

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2025 CURRENT EXPENSE BUDGET



GOVERNMENT FINANCE OFFICERS ASSOCIATION

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For the Fiscal Year Beginning

July 01, 2023

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MASSACHUSETTS WATER RESOURCES AUTHORITY

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November 7, 2024

Richard Raiche, Chairman
MWRA Advisory Board
2 Griffin Way
Chelsea, MA 02150

Dear Chairman Raiche:

This letter transmits to the Advisory Board MWRA's Current Expense Budget (CEB) for Fiscal Year 2025. The CEB was approved by the MWRA's Board of Directors on June 26, 2024.

The Final FY2025 Budget resulted in a combined assessment increase of 2.5%, which is lower than the 3.4% increase projected for FY2025 last year. The FY2025 total expenses are \$900.6 million, of which 56.0% or \$504.2 million is for capital financing costs, \$321.0 million for direct expenses, and \$75.4 million for indirect expenses. The overall expenses increased by \$26.5 million or 3.0% over the FY2024 budget.

The FY25 Current Expense Budget continues to address increased staffing costs, higher maintenance costs, and the volatility of chemical and utility pricing in recent years due to the inflationary impacts of the pandemic as well as supply chain disruptions. The MWRA continues to address its Pension and Other Post Employment Benefit (OPEB) obligations and is well positioned heading into FY25 and beyond. Debt Service is budgeted at an appropriate level to fund all required payments for existing and projected debt issuances. Rate Revenue assessed to member communities makes up 95% of total revenues, and Investment Income is growing by 21.6% over FY24 based on higher anticipated interest rates on existing and projected investments.

When establishing expense projections, the main emphasis was on the FY2025 budget, but with the goal of continuing to utilize MWRA's multi-year rate management strategy to provide sustainable and predictable assessment increases to our member communities for the long term. To achieve this goal again this year, MWRA has continued to employ conservative budgeting and fiscal discipline which includes controlled spending, capital project prioritization, and use of historical variable rate assumptions. The combination of these measures resulted in assessment increase projections of no more than 3.3% for the next four years.

The FY2025 budget continues to address the smoothing of rate revenue changes at the water and sewer utility level. Additional budget information and a copy of this document are available online at www.mwra.com. Questions or comments on this document should be directed to the MWRA Budget Department at (617) 788-2206. Thank you for your continued support.

Sincerely,

A handwritten signature in blue ink that reads "Fred a Laskey". The signature is fluid and cursive.

Frederick A. Laskey
Executive Director

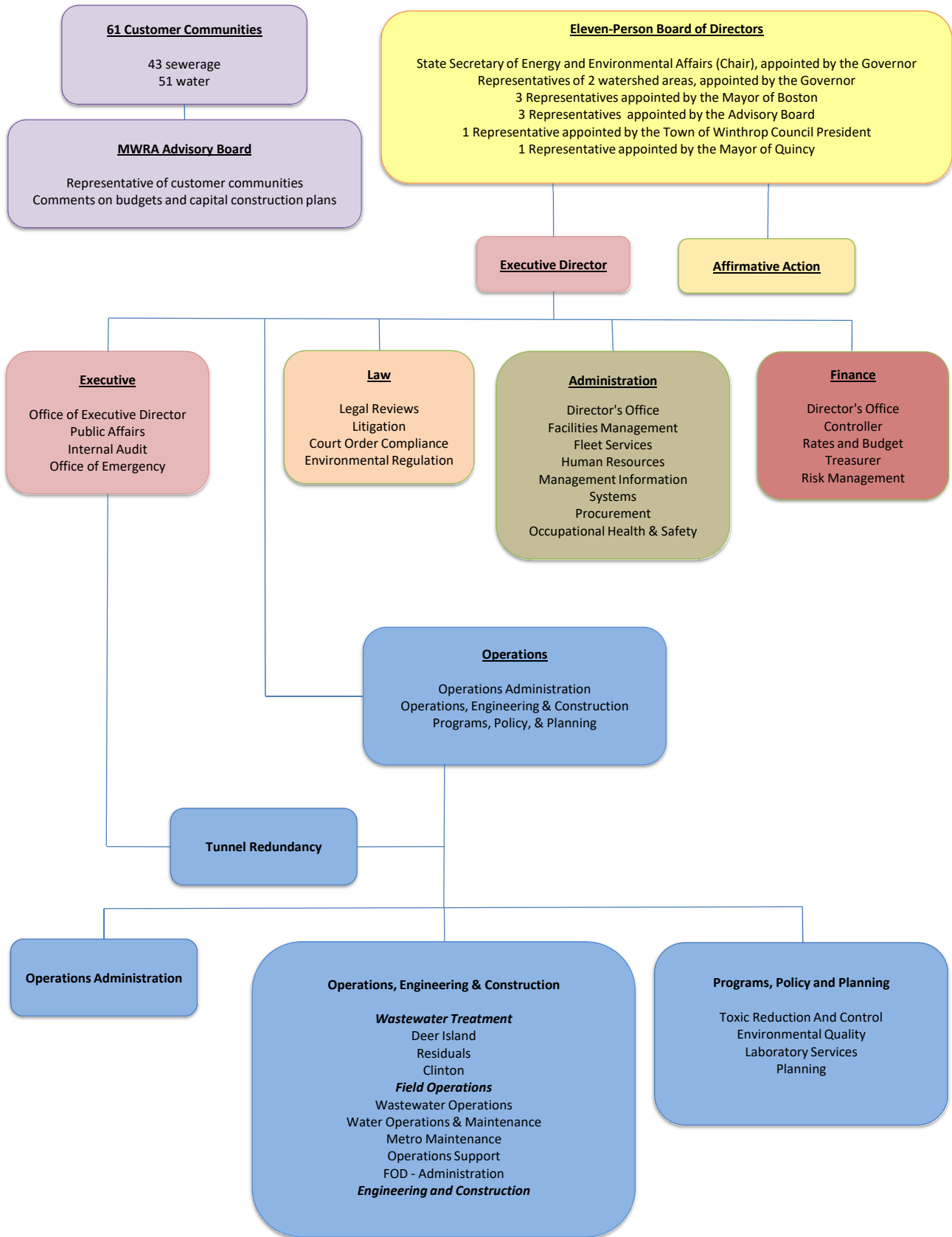


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MWRA AT A GLANCE

Purpose

Provide wholesale water and sewer services to customer communities, funded primarily through rates and charges

Legal Status

Massachusetts public authority established by an enabling act in 1984 – Chapter 372 of the Acts of 1984 as most recently amended November 2019

Management

- 11-member Board of Directors (3 Governor appointees, 3 Mayor of Boston appointees, 1 City of Quincy appointee, 1 Town of Winthrop appointee, and 3 Advisory Board appointees)
- 1 Executive Director (5 divisions: Office of the Executive Director, Operations, Finance, Administration, Law)

Advisory Board

Established by the enabling act to make recommendations to the MWRA on the MWRA budget and programs and to serve as liaison to the customer communities

Service Area

- 61 customer communities (43 sewerage, 54 water)
- 3.1 million people (44% of MA population)
- 5,500 businesses

FY25 Operating Budget (\$ in millions)

Direct Expenses	\$321.0
Indirect Expenses	\$75.4
Capital Finance	<u>\$504.2</u>
Total Operating Budget	\$900.6
Revenues*	\$900.6

*95.0% of Revenues raised from rate assessments

Bond Ratings - General Revenue Bonds (senior/subordinate)

Moody's -	Aa1/Aa2
S&P -	AA+/AA
Fitch -	AA+/AA

Capital Improvement Program

- Total CIP spending: \$9.3 billion since 1984
- Total Current Indebtedness: \$4.4 billion
- FY25 CIP Planned Spending: \$347.9 million

Water System

- 2 protected reservoirs
 - Quabbin
 - Wachusett
- 2 water treatment facilities
 - John J. Carroll
 - William A. Brutsch
- 395 miles of distribution infrastructure including aqueducts, deep rock tunnels, and pipeline
- 14 active storage reservoirs and standpipes
- 11 active pumping stations
- Average Daily flow: 200 mgd
- Safe yield: 300 mgd
- Treatment Capacity: 405 mgd
- Percentage of capacity utilized: 67%*
**based on safe yield*

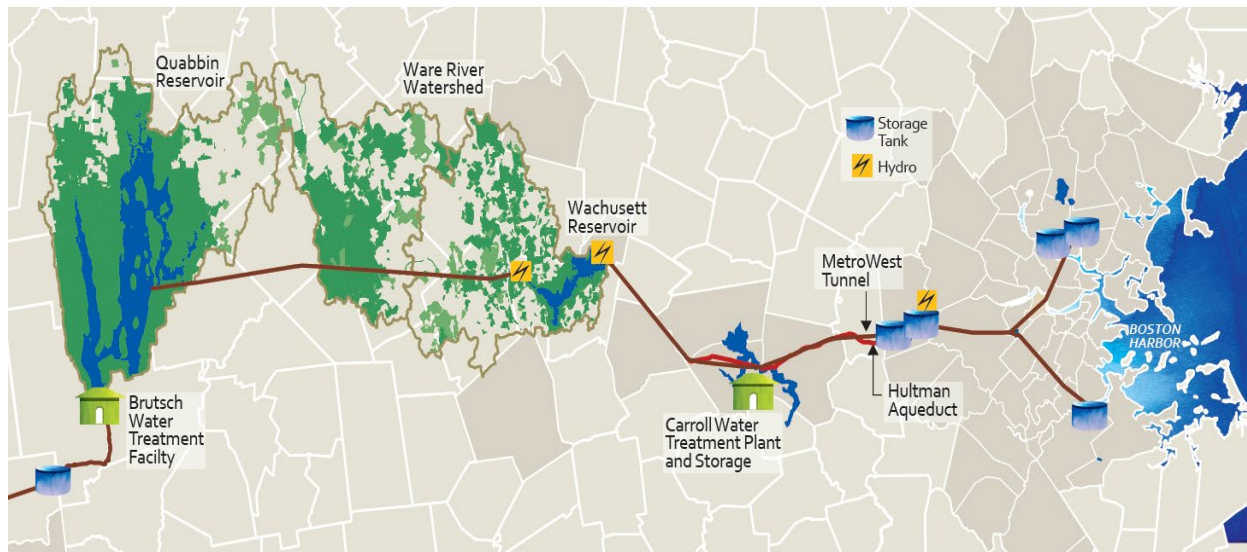
Wastewater System

- 274 miles of sewer pipelines and cross-harbor tunnels
- 13 pump stations
- 1 screening facility/gate house
- 6 CSO treatment/storage facilities
- 2 wastewater treatment plants
 - Deer Island Treatment Plant
 - Clinton Wastewater Treatment Plant
- 4 remote headworks
- 1 Pellet Plant for residuals processing
- Average daily flow: 360 mgd
- Peak wet weather capacity: 1,270 mgd

Renewable Energy

Approximately 30% of MWRA's energy requirement is self-generated from renewable sources (biomass, hydro, wind, & solar assets).

