detail on the FY14 Proposed Budget capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Over 70% of the FY14 capital financing is for wastewater improvements. Current and future borrowings increasingly support improvements to the water system. A complete list of the Authority’s indebtedness by series is presented in Appendix F.

<b>TABLE I-3</b>				
<b>FY14 Proposed Current Expense Budget - Capital Financing Detail (as of 12/30/12)</b>				
<b>\$ in Millions</b>				
	<b>Amount Outstanding</b>	<b>Total FY14 Capital Costs</b>	<b>Sewer</b>	<b>Water</b>
Total SRF <sup>1</sup> Debt	\$1,069.9	\$76.0	\$60.6	\$15.4
Total Senior Debt	\$3,477.7	202.8	126.3	76.5
Total Subordinate Debt	\$1,138.3	102.7	83.8	18.9
<b>Total SRF and Debt Service<sup>2</sup></b>	<b>\$5,685.9</b>	<b>\$381.5</b>	<b>\$270.7</b>	<b>\$110.8</b>
Water Pipeline Commercial Paper	144.0	4.1	0.0	4.1
Current Revenue/Capital <sup>3</sup>		9.2	6.9	2.3
Capital Lease		3.2	2.0	1.3
<b>Sub-Total</b>	<b>144.0</b>	<b>\$16.5</b>	<b>\$8.9</b>	<b>\$7.7</b>
<b>Total Capital Financing (before Debt Service Offsets)</b>	<b>5,829.9</b>	<b>\$398.0</b>	<b>\$279.5</b>	<b>\$118.5</b>
Debt Service Offsets:				
Debt Service Assistance	0.0	0.0	0.0	0.0
<b>Total Capital Financing</b>	<b>5,829.9</b>	<b>\$398.0</b>	<b>\$279.5</b>	<b>\$118.5</b>

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

<sup>2</sup> Numbers may not add due to rounding.

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

## **Indirect Expenses**

The FY14 Proposed Budget Indirect Expenses total \$47.7 million, an increase of \$2.0 million or 4.4% from the FY13 Budget. 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 FY14 Proposed Budget includes \$2.1 million for Insurance, an increase of \$46,000 or 2.2% above the FY13 Budget. The FY14 Proposed Budget was based on actual average spending for the past five years, FY08-12. The budget includes \$1.9 million for premiums and fees and \$244,000 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 is currently funded at \$14 million with the next insurance consultant review planned for early 2014.

### **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 FY14 Proposed Budget includes \$27.2 million for the Division of Water Supply Protection (formerly MDC Division of Watershed Management), an increase of \$802,000 or 3.0% over the FY13 Budget. The budget is comprised of \$13.4 million for reimbursement of operating expenses, \$8.2 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 FY14 Proposed Budget includes \$3.4 million for the Harbor Energy Electric Company (HEEC), a decrease of \$355,000 or 9.5% from the FY13 Budget. 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 FY14 Proposed Budget includes \$1.6 million for community compensation for impacts, including \$801,000 for the City of Quincy and \$766,000 for the Town of Winthrop, based on Memoranda of Agreement with the communities.

### **Retirement System Contribution**

The FY14 Proposed Budget includes \$8.1 million for the Retirement Fund, an increase of \$2.3 million or 40.1% over the FY13 contribution. The \$8.1 million funding includes a \$5.9 million contribution, representing the minimum required contribution based on the most recent actuarial evaluation of January 1, 2010 and an additional \$2.2 million to account for the revised mortality table changes. Although the new evaluation as of January 2012, will be used for developing the FY15 budget and includes the effect of new mortality tables, the revised actuary tables were taken into account for the FY14 Proposed Budget.

### **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. 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. This strategy was employed in the FY08, FY09, FY10, FY12, and FY13 Budgets. It was temporarily halted in FY11 to achieve a 1.5% rate increase. In an effort to restore the Authority's long-term commitment to address its liabilities, \$5.0 million is included for OPEB/Additional Pension Deposit in the FY14 Proposed Budget.

### **Operating Reserves**

Funding for the Operating Reserve for FY14 is \$363,000, a decrease of \$1.0 million or 74.0% from the FY13 Budget. 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 FY14 Proposed Budget, the required balance is \$39.2 million versus the \$38.8 million required in FY13.

## **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 MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the FY14 Proposed Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-19, lists MWRA communities, the services received, and the Preliminary MWRA assessments for FY14.

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-20 presents the calculation of MWRA's FY14 Rate Revenue Requirement. The table shows that most of MWRA's current expenses are directly attributable to either water or sewer service costs, or to investment in the water or sewer systems. Expenses that support both systems are allocated to water or sewer assessments based on generally accepted cost allocation principles. The allocation methodology used in preparing the FY14 Proposed 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 MWRA recovers through water and sewer assessments.

### **Wholesale Assessment Methodology**

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of 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  
Preliminary FY14 Water and Sewer Assessments**

MWRA Fully Served Water and Sewer Customers	Final FY13 Water Assessment	Preliminary FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Preliminary FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Preliminary FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
ARLINGTON	\$4,706,235	\$4,562,366	-3.1%	\$7,404,065	\$7,697,718	4.0%	\$12,110,300	\$12,260,084	\$149,784	1.2%
BELMONT	2,263,350	2,521,283	11.4%	4,593,647	4,676,057	1.8%	6,856,997	7,197,340	340,343	5.0%
BOSTON (BWSC)	71,651,462	73,579,505	2.7%	116,347,350	122,969,591	5.7%	187,998,812	196,549,096	8,550,284	4.5%
BROOKLINE	5,656,061	5,917,858	4.6%	12,401,739	12,631,076	1.8%	18,057,800	18,548,934	491,134	2.7%
CHELSEA	3,406,236	3,531,317	3.7%	6,451,121	6,870,160	6.5%	9,857,357	10,401,477	544,120	5.5%
EVERETT	4,334,567	4,494,909	3.7%	7,243,065	7,651,465	5.6%	11,577,632	12,146,374	568,742	4.9%
FRAMINGHAM	7,355,228	7,660,229	4.1%	10,385,748	10,677,844	2.8%	17,740,976	18,338,073	597,097	3.4%
LEXINGTON	5,145,927	5,565,492	8.2%	6,954,177	7,039,266	1.2%	12,100,104	12,604,758	504,654	4.2%
MALDEN	6,053,825	6,275,829	3.7%	11,319,673	11,828,911	4.5%	17,373,498	18,104,740	731,242	4.2%
MEDFORD	5,534,818	5,530,626	-0.1%	10,766,699	11,001,329	2.2%	16,301,517	16,531,955	230,438	1.4%
MELROSE	2,405,858	2,527,808	5.1%	5,437,804	5,672,702	4.3%	7,843,662	8,200,510	356,848	4.5%
MILTON	2,718,549	2,839,810	4.5%	4,985,169	5,024,646	0.8%	7,703,718	7,864,456	160,738	2.1%
NEWTON	9,695,370	10,352,420	6.8%	19,917,866	20,146,020	1.1%	29,613,236	30,498,440	885,204	3.0%
NORWOOD	3,372,954	3,139,157	-6.9%	5,967,178	6,182,280	3.6%	9,340,132	9,321,437	(18,695)	-0.2%
QUINCY	9,889,803	10,166,322	2.8%	18,073,247	18,739,256	3.7%	27,963,050	28,905,578	942,528	3.4%
READING	1,811,212	1,857,683	2.6%	4,326,182	4,521,077	4.5%	6,137,394	6,378,760	241,366	3.9%
REVERE	4,362,470	4,361,371	0.0%	9,486,795	9,971,533	5.1%	13,849,265	14,332,904	483,639	3.5%
SOMERVILLE	6,167,896	6,452,159	4.6%	13,887,278	14,695,056	5.8%	20,055,174	21,147,215	1,092,041	5.4%
STONEHAM	3,104,419	3,281,823	5.7%	4,357,938	4,472,781	2.6%	7,462,357	7,754,604	292,247	3.9%
WALTHAM	7,792,300	7,826,983	0.4%	12,485,924	12,829,769	2.8%	20,278,224	20,656,752	378,528	1.9%
WATERTOWN	2,925,467	2,950,934	0.9%	5,471,720	5,681,398	3.8%	8,397,187	8,632,332	235,145	2.8%
WINTHROP	1,387,397	1,432,374	3.2%	3,036,088	3,177,965	4.7%	4,423,485	4,610,339	186,854	4.2%
<b>TOTAL</b>	<b>\$171,741,404</b>	<b>\$176,828,258</b>	<b>3.0%</b>	<b>\$301,300,473</b>	<b>\$314,157,900</b>	<b>4.3%</b>	<b>\$473,041,877</b>	<b>\$490,986,158</b>	<b>\$17,944,281</b>	<b>3.8%</b>

MWRA Sewer and Partial Water Customers	Final FY13 Water Assessment	Preliminary FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Preliminary FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Preliminary FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
CANTON	\$2,138,489	\$1,416,652	-33.8%	\$3,313,092	\$3,481,903	5.1%	\$5,451,581	\$4,898,555	(\$553,026)	-10.1%
NEEDHAM	964,345	1,273,404	32.0%	5,381,187	5,403,053	0.4%	6,345,532	6,676,457	330,925	5.2%
STOUGHTON	700,394	759,826	8.5%	4,420,052	4,387,442	-0.7%	5,120,446	5,147,268	26,822	0.5%
WAKEFIELD	1,617,772	1,607,791	-0.6%	5,512,303	5,581,000	1.2%	7,130,075	7,188,791	58,716	0.8%
WELLESLEY	854,839	1,426,409	66.9%	5,078,134	5,272,836	3.8%	5,932,973	6,699,245	766,272	12.9%
WILMINGTON	296,556	125,411	-57.7%	2,241,570	2,420,782	8.0%	2,538,126	2,546,193	8,067	0.3%
WINCHESTER	974,666	1,129,977	15.9%	3,634,180	3,734,205	2.8%	4,608,846	4,864,182	255,336	5.5%
WOBBURN	2,535,816	3,557,091	40.3%	8,959,770	9,192,865	2.6%	11,495,586	12,749,956	1,254,370	10.9%
<b>TOTAL</b>	<b>\$10,082,877</b>	<b>\$11,296,561</b>	<b>12.0%</b>	<b>\$38,540,288</b>	<b>\$39,474,086</b>	<b>2.4%</b>	<b>\$48,623,165</b>	<b>\$50,770,647</b>	<b>\$2,147,482</b>	<b>4.4%</b>

MWRA Sewer-only Customers	Final FY13 Water Assessment	Preliminary FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Preliminary FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Preliminary FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
ASHLAND				\$2,081,319	\$2,184,574	5.0%	\$2,081,319	\$2,184,574	\$103,255	5.0%
BEDFORD				2,909,153	2,986,485	2.7%	2,909,153	2,986,485	77,332	2.7%
BRAINTREE				7,597,309	7,808,699	2.8%	7,597,309	7,808,699	211,390	2.8%
BURLINGTON				4,723,848	4,871,962	3.1%	4,723,848	4,871,962	148,114	3.1%
CAMBRIDGE				20,768,232	21,346,811	2.8%	20,768,232	21,346,811	578,579	2.8%
DEDHAM				4,864,300	4,950,350	1.8%	4,864,300	4,950,350	86,050	1.8%
HINGHAM SEWER DISTRICT				1,513,205	1,571,112	3.8%	1,513,205	1,571,112	57,907	3.8%
HOLBROOK				1,434,900	1,501,110	4.6%	1,434,900	1,501,110	66,210	4.6%
NATICK				4,634,401	4,924,800	6.3%	4,634,401	4,924,800	290,399	6.3%
RANDOLPH				5,393,673	5,584,617	3.5%	5,393,673	5,584,617	190,944	3.5%
WALPOLE				3,300,822	3,388,149	2.6%	3,300,822	3,388,149	87,327	2.6%
WESTWOOD				2,317,405	2,372,510	2.4%	2,317,405	2,372,510	55,105	2.4%
WEYMOUTH				10,131,271	10,456,283	3.2%	10,131,271	10,456,283	325,012	3.2%
<b>TOTAL</b>				<b>\$71,669,838</b>	<b>\$73,947,462</b>	<b>3.2%</b>	<b>\$71,669,838</b>	<b>\$73,947,462</b>	<b>\$2,277,624</b>	<b>3.2%</b>

MWRA Water-only Customers	Final FY13 Water Assessment	Preliminary FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Preliminary FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Preliminary FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
LYNNFIELD WATER DISTRICT	\$401,149	\$468,472	16.8%				\$401,149	\$468,472	\$67,323	16.8%
MARBLEHEAD	1,825,752	1,994,292	9.2%				1,825,752	1,994,292	168,540	9.2%
NAHANT	309,977	349,849	12.9%				309,977	349,849	39,872	12.9%
SAUGUS	3,151,506	2,969,016	-5.8%				3,151,506	2,969,016	(182,490)	-5.8%
SOUTHBOROUGH	595,717	696,418	16.9%				595,717	696,418	100,701	16.9%
SWAMPSCOTT	1,661,956	1,784,973	7.4%				1,661,956	1,784,973	123,017	7.4%
WESTON	1,684,844	1,902,445	12.9%				1,684,844	1,902,445	217,601	12.9%
<b>TOTAL</b>	<b>\$9,630,901</b>	<b>\$10,165,465</b>	<b>5.6%</b>				<b>\$9,630,901</b>	<b>\$10,165,465</b>	<b>\$534,564</b>	<b>5.6%</b>

MWRA Partial Water-only Customers	Final FY13 Water Assessment	Preliminary FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Preliminary FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Preliminary FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
DEDHAM-WESTWOOD WATER DISTRICT	\$28,781	\$124,937	334.1%				\$28,781	\$124,937	\$96,156	334.1%
LYNN (LWSC)	259,592	243,081	-6.4%				259,592	243,081	(16,511)	-6.4%
MARLBOROUGH	2,753,457	3,190,739	15.9%				2,753,457	3,190,739	437,282	15.9%
NORTHBOROUGH	883,118	1,023,921	15.9%				883,118	1,023,921	140,803	15.9%
PEABODY	621,271	780,590	25.6%				621,271	780,590	159,319	25.6%
<b>TOTAL</b>	<b>\$4,546,219</b>	<b>\$5,363,268</b>	<b>18.0%</b>				<b>\$4,546,219</b>	<b>\$5,363,268</b>	<b>\$817,049</b>	<b>18.0%</b>
<b>SYSTEMS TOTAL</b>	<b>\$196,001,401</b>	<b>\$203,653,552</b>	<b>3.9%</b>	<b>\$411,510,599</b>	<b>\$427,579,448</b>	<b>3.9%</b>	<b>\$607,512,000</b>	<b>\$631,233,000</b>	<b>\$23,721,000</b>	<b>3.9%</b>

## 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 PFY14 Rate Revenue Requirement  
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$147,746	\$67,100	\$214,846
Allocated Indirect Expenses	\$15,116	\$32,591	\$47,707
<b>PLUS</b>			
Capital Expenses:			
Debt Service (less offsets)	\$270,673	\$110,793	\$381,466
Current Revenue for Capital	\$6,900	\$2,300	\$9,200
Other Capital Expenses	\$1,962	\$5,383	\$7,345
<b>PLUS</b>			
Non-Rate Revenue:			
Investment Income	-\$7,842	-\$3,939	-\$11,781
Fees and Other Revenue	-\$5,022	-\$9,027	-\$14,049
Rate Stabilization	-\$1,952	-\$1,548	-\$3,500
<b>EQUALS</b>			
Rate Revenue Requirement	\$427,579	\$203,654	\$631,233

## 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 FY14, community assessments will represent 95.6% 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 rate increases might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rate increases. The planning estimates are not predictions of what rate increases 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 rate increases on an annual basis. Conservative projections of future rate increases 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 increases enable member communities to adequately plan and budget for future payments to MWRA. However, in FY14 the Authority tightened certain planning estimate assumptions for future years and limited annual capital spending to \$160 million.

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 more detail) present future rate revenue requirements for FY13 through FY22. The planning estimates shown below assume no Debt Service Assistance from the Commonwealth and use of Rate Stabilization and Bond Redemption reserves through FY2022 to manage the rate increases. For planning purposes, the yearly use of combined reserves is currently limited to a maximum of \$12 million. Over \$75 million of Debt Service Reserve release is included in the FY14 planning estimates for the first time.

Rates & Budget Projections										
FY14 Proposed CEB	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Total Rate Revenue (\$ in Mil)	\$ 631,233	\$ 654,623	\$ 685,381	\$ 739,623	\$ 758,675	\$ 778,235	\$ 832,077	\$ 850,460	\$ 878,470	\$ 848,678
Rate Revenue Change from Prior Year (\$000)	\$ 23,721	\$ 23,390	\$ 30,758	\$ 54,243	\$ 19,051	\$ 19,561	\$ 53,842	\$ 18,383	\$ 28,010	\$ (29,792)
Rate Revenue Increase	3.9%	3.7%	4.7%	7.9%	2.6%	2.6%	6.9%	2.2%	3.3%	-3.4%
Use of Reserves (\$ in Mil)	\$ 3,500	\$ 12,000	\$ 12,000	\$ 12,000	\$ 4,740	\$ 4,626	\$ 12,000	\$ -	\$ 12,000	\$ -

### Estimated Household Bill

Based on water usage of 61,000 gallons per year	\$ 970	\$ 1,017	\$ 1,063	\$ 1,130	\$ 1,185	\$ 1,228	\$ 1,296	\$ 1,353	\$ 1,412	\$ 1,448
Based on water usage of 90,000 gallons per year	\$ 1,431	\$ 1,501	\$ 1,569	\$ 1,668	\$ 1,749	\$ 1,812	\$ 1,912	\$ 1,996	\$ 2,083	\$ 2,137

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 \$58.6 million increase in direct expenses from FY14 to FY23 is primarily the result of an assumed annual inflation rate of 2.5% for salaries and 3.0% for all other direct expenses. 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 facilities such as the North Dorchester Bay CSO.

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

- Direct expense inflation rate of 2.5% for salaries and 3.0% for other direct expenses 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 5.0% interest rates in FY14, 5.5% rates in FY15, 5.75% rates in FY16 and 40-year terms and 6.00% rates from FY17 and beyond;
- Variable rate interest projected at 3.25% in FY14, 3.50% in FY15, 3.75% in FY16, and 4.0% thereafter.

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

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

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

- Changes in anticipated 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 reserved to offset Rate Revenue Requirements in future years;

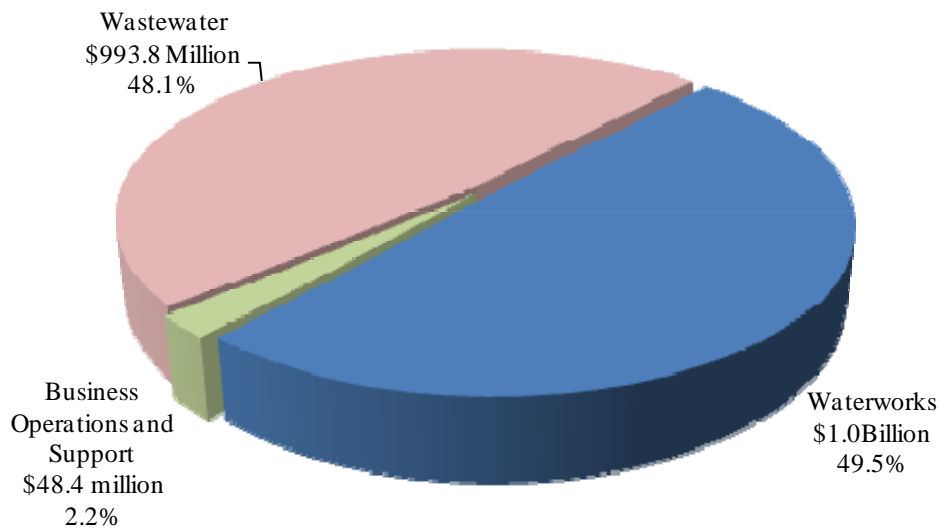
- Fewer opportunities for SRF borrowing than expected due to Federal Budget cuts; a dollar borrowed through the SRF at 2% replaces the need to borrow a dollar long-term at an assumed 5% rate;
- Debt refinancing opportunities;
- Capital spending; and
- Growth in direct expenses, greater than current assumptions 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.