MWRA is voluntarily purchasing New England sourced renewable energy certificates to meet 100% of its purchased electricity needs.



MWRA's water comes from the Quabbin Reservoir, 65 miles west of Boston, and the Wachusett Reservoir, 35 miles west of Boston. The Quabbin alone holds a 4-year supply of water.

The reservoirs are filled naturally. Rain and snow fall onto watersheds (protected land around the reservoirs) and eventually turn into streams that flow into the reservoirs. This water comes into contact with soil, rock, plants and other material as it follows its path. This process helps to clean the water.

The Quabbin and Wachusett Reservoirs are protected. Over 85% of the watershed lands that surround the reservoirs are covered in forest and wetlands. About 75% of the total watershed land cannot be built on. The natural undeveloped watersheds help to keep MWRA water clean and clear. Because they are well-protected, the water in the Quabbin and Wachusett Reservoirs is of very high quality. The MWRA has won numerous awards for quality, taste, and sustainability.

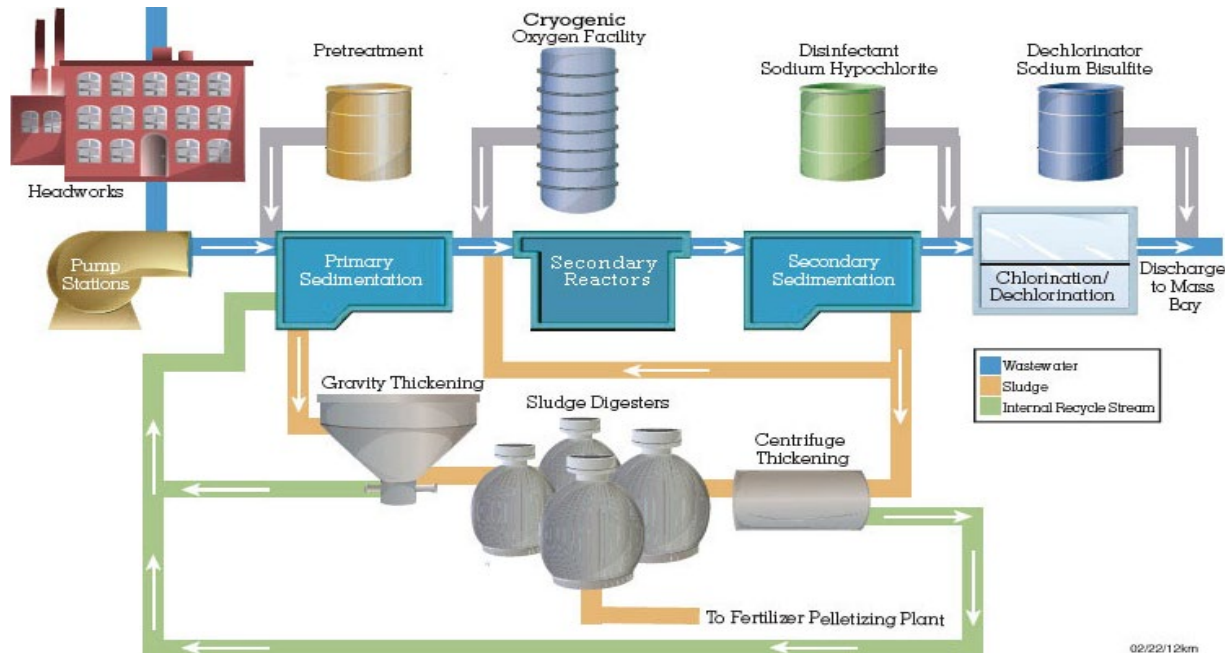
Water for most MWRA communities is treated at the Carroll Water Treatment Plant in Marlborough, Massachusetts. Water from the Quabbin and Wachusett Reservoirs enters the plant through the Cosgrove or Wachusett Aqueduct. The treated water leaves the plant through the MetroWest Water Supply Tunnel and the Hultman Aqueduct. Water from the Quabbin Reservoir for Chicopee, South Hadley Fire District #1 and Wilbraham is treated at the Brutsch Water Treatment Facility in Ware, Massachusetts, and leaves the plant through the Chicopee Valley Aqueduct.

For MetroWest and Metro Boston communities, treated water is sent through the MetroWest Water Supply Tunnel and the Hultman Aqueduct and is stored in covered tanks. From there it is drawn into distribution mains and many smaller community pipes. For Chicopee Valley Area Communities, treated water is sent through the Chicopee Valley Aqueduct to the local distribution mains and smaller community pipes. Water meters log the water entering each community.

Local pipes serve each street in the customer communities and eventually carry water into buildings. Meters installed by the local communities measure the amount of water delivered to each home or business.

To maintain and measure water quality, MWRA tests over 1,600 water samples per month, from the reservoirs all the way to household taps.

MWRA AT A GLANCE – Wastewater System



Water is flushed through a building's pipes into customer community sewers. These 5,100 miles of local sewers transport the wastewater into 227 miles of MWRA interceptor sewers. The interceptor sewers, ranging from 8 inches to 11 feet in diameter, carry the region's wastewater to two MWRA treatment plants. Most communities' wastewater flows to the Deer Island Treatment Plant with the Clinton Wastewater Treatment Plant serving the town of Clinton and the Lancaster Sewer District.

The following describes the Deer Island treatment process:

Collection and Pumping: Sewage is piped to headworks where bricks, logs and other large objects are screened out. Pumps draw the screened sewage through deep-rock tunnels under Boston Harbor to Deer Island.

Preliminary Treatment: Mud and sand settle in a tank called a grit chamber. This material, known as grit and screenings, is taken to a landfill for environmentally safe disposal.

Primary Treatment: The sewage then flows to primary settling tanks where up to 60% of the solids in the waste stream settle out as a mixture of sludge and water.

Secondary Treatment: Plant oxygen is added to the wastewater to speed up the growth of micro-organisms. These microbes then consume the wastes and settle to the bottom of the secondary settling tanks. After secondary treatment, 80-90% of human waste and other solids have been removed.

The treated wastewater is disinfected before it is discharged to the Massachusetts Bay. The treated wastewater, known as effluent, travels through a 9.5-mile Outfall Tunnel bored through solid rock more than 250 feet below the ocean floor. The tunnel's last mile and a quarter include 55 separate release points known as "diffusers." With water depths up to 120 feet, this outfall provides a much higher rate of mixing and/or dilution than possible with discharges into the shallow waters of Boston Harbor.

Sludge from primary and secondary treatment is processed further in sludge digesters, where it is mixed and heated to reduce its volume and kill disease-causing bacteria. It is then transported through the Inter-Island Tunnel to the pelletizing plant in Quincy, Massachusetts where it is dewatered, heat-dried and converted to a pellet fertilizer for use in agriculture, forestry and land reclamation.



Executive Summary

Executive Summary

MISSION

The Massachusetts Water Resources Authority (MWRA) is an independent public authority of the Commonwealth of Massachusetts that provides wholesale water and sewer services to its member communities and funds its operations primarily through member community 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.

HISTORY

Created by the Massachusetts legislature in 1985 (Chapter 372 of the Acts of 1984), MWRA assumed possession and control of the water and sewer systems, including facilities, properties, and the right to utilize water withdrawn from system reservoirs that had formerly been the Sewerage and Waterworks Divisions of the Commonwealth of Massachusetts Metropolitan District Commission (MDC). 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 maintenance of which are included in MWRA's operating budget.

In 1985, responsibility for water distribution for 46 municipalities and sewage collection and treatment for 43 municipalities was transferred to the MWRA. In 1987, the legislature also transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to the MWRA. New communities have the opportunity to join the MWRA water and sewer systems, and, over the years, the number of member communities has increased. Since 1985, the MWRA has invested over \$9.3 billion to modernize and improve the wastewater and waterworks systems serving its 61 member communities. MWRA's facilities span from the Quabbin Reservoir in western Massachusetts to the Deer Island Treatment Plant in Boston Harbor. In Fiscal Year 2024, the system served approximately 3.1 million people and more than 5,500 businesses.

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.

MWRA ORGANIZATION

The MWRA has five 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 immediately preceding this page.

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; and Internal Audit.

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; monitors water quality; and includes the Planning and Coordination Department.

The **Administration Division** is responsible for managing the support services functions of the Authority. The Administration is comprised of seven departments: Director's Office; Facilities; Fleet Services; Human Resources; Management Information Systems (MIS); Procurement; and Occupational Health and Safety (OHS). The Administration 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 **Finance Division** is responsible for managing the finance functions of the Authority. Finance Division is comprised of five departments: Director's Office; Rates and Budget; Treasury; Controller; and Risk Management. The 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.

GOALS AND PERFORMANCE MEASURES

The MWRA Business Plan was first implemented in 1997 as a strategic road map to present specific steps for the organization to undertake to improve customer service, upgrade operations and maintenance and pursue aggressive rates management. In 2000, MWRA adopted a five-year Strategic Business Plan. Since then, some of the goals have been completed, and new ones have been added. MWRA's current five-year Strategic Business Plan FY2021-2025 was adopted in early 2021 and emphasized improvements in service and systems and included performance targets for operating the water and wastewater systems and maintaining new and existing facilities. The FY2021-2025 Business Plan can be found at [2021-2025finalmwrabp.pdf](https://www.mwra.com/02org/html/masterplan.htm). MWRA's Water System Master Plan and Wastewater System Master Plan present a long-term vision of the capital development needs of the water and wastewater systems and the actions planned to meet those needs. The Master Plan can be found at <http://www.mwra.com/02org/html/masterplan.htm>, Both the Master Plan and the Business Plan are

integral components to MWRA's goal of carrying out its operating programs and capital projects while providing sustainable, predictable and reasonable assessments to its customer communities. To that end, the MWRA applies a multi-year rates management strategy to provide sustainable and predictable assessment increases to its member communities. The need to achieve and maintain a balance between these two goals is a critical issue in the development of both MWRA's operating and capital budgets.