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

### **FY14 Proposed Capital Improvement Program**

The FY14 Proposed Capital Improvement Program (CIP) budget totals \$5.6 billion, of which \$3.5 billion has been expended through FY12 with a remaining balance of \$2.1 billion. It is important to note that the totals represented above do not include the Boston Harbor Project and some other smaller projects removed from the CIP upon completion. These projects totaled approximately \$4.1 billion dollars. As such, the overall Authority CIP budget since inception totals more than \$9.7 billion dollars of which \$7.6 billion has been spent through FY12. Going forward, asset protection initiatives to preserve operating assets and critical long-term water redundancy projects will be the main focus of the capital program.

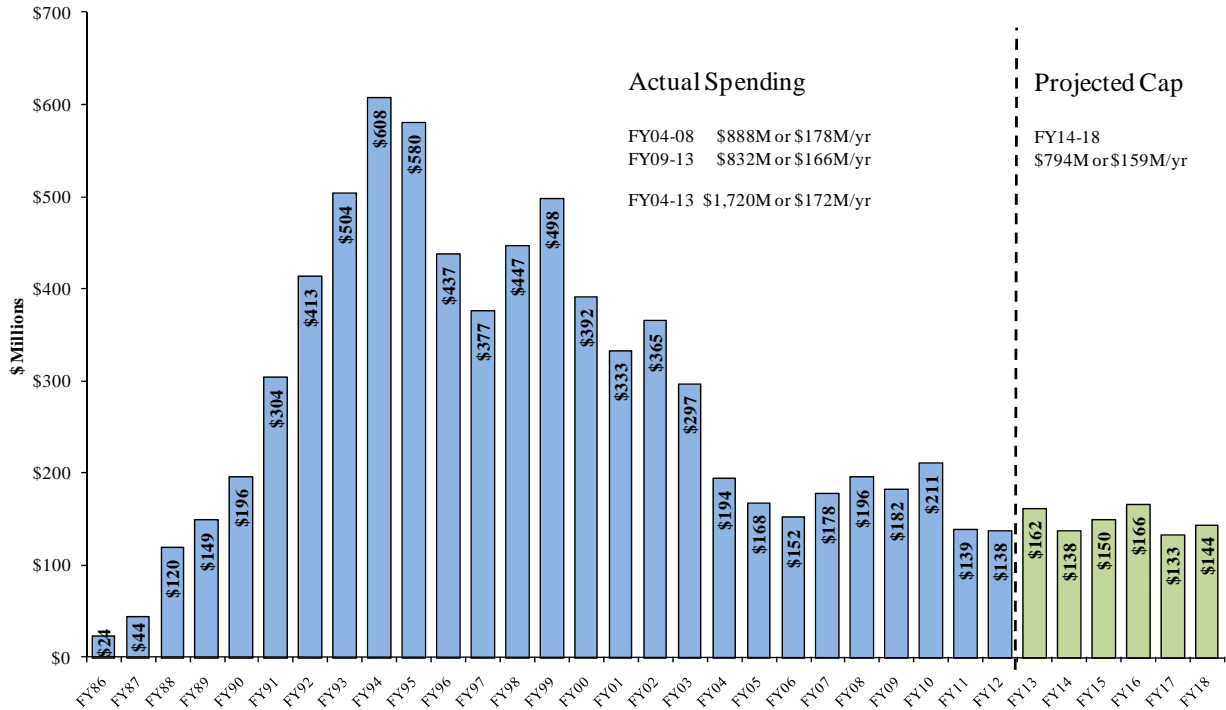
Of the remaining spending, Wastewater System Improvements represent \$993.8 million or 48.1%, Waterworks System Improvements are \$1.0 billion or 49.5%, and Business and Operations Support are \$48.4 million or 2.2%.



## Historical Spending

The chart below captures the historical CIP spending through FY12 and projects spending to FY23 based on the FY14 Proposed CIP.

### MWRA Capital Spending



CIP spending for the FY04-08 totaled \$888 million or \$178 million per year and FY09-13 Cap spending is projected to be \$832 million or \$166 million per year. Over the ten-year horizon, FY04-13, actual spending has averaged \$172 million per year.

The FY14 Proposed CIP FY14-18 Cap totals \$794 million or \$159 million per year, which is \$13 million lower per year than the FY04-13 average of \$172 million. Over the five-year Cap period, this reduction represents \$65 million less spending.

### The Shift from Mandated Projects

To arrive at the FY14 Proposed, staff identified the needs of the programs taking into account the mandated project timeframes, the recommendations of the Master Plan, and current budgetary practices. Since 1985, nearly 80% of the Authority’s spending has been on court mandated projects. Going forward, the majority of spending will support Asset Protection, Water System Redundancy, Energy Program related initiatives, and Pipeline Replacement and Rehabilitation. Asset Protection and Water System Redundancy account for 52.5% and 33.3% of FY14-18 capital expenditures respectively, a total of nearly \$630 million of the \$732 million projected to be spent over the 5-year period.

	<b>Total Contract</b>	<b>FY09-13</b>	<b>FY14-18</b>	<b>Beyond 18</b>
Asset Protection	\$ 1,934.3	\$ 250.6	\$ 384.2	\$ 664.1
Carroll WTP	\$ 432.3	\$ 39.1	\$ 20.4	\$ 0.1
Water Redundancy	\$ 1,853.6	\$ 141.2	\$ 243.5	\$ 606.2
CSO	\$ 842.3	\$ 315.7	\$ 28.8	\$ 0.3
Other	\$ 535.5	\$ 85.8	\$ 55.1	\$ (100.1)
<b>Total</b>	<b>\$ 5,598.0</b>	<b>\$ 832.5</b>	<b>\$ 732.0</b>	<b>\$ 1,170.6</b>

<b>Asset Protection</b>	<b>34.6%</b>	<b>30.1%</b>	<b>52.5%</b>	<b>56.7%</b>
Carroll WTP	7.7%	4.7%	2.8%	0.0%
<b>Water Redundancy</b>	<b>33.1%</b>	<b>17.0%</b>	<b>33.3%</b>	<b>51.8%</b>
CSO	15.0%	37.9%	3.9%	0.0%
Other	9.6%	10.3%	7.5%	-8.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

### FY14 Proposed CIP

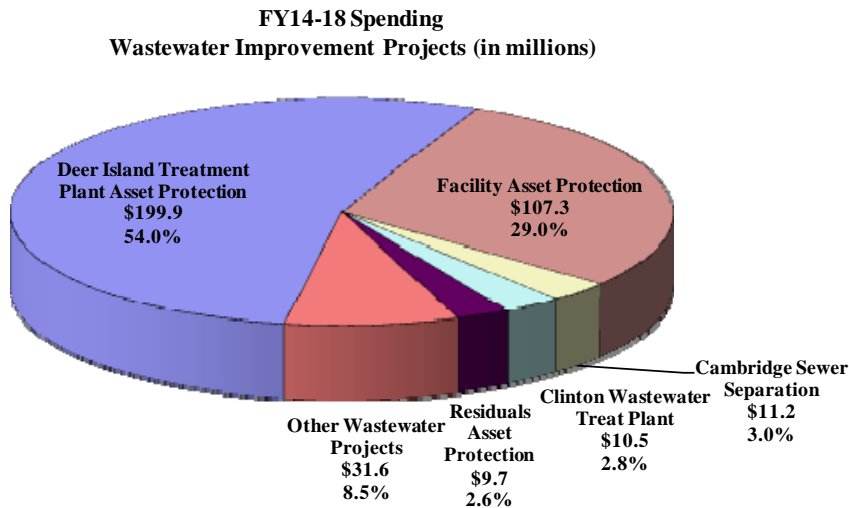
The FY14 Proposed CIP projects total CIP spending of \$2.1 billion starting in FY13. Of this projected spending, \$732.0 million is in the FY14-18 timeframe.

<b>Program (\$ in millions)</b>	<b>Total Contract Amount</b>	<b>Payments Thru FY12</b>	<b>Balance 6/30/12</b>	<b>FY13</b>	<b>FY14-18</b>	<b>Beyond FY18</b>
<b>Wastewater System Improvements</b>	<b>\$2,655.6</b>	<b>\$1,661.8</b>	<b>\$993.8</b>	<b>\$77.2</b>	<b>\$370.1</b>	<b>\$546.5</b>
Interception & Pumping	\$839.7	\$518.6	\$321.1	\$2.5	\$120.3	\$198.3
Treatment	\$658.0	\$168.7	\$489.3	\$18.7	\$210.4	\$260.3
Residuals	\$168.0	\$64.2	\$103.9	\$0.5	\$9.7	\$93.7
CSO	\$867.0	\$802.3	\$64.7	\$35.7	\$28.8	\$0.3
Other	\$122.9	\$108.1	\$14.8	\$19.9	\$0.9	(\$6.0)
<b>Waterworks System Improvements</b>	<b>\$2,821.7</b>	<b>\$1,799.6</b>	<b>\$1,022.2</b>	<b>\$75.2</b>	<b>\$322.9</b>	<b>\$624.1</b>
Drinking Water Quality Improvements	\$657.0	\$559.7	\$97.2	\$39.6	\$57.5	\$0.1
Transmission	\$1,186.7	\$737.9	\$448.8	\$20.2	\$85.7	\$342.9
Distribution and Pumping	\$932.7	\$368.3	\$564.4	\$6.5	\$161.3	\$396.7
Other	\$45.4	\$133.7	(\$88.3)	\$8.8	\$18.5	(\$115.6)
<b>Business &amp; Operations Support</b>	<b>\$120.7</b>	<b>\$72.2</b>	<b>\$48.4</b>	<b>\$9.5</b>	<b>\$39.0</b>	<b>\$0.0</b>
<b>Total MWRA</b>	<b>\$5,598.0</b>	<b>\$3,533.6</b>	<b>\$2,064.4</b>	<b>\$161.9</b>	<b>\$732.0</b>	<b>\$1,170.6</b>

## Top 10 Projects in the FY14-FY18 Cap Period

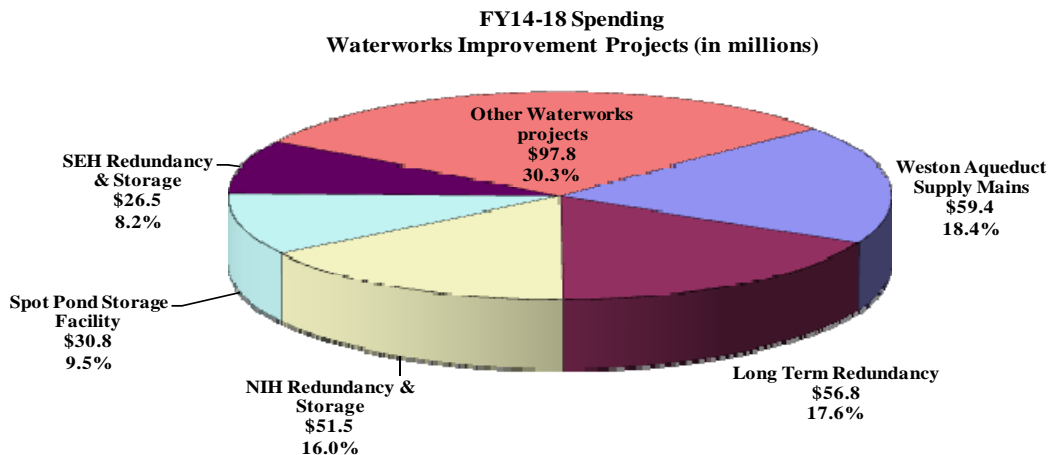
It is important to emphasize that the majority of spending within the Wastewater and Waterworks programs is concentrated in several larger projects with significant spending in the FY14-18 timeframe. These projects are either currently under construction or soon to be awarded. The top 5 projects for the Wastewater program total \$338.5 million for FY14-18 period and represent 91.5% of the \$370.1 million total program.

The breakdown of the \$370.1 million Wastewater program by major project is illustrated on the graph below:



Similarly, the top 5 projects for the Waterworks program total \$225.1 million for FY14-18 and represent 69.7% of the \$322.9 million total program.

The breakdown of the \$322.9 million program by major project is illustrated on the graph below:





## **Future Risk Factors**

Due to the very nature of the Capital Improvement Program, there will be changes to projects over time due to schedule shifts, revisions to projects' scope, cost increases or decreases, environmental mandates, etc. In every budget cycle, the MWRA re-evaluates capital improvement needs and estimates project costs based on the latest available information. It is important to note that there are several risk factors which could increase spending.

There are still potential projects or required spending increases which are not yet funded as part of the FY14 Proposed CIP which are highlighted below:

- Timing and potential cost increases of the Cambridge CSO project;
- Residual Asset Protection or the funding to rehabilitate or replace the existing Residuals Plant;
- Sudbury Aqueduct decision regarding tunnel versus surface piping;
- Sludge pipeline rehabilitation at Deer Island;
- The Brigham Pond Dam; and
- New regulatory mandates always pose potential risk for increased future spending.

## **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 \$783,000 and MIS program related maintenance initiatives are increasing operating costs by nearly \$337,000 by FY24. These increases are offset by anticipated savings for energy initiatives at Deer Island as well as water and wastewater Alternative Energy Initiatives including solar, wind, and hydroelectric power projects which will result in energy savings of approximately \$1.4 million over the next 10 years. The following table summarizes projected CIP impact by project over the next ten years, beginning in FY15.

Fiscal Year	CEB Impacts (000)										
	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	Total
DI Treatment Plant Asset Protection	\$0	(\$198)	(\$164)	\$0	\$0	(\$150)	(\$74)	(\$76)	\$0	\$0	(\$663)
FERS Biofilter	0	0	0	0	0	0	(123)	0	0	0	(123)
Clinton Phosphorous Removal Project	0	0	30	93	0	0	0	0	0	0	123
Wastewater Alternative Energy Projects	(125)	0	(372)	0	0	0	0	0	0	0	(496)
North Dorchester Bay	0	0	382	0	0	0	0	0	0	0	382
<b>Total Wastewater (inflated)</b>	<b>(\$125)</b>	<b>(\$198)</b>	<b>(\$123)</b>	<b>\$93</b>	<b>\$0</b>	<b>(\$150)</b>	<b>(\$197)</b>	<b>(\$76)</b>	<b>\$0</b>	<b>\$0</b>	<b>(\$777)</b>
Carroll Water Treatment Plant	\$155	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$155
Quabbin Water Treatment Plant	21	4	0	0	0	0	0	0	0	0	26
Wachusett Algae Treatment Facility	0	0	0	31	32	0	0	0	0	0	63
Spot Pond Storage Facility	77	80	0	0	0	0	0	0	0	0	157
Water Energy Projects	0	0	0	(225)	0	0	0	0	0	0	(225)
<b>Total Water (inflated)</b>	<b>\$253</b>	<b>\$84</b>	<b>\$0</b>	<b>(\$194)</b>	<b>\$32</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$175</b>
SAN II	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Storage Upgrades	0	0	0	113	116	0	0	0	0	0	228
Telecommunications	0	0	0	0	29	0	0	0	0	0	29
NET 2020 DIIP & Southborough	0	80	0	0	0	0	0	0	0	0	80
<b>Total Business and Operations Support (inflated)</b>	<b>\$0</b>	<b>\$80</b>	<b>\$0</b>	<b>\$113</b>	<b>\$145</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$337</b>
<b>TOTAL MWRA</b>	<b>\$129</b>	<b>(\$35)</b>	<b>(\$123)</b>	<b>\$11</b>	<b>\$177</b>	<b>(\$150)</b>	<b>(\$197)</b>	<b>(\$76)</b>	<b>\$0</b>	<b>\$0</b>	<b>(\$265)</b>

## 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.

## **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 FY14 Proposed Budget, no Debt Service Assistance is assumed as none is included in the Governor's budget.

Planning estimates for 2014 through 2023 forecast rate revenue requirement increases of 3.9% in FY14, 3.7% in FY15, 4.7% in FY16, 7.9% in FY17, 2.6% in FY18, 2.6% in FY19, and 6.9, 2.2%, 3.3%, and -3.4% in years FY20, FY21, FY22, and FY23 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 more than \$100.0 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 \$24.1 million over the next ten years.

The FY14 Proposed 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 the Authority's multi-year rates management strategy of providing predictable and reasonable rate increases to our member communities.

## **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](http://www.mwra.com).



Executive Office  
Budget

**EXECUTIVE OFFICE**

<b>Proposed FY14 Current Expense Budget EXECUTIVE DIVISION</b>						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 422,374	\$ 483,283	\$ 520,918	\$ 542,960	\$ 22,042	4.2%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	695	900	900	-	0.0%
PROFESSIONAL SERVICES	154,323	142,888	155,432	160,786	5,354	3.4%
OTHER MATERIALS	4,231	1,187	3,860	3,585	(275)	-7.1%
OTHER SERVICES	454,552	439,109	455,490	469,973	14,483	3.2%
<b>TOTAL</b>	<b>\$ 1,035,480</b>	<b>\$ 1,067,162</b>	<b>\$ 1,136,600</b>	<b>\$ 1,178,204</b>	<b>\$ 41,604</b>	<b>3.7%</b>

<b>Proposed FY14 Current Expense Budget EXECUTIVE DIVISION by Department</b>						
DEPARTMENT	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 430,528	\$ 489,399	\$ 529,817	\$ 551,809	\$ 21,992	4.2%
ADVISORY BOARD / OTHER COMMITTEES	604,952	577,763	606,783	626,395	19,612	3.2%
<b>TOTAL</b>	<b>\$ 1,035,480</b>	<b>\$ 1,067,162</b>	<b>\$ 1,136,600</b>	<b>\$ 1,178,204</b>	<b>\$ 41,604</b>	<b>3.7%</b>

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

**FY14 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 FY14 Proposed Direct Expense Budget.

**Budget Highlights:**

- The FY14 Proposed Budget is \$1.2 million, an increase of \$42,000 or 3.7% from FY13 Final Budget.
- \$543,000 for **Wages and Salaries**, an increase of \$22,000 or 4.2% as compared to FY13 Final Budget. The proposed budget includes funding for five positions.
- \$470,000 for **Other Services**, an increase of \$14,000 or 3.2% from the FY13 Final Budget. The budget funds the MWRA Advisory Board staff and operating expenses, including wages and salaries, space rental, and general administrative office materials and supplies.
- \$161,000 for **Professional Services**, an increase of \$5,000 or 3.4% from the FY13 Final Budget. The budget funds the Water Supply Citizens' Advisory Committee (WSCAC) and the Wastewater Advisory Committee (WAC). The proposed budget is slightly increased primarily due to wage increases, as well as an increase in WAC health insurance.