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 both the operating and capital budgets and provides summary explanations of the variances at the line item level. At least twice a year staff prepares projections for the fiscal year-end with a similar level of explanations. These reports are The performance indicator reports (published by MWRA as the Orange Notebook) captures a variety of parameters regarding performance of each major functional area of the Authority, on a quarterly basis. It can be found at [Orange Notebook Archive | MWRA](#). Please see Appendix I.

BUDGET PROCESS OVERVIEW

Each year, MWRA prepares a Current Expense Budget (CEB) that reflects the best available information for anticipated expenditures and revenues. In parallel, MWRA prepares a Capital Improvement Program (CIP) Budget.

The MWRA operates on a fiscal year that runs from July 1 through June 30. The budget process for both budgets begins in the fall with formal kick-off meetings in September where MWRA staff are given guidelines and targets for their budget requests. After review by the Budget Department and MWRA senior staff, a Proposed CIP Budget is typically presented to the Board of Directors in December. The Capital Financing portion of the Current Expense Budget is determined based on existing debt service and projected borrowing needs. Typically in February, after further review with MWRA senior staff, the Budget Department presents the Proposed CEB to the Board of Directors, after which the Proposed CEB is then transmitted to the Advisory Board, with the projected assessment increase Authority-wide and for each customer community. The Advisory Board then has sixty days to review, comment, and provide recommendations on both budgets. MWRA also hosts a public hearing to solicit comments on the budgets and community assessments from citizens in its service area. Typically in May, the Advisory Board transmits its comments to the MWRA to which written responses are provided.

Typically at its May meeting, 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 and final assessments for approval at the June Board of Directors meeting.

FY25 BUDGET SUMMARY

The Final FY25 Budget recommends a combined increase in rate revenue and charges of 2.54%. Total expenses are \$900.6 million, an increase of \$26.5 million or 3.0% over the FY24 Approved Budget. Capital Financing costs remain the largest component of the CEB and account for 56.0% of total expenses. There are no offsets from Debt Service Assistance (DSA) assumed for FY25 or in any future years.

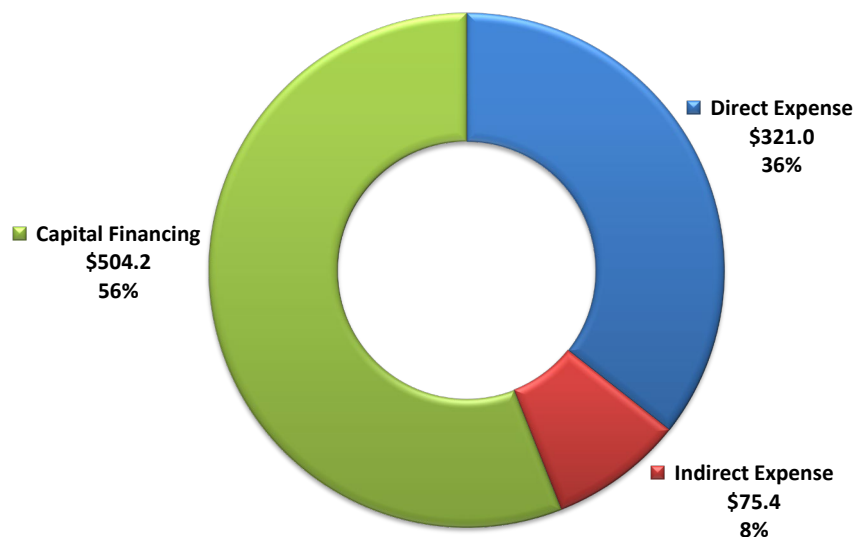
The FY25 Current Expense Budget continues to address increased staffing costs, higher maintenance costs, and the volatility of chemical and utility pricing in recent years due to the inflationary impacts of the pandemic as well as supply chain disruptions. The MWRA continues to address its Pension and Other Post Employment Benefit (OPEB) obligations and is well positioned heading into FY25 and beyond. Debt Service is budgeted at an appropriate level to fund all required payments for existing and projected debt issuances. Rate Revenue assessed to member communities makes up 95% of total revenues, and Investment Income is anticipated to significantly grow over FY24 based on higher anticipated interest rates on existing and projected investments.

Total expenses include \$504.2 million for Capital Financing costs and \$396.5 million for operating expenses, of which \$321.0 million is for Direct Expenses and \$75.4 million is for Indirect Expenses. The \$26.5 million increase in total expenses is due to higher Direct Expenses of \$5.0 million, Indirect Expenses of \$5.1 million, and higher Capital Financing costs of \$16.4 million.

The FY25 Final Budget revenues, excluding rate revenue, total \$45.1 million, an increase of \$5.3 million or 13.2% over the FY24 Budget. The FY25 Final Budget non-rate revenue estimates includes \$16.7 million in Other User Charges and Other Revenue, \$28.4 million for Investment Income. The FY25 Final Budget does not utilize any rate stabilization or bond redemption funds.

The FY25 Final Rate Revenue Requirement is \$855.5 million, an increase of \$21.2 million or 2.54% over the FY24 Budget.

FY25 Final Current Expense Budget



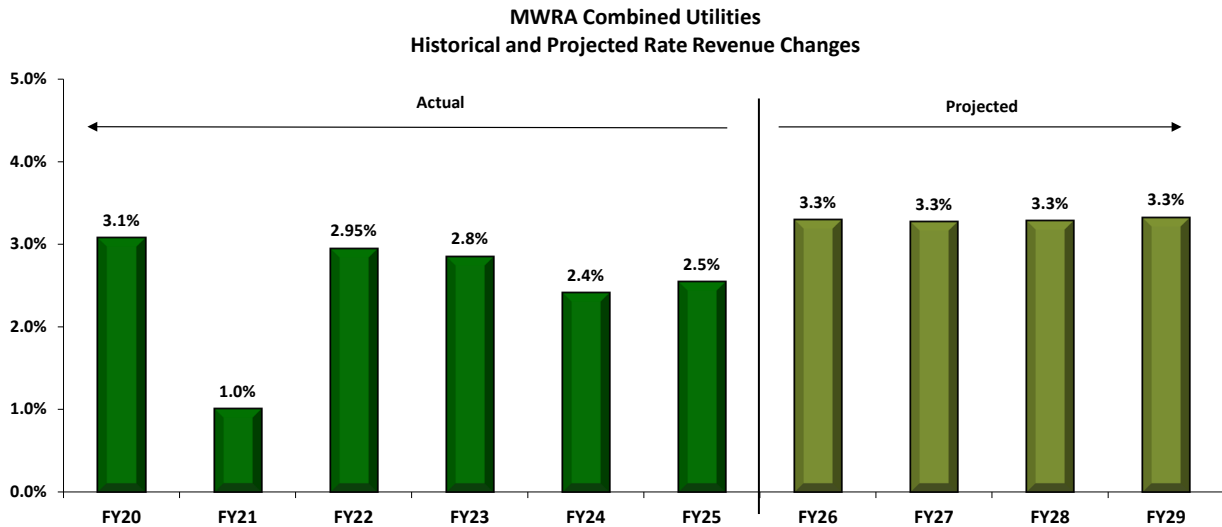
MWRA continues to pursue a rate management strategy which promotes sustainable and predictable assessments. The FY25 Final has a combined utilities assessment increase of 2.54% with Rate Revenues totaling \$855.5 million, accounting for 95.0% of projected FY25 revenues.

The following table shows MWRA's FY25 Approved Budget for revenue and expenses compared with the FY24 Approved Budget. Changes from FY24 to FY25 are described in the Revenue and Expense section of the Executive Summary.

ATTACHMENT A
FY25 Approved Budget vs. FY25 Proposed Budget vs. FY24 Approved Budget

TOTAL MWRA	FY24 Approved Budget	FY25 Proposed Budget	FY25 Approved Budget	Change FY25 Approved Budget vs FY24 Approved		Change FY25 Approved Budget vs FY25 Proposed Budget	
				\$	%	\$	%
EXPENSES							
WAGES AND SALARIES	\$ 127,828,242	\$ 135,679,805	\$ 133,658,956	\$ 5,830,714	4.6%	\$ (2,020,849)	-1.5%
OVERTIME	5,727,593	6,133,077	6,133,077	405,484	7.1%	-	0.0%
FRINGE BENEFITS	25,823,383	27,265,765	27,834,124	2,010,741	7.8%	568,359	2.1%
WORKERS' COMPENSATION	2,144,395	2,073,434	2,073,434	(70,961)	-3.3%	-	0.0%
CHEMICALS	28,269,124	20,054,280	19,706,033	(8,563,091)	-30.3%	(348,247)	-1.7%
ENERGY AND UTILITIES	31,064,893	29,660,076	32,048,177	983,284	3.2%	2,388,102	8.1%
MAINTENANCE	38,574,255	43,578,318	46,653,200	8,078,945	20.9%	3,074,883	7.1%
TRAINING AND MEETINGS	498,597	547,346	568,346	69,749	14.0%	21,000	3.8%
PROFESSIONAL SERVICES	10,410,484	11,000,628	11,121,730	711,246	6.8%	121,102	1.1%
OTHER MATERIALS	7,167,398	7,255,219	7,270,879	103,481	1.4%	15,660	0.2%
OTHER SERVICES	38,494,660	37,409,229	33,945,804	(4,548,856)	-11.8%	(3,463,425)	-9.3%
TOTAL DIRECT EXPENSES	\$ 316,003,024	\$ 320,657,175	\$ 321,013,760	\$ 5,010,736	1.6%	\$ 356,585	0.1%
INSURANCE	\$ 4,065,380	\$ 4,471,045	\$ 4,471,045	\$ 405,665	10.0%	\$ -	0.0%
WATERSHED/PILOT/DEBT	30,358,187	32,109,392	32,507,642	2,149,455	7.1%	398,250	1.2%
HEEC PAYMENT	7,500,650	7,103,385	8,185,723	685,073	9.1%	1,082,338	15.2%
MITIGATION	1,779,086	1,823,563	1,823,563	44,477	2.5%	-	0.0%
ADDITIONS TO RESERVES	7,861,035	2,075,783	1,906,278	(5,954,757)	-75.8%	(169,506)	-8.2%
RETIREMENT FUND	15,972,805	23,720,476	21,264,519	5,291,715	33.1%	(2,455,957)	-10.4%
POSTEMPLOYMENT BENEFITS	2,849,365	2,824,849	5,280,806	2,431,441	85.3%	2,455,957	86.9%
TOTAL INDIRECT EXPENSES	\$ 70,386,507	\$ 74,128,494	\$ 75,439,576	\$ 5,053,068	7.2%	\$ 1,311,082	1.8%
STATE REVOLVING FUND	\$ 90,798,263	\$ 87,726,088	\$ 85,449,151	\$ (5,349,112)	-5.9%	\$ (2,276,937)	-2.6%
SENIOR DEBT	294,055,644	312,373,644	315,206,721	21,151,077	7.2%	2,833,078	0.9%
SUBORDINATE DEBT	69,931,072	64,768,074	64,768,074	(5,162,998)	-7.4%	-	0.0%
LOCAL WATER PIPELINE CP	7,744,625	9,827,661	9,827,661	2,083,036	26.9%	-	0.0%
CURRENT REVENUE/CAPITAL	19,200,000	20,200,000	20,200,000	1,000,000	5.2%	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	3,217,060	-	0.0%	-	0.0%
DEBT PREPAYMENT	4,000,000	7,000,000	5,500,000	1,500,000	37.5%	(1,500,000)	-21.4%
DEBT SERVICE ASSISTANCE	(1,187,297)	-	-	1,187,297	-100.0%	-	0.0%
TOTAL DEBT SERVICE	\$ 487,759,367	\$ 505,112,526	\$ 504,168,667	\$ 16,409,300	3.4%	\$ (943,859)	-0.2%
TOTAL EXPENSES	\$ 874,148,898	\$ 899,898,195	\$ 900,622,003	\$ 26,473,105	3.0%	\$ 723,808	0.1%
REVENUE & INCOME							
RATE REVENUE	\$ 834,268,000	\$ 859,438,000	\$ 855,488,000	\$ 21,220,000	2.5%	\$ (3,950,000)	-0.5%
OTHER USER CHARGES	10,390,434	10,719,376	10,668,572	278,138	2.7%	(50,804)	-0.5%
OTHER REVENUE	5,838,903	5,985,461	6,066,670	227,767	3.9%	81,209	1.4%
RATE STABILIZATION	305,482	-	-	(305,482)	-100.0%	-	0.0%
INVESTMENT INCOME	23,346,079	23,755,359	28,398,761	5,052,682	21.6%	4,643,402	19.5%
TOTAL REVENUE & INCOME	\$ 874,148,898	\$ 899,898,196	\$ 900,622,003	\$ 26,473,105	3.0%	\$ 723,807	0.1%
Rate Revenue Increase over FY24		3.02%	2.54%				

The following graph represents historical and projected assessment changes based on the FY25 Final Budget. The planning estimates project assessment increases at 2.5% in FY25, 3.3% in years FY26 through FY29.



FY25 GOALS AND MAJOR INITIATIVES

Ensuring a safe and reliable source of drinking water to MWRA customers, and wastewater discharges that meet all applicable regulations drives both capital and current expense budget costs. The MWRA has identified Authority-wide major initiatives to support the five strategic priorities integral to MWRA’s mission that were identified for action in MWRA’s Five-Year Strategic Business Plan FY2021-2025 accepted by the Board of Directors in early 2021. The Five-Year Strategic Business Plan FY2021-2025 can be found at [2021-2025finalmwrabp.pdf](#). At the Division and Department-level, additional and more specific goals and initiatives are identified.

FY25 Goals and Initiatives:

I. Drinking Water Quality and System Performance

- ***Compliance with Regulatory Requirements and Public Health Standards:*** Maintain drinking water quality to protect public health, and continue to ensure that MWRA water meets all applicable regulations.
- ***Technical Assistance for Water Communities:*** Assist member communities to improve local water distribution systems through ongoing financial, technical and operational support programs to maximize long-term water quality benefits.

II. Wastewater Quality and System Performance

- ***Compliance with Regulatory Requirements:*** Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system.
- ***Regulatory Changes:*** Continue to initiate plans and studies to prepare for regulatory changes; identify opportunities to refine monitoring requirements; and improve effluent quality. Special initiatives include:

- **Wastewater Infrastructure:** Move forward with design and construction of major wastewater infrastructure rehabilitation and renewal projects.
- **CSO Plan Compliance:** Complete all CSO milestones and demonstrate that the CSO Plan meets its performance objectives.
- **Technical Assistance for Wastewater Communities:** Assist member communities to improve their wastewater collection systems through ongoing technical, financial, and operational support programs.

III. Infrastructure Management and Resilience

- **System Maintenance and Enhancement:** Maintain and enhance water and wastewater system assets over the long term at the lowest possible life cycle cost and acceptable risk, consistent with customer, community, and regulatory support levels.
 - The FY25 Capital Improvement Program forecasts \$349.7 million in spending in FY25, of which \$176.7 million supports Wastewater System Improvements and \$145.8 million supports Waterworks System Improvements.
 - For FY25, the FY25 Final CIP includes 197 active contracts of which 69 are for design of Wastewater and Waterworks Systems Improvements and 40 are for construction, with projected spending of \$65.6 million for design and \$161.9 million for construction. In addition, there are 88 active other contracts with total spending of \$120.4 million.
- **Emergency Preparedness:** Prepare for catastrophic events and malicious acts that could affect the water and wastewater systems.

IV. Environmental Sustainability

- **Energy Optimization:** Continue to maximize energy efficiency of MWRA operations, renewable energy production, and revenue generation opportunities using MWRA's energy assets.
- **Climate Change Adaptation:** Continue to monitor climate change research and move forward with plans to reduce impacts of projected sea level rise and storm surge events on MWRA infrastructure. Initiatives include:
- **Water System Expansion:** Advance reasonable water system expansion.

FY24 Year-End Accomplishments:

I. Drinking Water Quality and System Performance

- Met water quality and treatment standards in the drinking water system during FY24.
- Local Water System Assistance Program: Through June 2024, distributed \$48.9 million in Local Water System Assistance Program interest-free loans, plus an additional \$8.5 million under the Lead Service Line Replacement Loan Program in FY24. In total, MWRA has distributed \$606.4 million in loans to fund 536 local projects with participation from 43 of the 47 eligible water communities. This total includes the \$30 million pilot program in FY98-00. Since 1998, MWRA has replaced or cleaned and lined 603 miles of local water main (about 8% of the regional system) via projects funded by MWRA financial assistance. In addition, MWRA has loaned \$43.8 million

(via 46 distributions) to 17 member communities for Lead Water Service Line Replacement projects.

II. Wastewater Quality and System Performance

- Deer Island received the Platinum Peak Performance Award for calendar year 2023 from the National Association of Clean Water Agencies (NACWA) for the 17th continuous year. The award recognizes facilities for outstanding compliance with their National Pollutant Discharge Elimination System (NPDES) permit limits. DITP has had no permit violations for over 17 years.
- Deer Island met secondary permit limits at all times, treating on average 98.2% of flows with full secondary treatment.
- Processed 100.5 average tons per day of sludge at the Pelletization Plant and disposed of 5,275 tons of grit and screenings through a contracted vendor.
- Met all NPDES reporting requirements including routine monthly, quarterly, and annual reports, and required notifications under Part II of permits, Contingency Plan, DITP blending order.
- *Sewer Grant/Loan Program* – Through June 2024, distributed \$29.2 million in grants and interest-free loans to member sewer communities for Infiltration/Inflow reduction and sewer system rehabilitation projects in FY24. In total, MWRA has distributed \$560 million in grants and loans to fund 685 local projects with participation from all 43-member sewer communities.

III. Infrastructure Management and Résilience

Maintenance

- For FY24, the Operations Division spent \$31.0 million on maintenance of which \$11.4 million was for materials and \$19.6 million was for services.
- In water system through June 2024, exercised 750 and replaced 6 mainline valves; exercised 458 and replaced 28 blow-off valves.
- In the wastewater system through June 2024, inspected 28 miles and cleaned 25 miles of MWRA pipeline. Inspected 687 structures and rehabilitated 78 manholes. Also inspected 21 and cleaned 18 inverted siphon barrels.

Capital Improvements

- Capital spending for FY24 totaled \$208.2 million broken out by category as follows: \$94.0 million for Wastewater System projects, \$105.0 million for Water System projects, and \$9.2 million for Business and Operations Support projects.

IV. Finance and Management

- 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. The credit report from Moody's noted that for the rates management and Compliance and Capital Planning key ratings indicators, MWRA was assigned the highest Aaa rating. These high credit ratings enable MWRA to borrow at very advantageous interest rates minimizing debt service expense.
- Developed the FY25 Budget consistent with the FY24 planning estimates, for both the Current Expense Budget and the Capital Improvement Program.

- Completed a \$445.5 million refunding and new money Green Bond transaction on June 27, 2024. The overall transaction carried an All-in True Interest Cost of 3.68% with an average life of 11.7 years. MWRA has issued a total of \$3.1 billion in Green Bonds.
- In June 2024 MWRA anticipates selling \$200 million in new money bonds to permanently finance outstanding short-term borrowings. As part of the transaction MWRA will offer a bond tender refunding for interest rate savings. Current projections have gross debt service savings of approximately \$22.1 million.
- Executed a \$12.4 million and a \$25.5 million defeasance of outstanding senior principal in January 2024 and June 2024 respectively. These defeasances reduced the debt service requirement between FY25 and FY30 by a total of \$40.4 million reducing the rate of increase to the Rate Revenue Requirement in those years. The transactions also resulted in \$1.8 million in interest savings by paying bonds on their call dates.
- Prepared submission of MWRA's Comprehensive Annual Financial Report (CAFR) to the Government Finance Officers Association
- Held Budget Briefings with the MWRA Advisory Board to communicate FY25 departmental budgets and initiatives and how they relate to the MWRA's Master Plan.
- Prepared submission of MWRA's Comprehensive Annual Financial Report (CAFR) to the Government Finance Officers Association

VI. Environmental Sustainability

- Received a total of \$1.1 million in revenue for energy generated at numerous facilities including hydroelectric from Oakdale Station, Cosgrove Station, and Loring Road; wind from Charlestown Wind Pump Station; and solar from Carroll Water Treatment Plant.
- Continue 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, non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) credits, and receipt of utility rebates for CEB-funded efficiency projects resulted in \$1.6 million in revenue year to date in FY24. MWRA also avoided more than \$1.4 million in capacity charges through operation of self-generation assets during peak load events as called by the regional transmission organization (ISO New England).
- Deer Island self-generated 24.8% of the plant's total required power FY24.
- Energy Conservation - Eversource EV Make Ready Program – EV charging analysis at Deer Island and Southborough is ongoing. Eversource has approved Deer Island, Southborough, and Chelsea for funding of infrastructure costs. Chelsea project was executed in FY24, with installation expected in FY25. Deer Island and Southborough agreement execution expected in FY25, with installation at Southborough expected in FY25. Staff are also engaged with NGRID on approval for EV Charging at the Carroll Plant and Clinton. Purchased six additional electric vehicles.