**OFFICE OF EMERGENCY PREPAREDNESS**

Proposed FY14 Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 476,285	\$ 357,479	\$ 346,517	\$ 417,035	\$ 70,518	20.4%
ONGOING MAINTENANCE	223,758	235,838	387,000	358,500	(28,500)	-7.4%
TRAINING & MEETINGS	-	2,117	-	-	-	-
PROFESSIONAL SERVICES	1,473,337	1,476,020	1,715,303	1,768,205	52,902	3.1%
OTHER MATERIALS	42,642	50,343	58,185	35,535	(22,650)	-38.9%
OTHER SERVICES	20,563	21,000	21,600	142,100	120,500	557.9%
<b>TOTAL</b>	<b>\$ 2,236,585</b>	<b>\$ 2,142,797</b>	<b>\$ 2,528,605</b>	<b>\$ 2,721,375</b>	<b>\$ 192,770</b>	<b>7.6%</b>

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 (ESU), 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.

**FY14 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.

**FY14 Initiatives:**

- Continue to enhance Emergency Response Plans for all water and wastewater facilities. Update Emergency Action Plans (EAPs) as needed, including Dam EAPs and spill control EAPs.
- Procure a new Guard Services contract by November 2013 and a new Security Equipment Maintenance contract by March 2014 to replace expiring existing contracts.
- Continue updating radios as part of the Department of Conservation and Recreation’s (DCR’s) planned transition from analog equipment to digital equipment. Continue work on changing the MWRA radio system to new frequencies as part of the national frequency reallocation program. Review radio deployment and solicit bids on replacement of all remaining necessary radios in the second half of FY13 to allow for deployment of radios in FY14.
- 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 (including at least one major field drill). Continue the community emergency response training program and tabletop exercise series for critical service areas with community staff.

### **FY13 Mid-Year Accomplishments:**

- 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.
- Continued updating Dam Emergency Action Plans with drafts of Western Section plans with detailed inundation mapping completed.
- Completed a total of 74 training events or drills for Calendar 2012 as compared to 54 events or drills in 2011.
- Deployed 250 vehicle, base, and handheld radios to begin updating MWRA radio equipment for DCR's planned transition from analog equipment to digital equipment.
- Received a Department of Homeland Security (DHS) grant for \$257,000 for implementation of hardening improvements from the 2010 DHS Regional Resiliency review and began procurement of related items.
- Continued the process of ensuring that new construction and rehabilitation of facilities including an integrated security and surveillance system improvement component.
- Continued to provide an emergency response training program and a tabletop exercise series for critical service areas for MWRA community staff.

### **Budget Highlights:**

- The FY14 Proposed Budget is \$2.7 million, an increase of \$193,000 or 7.6% from the FY13 Final Budget.
- \$417,000 for **Wages and Salaries**, an increase of \$71,000 or 20.4% from the FY13 Final Budget. The proposed budget includes funding for five positions, one more than in the FY13 Final Budget.
- \$359,000 for **Ongoing Maintenance**, a decrease of \$29,000 or 7.4% from the FY13 Final Budget, primarily due to the 2012 contract amount for the MWRA-wide security systems maintenance services and materials. The proposed budget includes funding of \$230,000 to cover the MWRA-wide security systems preventative maintenance and repair service, \$100,000 for MWRA-wide Security systems maintenance materials and equipment, including cameras, intrusion detection, card readers, and \$28,500 for the intrusion alarm annual and semi-annual monitoring services contracts.
- \$1.8 million for **Professional Services**, an increase of \$53,000 or 3.1% from the FY13 Final Budget, primarily due to increased contract wages for security guard services at the various MWRA facilities. The FY14 Proposed Budget includes \$607,000 for security services for the DITP facility, \$567,000 for the Chelsea facility, \$348,000 for the Carroll Water Treatment Plant, \$40,000 for Charlestown Navy Yard (CNY) facility, \$87,000 for the Account Manager, \$69,000 for the Roving guard, and \$50,000 for the Patrol vehicle and equipment.
- \$36,000 for **Other Materials**, a decrease of \$23,000 or 38.9% from the FY13 Final Budget, primarily due to the transfer of the Lab and Testing supplies budget to the Deer Island Central Lab cost center for mobile lab. The proposed budget includes \$30,000 for the purchase of Health and Safety materials for the ESU Team.

- \$142,000 for **Other Services**, an increase of \$121,000 from the FY13 Final Budget, primarily due to the inclusion of potential licensing costs for two-way radios. The proposed budget also includes \$20,000 for mandatory monthly testing and inspection of the Self-Contained Breathing Apparatus (SCBA).

**PLANNING AND COORDINATION DEPARTMENT**

Proposed FY14 Current Expense Budget PLANNING AND COORDINATION						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 1,786,851	\$ 1,795,643	\$ 1,901,401	\$ 1,898,747	\$ (2,654)	-0.1%
OVERTIME	18	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
TRAINING & MEETINGS	1,478	(69)	6,000	6,000	-	0.0%
PROFESSIONAL SERVICES	1,800	3,028	3,100	3,100	-	0.0%
OTHER MATERIALS	147,660	161,963	158,375	162,355	3,980	2.5%
OTHER SERVICES	94,793	74,589	158,062	158,232	170	0.1%
<b>TOTAL</b>	<b>\$ 2,032,600</b>	<b>\$ 2,035,154</b>	<b>\$ 2,226,938</b>	<b>\$ 2,228,434</b>	<b>\$ 1,496</b>	<b>0.1%</b>

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 on watershed protections initiatives.

**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.

**FY14 Goals:**

- With staff from other departments, finalize the next iteration of the MWRA Master Plan and MWRA Business Plan and assist in monitoring the Capital Budget.
- 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 wastewater North System Hydraulic Optimization study and ongoing water system projects including the design of Northern Intermediate High (NIH) redundancy improvements, Southern Extra High (SEH) redundancy improvements, and the metro area transmission redundancy projects including the WASM 3 project and the Sudbury Aqueduct Pressurization and Connections 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. Provide water and wastewater modeling support to Engineering and Operations staff.
- 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.

**FY13 Mid-Year 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 and advanced the Metropolitan Area Redundancy Plan.
- During FY13, MWRA distributed a total of \$22.3 million in grants and interest free loans (\$10.0 million in grants and \$12.3 million in 5-year loans) to member sewer communities through the Inflow/Infiltration (I/I) Local Financial Assistance Program and \$21.2 million in 10-year interest free loans to member water communities as part of the Local Pipeline and Water System Assistance Loan Programs.
- 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 FY14 Proposed Budget is \$2.2 million, an increase of \$1,000 or 0.1% from the FY13 Final Budget.
- \$1.9 million for **Wages and Salaries**, a decrease of \$3,000 or 0.1% from the FY13 Final Budget. The FY14 Proposed Budget includes funding for 21 positions, one less than in the FY13 Final Budget.
- \$6,000 for **Training and Meetings** which is level funded with the FY13 Final Budget and which covers participation in training and conferences primarily focused on water quality regulations and geographic information systems (GIS).
- \$3,000 for **Professional Services** which is level funded with the FY13 Final Budget and which covers costs associated with the translation of the Consumer Confidence Report and also programming of the GIS user interface.
- \$162,000 for **Other Materials**, an increase of \$4,000 or 2.5% from the FY13 Final Budget. The FY14 Proposed Budget includes funding of \$134,000 for postage and mailing of the Consumer Confidence Report, \$15,000 for water conservation kits, \$10,000 for mapping supplies, \$2,000 for office supplies, and \$1,000 for vehicle expenses.
- \$158,000 for **Other Services**, which is essentially level-funded with the FY13 Final Budget. The FY14 Proposed Budget 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.

**AFFIRMATIVE ACTION and COMPLIANCE**

<b>Proposed FY14 Current Expense Budget AFFIRMATIVE ACTION &amp; COMPLIANCE UNIT</b>							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14		
WAGES & SALARIES	\$ 550,862	\$ 548,888	\$ 565,927	\$ 574,985	\$	9,058	1.6%
OVERTIME	-	-	-	-	-	-	-
TRAINING & MEETINGS	2,420	1,620	2,000	2,000	-	-	0.0%
OTHER MATERIALS	1,347	1,260	1,510	1,510	-	-	0.0%
OTHER SERVICES	308	580	632	632	-	-	0.0%
<b>TOTAL</b>	<b>\$ 554,937</b>	<b>\$ 552,348</b>	<b>\$ 570,069</b>	<b>\$ 579,127</b>	<b>\$</b>	<b>9,058</b>	<b>1.6%</b>

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.

**FY14 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.

**FY13 Mid-Year 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 FY14 Proposed Budget is \$579,000, an increase of \$9,000 or 1.6% from the FY13 Final Budget.

- \$575,000 for **Wages and Salaries**, an increase of \$9,000 or 1.6% from the FY13 Final Budget. The proposed budget includes funding for seven positions.



## INTERNAL AUDIT

Proposed FY14 Current Expense Budget INTERNAL AUDIT							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14		
WAGES & SALARIES	\$ 615,777	\$ 632,155	\$ 663,123	\$ 671,166	\$ 8,043	1.2%	
OVERTIME	-	-	-	-	-	-	
TRAINING & MEETINGS	6,267	5,065	7,238	7,238	-	0.0%	
OTHER MATERIALS	1,880	1,394	2,320	2,020	(300)	-12.9%	
OTHER SERVICES	1,126	1,306	1,062	1,062	-	0.0%	
<b>TOTAL</b>	<b>\$ 625,050</b>	<b>\$ 639,920</b>	<b>\$ 673,743</b>	<b>\$ 681,486</b>	<b>\$ 7,743</b>	<b>1.1%</b>	

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.

### FY14 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.

### FY13 Mid-Year Accomplishments:

- Identified \$533,000 in savings related to: internal audits, management advisory services, consultant audits, construction contracts regarding labor burden, a settlement with the workers compensation program third party administrator, and a true-up of CY2011 billings by Harbor Energy Electric Company (HEEC).
- Issued a final audit report on Chelsea Facility Physical Security, three incurred cost assignments, three preliminary construction reviews, and a true-up report on CY2011 HEEC billings.
- Provided management advisory and data analysis services for a number of management initiatives, including CNY lease negotiations.

### Budget Highlights:

- The FY14 Proposed Budget is \$681,000, an increase of \$8,000 or 1.1% from the FY13 Final Budget.
- \$671,000 for **Wages and Salaries**, an increase of \$8,000 or 1.2% from the FY13 Final Budget. The proposed budget includes funding for eight positions.

**PUBLIC AFFAIRS**

<b>Proposed FY14 Current Expense Budget PUBLIC AFFAIRS</b>						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 1,080,485	\$ 1,036,558	\$ 1,048,620	\$ 1,133,099	\$ 84,479	8.1%
OVERTIME	67	-	-	-	-	-
TRAINING & MEETINGS	5,327	(463)	3,365	3,365	-	0.0%
PROFESSIONAL SERVICES	2,328	1,050	1,050	1,050	-	0.0%
OTHER MATERIALS	29,453	22,391	21,625	21,625	-	0.0%
OTHER SERVICES	16,974	41,861	47,967	48,967	1,000	2.1%
<b>TOTAL</b>	<b>\$ 1,134,634</b>	<b>\$ 1,101,397</b>	<b>\$ 1,122,627</b>	<b>\$ 1,208,106</b>	<b>\$ 85,479</b>	<b>7.6%</b>

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.

**FY14 Goals:**

- Enhance overall public understanding of MWRA’s mission, goals, and benefits to the public through extensive outreach and effective communication.
- Monitor and analyze legislation and regulations that affect the Authority, formulating appropriate responses in concert with the Office of the Executive Director (OED).
- 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.

- Maintain and update 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 Aqueduct Trail Initiative.

**Budget Highlights:**

- The FY14 Proposed Budget is \$1.2 million, an increase of \$85,000 or 7.6% from the FY13 Final Budget.
- \$1.1 million for **Wages and Salaries**, an increase of \$84,000 or 8.1% from the FY13 Final Budget. The proposed budget includes funding for 13 positions, one more than in the FY13 Final Budget.
- \$22,000 for **Other Materials** is level funded from the FY13 Final Budget.
- \$49,000 for **Other Services** is level funded to the FY13 Final Budget. This budget supports the printing needs of the department.



Operations Division  
Budget

## OPERATIONS DIVISION

Proposed FY14 Current Expense Budget OPERATIONS DIVISION						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 66,794,330	\$ 68,131,174	\$ 71,338,013	\$ 71,779,033	\$ 441,020	0.6%
OVERTIME	3,850,545	3,046,845	3,512,092	3,522,621	10,529	0.3%
FRINGE BENEFITS	67,373	54,278	69,358	61,135	(8,223)	-11.9%
CHEMICALS	8,697,048	9,271,529	9,963,496	10,653,746	690,250	6.9%
UTILITIES	21,839,172	22,666,107	22,993,521	22,882,390	(111,131)	-0.5%
ONGOING MAINTENANCE	24,604,384	23,609,567	24,716,539	24,110,161	(606,378)	-2.5%
TRAINING & MEETINGS	74,268	84,117	140,300	141,600	1,300	0.9%
PROFESSIONAL SERVICES	3,079,940	2,132,514	2,588,257	2,637,073	48,816	1.9%
OTHER MATERIALS	3,237,336	4,316,068	3,984,169	4,561,506	577,337	14.5%
OTHER SERVICES	18,227,609	19,363,042	19,294,306	18,814,653	(479,653)	-2.5%
<b>TOTAL</b>	<b>\$ 150,472,005</b>	<b>\$ 152,675,241</b>	<b>\$ 158,600,051</b>	<b>\$ 159,163,918</b>	<b>\$ 563,867</b>	<b>0.4%</b>

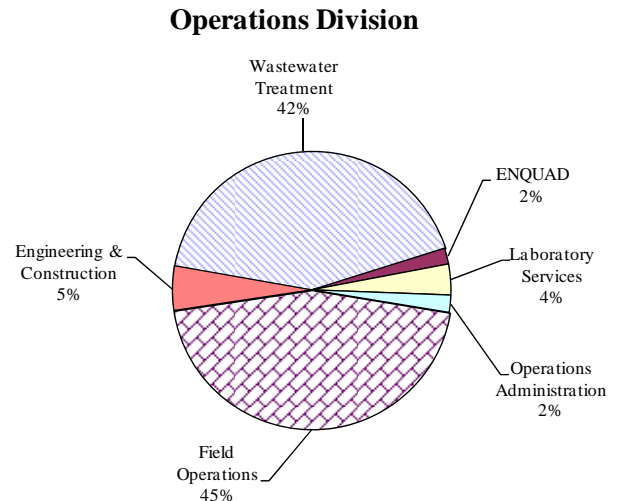
Proposed FY14 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
OPERATIONS ADMINISTRATION	\$ 2,692,127	\$ 2,880,946	\$ 3,214,950	\$ 3,405,476	\$ 190,526	5.9%
WASTEWATER TREATMENT	61,246,912	64,934,921	66,395,060	66,477,560	82,500	0.1%
FIELD OPERATIONS	69,613,771	69,117,280	72,123,703	72,046,509	(77,194)	-0.1%
LABORATORY SERVICES	5,400,095	5,312,800	5,688,037	6,052,362	364,325	6.4%
ENQUAD	3,637,549	2,860,161	2,978,192	2,970,028	(8,164)	-0.3%
ENGINEERING & CONSTRUCTION	7,881,551	7,569,133	8,200,109	8,211,983	11,874	0.1%
<b>TOTAL</b>	<b>\$ 150,472,005</b>	<b>\$ 152,675,241</b>	<b>\$ 158,600,051</b>	<b>\$ 159,163,918</b>	<b>\$ 563,867</b>	<b>0.4%</b>

The **Operations Division** provides wastewater and water system services including operations and maintenance; treatment; laboratory testing and analyses; and engineering and construction. The Operations Division's departments are described below:

The **Wastewater Treatment Department** is 42% of the division's budget. The department operates and maintains the Deer Island Treatment Plant (DITP), Clinton Wastewater Treatment Plant, and Residuals Processing Facility (pelletization plant) at Fore River Staging Area (FRSA).

The **Field Operations Department (FOD)** is 45% of the division's budget. The department manages the wastewater pretreatment and water treatment functions, including the Carroll Water Treatment Plant (CWTP), and is responsible for operating, maintaining, and metering both systems.

The **Engineering and Construction Department** provides the following services to support the maintenance, repair, and rehabilitation of the wastewater and water systems: in-house engineering, consultant management, drafting, surveying, construction management, and other technical assistance. The department also oversees implementation of the Combined Sewer Overflow (CSO) plan.



The **Environmental Quality Department (EnQuad)** manages and reports on the monitoring of Boston Harbor and Massachusetts Bay water quality. The department also 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.

#### **FY14 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.

#### **FY14 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 ~29% 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.
- Identify and implement strategies for workforce succession in preparation for expected retirement of many MWRA employees in the upcoming five to ten years.

##### **Engineering & Construction:**

- Notice to Proceed for numerous contracts including the following major projects:
  - Water System
    - Long-Term Redundancy Wachusett Aqueduct Construction
    - Southern Extra High System Redundancy and Storage Phase I Final Design

- Wastewater System
  - DITP Asset Protection Gravity Thickener Rehabilitation
  - DITP Asset Protection DSL Pump Replacement Phase 2
  - DITP Asset Protection Winthrop Terminal Facility (WTF) VFD Replacement – Construction
  - Facility Asset Protection Pump Stations and CSO Facilities Condition Assessments
  - Facility Asset Protection Alewife Brook Pump Station Rehabilitation Construction
  - Facility Asset Protection Rehabilitation of Sections 186 and 4 Construction
  - DITP Asset Protection Digester and Storage Tank Rehabilitation Design
- Substantially complete numerous CIP design and construction phases including the following:
  - Water System
    - CWTP Ultraviolet Disinfection Construction
    - CWTP Storage Tank Roof Drainage System
    - Northern Intermediate High Gillis Pump Station Improvements
    - Valve Replacements Construction 7
  - Wastewater System
    - DITP Miscellaneous VFD Replacements
    - DITP Alternative Energy Wind Phase II Construction
    - Clinton Wastewater Treatment Plant Aeration Efficiency Improvement
    - DITP Expansion Joint Repair Construction 2

**Maintenance:**

- Optimize staff resources, overtime, service contracts, and 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, dam inspections, grinder repairs, and water tank inspections.

**Environmental:**

- Plan for implementation of requirements of the new National Pollutant Discharge Elimination System (NPDES) Permits for DITP (assume new permit is issued after FY14) and Clinton Wastewater Treatment Plant (assume new permit as of July 2013).
- 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.
- Review and revise the TRAC permit fee structure.
- Plan for 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 and Quabbin facility.

- Conduct invasive species removal and monitoring at water reservoirs.

### **FY13 Mid-Year Accomplishments:**

#### **Emergencies**

- Successfully operated both systems during hurricane Sandy in late October 2012. Cleared more than 100 downed trees on the aqueduct right of ways and at reservoirs and facilities.

#### **Operations, Energy, and New Facilities Start-ups:**

- Procured Energy Management System for Southborough facility and LED outdoor lighting retrofits for numerous water and wastewater facilities. Completed indoor lighting retrofits at the Cottage Farm and Prison Point wastewater facilities. Completed energy audits at six MWRA facilities in the southern system.
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals for the water and wastewater system facilities. Chemicals procured included aqua ammonia, soda ash, sodium hypochlorite, hydrofluosilicic acid, ferric chloride, carbon dioxide, sodium bisulfite and polymer.
- Received revenue for energy generated at numerous facilities including the following: hydroelectric \$270,000 from Oakdale Station, \$110,000 from Cosgrove Station, and \$14,000 from the Loring Road Pump Station; solar \$59,000 from CWTP; wind \$69,000 from Charlestown Pump 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 \$1.1 million in revenue for the first six months of FY13. Deer Island also self-generated 25.0% of the plant's total required power during that period.
- Processed 99.3 average tons per day of sludge at the Pelletization Plant and disposed of 3,396 tons of grit and screenings through a contracted vendor

#### **Maintenance:**

- The Operations Division spent \$11.2 million on maintenance of which \$5.7 million was for materials and \$5.5 million was for services.
- Procured and implemented numerous contracts for maintenance services including: DITP thermal and hydro power plant maintenance; DITP wind turbine maintenance; metro operations paving and electrical testing; crane maintenance; boiler and water heating service at numerous facilities; fuel storage tank maintenance; and DITP concrete/steel restoration and coating repair.
- Procured and implemented numerous contracts for maintenance projects including: dam repairs; dewatering pump replacements at headworks facilities; and rebuilding a grinder at the Braintree-Weymouth Pump Station.
- Completed numerous maintenance projects including winter maintenance on treatment train B at the CWTP; leak repair of a water main in Dorchester; pump vibration analysis at selected wastewater pump stations; scrubber inspection and cleaning at Nut Island; and building repairs and painting at numerous facilities.
- In the water system, exercised 378 and replaced six mainline valves and exercised 202 and replaced nine blow-off valves.



- In the wastewater system, inspected 15.7 miles and cleaned 14.1 miles of MWRA pipeline. Also inspected 464 structures and rehabilitated 117 manholes.

**Engineering, Construction, and Planning:**

- Notice to Proceed for numerous contracts including the following major projects:
  - Water System
    - Weston Aqueduct Supply Mains WASM3 – MEPA/ Design/ CA/ RI
    - Carroll Water Treatment Plant Existing Facilities Modifications – Construction 7
    - Quabbin Water Treatment Plant - UVWTP – Construction
    - CWTP Storage Tank Roof Drainage System
    - NIH Redundancy & Storage – Gillis Pump Station Improvements
  - Wastewater System
    - DITP Asset Protection Clarifier Tip Tube Replacement
    - DITP Asset Protection NMPS and WTF Butterfly Valve Replacement
    - DITP Centrifuge Backdrive Replacements
    - DITP Electric Equipment Upgrade – Construction 4
    - DITP Asset Protection HVAC Equipment Replacement - Design
    - Facility Asset Protection NI Electric & Grit/Sreenings Conveyance
- Substantially completed numerous projects including the following:
  - Water System
    - MetroWest Tunnel Lower Hultman Rehabilitation – Construction 6A
    - MetroWest Tunnel Upper Hultman Rehabilitation – Construction 6B
    - Southern Spine Distribution Mains Sections 21, 22, 43 Design
    - Northern Intermediate High Redundancy and Storage – Interconnections
    - Valve Replacement Construction 7
  - Wastewater System
    - North Dorchester Bay Tunnel - Design/ESDC
    - Brookline Sewer Separation Construction
    - North Dorchester Bay Tunnel and Facilities – CM Services
    - Brookline Sewer Separation Design
    - North Dorchester Bay Facilities Design
    - Lynnfield Pipeline Construction Phase 2
    - Morrissey Boulevard Drain Design

**Environmental:**

- The TRAC Department completed the following Environmental Protection Agency (EPA)-required work for significant industrial users: 122 inspections, 23 monitoring events, and 284 sampling of connections. This department also issued or renewed 101 permits to Significant Industrial Users (SIUs) and non-SIUs.
- The TRAC Department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY12 in October 2012.
- 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 99.5% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations during the first six months in FY13.
- 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 seven 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 in the drinking water system during the first six months of FY13. Also, maximum turbidity results at Quabbin and Wachusett were within DEP standards.
- In the first half of FY13, the Department of Laboratory Services performed 133,000 tests including the annual Lead and Copper Rule testing and fish and shellfish testing for the Harbor and Outfall Monitoring program.

### **Budget Highlights:**

- The FY14 Proposed Budget is \$159.2 million, which is \$564,000 or 0.4 %, more than the FY13 Final Budget.
- Increases from the FY13 Final Budget include:
  - The FY14 Proposed Budget of \$71.8 million for **Wages and Salaries** is a net increase of \$441,000 or 0.6 % from the FY13 Final Budget, primarily due to contractual wage increases offset by the division-wide vacancy reduction equivalent to seven positions. The FY14 Proposed Budget funds 912 filled positions on average during the year; 16 fewer positions than funded in the FY13 Final Budget. The budget also includes \$694,000 for Stand-by Pay to ensure staffing availability and response during emergencies, \$185,000 for Temporary Employees and \$100,000 for Interns to assist with peak workload and special initiatives.
  - The FY14 Proposed Budget of \$3.5 million for **Overtime** is a net increase of \$11,000 or 0.3% from the FY13 Final Budget. The FY14 Proposed Budget is sized based on multi-year spending patterns and includes adjustments for wage increases. The components of the budget include \$1.8 million for emergencies and wet weather staffing; \$943,000 for operational coverage; and \$705,000 for planned maintenance and other initiatives that must be completed at night or on weekends. The budget continues to incorporate reductions in overtime for coverage due to changes in staffing requirements and it also reflects managements' successful efforts to date to control spending for non-emergency overtime.
  - The \$10.7 million FY14 Proposed Budget for **Chemicals**, a net increase of \$690,000 or 6.9% from the FY13 Final Budget primarily due to price increases for soda ash, ferric chloride, sodium bisulfite, aqua ammonia, and other chemicals. The FY14 Proposed Budget includes \$6.7 million for disinfection and treatment in the water system and \$4.0 million for disinfection, treatment, and odor control in the wastewater system. The FY14 Proposed Budget assumes reduced fluoride usage at the Carroll Water Treatment Plant will not be in effect in FY14 due to uncertainty regarding the commencement of the new regulations. The FY13 Final Budget included a partial year reduction in use based on expectations of regulatory approval in FY13.
  - The \$142,000 FY14 Proposed Budget for **Training and Meetings** is a net increase of \$1,300 or 0.9% from the FY13 Final Budget. The FY14 Proposed Budget covers specialized training, attendance at industry conferences, and site visits to other plants. The major training funded in the FY14 Proposed Budget includes \$25,000 for DITP mechanical staff, \$15,000 for site visits to other water treatment plants that use ultra-violet technology, \$9,000 for annual boom deployment, \$8,000 for belt laser alignment, \$8,000 for cyber security, \$7,000 for electrical medium voltage, \$5,000 for SCADA, and \$5,000 for hydraulic equipment.

- The FY14 Proposed Budget for **Professional Services** is \$2.6 million, a net increase of \$49,000 or 1.9% from the FY13 Final Budget primarily due to the inclusion of funds for test-pit drillings and projected spending for HOM contracts; offset by a lower budget for as-needed engineering work at DITP due to the relative mix of CEB versus CIP projects planned for FY14. The FY14 Proposed Budget includes \$1.5 million for the Harbor and Outfall Monitoring (HOM) Program; \$485,000 for as-needed engineering support for CEB maintenance projects; \$153,000 for outsourcing laboratory testing for peak and non-routine work; \$150,000 for utility test-pit borings for capital and maintenance projects; \$95,000 for dam analysis, design, and inspection services; and \$70,000 for energy services to support facility audits and energy procurements.
- The \$4.6 million FY14 Proposed Budget for **Other Materials**, a net increase of \$577,000 or 14.5% from the FY13 Final Budget. The FY14 Proposed Budget includes \$1.7 million for Vehicle Replacements; \$822,000 for Lab and Testing Supplies; \$524,000 for Equipment and Furniture; \$505,000 for Vehicle Expenses (gas, tolls); \$412,000 for Health and Safety Supplies; and \$318,000 for Work Clothes. The increase is primarily due to furniture replacement at the Chelsea office building, lab and testing supplies at the Lab due to the switch in water testing methodologies, and additional vehicle replacements associated with the aging fleet pool. Approximately 50% of the active fleet will be seven years or older at the beginning of FY14. The FY14 Proposed Budget funds replacement of approximately 50 vehicles, or 10% of the active fleet.
- Decreases from the FY13 Final Budget include:
  - The FY14 Proposed Budget of \$22.9 million for **Utilities**, a net decrease of \$111,000 or 0.5% from the FY13 Final Budget is due to a decrease of \$305,000 for quantity estimates, which is partially offset by a \$210,000 increase for prices. By utility, diesel fuel decreases by \$611,000, which is partially offset by increases of \$302,000 for electricity, \$113,000 for natural gas, and \$82,000 for water. Diesel fuel decreases due to price estimates \$143,000 and quantity estimates \$469,000, primarily because of heating system conversions from diesel fuel to natural gas at the Braintree-Weymouth Intermediate Pump Station and the Chelsea Headworks facility. Although the heating systems conversions also result in an increase to the Natural Gas budget, the net annual impact of the change is projected to result in savings in FY14. The FY14 Proposed Budget includes \$16.3 million for electricity, \$3.8 million for diesel fuel, \$2.0 million for water, and \$628,000 for natural gas. The utility budget by department includes \$13.2 million for DITP, \$5.1 million for Wastewater Operations, \$3.7 million for Water Operations, \$573,000 for the Chelsea Office facilities, and \$239,000 for the Clinton Wastewater Treatment Plant.
  - The FY14 Proposed Budget for **Maintenance** is \$24.1 million, a net decrease of \$606,000 or 2.5% from the FY13 Final Budget is primarily due to the varying annual contractual amounts for maintenance at the pelletization plant of \$338,000 and changes in project priorities from year to year of \$270,000. The FY14 Proposed Budget includes \$10.7 million for materials and \$13.4 million for services. By maintenance area, the largest categories of spending for materials and services include \$11.2 million for plant and machinery; \$4.9 million for building and grounds; \$2.7 million for specialized equipment; \$2.4 million for electrical, \$1.5 million for pipeline; and \$1.3 million for HVAC systems. The budget also funds special initiatives including \$507,000 for energy conservation projects in the Field Operations Department facilities and \$224,000 for invasive plant control in the water reservoirs.
  - The FY14 Proposed Budget for **Other Services** is \$18.8 million, a net decrease of \$480,000 or 2.5% from the FY13 Final Budget is primarily due to decreases in natural gas inflation estimates for the sludge pelletization contract and a shift in funding for invasive plant control to maintenance to reflect the on-going nature of the work. The FY14 Proposed Budget funds \$14.1 million for sludge pelletization services; \$1.8 million for the Chelsea Office Building lease; \$933,000 for grit and screenings removal and disposal; and \$607,000 for telephones.

- The FY14 Proposed Budget is subject to risk in the following areas: timing of the new NPDES permits for Clinton and Deer Island; chemical and utility usage and prices; capacity charges for electricity at DITP and CWTP; sludge quantities; impacts of co-digestion at DITP; timing of changes in fluoride regulations; and more than expected emergency-related maintenance, stand-by pay, and overtime needs.

## OPERATIONS ADMINISTRATION

Proposed FY14 Current Expense Budget OPERATIONS ADMINISTRATION							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14		
WAGES & SALARIES	\$ 1,865,867	\$ 1,905,682	\$ 1,497,144	\$ 1,469,387	\$ (27,757)	-1.9%	
OVERTIME	238	101	-	-	-	-	
FRINGE BENEFITS	-	-	-	-	-	-	
ONGOING MAINTENANCE	-	(342)	-	-	-	-	
TRAINING & MEETINGS	2,284	6,812	3,700	5,200	1,500	40.5%	
PROFESSIONAL SERVICES	5,467	9,740	25,000	30,000	5,000	20.0%	
OTHER MATERIALS	713,187	761,665	1,502,000	1,702,250	200,250	13.3%	
OTHER SERVICES	105,084	197,288	187,106	198,639	11,533	6.2%	
<b>TOTAL</b>	<b>\$ 2,692,127</b>	<b>\$ 2,880,946</b>	<b>\$ 3,214,950</b>	<b>\$ 3,405,476</b>	<b>\$ 190,526</b>	<b>5.9%</b>	

The **Operations Administration Department** is comprised of the Office of the Chief Operating Officer; the Office of the Deputy Chief Operating Officer of Program, Policy and Planning; and division-level support staff. The department's primary goal is to oversee, manage, and implement MWRA policies and procedures pertaining to the following functions: administration, labor relations, finance, contract administration, and general management.

### Budget Highlights:

- The FY14 Proposed Budget is \$3.4 million, an increase of \$191,000 or 5.9%, from the FY13 Final Budget.
- \$1.5 million for **Wages and Salaries**, a decrease of \$28,000 or 1.9%, from the FY13 Final Budget. The funding supports 23 filled positions in the department offset by a division-wide vacancy adjustment equivalent to six positions.
- \$5,000 for Training & Meetings, an increase of \$1,500 or 40.5% from the FY13 Final Budget. The increase supports the Deputy Chief Operating Officer's training and meeting expenses.
- \$30,000 for **Professional Services**, an increase of \$5,000 or 20.0%, from the FY13 Final Budget. Funding covers energy consulting services to support procurements and evaluation of projects. The increase from FY13 to FY14 is primarily due to the resizing of division-wide consulting services for on-going energy initiatives.
- \$1.7 million for **Other Materials**, an increase of \$200,000 or 13.3%, from the FY13 Final Budget. The budget includes \$1.7 million for the replacement of aged vehicles in MWRA's fleet, which is \$200,000 more than the FY13 Final Budget due to the need to replace numerous older vehicles in the fleet pool. The FY14 Proposed Budget will allow MWRA to replace approximately 50 vehicles which is 10% of the active fleet. Actual spending for vehicle purchases for FY02-FY12 is as follows:

FY02: \$ 622,000	FY07: \$ 1,846,396	FY12: \$ 757,946
FY03: \$ 120,000	FY08: \$ 1,425,758	FY13: \$ 1,500,000
FY04: \$ 1,580,000	FY09: \$ 1,134,779	FY14: \$ 1,700,000
FY05: \$ 1,237,289	FY10: \$ 826,513	
FY06: \$ 717,381	FY11: \$ 706,368	

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.

- \$199,000 for **Other Services** which is \$12,000 or 6.2% more than the FY13 Final Budget. Of this amount, \$198,000 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 FY14 Proposed Budget continues to include partial funding for MWRA's membership in AWWARF. The change from FY13 to FY14 is due to expected cost increases for existing memberships and fees for additional memberships in organizations of interest to MWRA.

**WASTEWATER TREATMENT**

Proposed FY14 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 16,976,936	\$ 17,557,331	\$ 18,219,737	\$ 18,578,544	\$ 358,807	2.0%
OVERTIME	950,891	764,150	1,063,530	1,064,133	603	0.1%
FRINGE BENEFITS	19,075	15,150	19,708	15,330	(4,378)	-22.2%
CHEMICALS	2,271,711	2,773,772	3,167,787	3,502,176	334,389	10.6%
UTILITIES	12,296,072	13,537,849	13,319,505	13,441,940	122,435	0.9%
ONGOING MAINTENANCE	12,772,381	13,672,935	13,920,802	13,621,374	(299,428)	-2.2%
TRAINING & MEETINGS	1,787	5,439	38,400	38,200	(200)	-0.5%
PROFESSIONAL SERVICES	346,189	111,911	273,200	223,200	(50,000)	-18.3%
OTHER MATERIALS	504,686	525,659	562,993	558,640	(4,353)	-0.8%
OTHER SERVICES	15,107,184	15,970,725	15,809,398	15,434,023	(375,375)	-2.4%
<b>TOTAL</b>	<b>\$ 61,246,912</b>	<b>\$ 64,934,921</b>	<b>\$ 66,395,060</b>	<b>\$ 66,477,560</b>	<b>\$ 82,500</b>	<b>0.1%</b>

Proposed FY14 Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
DEER ISLAND	\$ 44,246,488	\$ 46,886,553	\$ 48,141,548	\$ 48,907,515	\$ 765,967	1.6%
RESIDUALS	15,539,049	16,531,865	16,621,621	15,924,711	(696,910)	-4.2%
CLINTON	1,461,375	1,516,503	1,631,891	1,645,334	13,443	0.8%
<b>TOTAL</b>	<b>\$ 61,246,912</b>	<b>\$ 64,934,921</b>	<b>\$ 66,395,060</b>	<b>\$ 66,477,560</b>	<b>\$ 82,500</b>	<b>0.1%</b>

The **Deer Island Treatment Plant**, the **Residuals Management Program**, and the **Clinton Treatment Plant** comprise the Wastewater Treatment Department. Together, the budgets for these programs represent 42% of the Operations Division's FY14 Proposed Budget and 31% of MWRA's FY14 Proposed Direct Expense Budget.

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**

Proposed FY14 Current Expense Budget DEER ISLAND TREATMENT PLANT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 16,278,877	\$ 16,822,253	\$ 17,462,536	\$ 17,793,145	\$ 330,609	1.9%
OVERTIME	916,406	717,421	1,011,030	1,011,633	603	0.1%
FRINGE BENEFITS	18,716	14,465	18,708	14,330	(4,378)	-23.4%
CHEMICALS	2,066,352	2,559,694	2,886,242	3,190,009	303,767	10.5%
UTILITIES	11,985,464	13,270,049	13,035,371	13,203,366	167,995	1.3%
ONGOING MAINTENANCE	11,736,526	12,504,338	12,698,571	12,734,742	36,171	0.3%
TRAINING & MEETINGS	1,127	5,439	34,500	34,500	-	0.0%
PROFESSIONAL SERVICES	344,215	110,273	270,500	220,500	(50,000)	-18.5%
OTHER MATERIALS	397,774	385,968	414,200	409,900	(4,300)	-1.0%
OTHER SERVICES	501,031	496,653	309,890	295,390	(14,500)	-4.7%
<b>TOTAL</b>	<b>\$ 44,246,488</b>	<b>\$ 46,886,553</b>	<b>\$ 48,141,548</b>	<b>\$ 48,907,515</b>	<b>\$ 765,967</b>	<b>1.6%</b>

**Program Description and Goals:**

The **Deer Island Treatment Plant** budget accounts for 31.0% of the Operations Division's FY14 Proposed Budget. DITP has a peak primary treatment capacity of 1.27 billion gallons per day (bgd) and peak secondary treatment 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 FY14 Proposed Budget assumes treatment of an average flow of 360 mgd based on twelve years of historical data. The projected quantity of digested sludge to be pumped to FRSA (TSS basis) is 106 TPD. This is based on data from the seven years after the discontinuation of the DSL centrifuges and the start-up of the Braintree-Weymouth tunnel.

Deer Island's FY14 Proposed 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 29% 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 FY14 Proposed Budget does not assume the new permit will be in effect for FY14. 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 FY14 Proposed Budget is \$48.9 million, an increase of \$766,000 or 1.6%, from the FY13 Final Budget.
- \$17.8 million for **Wages and Salaries**, an increase of \$331,000 or 1.9%, from the FY13 Final Budget. The FY14 Proposed Budget funds on average 230 filled permanent positions three less than in the FY13 Final Budget. The FY14 Proposed Budget also includes \$156,000 for stand-by pay to support operational and maintenance needs primarily during storms and emergencies.
- \$1.0 million for **Overtime**, which is essentially level-funded with the FY13 Final Budget. Overtime supports operational coverage, critical maintenance projects, and regulatory requirements (i.e. inspections).
- \$3.2 million for **Chemicals**, an increase of \$304,000 or 10.5%, from the FY13 Final Budget. The FY14 Proposed Budget reflects management's expectation that a new NPDES permit will not be in effect for Deer Island for FY14. The budget includes \$1.2 million for sodium hypochlorite, \$810,000 for ferric chloride, \$309,000 for polymer, \$273,000 for activated carbon, and \$148,000 for sodium bisulfite. The majority of the increase from FY13 to FY14 is mainly due to projected increases in chemical prices.
- \$13.2 million for **Utilities**, an increase of \$168,000 or 1.3%, from the FY13 Final Budget. The FY14 Proposed Budget includes \$9.7 million for electricity, \$2.0 million for diesel fuel, and \$1.5 million for water. The FY14 Proposed Budget reflects the average of several years of actual data for power usage and self-generation. The FY14 Proposed Budget also reflects revised self-generation estimates for the new back pressure steam turbine generator (STG), based on limited FY13 actual output.
- \$12.7 million for **Maintenance**, which is essentially level-funded with the FY13 Final Budget. The FY14 Proposed Budget includes \$5.7 million for materials and \$7.0 million for services. Of the total, \$8.2 million or 64% is for plant and machinery services and materials, \$1.8 million is for electrical system maintenance, and \$1.4 million is for building and grounds work.
- \$221,000 for **Professional Services**, a decrease of \$50,000 or 18.5%, from the FY13 Final Budget. The decrease reflects a lesser amount for projected spending in the as-needed design contracts to support the development of major CEB-funded maintenance projects. The budget decrease reflects the level of support expected for the priority projects in FY14.