SOURCES AND USES OF FUNDS

Funds supporting the Current Expense Budget are not subject to appropriation (with the exception of State debt service assistance). The table below shows MWRA's sources and uses of funds for the FY25 Final Budget.

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, among other things, recover the cost of operations (excluding depreciation), maintenance and improvements, and debt service, as well as meeting required reserve levels.

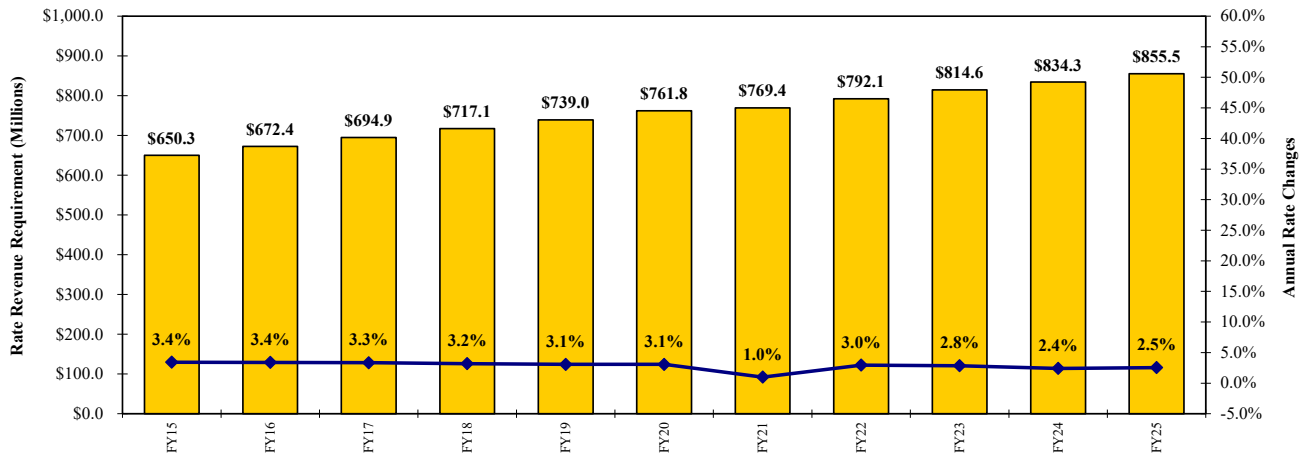
In the FY25 Final Budget, 95.0% of revenue is raised from rate revenue that is assessed to the member communities. The remaining 5.0% of revenue will come from interest on investments, charges to other water and sewer customers (including Chicopee Valley Aqueduct (CVA) communities), non-recurring revenue, 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 FY25 Final Budget, the MWRA will raise \$855.5 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$855.5 million, \$544.1 million will fund the sewerage system, an increase of 1.8% as compared to FY24; and \$311.4 million will fund the water system, an increase of 3.9% as compared to FY24. The following charts illustrate the historical rate revenue requirements at the combined utility level for the past eleven years.

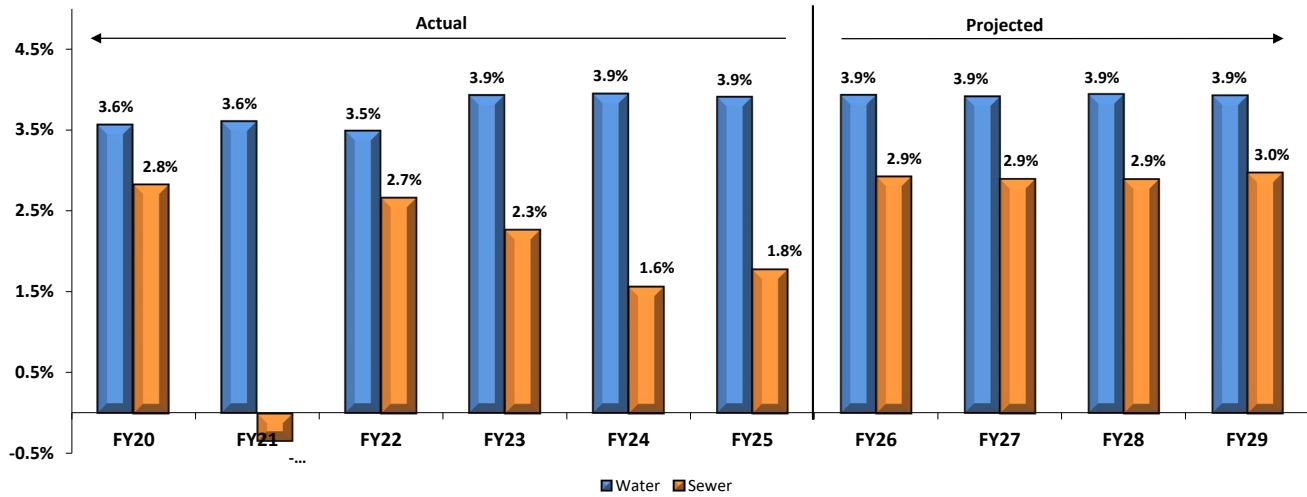
SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$10.7	1.2%
Other Revenue	6.1	0.7%
Investment Income	28.4	3.2%
Rate Revenue	855.5	95.0%
Rate Stabilization	0.0	0.0%
TOTAL REVENUE	\$900.6	100.0%
<i>Uses of Funds</i>		
Total Expenses before Debt		
Service Offsets	\$504.2	
Less:		
Debt Service Assistance	-	
Bond Redemption	-	
Sub-Total Net Expenses	\$504.2	
Capital Financing	\$504.2	56.0%
Direct Expenses	321.0	35.6%
Indirect Expenses	75.4	8.4%
TOTAL EXPENSES	\$900.6	100.0%
TOTAL EXPENSES Less Offsets	\$900.6	
<i>*may not add up due to rounding</i>		

MWRA: Combined Water & Sewer Assessments



Beginning in FY17, the MWRA successfully implemented a rate smoothing methodology that allows the rate revenue requirement to be smoothed at the utility level, eliminating annual volatility mostly driven by debt service payments for capital projects. The chart below shows the historical percent increase for the last six years and the projected increases for the next four years.

MWRA Water & Sewer Utilities
Historical and Projected Rate Revenue Changes



Non-Rate Revenue

FY25 non-rate revenue totals \$45.1 million, which is an increase of \$5.2 million or 13.2% versus the FY24 Budget. This increase was driven primarily by higher projected investment earnings which increased by \$5.1 million. The FY25 non-rate revenue budget includes the following:

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 FY25 Final Budget total \$10.7 million, including \$5.7 million for the Chicopee Valley Aqueduct (CVA) communities, \$2.4 million for Deer Island water usage, \$500,000 for the Commonwealth's partial reimbursement for Clinton Wastewater Treatment Plant expenses, and \$426,000 for entrance fees payments from existing member communities. Other User Charges are \$278,000 or 2.7% higher than the FY24 Budget.

Other Revenue

Other Revenue is budgeted at \$6.1 million, an increase of \$228,000 or 3.9% over the FY24 Budget. Other Revenue includes \$1.5 million from the sale of the Authority's Renewable Portfolio Credits, revenue from participating in load response programs, and the sale of generated power to the grid. The balance of Other Revenue includes \$3.0 million in permit fees and penalties, an increase of \$296,000 over the FY24 Budget.

Investment Income

MWRA earns interest income by investing funds in both long and short-term investments vehicles governed by Sections 522 and 523 of the General Bond Resolution. The FY25 Budget includes \$28.4 million in Investment Income, an increase of \$5.1 million or 21.6% from the FY24 Budget. The budget assumes an average interest short-term interest rate of 5.0% in FY25 and a long-term rate of 3.25% based on existing and projected investments. The budget reflects the projected short-term interest rates as a result of anticipated actions of the Federal Reserve Open Market Committee (FOMC).

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 Fund. 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 FY25 Final Budget, no Rate Stabilization Reserve usage is projected, leaving those funds for future rate relief.

The Rate Revenue Requirement for FY25 is \$855.5 million, an increase \$21.2 million or 2.5% over the FY24 Budget. The Rate Revenue Requirement is the difference between total expenses of \$900.6 million and non-rate revenue of \$45.1 million.

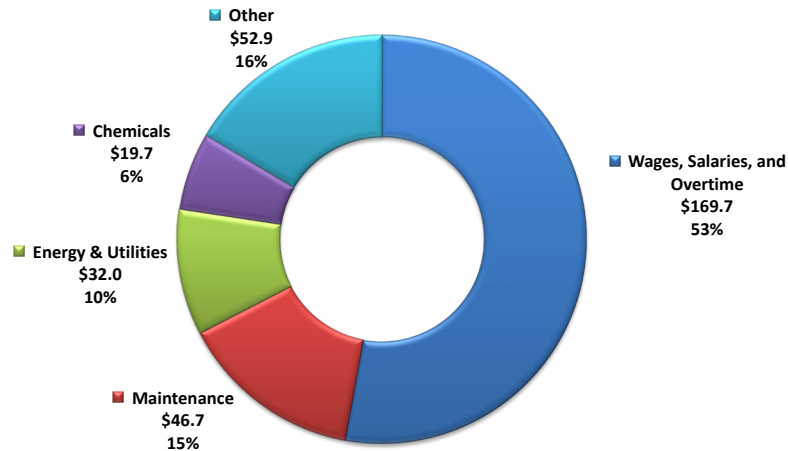
DIRECT EXPENSES

FY25 Direct Expenses total \$321.0 million, an increase of \$5.0 million, or 1.6%, over the FY24 Budget. The primary drivers of the Direct Expenses increases are Maintenance, Wages and Salaries, and Fringe Benefits.

The chart below combines related direct expense line items into general cost categories. Personnel costs (wages and salaries, overtime, fringe benefits, and workers' compensation) are the largest component of the direct expense budget at 53%, followed by other expenses (training and meetings, professional services, other materials, and other services) at 16%, maintenance at 15%, energy & utilities at 10%, and chemicals at 6%.