- \$410,000 for **Other Materials**, a decrease of \$4,000 or 1.0%, from the FY13 Final Budget. The FY14 Proposed Budget includes \$150,000 for health and safety materials, \$98,000 for work clothes, and \$68,000 for vehicles expenses (tolls, mileage, and gas).
- \$295,000 for **Other Services**, a decrease of \$15,000 or 4.7% from the FY13 Final Budget. The FY14 Proposed Budget includes \$101,000 for permit fees, \$50,000 for fax and copier leasing and servicing, \$40,000 for hazardous materials safety services, \$36,000 for telephones, and \$12,000 for freight charges.

## RESIDUALS MANAGEMENT

Proposed FY14 Current Expense Budget RESIDUALS MANAGEMENT PROGRAM						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 107,382	\$ 113,188	\$ 114,899	\$ 116,913	\$ 2,014	1.8%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	843,858	965,977	1,021,790	684,692	(337,098)	-33.0%
TRAINING & MEETINGS	-	-	3,400	3,400	-	0.0%
PROFESSIONAL SERVICES	-	-	1,000	1,000	-	0.0%
OTHER MATERIALS	-	-	1	100	99	9900.0%
OTHER SERVICES	14,587,809	15,452,700	15,480,531	15,118,606	(361,925)	-2.3%
<b>TOTAL</b>	<b>\$ 15,539,049</b>	<b>\$ 16,531,865</b>	<b>\$ 16,621,621</b>	<b>\$ 15,924,711</b>	<b>\$ (696,910)</b>	<b>-4.2%</b>

### 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 consultants noted the facility was in excellent condition and recommended only minor modifications to several control system devices.

- The budget is based on 106 tons per day (TPD based on TSS), consistent with historical actual annual tonnage since the start-up of the Braintree-Weymouth tunnel through FY13.
- 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 expires on 6/13/13 and will be replaced with a new contract.

### Budget Highlights:

- The FY14 Proposed Budget is \$15.9 million, a decrease of \$697,000 or 4.2%, from the FY13 Final Budget.
- \$117,000 for **Wages and Salaries**, an increase of \$2,000 or 1.8%, from the FY13 Final Budget. 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.

- \$685,000 for **Maintenance**, a decrease of \$337,000 or 33.0%, from the FY13 Final Budget. 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 FY13 to FY14 is based on an approved replacement schedule established at the time of the contract award.
- \$14.1 million or 89% of FY14 Proposed Budget is for the **Sludge Pelletization** portion of the NEFCo contract. The FY14 Proposed Budget is \$451,000 or 3.1% less than the FY13 Final Budget primarily due to lower inflation rates for natural gas. The FY14 Proposed Budget is based on an average of 106 tons per day, level funded with the FY13 Final Budget.
- \$933,000 for **Grit and Screenings** disposal, an increase of \$102,000 or 12.3%, from the FY13 Final Budget. The majority of the increase, \$85,000, is due to a 10% inflation factor for the new contract. The remainder of the change results from quantity increases due to the on-going clarifier rehabilitation project at the Deer Island Treatment Plant.
- \$20,000 for **Printing**. The FY14 Proposed Budget includes \$12,000 for plastic bags to meet the increased demand in distribution to public and private groups and \$8,000 for a bagging machine.

**CLINTON WASTEWATER TREATMENT PLANT**

Proposed FY14 Current Expense Budget CLINTON WASTEWATER TREATMENT PROGRAM						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 590,677	\$ 621,889	\$ 642,303	\$ 668,486	\$ 26,183	4.1%
OVERTIME	34,485	46,728	52,500	52,500	-	0.0%
FRINGE BENEFITS	359	685	1,000	1,000	-	0.0%
CHEMICALS	205,359	214,078	281,546	312,167	30,621	10.9%
UTILITIES	310,608	267,800	284,134	238,574	(45,560)	-16.0%
ONGOING MAINTENANCE	191,997	202,621	200,441	201,940	1,499	0.7%
TRAINING & MEETINGS	660	-	500	300	(200)	-40.0%
PROFESSIONAL SERVICES	1,973	1,638	1,700	1,700	-	0.0%
OTHER MATERIALS	106,913	139,691	148,790	148,640	(150)	-0.1%
OTHER SERVICES	18,344	21,373	18,977	20,027	1,050	5.5%
<b>TOTAL</b>	<b>\$ 1,461,375</b>	<b>\$ 1,516,503</b>	<b>\$ 1,631,891</b>	<b>\$ 1,645,334</b>	<b>\$ 13,443</b>	<b>0.8%</b>

**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, was 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 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.

The FY14 Proposed Budget reflects the first full year of operation of the Clinton aeration system efficiency improvements and redundant pumping at the influent and intermediate lift stations. These improvements will be completed early in calendar year 2013. Staff commenced the projects based on a consultant study that recommended installing fine bubble diffusers in three of the six secondary aeration tanks and removing the existing mechanical mixers to obtain a better oxygen transfer rate while reducing electricity consumption. In FY12, the project scope was expanded to include the installation of four permanent submersible auxiliary pumps to increase pumping capacity during high flow conditions in the plant and also the installation of SCADA to control the system, collect and store data, and visually monitor the processes. The redundant pumps also enable MWRA to avoid the cost of renting additional pumps which were required four times in the past two years. Further, the new submersible pumps are energy efficient and will significantly reduce the plant's energy consumption (approximate savings of \$35,000 per year). National Grid has allotted a grant for \$177,000 for this work which is available when work is completed in 2013.

**Budget Highlights:**

- \$669,000 for **Wages and Salaries**, an increase of \$26,000 or 4.1% from the FY13 Final Budget. This funds eight positions and one part-time contract clerical position.
- \$53,000 for **Overtime**, level funded from the FY13 Final Budget. Overtime is used for critical maintenance work and to meet the 24 hour, 7 day per week emergency coverage requirement.
- \$312,000 for **Chemicals**, an increase of \$31,000 or 10.9% from the FY13 Final Budget. Chemicals are used for sludge processing and disposal and wastewater treatment. The change from FY13 to FY14 reflects expected price increases and revised estimates for wastewater treatment chemical use associated with the additional requirements expected in the new NPDES permit. The FY13 Budget assumed start-up as of January 2013 (1/2 year) whereas the FY14 Proposed Budget assumes start-up as of July 2013 (full year).
- \$239,000 for **Utilities** which is \$46,000 or 16.0% less than the FY13 Final Budget primarily due to the projected full year savings in electricity use from the aeration rehabilitation project and lower water use due to operational improvements. Utilities represent 14.5% of the FY14 Proposed Budget. The budget includes \$166,000 for electricity, \$62,000 for fuel oil, and \$10,000 for water.
- \$202,000 for **Maintenance**, a \$2,000 or 0.7% increase from the FY13 Final Budget. The FY14 Proposed Budget includes \$57,000 for major projects based on the most current rolling priority list. The remainder of the budget is for routine materials and services. Maintenance represents 12.3% of the FY14 Proposed Budget.
- \$149,000 for **Other Materials**, essentially level funded with the FY13 Final Budget. The Other Materials budget includes \$136,000 for clean fill for the landfill operation.
- \$20,000 for **Other Services**, a \$1,000 or 5.5% increase from the FY13 Final Budget. The budget includes \$11,000 for permit fees, \$5,000 for telephones, and \$3,000 for railroad easement expenses.

**FIELD OPERATIONS**

Proposed FY14 Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 34,976,521	\$ 35,927,958	\$ 37,861,047	\$ 37,942,147	\$ 81,100	0.2%
OVERTIME	2,655,359	2,102,678	2,318,760	2,335,282	16,522	0.7%
FRINGE BENEFITS	47,180	38,114	47,700	44,105	(3,595)	-7.5%
CHEMICALS	6,425,336	6,497,757	6,795,708	7,151,570	355,862	5.2%
UTILITIES	9,526,403	9,111,793	9,652,882	9,420,547	(232,335)	-2.4%
ONGOING MAINTENANCE	11,596,068	9,743,801	10,503,069	10,179,603	(323,466)	-3.1%
TRAINING & MEETINGS	62,590	62,671	86,800	86,800	-	0.0%
PROFESSIONAL SERVICES	405,450	507,936	717,000	550,000	(167,000)	-23.3%
OTHER MATERIALS	1,020,851	2,022,727	956,042	1,258,830	302,788	31.7%
OTHER SERVICES	2,898,013	3,101,845	3,184,695	3,077,625	(107,070)	-3.4%
<b>TOTAL</b>	<b>\$ 69,613,771</b>	<b>\$ 69,117,280</b>	<b>\$ 72,123,703</b>	<b>\$ 72,046,509</b>	<b>\$ (77,194)</b>	<b>-0.1%</b>

Proposed FY14 Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
TOXIC REDUCTION & CONTROL	\$ 3,504,134	\$ 3,524,789	\$ 3,602,738	\$ 3,564,725	\$ (38,013)	-1.1%
WASTEWATER OPERATIONS	12,120,182	11,877,271	12,971,958	12,493,124	(478,834)	-3.7%
WATER OPERATIONS & MAINT	26,266,747	25,685,781	26,643,395	27,487,482	844,087	3.2%
METRO MAINTENANCE	14,402,761	14,586,283	14,638,114	14,163,449	(474,665)	-3.2%
OPERATIONS SUPPORT	8,617,058	8,201,808	8,939,029	8,989,224	50,195	0.6%
FOD ADMIN	4,702,889	5,241,348	5,328,469	5,348,505	20,036	0.4%
<b>TOTAL</b>	<b>\$ 69,613,771</b>	<b>\$ 69,117,280</b>	<b>\$ 72,123,703</b>	<b>\$ 72,046,509</b>	<b>\$ (77,194)</b>	<b>-0.1%</b>

The primary goal of the **Field Operations Department (FOD)** is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. 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 unstaffed. FY13 is 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 the 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 FY14 Proposed Budget is \$72.0 million, a decrease of \$77,000 or 0.1% from the FY13 Final Budget.
- \$37.9 million for **Wages and Salaries**, which is \$81,000 or 0.2% more than the FY13 Final Budget. The Wages and Salaries line item accounts for 52.7% of the FY14 Proposed Budget and funds 503 positions, nine fewer than in FY13. Of the remaining budget, \$497,000 is for stand-by pay to support operational and maintenance needs; \$75,000 for interns, and \$40,000 is for temporary employees.
- \$2.3 million for **Overtime**, an increase of \$17,000 or 0.7% from the FY13 Final Budget, due mainly to the addition of more overtime for snow removal at the western facilities to align the budget with recent historical spending. The budget includes \$1.2 million for emergency related overtime, \$571,000 for planned overtime covering scheduled maintenance and training, and \$564,000 for operational coverage needs.

- \$7.2 million for **Chemicals**, of which \$6.7 million is for water treatment and \$487,000 is for wastewater treatment. The FY14 Proposed Budget is \$356,000 or 5.2% more than the FY13 Final Budget due to price increases in soda ash, sodium bisulfate, liquid oxygen, aqua ammonia, and nitrazyme. The FY14 Proposed Budget includes \$3.4 million for soda ash for alkalinity control, \$1.1 million for sodium hypochlorite for disinfection, \$762,000 for hydrofluosilicic acid for fluoridation, \$726,000 for liquid oxygen for the Carroll Water Treatment Plant (CWTP) ozone generation, \$314,000 for carbon dioxide to control water pH, \$293,000 for sodium bisulfite for dechlorination, \$273,000 for aqua ammonia for disinfection, \$264,000 for nitrazyme and VX-456 for Framingham Extension Relief Sewer odor and corrosion control, and \$21,000 for sodium hydroxide to elevate pH and control odor. Fluoride has increased 9.5% from FY13 due to the uncertainty regarding the timing of approval and implementation of federally mandated changes to lower dosages. MWRA will revisit this issue before finalizing the FY14 Proposed Budget.
- \$9.4 million for **Utilities**, a decrease of \$232,000 or 2.4% from the FY13 Final Budget. The FY14 Proposed Budget includes \$6.4 million for electricity, \$1.8 million for diesel fuel, \$628,000 for natural gas, and \$454,000 for water. The heating systems at two headworks facilities are being converted from diesel to natural gas for anticipated savings.
- \$10.2 million for **Maintenance**, a decrease of \$323,000 or 3.1% from the FY13 Final Budget primarily due to the fact that many critical and high cost projects have been completed. The FY14 Proposed Budget includes \$4.0 million in day-to-day needs, \$3.5 million for services, \$2.2 million in major projects, and \$506,000 for energy initiatives. Some of the major projects planned for FY14 include:

Roofing Contract East and West	\$337,000
Carpet Replacement - Chelsea Facility	\$300,000
Painting Contract East and West	\$180,000
Manhole Rehabilitation Contract	\$150,000
Easement Clearing at Section 80 and 22	\$150,000
Replace 10 WW Flow Meters	\$125,000

- \$87,000 for **Training and Meetings**, level funded from the FY13 Final Budget. This line item primarily covers training required for job duties, health and safety compliance, and job-related licensures and certifications.
- \$550,000 for **Professional Services**, a decrease of \$167,000 or 23.3% from the FY13 Final Budget due in part to the completion of two engineering design projects related to dam repair. The FY14 Proposed Budget includes \$545,000 for engineering, which is made up of \$335,000 for as-needed engineering services (down from \$400,000 in FY13 based on historical usage); \$95,000 for a multi-year dam safety contract; \$60,000 for a triennial macrophyte survey at the reservoirs; \$40,000 for energy audits at various south system facilities; and \$15,000 for spill control training evaluation.
- \$1.3 million for **Other Materials**, an increase of \$303,000 or 31.7% from the FY13 Final Budget, mainly due to a need to replace aging furniture and work stations at the Chelsea Facility, and an increase in materials costs for lab and testing supplies. The FY14 Proposed Budget includes \$389,000 for vehicle expenses for gas, mileage reimbursements, and tolls; \$240,000 for health and safety supplies, \$217,000 for equipment/furniture, \$210,000 for work clothes; and \$145,000 for lab and testing supplies.
- \$3.1 million for **Other Services**, a decrease of \$107,000 or 3.4% from the FY13 Final Budget primarily because funding for invasives control was moved to the maintenance budget. The FY14 Proposed Budget includes \$1.8 million for annual lease payments for the Chelsea office building, \$549,000 for telecommunications equipment and services and SCADA needs at various facilities, and \$392,000 for police details.

## LABORATORY SERVICES

Proposed FY14 Current Expense Budget LABORATORY SERVICES						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 4,029,511	\$ 3,983,943	\$ 4,221,617	\$ 4,461,790	\$ 240,173	5.7%
OVERTIME	61,556	67,731	65,102	56,706	(8,396)	-12.9%
FRINGE BENEFITS	405	445	1,200	1,200	-	0.0%
UTILITIES	16,697	16,464	21,134	19,903	(1,231)	-5.8%
ONGOING MAINTENANCE	233,054	186,431	283,303	299,818	16,515	5.8%
TRAINING & MEETINGS	206	773	2,000	2,000	-	0.0%
PROFESSIONAL SERVICES	97,446	68,265	136,607	153,423	16,816	12.3%
OTHER MATERIALS	870,872	921,303	883,369	980,556	97,187	11.0%
OTHER SERVICES	90,348	67,445	73,705	76,966	3,261	4.4%
<b>TOTAL</b>	<b>\$ 5,400,095</b>	<b>\$ 5,312,800</b>	<b>\$ 5,688,037</b>	<b>\$ 6,052,362</b>	<b>\$ 364,325</b>	<b>6.4%</b>

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 FY14 Proposed Budget is \$6.1 million, an increase of \$364,000 or 6.4% from the FY13 Final Budget.
- \$4.5 million for **Wages and Salaries**, an increase of \$240,000 or 5.7%, from the FY13 Final Budget. The FY14 Proposed Budget funds 55 positions, one more than included in the FY13 Final Budget. The FY14 Proposed Budget also includes \$124,000 for up to four temporary employee positions to cover peak workload, Harbor and Outfall Monitoring, the Carroll Water Treatment Plant special testing, and summer beach testing.
- \$20,000 for **Utilities**, a decrease of \$1,000 or 5.8% from the FY13 Final Budget. The FY14 Proposed Budget includes the purchase of gases and cryogenic liquids used for various lab instruments.
- \$300,000 for **Maintenance**, an increase of \$17,000 or 5.8%, from the FY13 Final Budget. The FY14 Proposed Budget includes \$196,000 for equipment service contracts, \$40,000 for Laboratory modifications, \$33,000 for lab spare parts, and \$30,000 for Heating Ventilation Air Conditioning (HVAC) services to annually maintain and certify the fume hoods.

- \$153,000 for **Professional Services**, an increase of \$17,000 or 12.3% from the FY13 Final Budget 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.
- \$981,000 for **Other Materials**, an increase of \$97,000 or 11.0%, from the FY13 Final Budget. The FY14 Proposed Budget includes \$664,000 for laboratory and testing supplies. The cost of lab supplies has increased because it includes additional supplies for the mobile lab and Colilert supplies for bacteria testing. The budget also includes \$275,000 for replacement of obsolete or older equipment.
- \$77,000 for **Other Services**, an increase of \$3,000 or 4.4%, from the FY13 Final Budget. The FY14 Proposed Budget 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

Proposed FY14 Current Expense Budget ENVIRONMENTAL QUALITY						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 1,405,236	\$ 1,465,986	\$ 1,518,112	\$ 1,415,798	\$ (102,314)	-6.7%
OVERTIME	465	985	2,100	2,000	(100)	-4.8%
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	142	(905)	-	-	-	-
TRAINING & MEETINGS	1,644	1,405	3,000	3,000	-	0.0%
PROFESSIONAL SERVICES	2,225,388	1,369,550	1,436,450	1,530,450	94,000	6.5%
OTHER MATERIALS	2,104	18,157	14,330	14,580	250	1.7%
OTHER SERVICES	2,570	4,983	4,200	4,200	-	0.0%
<b>TOTAL</b>	<b>\$ 3,637,549</b>	<b>\$ 2,860,161</b>	<b>\$ 2,978,192</b>	<b>\$ 2,970,028</b>	<b>\$ (8,164)</b>	<b>-0.3%</b>

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 FY14 Proposed Budget is \$3.0 million, a decrease of \$8,000 or 0.3%, from the FY13 Final Budget.
- \$1.4 million for **Wages & Salaries**, a decrease of \$102,000 or 6.7% from the FY13 Final Budget. The FY14 Proposed Budget includes funding for 15 positions, two fewer than in FY13.
- \$1.5 million for **Professional Services**, an increase of \$94,000 or 6.5%, over the FY13 Final Budget. Of this amount, \$1.2 million is for laboratory testing and analysis services in support of MWRA's Harbor and Outfall Monitoring (HOM) Program. 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 A new contract for required continuous monitoring
  - o University of Maine's buoy off Cape Ann, with instruments measuring algae (a separate contract) and other water quality indicators
  - o Cape Cod Bay water quality monitoring
  - o Bays Eutrophication Model
  - o Sea Grant study of trace organic chemicals (personal care products, pharmaceuticals, endocrine disruptors).

The FY14 Proposed 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 these changes. The increase from FY13 includes a hard bottom survey that is done every third year and a new contract for continuous monitoring near the outfall.

## ENGINEERING AND CONSTRUCTION

Proposed FY14 Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 7,540,258	\$ 7,290,274	\$ 8,020,356	\$ 7,911,367	\$ (108,989)	-1.4%
OVERTIME	182,036	111,200	62,600	64,500	1,900	3.0%
FRINGE BENEFITS	713	569	750	500	(250)	-33.3%
ONGOING MAINTENANCE	2,739	7,647	9,366	9,366	-	0.0%
TRAINING & MEETINGS	5,757	7,017	6,400	6,400	-	0.0%
PROFESSIONAL SERVICES	-	65,112	-	150,000	150,000	-
OTHER MATERIALS	125,639	66,559	65,437	46,650	(18,787)	-28.7%
OTHER SERVICES	24,409	20,755	35,200	23,200	(12,000)	-34.1%
<b>TOTAL</b>	<b>\$ 7,881,551</b>	<b>\$ 7,569,133</b>	<b>\$ 8,200,109</b>	<b>\$ 8,211,983</b>	<b>\$ 11,874</b>	<b>0.1%</b>

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 FY14 Proposed Budget is \$8.2 million, an increase of \$12,000 or 0.1%, from the FY13 Final Budget.
- \$7.9 million for **Wages and Salaries**, a decrease of \$109,000 or 1.4%, from the FY13 Final Budget. Wages and Salaries represent 96.3% of the FY14 Proposed Budget and includes funding for 83 positions, three positions fewer than included in the FY13 Final Budget.
- \$65,000 for **Overtime**, an increase of \$2,000 or 3.0%, from the FY13 Final Budget. 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.
- \$9,000 for **Maintenance**, level funded with the FY13 Final Budget. Maintenance covers two service contracts for the DISC Unit's specialized printers and plotters.
- \$6,000 for **Training & Meetings**, level funded with the FY13 Final Budget.

- \$150,000 for **Professional Service**, an increase of \$150,000 or 100%. The FY14 Proposed Budget includes the addition of an As-needed Utility Borings/Test Pit contract to support construction activities. This contract will help avoid situations where contractors have utility conflicts while working on MWRA construction projects.
- \$47,000 for **Other Materials**, a decrease of \$19,000 or 28.7% from the FY13 Final Budget mainly due to reduced tolls and mileage reimbursements based on historical actuals resulting from the FY12 policy change to permanently assign field staff to their construction field locations. The remaining funding includes \$13,000 for office supplies, \$11,000 for vehicle expense for staff traveling to construction sites, \$10,000 for Fast Lane Tolls, \$5,000 for MWRA gas cards, and \$3,000 for work clothes.
- \$23,000 for **Other Services**, a decrease of \$12,000 or 34.1%, from the FY13 Final Budget. Printing and Duplicating was decreased \$12,000 to reflect the elimination of printing plans and specifications for design bids. Starting in FY13, bidders were issued compact discs (CD's) containing plans, specs and maps. The remaining funding includes \$11,000 for telephone expenses, \$7,000 for memberships and dues, and \$1,000 for police details.



Law Division  
Budget



## LAW DIVISION

<b>Proposed FY14 Current Expense Budget LAW DIVISION</b>							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14		
WAGES & SALARIES	\$ 1,612,193	\$ 1,556,666	\$ 1,640,127	\$ 1,547,623	\$	(92,504)	-5.6%
OVERTIME	-	99	-	-	-	-	-
TRAINING & MEETINGS	845	535	2,000	1,000	-	(1,000)	-50.0%
PROFESSIONAL SERVICES	67,544	110,886	146,000	121,000	-	(25,000)	-17.1%
OTHER MATERIALS	4,095	3,707	7,314	5,964	-	(1,350)	-18.5%
OTHER SERVICES	25,702	25,512	29,147	28,147	-	(1,000)	-3.4%
<b>TOTAL</b>	<b>\$ 1,710,379</b>	<b>\$ 1,697,405</b>	<b>\$ 1,824,588</b>	<b>\$ 1,703,734</b>	<b>\$</b>	<b>(120,854)</b>	<b>-6.6%</b>

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. 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.

### **FY14 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 FY14 Final Budget is \$1.7 million, a decrease of \$121,000 or 6.6% from FY13 Final Budget.
- \$1.5 million for **Wages and Salaries**, a decrease of \$93,000 or 5.6% from FY13 Final Budget. The budget funds 16 positions, one position less than the FY13 Final Budget.
- \$121,000 for **Professional Services**, a decrease of \$25,000 or 17.1% from FY13 Final Budget.



Administration & Finance Division  
Budget

**ADMINISTRATION AND FINANCE DIVISION**

Proposed FY14 Current Expense Budget ADMINISTRATION AND FINANCE						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 15,166,542	\$ 15,345,968	\$ 16,034,754	\$ 16,047,364	\$ 12,610	0.1%
OVERTIME	48,666	39,230	61,404	57,404	(4,000)	-6.5%
FRINGE BENEFITS	17,289,695	17,608,265	18,172,568	17,552,690	(619,878)	-3.4%
WORKERS' COMPENSATION	2,228,175	1,600,726	2,100,000	2,025,000	(75,000)	-3.6%
UTILITIES	138,122	100,731	133,678	107,410	(26,268)	-19.7%
ONGOING MAINTENANCE	3,135,984	2,930,602	3,125,531	3,494,765	369,234	11.8%
TRAINING & MEETINGS	36,965	90,611	223,814	193,514	(30,300)	-13.5%
PROFESSIONAL SERVICES	859,073	1,233,132	1,291,642	1,182,688	(108,954)	-8.4%
OTHER MATERIALS	858,895	955,387	1,353,932	1,250,184	(103,748)	-7.7%
OTHER SERVICES	4,709,830	3,018,817	3,735,344	3,470,502	(264,842)	-7.1%
<b>TOTAL</b>	<b>\$ 44,471,947</b>	<b>\$ 42,923,469</b>	<b>\$ 46,232,667</b>	<b>\$ 45,381,521</b>	<b>\$ (851,146)</b>	<b>-1.8%</b>

Proposed FY14 Current Expense Budget ADMINISTRATION AND FINANCE						
DEPARTMENT	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
A & F DIR OFFICE	\$ 322,759	\$ 341,066	\$ 345,629	\$ 358,791	\$ 13,162	3.8%
RATES & BUDGET	741,029	761,977	781,386	795,594	14,208	1.8%
TREASURY	904,827	868,222	981,560	1,047,699	66,139	6.7%
CONTROLLER	1,538,224	1,492,769	1,519,203	1,545,065	25,862	1.7%
RISK MANAGEMENT	393,035	406,198	406,019	431,740	25,721	6.3%
HUMAN RESOURCES	21,606,094	21,490,738	22,504,668	21,854,959	(649,709)	-2.9%
MIS	8,532,999	8,900,651	10,350,042	10,297,271	(52,771)	-0.5%
FACILITIES MANAGEMENT	2,551,180	2,370,827	2,556,310	2,507,777	(48,533)	-1.9%
FLEET SERVICES	1,872,739	1,824,489	2,060,276	2,035,829	(24,447)	-1.2%
PROCUREMENT	3,516,243	3,873,820	3,855,164	3,795,073	(60,091)	-1.6%
REAL PROPERTY / ENVIRONMENTAL MGMT	2,492,818	592,712	872,410	711,723	(160,687)	-18.4%
<b>TOTAL</b>	<b>\$ 44,471,947</b>	<b>\$ 42,923,469</b>	<b>\$ 46,232,667</b>	<b>\$ 45,381,521</b>	<b>\$ (851,146)</b>	<b>-1.8%</b>

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).

## **FY14 Goals:**

- Manage and coordinate the Authority's finance and support service functions.
- Develop and implement long-term strategies to ensure reasonable rate increases to MWRA's communities.
- Manage MWRA's debt portfolio to contribute to the achievement of sustainable and predictable rate increases.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by reviewing risk exposure and establishing contract insurance requirements and monitoring contractors for compliance.
- 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.
- 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.
- 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.

## **FY14 Initiatives**

- 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.
- Manage the process for negotiating successor collective bargaining agreement with all five collective bargaining unions of the MWRA.
- Continue the implementation of the Strategic IT Study.
- Began preparation for development and implementation of an electronic procurement (e-procurement) process for construction contracting based upon Lawson Strategic Sourcing.

## **FY13 Mid-Year Accomplishments:**

- Directed the development of the next five-year CIP cap which is significantly lower than the prior two (2) caps, reflecting the changing nature of the capital program from mandated projects to asset protection and water redundancy initiatives.
- 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 Massachusetts Water Pollution Abatement Trust Pool 16 borrowing. This \$52.6 million borrowing is made at subsidized interest rates contributing to a lower overall cost of debt for the Authority.
- Completed the 2012 Series E, F, and G transaction. These three bond series of \$62.8 million, \$60.3 million, and \$57.8 million respectively replaced the 2008B and 2008C1 variable rate bond series. These bonds were issued as direct competitive placement variable rate bonds. This mode provides additional diversification from liquidity bank risk.
- Completed pricing the 2013A \$170.6 million Refunding for savings transaction for an All-In-True Interest Cost of 2.45%, the lowest in MWRA history to that point. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of \$13.1 million or 7.46%
- Commenced discussion with landlord about successor lease agreements for Charlestown Navy Yard (CNY) headquarters.
- Continued to work with the landlord to implement facility improvements as provided in our lease agreements for CNY headquarters.
- Evaluated options for potential water-system expansion opportunities based on long-term strategic budgeting.
- Developed specifications for 40 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.
- 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.
- Competitively bid Renewable Energy Portfolio Standard certificates which resulted in FY12 revenues of \$253,000 (Class II). In addition, received FY12 revenues of \$773,000 from forward marketing of CY12 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.
- Awarded the following major contracts in FY13 to date: 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; Disclosure Counsel Services; DITP North Main Pump Station ESDC/REI; and Quabbin UV Disinfection.

Advertised or received bids/proposals/statements for the following: Security Improvements at Various Facilities Design; Quabbin UV Disinfection Facilities; DITP Waste Sludge Centrifuges Power and Control Systems Upgrade; Roof Replacement Bellevue and New Neponset Pump Station; DITP Electrical Equipment Upgrade Construction 4; Rehab of WASM 3 Design; and Audit Services.

- Recycled 20.8 tons of paper, 44.18 tons of scrap metal, and 13.84 pounds of brass, copper, stainless steel and aluminum, generating \$38,000 in revenues.

- 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.

**ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE**

Proposed FY14 Current Expense Budget						
ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 316,476	\$ 333,417	\$ 337,852	\$ 351,199	\$ 13,347	4.0%
TRAINING & MEETINGS	1,764	2,216	2,092	2,092	-	0.0%
OTHER MATERIALS	3,922	4,352	3,200	4,200	1,000	31.3%
OTHER SERVICES	597	1,081	2,485	1,300	(1,185)	-47.7%
<b>TOTAL</b>	<b>\$ 322,759</b>	<b>\$ 341,066</b>	<b>\$ 345,629</b>	<b>\$ 358,791</b>	<b>\$ 13,162</b>	<b>3.8%</b>

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 FY14 will be maintaining an agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services.

**FY14 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 FY14 Proposed Budget is \$359,000, an increase of \$13,000 or 3.8% from the FY13 Final Budget.
- \$351,000 for **Wages and Salaries**, an increase of \$13,000 or 4.0% from the FY13 Final Budget. The FY14 Proposed Budget funds three positions.

## RATES & BUDGET

Proposed FY14 Current Expense Budget RATES & BUDGET						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 739,705	\$ 760,849	\$ 780,618	\$ 794,994	\$ 14,376	1.8%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	468	158	368	200	(168)	-45.7%
OTHER SERVICES	856	970	400	400	-	0.0%
<b>TOTAL</b>	<b>\$ 741,029</b>	<b>\$ 761,977</b>	<b>\$ 781,386</b>	<b>\$ 795,594</b>	<b>\$ 14,208</b>	<b>1.8%</b>

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.

### **FY14 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.

### **FY14 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.

### **FY13 Mid-Year Accomplishments:**

- Developed the FY14 Proposed Budget consistent with the FY13 planning estimates, for both the Current Expense Budget and the Capital Improvement Program.
- Participated in discussions of reevaluating the current water assessment methodology.



- Directed the development of the next five-year CIP cap which is significantly lower than the prior two (2) caps, reflecting the changing nature of the capital program from mandated projects to asset protection and water redundancy initiatives.
- Evaluated options for potential water-system expansion opportunities based on long-term strategic budgeting.
- Undertook an initiative to save all CEB and CIP documents electronically and coordinated with the Central Library to ensure proper records retention.

**Budget Highlights:**

- The FY14 Proposed Budget is \$796,000, an increase of \$14,000 or 1.8% from the FY13 Final Budget.
- \$795,000 for **Wages and Salaries**, an increase of \$14,000 or 1.8%, from the FY13 Final Budget. The FY14 Proposed Budget funds eight positions.

## TREASURY

Proposed FY14 Current Expense Budget TREASURY						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 641,248	\$ 677,941	\$ 715,090	\$ 778,229	\$ 63,139	8.8%
OVERTIME	309	124	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	257,329	183,909	259,050	262,050	3,000	1.2%
OTHER MATERIALS	1,041	52	300	300	-	0.0%
OTHER SERVICES	4,900	6,196	7,120	7,120	-	0.0%
<b>TOTAL</b>	<b>\$ 904,827</b>	<b>\$ 868,222</b>	<b>\$ 981,560</b>	<b>\$ 1,047,699</b>	<b>\$ 66,139</b>	<b>6.7%</b>

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.

### FY14 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.

### FY13 Mid-Year 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 Massachusetts Water Pollution Abatement Trust Pool 16 borrowing. This \$52.6 million borrowing is made at subsidized interest rates contributing to a lower overall cost of debt for the Authority.
- Completed the 2012 Series E, F, and G transaction. These three bond series of \$62.8 million, \$60.3 million, and \$57.8 million respectively replaced the 2008B and 2008C1 variable rate bond series. These bonds were issued as direct competitive placement variable rate bonds. This mode provides additional diversification from liquidity bank risk.
- Completed pricing the 2013A \$170.6 million Refunding for savings transaction for an All-In-True Interest Cost of 2.45%, the lowest in MWRA history to that point. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of \$13.1 million or 7.46%

**Budget Highlights:**

- The FY14 Proposed Budget is \$1.0 million, an increase of \$66,000 or 6.7% as compared with the FY13 Final Budget.
- \$778,000 for **Wages and Salaries**, an increase of \$63,000 or 8.8% from the FY13 Final Budget. The proposed budget funds ten positions, one more position than in the FY13 Final Budget.
- \$262,000 for **Professional Services**, an increase of \$3,000 or 1.1% as compared with the FY13 Final Budget.

## CONTROLLER

Proposed FY14 Current Expense Budget CONTROLLER						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 1,348,206	\$ 1,331,607	\$ 1,357,053	\$ 1,383,415	\$ 26,362	1.9%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	189,000	160,000	160,000	160,000	-	0.0%
OTHER MATERIALS	109	193	300	300	-	0.0%
OTHER SERVICES	909	969	1,850	1,350	(500)	-27.0%
<b>TOTAL</b>	<b>\$ 1,538,224</b>	<b>\$ 1,492,769</b>	<b>\$ 1,519,203</b>	<b>\$ 1,545,065</b>	<b>\$ 25,862</b>	<b>1.7%</b>

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

### FY14 Goals:

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

### FY14 Initiatives:

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

### FY13 Mid-Year Accomplishments:

- Rolled out electronic time sheet approval to two additional Authority departments.
- Collaborated with Procurement and MIS Departments to substantially complete testing Strategic Sourcing and e-Procurement for FY13 implementation.

### Budget Highlights:

- The FY14 Proposed Budget is \$1.5 million, an increase of \$26,000 or 1.7% as compared to the FY13 Final Budget.
- \$1.4 million for **Wages and Salaries**, an increase of \$26,000 or 1.9% as compared with the FY13 Final Budget mainly due to contractual increases. The FY14 Proposed Budget funds 18 positions.
- \$160,000 for **Professional Services**, which is level funded with the FY13 Final Budget. The contract for audit services expires in March, 2013. The FY14 Proposed 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

Proposed FY14 Current Expense Budget RISK MANAGEMENT							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14		
WAGES & SALARIES	\$ 351,829	\$ 357,568	\$ 375,569	\$ 386,290	\$ 10,721	2.9%	
OVERTIME	566	-	-	-	-	-	
TRAINING & MEETINGS	-	-	-	-	-	-	
PROFESSIONAL SERVICES	40,134	48,173	30,000	45,000	15,000	50.0%	
OTHER MATERIALS	(214)	7	-	-	-	-	
OTHER SERVICES	720	450	450	450	-	0.0%	
<b>TOTAL</b>	<b>\$ 393,035</b>	<b>\$ 406,198</b>	<b>\$ 406,019</b>	<b>\$ 431,740</b>	<b>\$ 25,721</b>	<b>6.3%</b>	

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 for managing all aspects of MWRA's Contractor Insurance Certificate program. Department staff serve as liaisons to insurance industry participants including brokers, insurers, insurance consultants, and attorneys as well as provides support to all MWRA departments.

### FY14 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 policies and contracts.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by reviewing risk exposure and establishing contract insurance requirements and monitoring contractors for compliance.

### Budget Highlights:

- The FY14 Proposed Budget is \$432,000, an increase of \$26,000 or 6.3% from the FY13 Final Budget.
- \$386,000 for **Wages & Salaries**, an increase of \$11,000 or 2.9% from the FY13 Final Budget. The proposed budget funds four positions.
- \$45,000 for **Professional Services**, an increase of \$15,000 or 50.0% from the FY13 Final Budget relating to review and preparation of MWRA's triennial Insurance Reserve Fund review.

**FACILITIES MANAGEMENT**

<b>Proposed FY14 Current Expense Budget FACILITIES MANAGEMENT</b>						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 477,655	\$ 412,641	\$ 414,717	\$ 417,708	\$ 2,991	0.7%
OVERTIME	16,019	16,527	24,154	24,154	-	0.0%
FRINGE BENEFITS	42	34	-	-	-	-
UTILITIES	136,412	98,749	130,678	104,410	(26,268)	-20.1%
ONGOING MAINTENANCE	69,965	12,107	45,900	40,900	(5,000)	-10.9%
TRAINING & MEETINGS	60	-	-	-	-	-
PROFESSIONAL SERVICES	-	3,200	-	-	-	-
OTHER MATERIALS	74,792	7,463	62,733	57,733	(5,000)	-8.0%
OTHER SERVICES	1,776,235	1,820,106	1,878,128	1,862,872	(15,256)	-0.8%
<b>TOTAL</b>	<b>\$ 2,551,180</b>	<b>\$ 2,370,827</b>	<b>\$ 2,556,310</b>	<b>\$ 2,507,777</b>	<b>\$ (48,533)</b>	<b>-1.9%</b>

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.