Direct Expenses by Category

(\$s in millions)



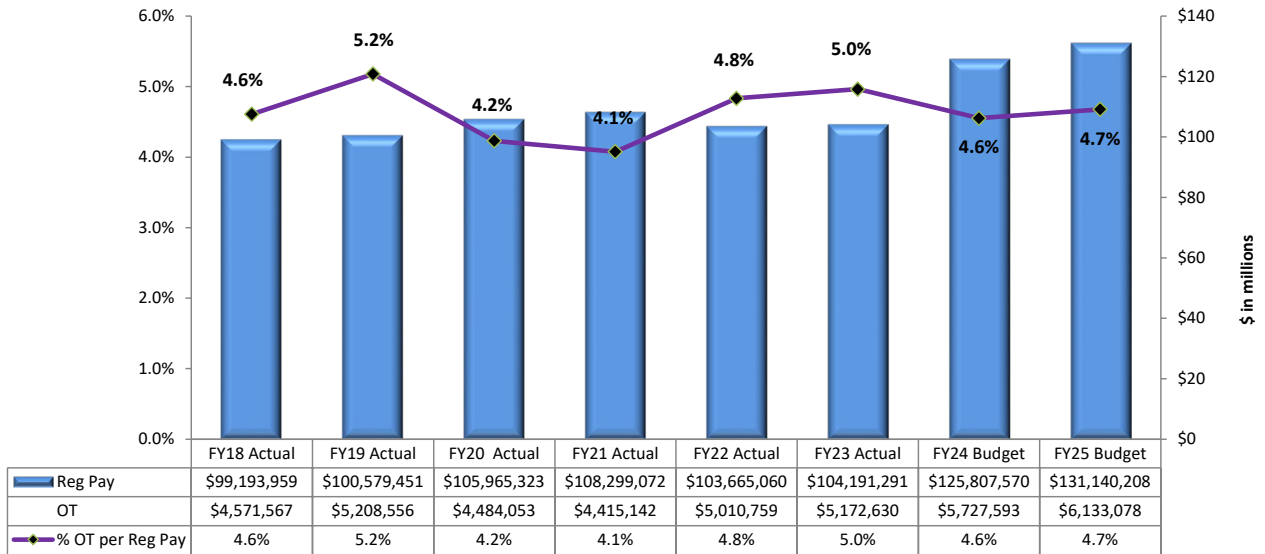
FY25 Final Current Expense Budget						
MWRA Direct Expenses by Line Item						
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 105,394,954	\$ 106,433,845	\$ 127,828,242	\$ 133,658,956	\$ 5,830,714	4.6%
OVERTIME	5,010,758	5,172,629	5,727,593	6,133,077	405,484	7.1%
FRINGE BENEFITS	21,714,918	23,122,023	25,823,383	27,834,124	2,010,741	7.8%
WORKERS' COMPENSATION	1,665,017	2,076,732	2,144,395	2,073,434	(70,961)	-3.3%
CHEMICALS	11,788,437	18,038,588	28,269,124	19,706,033	(8,563,091)	-30.3%
UTILITIES	29,352,756	32,514,216	31,064,891	32,048,177	983,286	3.2%
MAINTENANCE	28,842,198	34,317,838	38,574,255	46,653,200	8,078,945	20.9%
TRAINING & MEETINGS	232,056	258,753	498,597	568,346	69,749	14.0%
PROFESSIONAL SERVICES	7,373,709	7,546,594	10,410,484	11,121,730	711,246	6.8%
OTHER MATERIALS	5,039,040	4,837,988	7,167,400	7,270,879	103,479	1.4%
OTHER SERVICES	25,243,013	27,017,485	38,494,660	33,945,804	(4,548,856)	-11.8%
TOTAL	\$ 241,656,857	\$ 261,336,692	\$ 316,003,024	\$ 321,013,760	\$ 5,010,736	1.6%

Wages and Salaries – The budget includes \$133.7 million for Wages and Salaries as compared to \$127.8 million in the FY24 Budget, an increase of \$5.8 million or 4.6%. Regular Pay makes up \$131.1 million or 98.1% of the total Wages and Salaries. The FY25 Budget includes 1,168.0 FTE’s which is the same as the FY24 Budget. As always, new hires and backfilling of vacant positions will be managed at the agency level and addressed on a case-by-case basis by senior management. A vacancy adjustment (reduction) of \$5.6 million is factored in to the FY25 Budget.

Division	FY21	FY22	FY23	FY24	FY25
Executive	5.0	5.0	5.0	4.0	4.0
Emergency Preparedness	4.0	4.0	4.0	5.0	6.0
Affirmative Action	7.0	7.0	7.0	7.0	7.0
Internal Audit	6.7	6.7	6.7	7.0	7.0
Public Affairs	11.9	11.9	11.9	11.0	11.0
Tunnel Redundancy	13.0	16.0	16.0	16.0	14.0
Operations	918.0	918.0	903.0	903.0	903.0
Law	13.6	11.6	12.0	14.0	12.0
Administration	146.7	149.7	149.7	149.0	151.0
Finance	37.0	37.0	52.0	52.0	53.0
Authority Total	1,163.0	1,167.0	1,167.4	1,168.0	1,168.0

Overtime – The budget includes \$6.1 million for Overtime, an increase of \$405,000 or 7.1% over the FY24 Budget. Overtime was increased to reflect wage increases and recent trends in planned overtime for off-hours maintenance, emergency, coverage, and planned projects that include construction.

MWRA: % Overtime vs. Regular



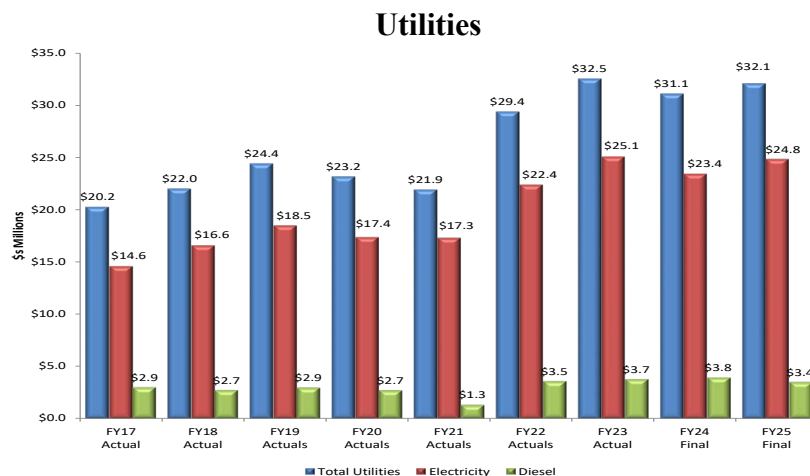
Fringe Benefits – The budget includes \$27.8 million for Fringe Benefits, an increase of \$2.0 million or 7.8% over the FY24 Budget. Health Insurance premiums total \$24.1 million, an increase of \$2.0 million or 8.8% over the FY24 Budget largely due to anticipated increases in the health plans rates.

Fringe Benefits				
Line Item	FY23 Actuals	FY24 Budget	FY25 Budget	Difference
Health Insurance	\$ 19,918,276	\$ 22,183,120	\$ 24,143,389	\$ 1,960,268
Dental Insurance	1,092,790	1,115,162	1,115,162	-
Unemployment Insurance	49,032	140,000	140,000	-
PFML	367,346	468,491	578,839	110,348
Medicare	1,580,287	1,731,526	1,700,810	(30,716)
Overtime Meals	112,805	130,083	115,924	(14,159)
Tuition Reimbursement	1,488	55,000	40,000	(15,000)
Total Fringe Benefits	\$ 23,122,024	\$ 25,823,383	\$ 27,834,124	\$ 2,010,741

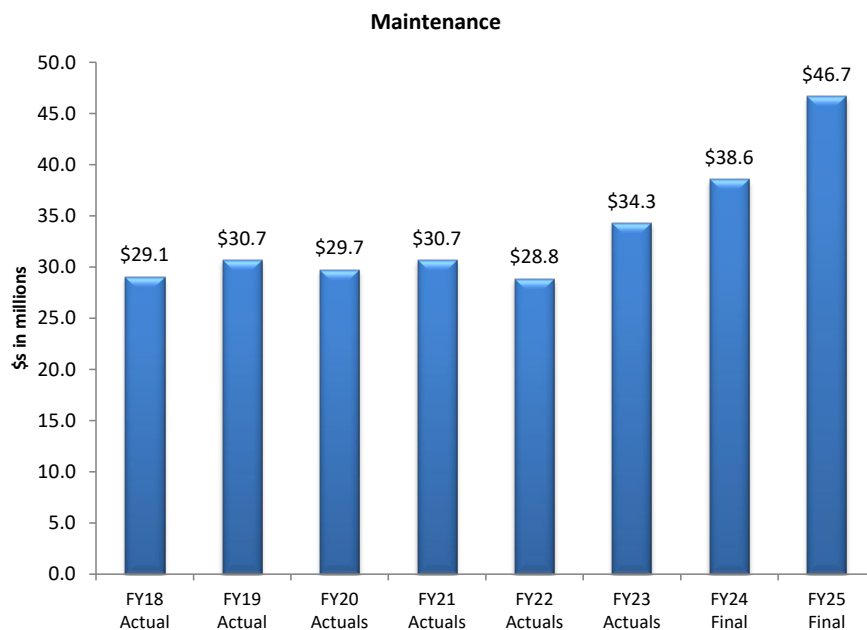
Workers' Compensation – The budget includes \$2.1 million for Workers' Compensation. This is \$71,000 or 3.3% less than the prior year's level and is based on a three-year historical average spending for Worker's Compensation.

Chemicals – The budget includes \$19.7 million for Chemicals, a decrease of \$8.6 or 30.3% less than the FY24 Budget. Lower pricing drove the budget decrease. Several chemicals decreased including Sodium Hypochlorite by \$5.4 million or 44.5%, Ferric Chloride by \$1.9 million or 32.7%, Aqua Ammonia by \$390,000 or 55.4%, Carbon Dioxide by \$359,000 or 30.8%, and Polymer by \$340,000 or 37.7% primarily due to lower pricing. The FY25 Budget includes \$726,000 for the anticipated Deer Island National Pollutant Discharge Elimination System (NPDES) permit, which is projected to have more stringent requirements for enterococcus treatment compliance, resulting in an increase from \$489,000 budgeted in FY24.