**FY14 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.

**FY13 Mid-Year Accomplishments:**

- Commenced discussion with landlord about successor lease agreements for Charlestown Navy Yard (CNY) headquarters.
- Continued to work with the landlord to implement facility improvements as provided in our lease agreements for CNY headquarters.

- In conjunction with MIS, implemented 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 FY14 Proposed Budget is \$2.5 million, a decrease of \$49,000 or 1.9%, as compared with FY13 Final Budget.
- \$418,000 for **Wages and Salaries**, an increase of \$3,000 or 0.7%, as compared to the FY13 Final Budget. The budget supports seven positions.
- \$24,000 for **Overtime**, which is level funded to the FY13 Final Budget.
- \$104,000 for **Utilities**, a decrease of \$26,000 or 20.1% as compared to the FY13 Final Budget mainly due to new electricity contracts.
- \$41,000 for **Ongoing Maintenance**, a decrease of \$5,000 or 10.9% as compared with the FY13 Final Budget. 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.
- \$58,000 for **Other Materials**, a decrease of \$5,000 or 8.0% as compared with the FY13 Final Budget. This line item includes funding for postage, supplies, furniture and equipment.
- \$1.9 million for **Other Services**, a decrease of \$15,000 or 0.8% as compared with the FY13 Final Budget. This item includes funding for rental and operating costs for CNY headquarters facility and the Marlboro Records Center and Warehouse space.

## FLEET SERVICES

Proposed FY14 Current Expense Budget						
FLEET SERVICES						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 669,965	\$ 624,570	\$ 717,295	\$ 734,444	\$ 17,149	2.4%
OVERTIME	14,157	2,078	18,690	14,690	(4,000)	-21.4%
FRINGE BENEFITS	110	15	1,000	1,000	-	0.0%
UTILITIES	1,582	1,981	3,000	3,000	-	0.0%
ONGOING MAINTENANCE	684,807	650,070	702,750	683,750	(19,000)	-2.7%
TRAINING & MEETINGS	-	-	-	25,205	25,205	-
OTHER MATERIALS	501,346	544,983	613,002	570,201	(42,801)	-7.0%
OTHER SERVICES	772	792	4,539	3,539	(1,000)	-22.0%
<b>TOTAL</b>	<b>\$ 1,872,739</b>	<b>\$ 1,824,489</b>	<b>\$ 2,060,276</b>	<b>\$ 2,035,829</b>	<b>\$ (24,447)</b>	<b>-1.2%</b>

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.

### FY14 Goals:

- Continue to cost effectively maintain the Authority's fleet of vehicles and pieces of equipment.
- Continue the Authority-wide 2-way radio communications re-banding project, and coordinate distribution and installation of all 2-way radio equipment.

### FY13 Mid-Year Accomplishments:

- Developed specifications for 40 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.
- 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 52 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 FY14 Proposed Budget is \$2.0 million, a decrease of \$24,000 or 1.2% as compared to the FY13 Final Budget.
- \$734,000 for **Wages & Salaries**, an increase of \$17,000 or 2.4% as compared to the FY13 Final Budget. The final budget supports 11 positions.
- \$684,000 for **Ongoing Maintenance**, a decrease of \$19,000 or 2.7% as compared to the FY13 Final Budget. The final budget includes funds for automotive materials and services to maintain MWRA's vehicle fleet.
- \$570,000 for **Other Materials**, a decrease of \$43,000 or 7.0% as compared to the FY13 Final Budget. The FY14 Proposed 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

Proposed FY14 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 1,686,848	\$ 1,740,651	\$ 1,785,022	\$ 1,823,958	\$ 38,936	2.2%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	17,289,376	17,608,031	18,171,568	17,551,690	(619,878)	-3.4%
WORKERS' COMPENSATION	2,228,175	1,600,726	2,100,000	2,025,000	(75,000)	-3.6%
ONGOING MAINTENANCE	18	-	-	-	-	-
TRAINING & MEETINGS	2,323	1,685	3,963	3,963	-	0.0%
PROFESSIONAL SERVICES	372,608	512,618	408,020	415,638	7,618	1.9%
OTHER MATERIALS	15,099	13,465	16,170	15,170	(1,000)	-6.2%
OTHER SERVICES	11,647	13,562	19,925	19,540	(385)	-1.9%
<b>TOTAL</b>	<b>\$ 21,606,094</b>	<b>\$ 21,490,738</b>	<b>\$ 22,504,668</b>	<b>\$ 21,854,959</b>	<b>\$ (649,709)</b>	<b>-2.9%</b>

Proposed FY14 Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
EMPLOYEE/COMP/BEN	\$ 657,772	\$ 798,093	\$ 678,468	\$ 690,223	\$ 11,755	1.7%
LABOR RELATIONS	1,035,456	1,041,023	1,078,532	1,101,116	22,584	2.1%
TRAINING	361,950	402,137	432,693	442,546	9,853	2.3%
CENTRALIZED FRINGE BENEFITS	19,550,916	19,249,485	20,314,975	19,621,074	(693,901)	-3.4%
<b>TOTAL</b>	<b>\$ 21,606,094</b>	<b>\$ 21,490,738</b>	<b>\$ 22,504,668</b>	<b>\$ 21,854,959</b>	<b>\$ (649,709)</b>	<b>-2.9%</b>

The **Human Resources Department** is comprised of 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 the 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.

### FY14 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.

**FY14 Initiatives:**

- Manage the process for negotiating successor collective bargaining agreement with all five collective bargaining unions of the MWRA.
- Support the collective bargaining negotiation process with data analysis, costing analysis and wage and benefit survey data collection and analysis.
- 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.
- 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).
- Support the agency's efforts in developing and preparing succession plan activities in anticipation of an increase in retirements over the next several years.

**FY13 Mid-Year Accomplishments:**

- Successfully negotiated and implemented an agreement with all 5 collective bargaining units regarding the use of a Automated Vehicle Locator Tracking System at MWRA.
- Successfully supported the Authority's efforts in defending itself in several arbitration hearings.
- Negotiated a three year extension of the MWRA Employee Assistance Program (EAP).
- 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.

- Organized compliance with the bi-annual online State Ethics Training for all employees and maintain training compliance documentation as required by the State Ethics Commission.
- Procured and selected vendor for MWRA's Workers' Compensation Third Party Administration Services and successfully transferred records and claims to the new vendor.

**Budget Highlights:**

- The FY14 Proposed Budget is \$21.9 million, a decrease of \$650,000 or 2.9% as compared to the FY13 Final Budget.
- \$1.8 million for **Wages and Salaries**, an increase of \$39,000 or 2.2% over the FY13 Final Budget. The FY14 Proposed Budget includes funding for 21 positions.
- \$17.6 million for **Fringe Benefits**, a decrease of \$620,000 or 3.4% versus the FY13 Final Budget. The budget includes \$15.1 million for health insurance, \$1.2 million for Medicare, \$1.0 million for dental insurance, \$161,000 for unemployment insurance, and \$31,000 for tuition reimbursement.

The Health insurance budget decreased 4.0% from the FY13 Final Budget due to a projected decrease in enrollment and the fact that newly hired employees pay a greater share of the cost. Dental insurance and Medicare are level funded with the FY13 Final Budget.

- \$2.0 million for **Workers' Compensation**, a decrease of \$75,000 or 3.6% as compared to the FY13 Final Budget. The Human Resources Department is responsible for the management of this program and the coordination with the third-party administrator and legal counsel.
- \$416,000 for **Professional Services**, an increase of \$8,000 or 1.9% as compared to the FY13 Final Budget. The FY14 Proposed Budget includes \$155,000 for Professional Development and Technical Training, \$119,000 for Workers' Compensation Claims Administration and Legal Services, \$56,000 for Arbitrators and Arbitration Expenses, \$44,000 for Medical Evaluation Services, \$25,000 for the Employee Assistance Program, and \$15,000 for Specialized Investigation Services.

**MANAGEMENT INFORMATION SYSTEMS (MIS)**

Proposed FY14 Current Expense Budget MANAGEMENT INFORMATION SYSTEM						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 4,972,127	\$ 5,148,842	\$ 5,416,263	\$ 5,353,931	\$ (62,332)	-1.2%
OVERTIME	3,510	3,518	2,810	2,810	-	0.0%
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	2,581,022	2,078,922	2,376,881	2,770,115	393,234	16.5%
TRAINING & MEETINGS	26,311	80,043	172,033	146,528	(25,505)	-14.8%
PROFESSIONAL SERVICES	-	325,233	434,572	300,000	(134,572)	-31.0%
OTHER MATERIALS	141,503	277,135	546,582	491,322	(55,260)	-10.1%
OTHER SERVICES	808,526	986,958	1,400,901	1,232,565	(168,336)	-12.0%
<b>TOTAL</b>	<b>\$ 8,532,999</b>	<b>\$ 8,900,651</b>	<b>\$ 10,350,042</b>	<b>\$ 10,297,271</b>	<b>\$ (52,771)</b>	<b>-0.5%</b>

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.

**FY14 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.

**FY14 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 of staff and improve the effectiveness of the Authority’s business processes.

- **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.

**FY13 Mid-Year 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 the 5.2 version of Maximo is no longer supported by IBM. The upgrade from version 5.2 to 7.5 will bring the MWRA back into full support with IBM.

- Historic Photo Digitization Project
  - The Library and Records Center are supporting a Public Affairs/Executive Office initiative to digitally capture historical images of the MWRA and MDC construction projects. Staff, with input from the Executive Office, evaluated services provided by the Digital Commonwealth Organization and decided to have the Organization scan the photo books in the MWRA Library. MWRA's Application for Services with Digital Commonwealth Organization was for scanning selected collections including glass negatives, largely housed at State Archives, and MWRA photo albums. The first 5 boxes of glass negatives were delivered to the Digital Commonwealth (DigiCom) Team for free scanning. During Q2 efforts to collect and create digital assets for historical MWRA/MDC construction projects has continued. The formal letter of acceptance of the MWRA application for DigiCom services for scanning was received. Initial scans from the pilot project were received from the Boston Public Library on 10/26. Digital Commonwealth (DigiCom) returned the pilot glass negatives to the State Archives and picked up additional scanning work (10 boxes) from the State Archives. Pilot images were delivered to Public Affairs for digital asset management catalog development. Library staff sent metadata to Public Affairs staff to add to the Cumulus digital asset management database and is working on generating the metadata for the next batch. Library and Public Affairs staff toured Digital Commonwealth (DigiCom) facilities.
  - Enterprise Resource Planning (ERP) System Enhancements
    - Strategic Sourcing and Contracts Management: Development activities were the focus of the quarter for Lawson Strategic Sourcing and Contract Management applications implementations. Activities included collecting Terms of Use (TOU) samples and peer web site addresses and provided them to Procurement, Accounts Payable, Affirmative Action, and Law for review. Production hardware and software were configured and installed and a week-long System Administration class was held. The Lawson core team continued to meet and focused on supplier/vendor creation, and the contracts and purchasing types that the MWRA uses. User scripts and test plans were developed and extensive user testing was conducted. Over 90 percent of Strategic Sourcing test cases were completed and used. Strategic Sourcing/Contracts Management: Initial implementation of a phased in Strategic Sourcing implementation is scheduled for the spring of 2013. Notification of "coming-soon", enhancements to the MWRA's e-Procurement features were sent out to MWRA vendors in February, 2013.
    - Lawson 9.0.1 Upgrade: Assisted the Payroll department with a parallel payroll run on the upgraded development system. Staff reviewed the results with the Payroll department who were satisfied with the outcome. Staff assisted Procurement and HR/Payroll staff with user tests and completed roll-out of 9.0.1 application to the production server over the weekend of Sept 22nd/23rd. Program code was brought over from development server and staff validated system functions, updated custom database fields, recompiled programs, etc. Minor problems with the 9.0.1 upgrade such as Oracle grants, synonyms, and permission updates, Mobile Supply Chain Management printing and a couple minor screen issues were fixed. Go Live occurred with minimal impact to the users.
    - Lawson Maintenance: Staff monitored weekly payroll processing at year-end to ensure that the new 5 day personal plan worked properly by awarding these days for all union employees. In addition, after payroll was completed, staff provided the following support: 1) Uploaded vacation milestone adjustments prepared in June for units 2, 3 and 9 from the file supplied by Human Resources (HR) dept.; 2) Monitored salary increases put in by HR dept for Units 1, 3, 6 and 9; and; 3) Ran queries to identify employees with optional life/long-term disability insurance to see if their coverage amounts were adjusted to their new salaries. Staff also assisted HR dept by loading non-union retroactive pay raises from the file provided by HR.
    - Asset Management Systems Consolidation: In December, MIS kicked off a new project to analyze current in-house databases and enterprise applications that track MWRA assets in an effort to



consolidate the systems where appropriate. Staff collected the data elements and reviewed application functionality for a number of departmental applications; user meetings were set up with all the departmental application users to understand how they use the systems. Additional applications including applications used to track records and maintenance agreements were added to the scope of the review. In the short-term, this project will result in the retirement of some departmental applications by incorporating the data and functionality into enterprise applications; in the long-term, dependent on enterprise system upgrades or additional modules, further consolidation can be realized.

- 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.
- GIS Integrations - An effort to link Water Quality (WQ) data to our GIS system is now underway. A proof of concept model was developed that successfully integrates WQ data with our GIS Flex viewer. The GIS Flex viewer is in the final approval stage so the WQ integration portion may not be ready for the initial release but it should follow shortly after.
- Smart Boards for EOC – Three Smart Boards for EOC were procured and installed at Chelsea Facility. MIS is procuring four more Smart Boards for CNY, DITP, Southborough and CWTP.
- **Information Security Program**
  - Completed the development and approval process for the MWRA Information Security Program Policy #ADM.31.
  - The MWRA sent out a Request for Quotes to twelve companies to implement the Information Security Program. The bid is expected back in March 2013.
- **Technology Infrastructure Improvement Program**
  - Installed 34 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 FY14 Proposed Budget is \$10.3 million, a decrease of \$53,000 or 0.5%, as compared to the FY13 Final Budget.
- \$5.3 million for **Wages and Salaries**, a decrease of \$62,000 or 1.2%, as compared to the FY13 Final Budget. The budget includes funding for 57 positions, 3 positions less than FY13.
- \$2.8 million for **Ongoing Maintenance**, an increase of \$393,000 or 16.5%, as compared to the FY13 Final Budget. Maintenance spending is for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff.
- \$147,000 for **Training and Meetings**, a decrease of \$26,000 or 14.8%, as compared to the FY13 Final Budget. Funding will support staff training in various computer applications as part of the MIS IT Strategic Plan.
- \$300,000 for **Professional Services**, a decrease of \$135,000 or 31.0%, as compared to the FY13 Final Budget. Funding will support the continued development of an MIS Strategic Plan and implementation services.
- \$491,000 for **Other Materials**, a decrease of \$55,000 or 10.1%, as compared to the FY13 Final Budget primarily due to lower specialized hardware needs.
- \$1.2 million for **Other Services**, a decrease of \$168,000 or 12.0%, as compared to the FY13 Final Budget primarily due to the elimination of FY13 one-time funding for the Photo Library Project.

**PROCUREMENT**

<b>Proposed FY14 Current Expense Budget PROCUREMENT</b>							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14		
WAGES & SALARIES	\$ 3,513,516	\$ 3,497,314	\$ 3,654,211	\$ 3,597,120	\$ (57,091)	-1.6%	
OVERTIME	14,105	16,983	15,750	15,750	-	0.0%	
FRINGE BENEFITS	167	185	-	-	-	-	
UTILITIES	129	-	-	-	-	-	
ONGOING MAINTENANCE	(199,828)	189,502	-	-	-	-	
TRAINING & MEETINGS	4,462	5,435	7,725	7,725	-	0.0%	
OTHER MATERIALS	120,162	106,745	109,608	109,608	-	0.0%	
OTHER SERVICES	63,530	57,656	67,870	64,870	(3,000)	-4.4%	
<b>TOTAL</b>	<b>\$ 3,516,243</b>	<b>\$ 3,873,820</b>	<b>\$ 3,855,164</b>	<b>\$ 3,795,073</b>	<b>\$ (60,091)</b>	<b>-1.6%</b>	

The **Procurement Department** includes three units. The **Purchasing Unit** operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The **Contract Management Unit** reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff 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.

**FY14 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.
- Implement electronic purchasing for Contract and Purchasing bids, which will significantly reduce the amount of paper processing.

**FY13 Mid-Year Accomplishments:**

- Competitively bid Renewable Energy Portfolio Standard certificates which resulted in FY12 revenues of \$253,000 (Class II). In addition, received FY12 revenues of \$773,000 from forward marketing of CY12 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.
- Awarded the following major contracts in FY13 to date: 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; Disclosure Counsel Services; DITP North Main Pump Station ESDC/REI; and Quabbin UV Disinfection.

Advertised or received bids/proposals/statements for the following: Security Improvements at Various Facilities Design; Quabbin UV Disinfection Facilities; DITP Waste Sludge Centrifuges Power and Control Systems Upgrade; Roof Replacement Bellevue and New Neponset Pump Station; DITP Electrical Equipment Upgrade Construction 4; Rehab of WASM 3 Design; and Audit Services.

- 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.
- Continued work with Operations and MIS to develop an RFP for an Automated Vehicle Locator Tracking System procurement.
- Began preparation for the development and implementation of an electronic procurement (e-procurement) process for construction contracting based upon Lawson Strategic Sourcing.
- Procured the Authority's vehicle purchases at the beginning of Fiscal Year 2013 (FY13) including 33 vehicles procured through the use of a "Reverse Auction" format.
- Bid the annual copy paper contract and received more favorable pricing than that listed on the State Blanket contract.
- Purchasing staff worked with Materials Management and Operations staff to develop a list of approved tools, established and bid a contract for the purchase of the approved tools.
- The Contracts and Purchasing Units are working with Operations to review and update if necessary, sole source procedures.
- The Purchasing Unit is working with Materials Management and Operations on a Quality of Materials Sub-Committee. The subcommittee's goal is to examine a number of similar inventory items to determine if what is currently being stocked in inventory is the appropriate quality to adequately perform the intended function.
- The Purchasing Unit held two successful training sessions in the fall of 2012. The first was conducted by the Inspector General's Office on the subject of "Bidding Basics". The second was an Operational Services Division (OSD) conducted training session for MWRA staff on how to use the State's procurement website Comm-Pass. Both training sessions were held at MWRA headquarters in Charlestown.
- Processed 5,194 purchase orders in the first half of FY13 for a total of \$27,441,800.
- As of 12/31/12: processed 59 competitive bids, 3 State Blanket contracts, 5 contract amendments, 4 critical need, and 6 sole source purchases for items and services valued over \$25,000.
- Updated buyer commodity assignments and distributed the list to Authority staff.

- Purchasing staff continues to seek out environmentally friendly products, among them recycled toners, batteries, copy paper, hybrid vehicles, and bio-fuels.
- Recycled 20.8 tons of paper, 44.18 tons of scrap metal, and 13.84 pounds of brass, copper, stainless steel and aluminum, generating \$38,000 in revenues.

**Budget Highlights:**

- The FY14 Proposed Budget is \$3.8 million, a decrease of \$60,000 or 1.6% from the FY13 Final Budget.
- \$3.6 million for **Wages and Salaries**, a decrease of \$57,000 or 1.6%, as compared to the FY13 Final Budget. The funding supports 45 positions, one less than in FY13.
- \$110,000 for **Other Materials**, which is level funded to the FY13 Final budget. This funding includes centralized office supply purchases which are based on historical spending trends.
- \$65,000 for **Other Services**, a decrease of \$3,000 or 4.4% as compared to the FY13 Final Budget. This funding supports Advertising and Printing/Duplicating for contract documents and specifications.

**REAL PROPERTY and ENVIRONMENTAL MANAGEMENT**

Proposed FY14 Current Expense Budget						
REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Budget	FY14 Proposed	Change FY13 to PFY14	
WAGES & SALARIES	\$ 448,967	\$ 460,569	\$ 481,064	\$ 426,077	\$ (54,987)	-11.4%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	2,045	1,234	38,000	8,000	(30,000)	-78.9%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	668	835	1,670	1,150	(520)	-31.1%
OTHER SERVICES	2,041,138	130,074	351,676	276,496	(75,180)	-21.4%
<b>TOTAL</b>	<b>\$ 2,492,818</b>	<b>\$ 592,712</b>	<b>\$ 872,410</b>	<b>\$ 711,723</b>	<b>\$ (160,687)</b>	<b>-18.4%</b>

The **Real Property and Environmental Management Department** negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects 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.

**FY14 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.

**FY14 Initiatives:**

- Monitor progress of upcoming underground storage tank regulation amendments.
- Coordinate implementation of boiler and emergency generator air emissions regulation amendments including monitoring, maintenance, pollution control retrofits, and recordkeeping requirements.

**FY13 Mid-Year 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.
- Provided real estate services on surplus of Waban Reservoir (Newton), Fox Point (Dorchester), and Commercial Point (Dorchester) and evaluation of property needs at Deer Island.

- 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. Currently renegotiating 5 of the 9 permit agreements which are due for renewal.
- Managed fee assessment for long-term 8M permits on MWRA fee controlled land. 8M fees for these agreements total \$49,900 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 and Ward Street Headworks (license with Wentworth Institute of Technology). Beginning work on acquisitions for Section 36, New W11C, and Shaft 9A in Waltham and Carroll Treatment Plant entrance renovations. 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) and evaluating long-term real estate needs for Weston Aqueduct Supply Mains (WASM) 3 Rehabilitation. 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.
- Completed the Polychlorinated biphenyl (PCB) Abatement at the Chicopee Valley Aqueduct Intake Facility and submitted the completion report to the Environmental Protection Agency (EPA).
- Completed the assessment, finalized and obtained approval from EPA of the PCB Abatement Plan for the Alewife Brook Pump Station.
- Provided technical support for the assessment and abatement design for PCBs at the Cottage Farm CSO Facility and Remote Headworks facilities in conjunction with on-going design of facility upgrades.
- Evaluated sub-surface soil and groundwater investigation program results from the Chelsea Creek Headworks facility and established MassDEP reporting requirements for newly-discovered contamination. Coordinated with design staff to determine future assessment and remediation requirements.
- Provided input to the design of a replacement fuel tank system at the Weston Reservoir facility.
- Completed site assessment and submitted final close-out report to MassDEP for groundwater contamination at the Newton Street Pump Station in Brookline discovered during an in-house valve replacement project.

- Continued to provide technical and regulatory coordination of the fuel tank maintenance contract. Completed fuel tank piping system upgrade at one facility and general monitoring system repair and upgrades at other facilities. 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). Initiated the new MassDEP-required monthly inspection requirement for all underground fuel storage tank systems.
- Completed new underground storage tank operator training for Operations staff. Real Property staff became certified as Class A/B Operators by the Massachusetts Department of Environmental Protection (MassDEP).
- Provided technical support and regulatory liaison for review of the draft National Pollutant Discharge Elimination System (NPDES) permit for annual maintenance discharges for the Carroll Water Treatment Plant.
- Coordinated with Operations staff to complete significant spill containment improvements at the Southboro facility. Completed updates to the Spill Prevention, Control, and Countermeasure (SPCC) Plans for the MWRA Southboro facility. Coordinated with MWRA construction staff to complete spill containment improvements at the Oakdale Power Station.
- Continued with MassDEP-required periodic groundwater monitoring around the former wastewater holding tank at Clinton.
- Continued to coordinate the periodic sampling requirements and quarterly reporting to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) 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,
  - Northern Intermediate Redundancy project,
  - Section 36 Watertown-Waltham Connection,
  - Oakdale Power Station Electrical Upgrade,
  - Phase VII Valve Replacements including cleanout of a mercury-contaminated meter chamber,
  - Lynnfield/Saugus Pipeline,
  - Cottage Farm Oil fuel system upgrade project,
  - Alewife Brook Pump Station facility upgrades,
  - MWR003 Gate, Siphon and Floatables Control project
- Completed third party verification of the greenhouse gas report for the Bio-solids Processing Facility. Coordinated with MassDEP 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 FY14 Proposed Budget is \$712,000, a decrease of \$161,000 or 18.4%, as compared to the FY13 Final Budget.
- \$426,000 for **Wages and Salaries**, a decrease of \$55,000 or 11.4%, as compared to the FY13 Final Budget. The budget supports four positions. The decrease is due to the transfer of one position to Public Affairs.
- \$8,000 for **Training and Meetings**, a decrease of \$30,000 as compared to the FY13 Final Budget. The decrease is due to a one-time underground storage tank operator training program conducted in FY13.
- \$276,000 for **Other Services**, a decrease of \$75,000 or 21.4%, as compared to the FY13 Final Budget. The decrease is due to a 10% reduction in the underground storage tank budget based on projected usage and elimination of \$40,000 budgeted in FY13 for a third party underground storage tank inspection program which was completed in FY13 and is required every three years.



## 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.

<b>MONTH</b>	<b>ACTIVITY</b>
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 FY2014 to FY2023**

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
<b>COMBINED UTILITIES</b>										
<b>EXPENSES</b>										
Direct Expenses	\$214,846	\$220,831	\$226,817	\$232,879	\$239,242	\$245,946	\$252,507	\$259,203	\$266,202	\$273,470
Indirect Expenses	47,707	48,976	49,489	50,089	52,568	53,985	55,370	56,866	59,702	55,718
Capital Financing (before offsets)	<u>398,011</u>	<u>420,785</u>	<u>446,770</u>	<u>494,919</u>	<u>498,419</u>	<u>510,172</u>	<u>564,103</u>	<u>562,790</u>	<u>593,450</u>	<u>548,171</u>
Sub-Total Expenses	\$660,563	\$690,591	\$723,076	\$777,888	\$790,230	\$810,103	\$871,981	\$878,858	\$919,354	\$877,359
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	(3,911)	(3,152)	(5,783)	(4,740)	(2,177)	(2,879)	0	(10,211)	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Expenses	\$660,563	\$686,680	\$719,924	\$772,105	\$785,490	\$807,926	\$869,102	\$878,858	\$909,143	\$877,359
<b>REVENUE &amp; INCOME</b>										
Non-Member and Other Revenue	\$14,049	\$14,557	\$14,798	\$15,188	\$15,629	\$15,834	\$16,162	\$16,462	\$16,730	\$16,602
Interest Income	11,781	9,410	10,897	11,077	11,186	11,408	11,742	11,935	12,154	12,079
Rate Stabilization	<u>3,500</u>	<u>8,089</u>	<u>8,848</u>	<u>6,217</u>	<u>0</u>	<u>2,448</u>	<u>9,121</u>	<u>0</u>	<u>1,789</u>	<u>0</u>
Total Other Revenue	\$29,330	\$32,057	\$34,543	\$32,482	\$26,815	\$29,690	\$37,025	\$28,398	\$30,673	\$28,682
Total Rate Revenue	\$631,233	\$654,623	\$685,381	\$739,623	\$758,675	\$778,235	\$832,077	\$850,460	\$878,470	\$848,678
Rate Revenue Increase	3.90%	3.7%	4.7%	7.9%	2.6%	2.6%	6.9%	2.2%	3.3%	-3.4%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$970	\$1,017	\$1,063	\$1,130	\$1,185	\$1,228	\$1,296	\$1,353	\$1,412	\$1,448
Based on water use of 90k gpy (weighted)	\$1,431	\$1,501	\$1,569	\$1,668	\$1,749	\$1,812	\$1,912	\$1,996	\$2,083	\$2,137
<b>WASTEWATER UTILITY</b>										
<b>EXPENSES</b>										
Direct Expenses	\$147,746	\$151,669	\$155,682	\$159,828	\$164,373	\$168,973	\$173,460	\$178,025	\$182,835	\$187,852
Indirect Expenses	15,116	15,906	15,413	15,246	15,925	16,445	16,960	17,545	18,194	18,820
Capital Financing (before offsets)	<u>279,535</u>	<u>278,145</u>	<u>303,849</u>	<u>340,355</u>	<u>320,205</u>	<u>338,951</u>	<u>375,865</u>	<u>367,593</u>	<u>378,260</u>	<u>322,183</u>
Sub-Total Wastewater Expenses	\$442,396	\$445,719	\$474,943	\$515,428	\$500,503	\$524,369	\$566,285	\$563,163	\$579,288	\$528,855
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	(5,783)	0	0	0	0	0	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Wastewater Expenses	\$442,396	\$445,719	\$474,943	\$509,646	\$500,503	\$524,369	\$566,285	\$563,163	\$579,288	\$528,855
<b>REVENUE &amp; INCOME</b>										
Non-Member and Other Revenue	\$5,022	\$5,122	\$5,243	\$5,373	\$5,474	\$5,603	\$5,754	\$5,875	\$6,016	\$6,111
Interest Income	7,842	5,737	6,627	6,528	6,544	6,758	7,040	7,127	7,240	7,133
Rate Stabilization	<u>1,952</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,565</u>	<u>355</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$14,816	\$10,859	\$11,870	\$11,901	\$12,017	\$13,926	\$13,149	\$13,002	\$13,256	\$13,244
Wastewater Rate Revenue	\$427,579	\$434,860	\$463,073	\$497,744	\$488,486	\$510,443	\$553,135	\$550,161	\$566,033	\$515,611
Rate Revenue Increase	3.90%	1.7%	6.5%	7.5%	-1.9%	4.5%	8.4%	-0.5%	2.9%	-8.9%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$578	\$600	\$634	\$671	\$688	\$721	\$765	\$789	\$822	\$825
Based on water use of 90k gpy (weighted)	\$853	\$886	\$935	\$990	\$1,015	\$1,064	\$1,129	\$1,163	\$1,213	\$1,216
<b>WATER UTILITY</b>										
<b>EXPENSES</b>										
Direct Expenses	\$67,100	\$69,162	\$71,135	\$73,052	\$74,870	\$76,973	\$79,047	\$81,178	\$83,368	\$85,619
Indirect Expenses	32,591	33,070	34,076	34,843	36,642	37,540	38,410	39,321	41,508	36,898
Capital Financing (before offsets)	<u>118,476</u>	<u>142,640</u>	<u>142,921</u>	<u>154,565</u>	<u>178,214</u>	<u>171,221</u>	<u>188,238</u>	<u>195,197</u>	<u>215,190</u>	<u>225,988</u>
Sub-Total Water Expenses	\$218,167	\$244,872	\$248,133	\$262,460	\$289,726	\$285,734	\$305,696	\$315,695	\$340,065	\$348,505
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	(3,911)	(3,152)	0	(4,740)	(2,177)	(2,879)	0	(10,211)	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Water Expenses	\$218,167	\$240,961	\$244,981	\$262,460	\$284,986	\$283,556	\$302,817	\$315,695	\$329,854	\$348,505
<b>REVENUE &amp; INCOME</b>										
Non-Member and Other Revenue	\$9,027	\$9,435	\$9,555	\$9,815	\$10,156	\$10,231	\$10,408	\$10,587	\$10,714	\$10,491
Interest Income	3,939	3,674	4,270	4,549	4,642	4,650	4,702	4,808	4,913	4,947
Rate Stabilization	<u>1,548</u>	<u>8,089</u>	<u>8,848</u>	<u>6,217</u>	<u>0</u>	<u>883</u>	<u>8,766</u>	<u>0</u>	<u>1,789</u>	<u>0</u>
Total Other Revenue	\$14,514	\$21,197	\$22,673	\$20,581	\$14,798	\$15,764	\$23,876	\$15,396	\$17,417	\$15,438
Water Rate Revenue	\$203,654	\$219,763	\$222,308	\$241,879	\$270,188	\$267,792	\$278,942	\$300,299	\$312,437	\$333,067
Rate Revenue Increase	3.90%	7.9%	1.2%	8.8%	11.7%	-0.9%	4.2%	7.7%	4.0%	6.6%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$392	\$417	\$430	\$459	\$497	\$507	\$531	\$564	\$590	\$624
Based on water use of 90k gpy (weighted)	\$578	\$615	\$634	\$678	\$734	\$749	\$783	\$832	\$870	\$920

\*\* 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 DRAFT community responses to the 2012 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 adds 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 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**  
**FY14 Current Expense Budget - Capital Financing Detail (as of 12/31/2012)**

	<b>Outstanding as of 12/31/12</b>	<b>Total</b>	<b>Sewer</b>	<b>Water</b>
<b>SRF <sup>1</sup></b>				
Unrefunded (93A, 93D, 95A,98C)	5,645,000	12,659	12,659	
1999E Sewer		399,982	399,982	-
1999E Water	12,399,577	581,810	-	581,810
1999F	264,940,000	18,281,335	18,281,335	-
2000E Sewer		2,822,376	2,822,376	-
2000E Water	60,769,388	569,096	-	569,096
2001C Water	2,900,000	249,081	-	249,081
2001D Sewer		388,258	388,258	-
2001D Water	4,594,682	82,136	-	82,136
2002H Sewer		3,140,737	3,140,737	-
2002H Water	89,580,000	1,546,651	-	1,546,651
2002I Sewer		103,471	103,471	-
2002I Water	1,986,328	1,485	-	1,485
2003A	881,768	69,599	-	69,599
2003B	2,619,311	224,280	-	224,280
2003C Sewer		1,361,292	1,361,292	-
2003C Water	38,801,625	968,117	-	968,117
2004C Sewer		543,782	543,782	-
2004C Water	9,625,193	92,983	-	92,983
2004D Sewer		3,825,415	3,825,415	-
2004D Water	57,137,545	643,364	-	643,364
2005C Sewer		420,427	420,427	-
2005C Water	6,442,560	69,217	-	69,217
2005D Sewer		3,388,490	3,388,490	-
2005D Water	63,593,747	804,846	-	804,846
2005E Sewer		24,961	24,961	-
2005E Water	345,449	5,479	-	5,479
2006C Sewer		487,659	487,659	-
2006D Sewer		3,738,286	3,738,286	-
2006D Water	74,753,334	1,613,908	-	1,613,908
2006E Sewer		22,883	22,883	-
2006E Water	401,494	10,281	-	10,281
2007C Sewer		309,703	309,703	-
2007C Water	5,493,006	189,486	-	189,486
2007D Sewer		1,150,701	1,150,701	-
2007E Sewer		3,296,001	3,296,001	-
2007E Water	67,478,223	1,263,536	-	1,263,536
2008G Sewer		405,692	405,692	-
2008G Water	5,655,419	82,367	-	82,367
2009C Sewer		5,757,305	5,757,305	-
2009C Water	101,878,601	1,890,704	-	1,890,704
2009D Sewer		649,614	649,614	-
2009D Water	10,887,273	85,874	-	85,874
2010C Sewer				
2010C Water	33,035,745			
2010D Sewer		1,426,292	1,426,292	-
2010D Water	45,937,219	1,440,860	-	1,440,860
2011A Sewer		384,214	384,214	-
2011A Water	10,347,920	371,419	-	371,419
2012C Sewer		524,090	524,090	-
2012C Water	11473683	254,618	-	254,618
2012D Sewer		2,855,898	2,855,898	-
2012D Water	52637872	532,162	-	532,162
Pool 17 SRF Sewer		2,161,800	2,161,800	-
Pool 17 SRF Water		729,035	-	729,035
Pool 18 Sewer		2,692,833	2,692,833	-
Pool 18 Water		1,012,067	-	1,012,067
<b>Total SRF Debt</b>	<b>\$ 1,069,890,454</b>	<b>\$ 75,960,617</b>	<b>\$ 60,576,155</b>	<b>\$ 15,384,461</b>

**APPENDIX F**  
**FY14 Current Expense Budget - Capital Financing Detail (as of 12/31/2012)**

	Outstanding as of 12/31/12	Total	Sewer	Water
<b>MWRA Senior Debt</b>				
1993C New/Refunding	28,705,000	10,589,213	9,265,561	1,323,652
2002J New		50,000	25,000	25,000
2002J Refunding	297,300,000	24,489,025	22,040,123	2,448,903
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	87,460,000	4,181,250	3,135,938	1,045,313
2009B Refunding	277,220,000	13,446,594	9,681,547	3,765,046
2010A New	98,895,000	4,757,050	3,329,935	1,427,115
2010B Refunding	183,570,000	17,778,500	10,311,530	7,466,970
2011B New	144,840,000	6,900,925	4,830,648	2,070,278
2011C	327,160,000	16,064,275	6,265,067	9,799,208
2012A	150,000,000	9,679,425	4,839,713	4,839,713
2012B	86,775,000	4,240,325	890,468	3,349,857
FY14 New Money (2014)		1,133,333	566,667	566,667
Potential Defeasance/Restructuring		(284,600)	(204,912)	(79,688)
<b>Total Senior</b>	<b>\$ 3,477,720,000</b>	<b>\$ 202,824,652</b>	<b>\$ 126,316,119</b>	<b>\$ 76,508,532</b>
<b>Subordinate Debt</b>				
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	1,985,324	1,985,324	-
2008A Refunding	337,675,000	64,787,251	57,012,781	7,774,470
2008C Refunding	117,680,000	9,309,865	8,937,470	372,395
2008E Refunding	173,060,000	8,663,708	7,970,611	693,097
2008F Refunding	175,050,000	5,689,125	512,021	5,177,104
2012E Refunding	62,830,000	2,041,975	428,815	1,613,160
2012F Refunding	60,300,000	1,959,750	411,548	1,548,203
2012G Refunding	57,820,000	5,305,704	5,093,476	212,228
Potential Defeasanc/Restructuring		(228,475)	(166,787)	(61,688)
<b>Total Subordinate Debt</b>	<b>\$ 1,138,285,000</b>	<b>\$ 102,680,376</b>	<b>\$ 83,780,537</b>	<b>\$ 18,899,839</b>
<b>Total SRF &amp; MWRA Debt Service<sup>2</sup></b>	<b>\$ 5,685,895,454</b>	<b>\$ 381,465,645</b>	<b>\$ 270,672,813</b>	<b>\$ 110,792,833</b>
Water Pipeline Commercial Paper	144,000,000	4,127,811	-	4,127,811
Current Revenue/Capital <sup>3</sup>		9,200,000	6,900,000	2,300,000
Capital Lease		3,217,060	1,961,918	1,255,142
<b>Sub-Total</b>	<b>\$ 144,000,000</b>	<b>\$ 16,544,870</b>	<b>\$ 8,861,918</b>	<b>\$ 7,682,952</b>
<b>Total Capital Financing (before Debt Service Offsets)</b>	<b>\$ 5,829,895,454</b>	<b>\$ 398,010,516</b>	<b>\$ 279,534,731</b>	<b>\$ 118,475,785</b>
Debt Service Offsets				
Debt Service Assistance				
<b>Total Capital Financing</b>	<b>\$ 5,829,895,454</b>	<b>\$ 398,010,516</b>	<b>\$ 279,534,731</b>	<b>\$ 118,475,785</b>

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

<sup>2</sup> Numbers may not add due to rounding.

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