Utilities – The budget includes \$32.0 million for Utilities, which is an increase of \$983,000 or 3.2% over the FY24 Budget. The budget funds \$24.8 million for Electricity, an increase of \$1.4 million or 6.0% over the FY24 budget primarily due to higher pricing. The Diesel Fuel budget of \$3.4 million is \$414,000 or 10.8% lower than the FY24 Budget primarily due to decreases in price at the Deer Island Treatment Plant (DITP) and Field Operations Department (FOD) facilities as well as lower volume at DITP. The Natural Gas budget of \$844,000 is \$271,000 or 24.3% less than the FY24 Budget primarily due to lower pricing in Wastewater Operations and at Western Facilities.



Maintenance – The budget includes \$46.7 million for Maintenance projects, an increase of \$8.1 million or 20.9% over the FY24 budget. The increase is driven by Plant and Machinery Services of \$5.9 million for updated cost to the Boiler, STG, Hydroplant and Wind service contract including replacing the wicket gates on the hydro units, CTG Control System Upgrade, Duct Cleaning for pump stations, solar repair at John Carroll Water Treatment Plant, installation of diesel exhaust silencers at Cottage Farm Facility, Nut Island Treatment Plant fire pump and controller replacement, increase for reactor mixer gearbox rebuilds, partially offset by changes to ongoing spare motor for Alewife Brook Pump Station which is an FY24 purchase; Special Equipment Services of \$1.4 million for PICS Human Machine Interface (HMI) System Upgrade, Waterfall Data Diodes (for EDS & PI), Emerson Enterprise Data Solutions (EDS) Upgrades; Plant and Machinery Materials of \$734,000 for submersible wastewater pumps at headworks, Residual Odor Control (ROC) fan replacement, primary and secondary flights, and transfer switch at Prison Point Facility, partially offset by purchases completed or expected to be completed in FY24 including reactor gearbox, polymer pumps, and latheHVAC Materials of \$602,000 for replacement of Roof Top Units (RTU’s; Electrical Materials of \$194,000 for North Main Pump Station inverter, inspect and rebuild Norwalk valves, and VFD’s at Caruso Pump Station, partially offset by emergency lights at DITP purchased and expected to be completed in FY24; Electrical Services of \$163,000 due to the planned installation of a heat pump at Squantum Pump Station. These increases are partially offset by lower Special Equipment Materials of \$878,000 for materials that were purchased or expected to be completed in FY24 including hatch covers at the Fells and flow meter at Nut Island Headworks; and Computer/Software Licenses/Upgrades of \$484,000 due to the removal of Financial Management System Upgrade related costs from the CEB since they are included in the current CIP contract (awarded in June 2023), partially offset by updated costs including Oracle Database Management System (DBMS) maintenance, Okta, and MAXIMO maintenance amongst others.



Training and Meetings – The budget includes \$568,000 for Training and Meetings, an increase of \$70,000 or 14.0% over the FY24 Budget.

Professional Services – The budget includes \$11.1 million for Professional Services, an increase of \$711,000 or 6.8% over the FY24 Budget. The increase is driven by Engineering Services of \$294,000 for

expected costs associated with Local Limits analysis for Boston Harbor NPDES Permit and Security Services of \$292,000 for updated contract rates.

Other Materials – The budget includes \$7.3 million for Other Materials, an increase of \$103,000 or 1.4% over the FY24 Budget. The increase reflects \$85,000 in Other Materials largely due to updated cost for gravel for the Clinton landfill.

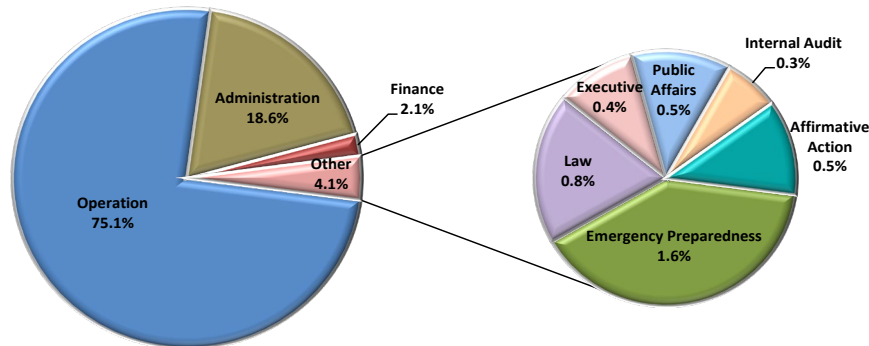
Other Services – The budget includes \$33.9 million for Other Services, a decrease of \$4.5 million or 11.8% from the FY24 Budget. Sludge Pelletization decreased by \$3.9 million or 14.6%. This decrease reflects a reduction of \$5.0 million for potential landfill disposal costs due to PFAS issues, partially offset by an increase of \$1.2 million for the pellet plant contract that began in January 2024. Also, Telecommunications decreased by \$362,000 due to updated costs. Grit & Screenings Removal decreased by \$287,000 due to lower anticipated quantities.

Functional Area Budget Summary

The chart below shows the breakdown of the MWRA’s direct expense budget by division.

FY25 Final Current Expense Budget MWRA Direct Expenses by Division						
DIVISION	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
EXECUTIVE	\$ 6,882,325	\$ 6,893,907	\$ 9,780,186	\$ 10,634,966	\$ 854,780	8.7%
ADMINISTRATION	49,563,902	52,062,910	58,088,755	59,775,225	1,686,470	2.9%
FINANCE	3,931,402	5,550,540	6,597,913	6,875,424	277,511	4.2%
LAW	1,743,373	1,765,443	2,837,856	2,522,119	(315,737)	-11.1%
OPERATIONS/PLANNING	179,535,855	195,063,892	238,698,314	241,206,026	2,507,712	1.1%
TOTAL	\$ 241,656,857	\$ 261,336,692	\$ 316,003,024	\$ 321,013,760	\$ 5,010,736	1.6%

MWRA Direct Expense Budget by Division



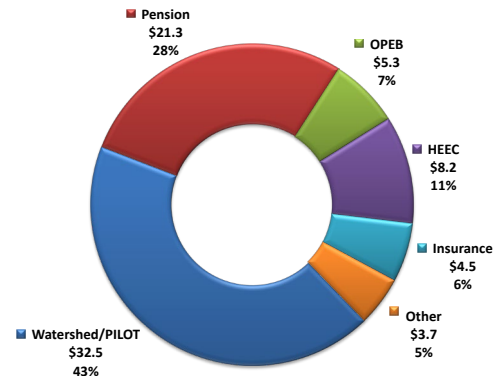
Detailed summaries for each Division budget are provided following the Executive Summary.

INDIRECT EXPENSES

Indirect Expenses for FY25 total \$75.4 million, an increase of \$5.1 million or 7.2% over the FY24 Budget.

The graph to the right combines related indirect expense line items into the general cost categories and shows that Watershed/PILOT expenses are the largest component of the indirect expense budget at 43%, followed by the Pension Fund at 28%, HEEC at 11%, OPEB at 7%, Insurance at 6%, and Other (for items such as Mitigation and Additions to Reserves) at 5%.

Indirect Expenses by Category
(\$ in millions)



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 \$1,000,000 per claim. The budget includes \$4.5 million for Insurance, an increase of \$406,000 or 10.0% over the FY24 Budget. Insurance Premiums increased 11.6% based on proposals received. Claim payments decreased based on a 5-year average. This also reflects a 10% property insurance premium credit. The budget consists of two components, self-insured claim costs and insurance premiums. Self-insured claim cost are estimated based on actual average spending over the past 5 years (FY19-23). Premium costs are estimated based on current costs adjusted for inflation and potential increases due to insurance market conditions. MWRA mitigates the budgetary risk of self-insurance by maintaining an Insurance Reserve. The reserve, which was established as part of the General Bond Resolution, requires that an independent insurance consultant review the funding level every three years and provide recommendations as to its adequacy. The current recommended funding level is \$10-\$13 million. The Insurance Reserve is currently funded at a \$14 million par value. The next independent review is scheduled for February 2026.

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 and operating expenses of the Division of Water Supply Protection. The budget includes \$32.5 million for the Watershed Management budget, an increase of \$2.1 million or 7.1% above the FY24 Budget. The budget includes \$23.6 million for reimbursement of operating expenses net of revenues, and \$8.9 million for Payment in Lieu of Taxes (PILOT). The budget increase is driven by contractual wage increases, reclassifications of position grades, and health care costs.

Category	FY24 Final	FY25 Final	Change	% Change
Operating Expenses	\$ 20,790,187	\$ 23,033,592	\$ 2,243,405	10.8%
Major Projects	\$ 1,678,000	\$ 1,659,050	\$ (18,950)	-1.1%
Revenues	\$ (1,010,000)	\$ (1,085,000)	\$ (75,000)	7.4%
Net	\$ 21,458,187	\$ 23,607,642	\$ 2,149,455	10.0%
PILOT	\$ 8,900,000	\$ 8,900,000	\$ -	0.0%
Total	\$ 30,358,187	\$ 32,507,642	\$ 2,149,455	7.1%

Harbor Electric Energy Company (HEEC)

The budget includes \$8.2 million for the Harbor Energy Electric Company (HEEC), an increase of \$685,000 or 9.1% over the FY24 Budget. The budget reflects the latest cost estimates and true up payment due for prior calendar year. The final costs will be determined by the Massachusetts Department of Public Utilities (DPU) once it has completed its review of the project. In FY18, \$6.5 million was set aside to mitigate the impact of the HEEC cost associated with construction of a new power cable to Deer Island Treatment Plant, and is projected to be used between FY22-25. In FY25, no HEEC Reserve will be used.

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 budget includes \$1.8 million for Mitigation payments to the City of Quincy and Town of Winthrop in accordance with mitigation agreements, which expire at the end of FY25.

Operating Reserves

Funding for the Additions to the Operating Reserve for FY25 is \$1.9 million. The Operating Reserve balance is in compliance with MWRA's General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY25 Final Budget, the required balance is \$59.5 million versus the \$57.6 million required in FY24.

Retirement System Contribution

The budget includes \$21.3 million for the Retirement Fund, an increase of \$5.3 million or 33.1% over the FY24 budget. The increase to the Actuarially Determined Contribution (ADC) of \$2.0 million is based on the January 2024 actuarial valuation. Staff are recommending an additional \$5.2 million be allocated for the Retirement Fund to assist in reaching the full funding by 2030. MWRA's pension fund is at an 88.9% funding level.

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

In the FY25 Final Budget the Authority funds its OPEB liability at \$5.3 million, continuing the Authority's long-term commitment to address its liabilities. 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 plan to pay down the pension liability and upon reaching full funding, move to address the OPEB obligation. To maximize the benefits in terms of returns and accounting treatment, an irrevocable OPEB Trust was

established with Board approval and funding started on April 23, 2015. The OPEB Trust balance was \$82.1 million (45% funded) as of June 30, 2024. Starting in FY18, GASB 75 is the governing regulation for employee OPEB contributions. The \$5.3 million budget is based on 50% of the contribution determined in the January 1, 2024 actuarial report. This is a \$2.4 million increase over FY24.

CAPITAL FINANCING

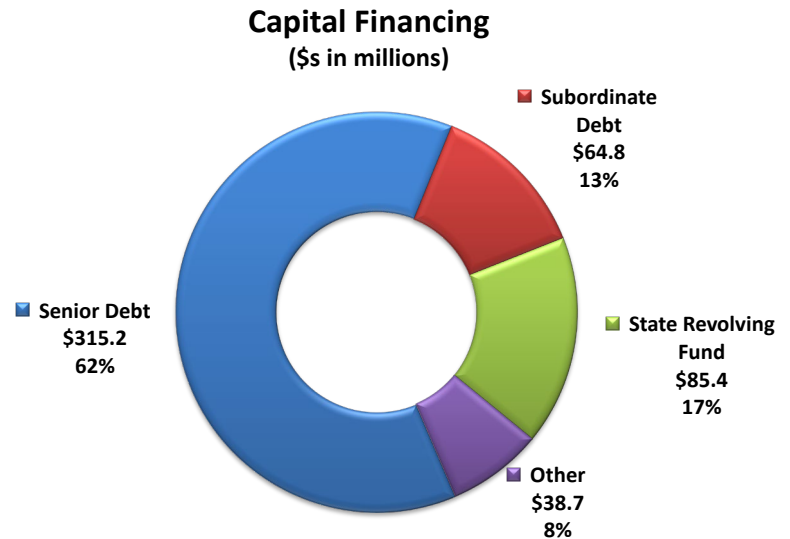
The FY25 Final Budget capital financing costs total \$504.2 million and remains the largest portion of the MWRA’s budget at 56.0% of the Operating Budget. The FY25 Budget capital financing costs increased by \$16.4 million or 3.4% compared to the FY24 Budget. This increase in the MWRA’s debt service is the result of projected FY25 borrowings, the structure of the existing debt, and by the impact of the projected defeasance.

The FY25 Budget includes a planned defeasance of \$25.5 million in FY24 which will reduce debt service by approximately \$1.1 million in FY25 and FY26, \$9.7 million in FY27, \$8.9 million in FY28, \$0.3 million in FY29 and \$6.2 million in FY30. In addition to the defeasance savings, as part of the 2024 Series C refunding MWRA utilized current year Debt Service Funds to pay off \$11.1 million in tendered bonds. The tender reduced debt service in \$0.6 million in FY25 and FY26, \$1.8 million in FY27, \$4.1 million in FY28 and \$6.5 in FY29. MWRA saved approximately \$3.3 million in avoided interest costs from the defeasance and tender. The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by MWRA to lower borrowing costs and manage rates include current and advanced refunding of outstanding debt, bond tenders, maximizing the use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, swap agreements, and the use of surplus revenues to defease debt. MWRA also uses short-term borrowing vehicles like tax exempt commercial paper to minimize the financing cost of construction in process

The FY25 Budget assumes a 4.75% interest rate for variable rate debt which is the same as the FY24 assumed rate. 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, Letter of Credit, and Direct Purchase providers; and remarketing fees. The Federal Reserve Open Market Committee has maintained the Federal Funds Rate at between 5.25% and 5.50% which is related to higher and more volatile tax-exempt short-term interest rates. MWRA has experienced weekly rates exceeding budget projections, and an average rate over 4.0% during FY24.

The FY25 capital financing budget includes:

- \$315.2 million in principal and interest payments on MWRA’s senior fixed rate bonds. This amount includes \$17.1 million to support a new money issuance of \$290.0 million in January 2025;



- \$64.8 million in principal and interest payments on subordinate bonds;
- \$85.4 million in principal and interest payments on SRF loans. This amount includes \$5.3 million to support an issuances of \$82.0 million during fiscal 2025;
- \$20.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$5.5 million in debt prepayment;
- \$9.8 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

Outstanding Debt and Debt Management

The \$9.3 billion spent on MWRA’s modernization efforts since the Authority was established in 1985, has relied heavily on debt financing. Total debt as of June 30, 2024 was \$4.4 billion consisting of senior and subordinated debt, SRF Debt, tax exempt commercial paper, and a revolving loan. Total debt was \$60.5 million lower than the MWRA’s total debt as of June 30, 2023. The MWRA enjoys strong unenhanced senior debt ratings of Aa1, AA+, and AA+ from Moody’s, Standard & Poor, and Fitch, respectively.

Type	Principal Outstanding June 30, 2024	% of Total
Senior General Revenue Bonds	\$ 2,984,810,000	68.4%
Massachusetts Clean Water Trust	\$ 817,016,907	18.7%
Subordinate General Revenue Bonds	\$ 382,405,000	8.8%
Tax Exempt Commercial Paper	\$ 180,000,000	4.1%
Total	\$ 4,364,231,907	100.0%

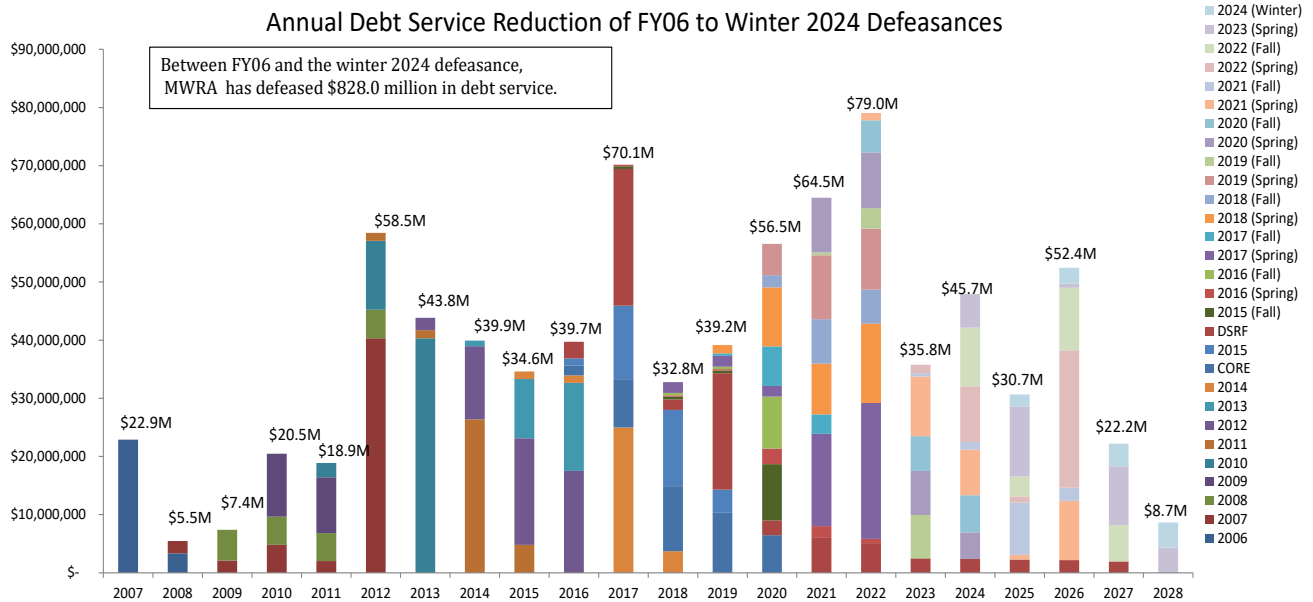
87.1% of MWRA's Debt is Fixed Rate

As a result of the Authority’s Capital Improvement Program, capital financing as a percent of total expenses (before offsets) has increased from 36% in 1990 to 56.0% in the FY25 Current Expense Budget. Much of this debt service is for completed projects, primarily the Boston Harbor Project and the Integrated Water Supply Improvement Program. The MWRA’s capital spending, from its inception, had been dominated by projects mandated by court ordered or regulatory requirements, which in total have accounted for ~70% of capital spending to date. Going forward, and as the Combined Sewer Overflow (CSO) projects reached substantial completion in December 2015, the majority of spending will be focused on asset protection and water redundancy initiatives. Overall, MWRA anticipates its outstanding debt to continue to decline.

The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include current and advanced refunding

of outstanding debt, bond tenders maximizing the use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, swap agreements, and the use of surplus revenues to defease debt. The MWRA also uses short-term borrowing instruments such as tax exempt commercial paper to minimize the financing cost of construction in process.

Since 2006, MWRA has defeased \$828.0 million in debt service to reduce future year rate revenue requirements. The following chart details the multi-year impact of those defeasances.



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. In addition to participating in federal and state grant programs, the MWRA benefitted from the American Recovery and Reinvestment Act of 2009 which forgave approximately \$33.0 million in State Revolving Fund loan principal. In 2023, MWRA was awarded \$3.4 million in principal forgiveness loans from the Massachusetts Clean Water Trust. These principal forgiveness loans were funded through proceeds from the American Rescue Plan Act of 2021. 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 may include the issuance of fixed and variable rate revenue bonds; borrowing from the Massachusetts Clean Water Trust (also known as the State Revolving Loan Fund or SRF), and a through MWRA’s short-term borrowing program (Tax-Exempt Commercial Paper/Revolving Loan). The following table details the FY25 budget capital financing line item. It also shows how upgrading the sewerage system has dominated the capital program to date. 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 E.

TABLE I-3
FY25 Current Expense Budget - Capital Financing Detail (as of 6/30/24)
\$ in Millions

	Amount Outstanding	Total Capital Finance Costs	Sewer	Water
Total SRF ¹ Debt	\$817.0	\$85.4	\$64.2	\$21.2
Total Senior Debt	\$2,984.8	315.2	196.6	118.6
Total Subordinate Debt	\$382.4	64.8	36.6	28.2
Total SRF and Debt Service²	\$4,184.2	\$465.4	\$297.4	\$168.0
Water Pipeline Commercial Paper	0.0	9.8	0.0	9.8
Current Revenue/Capital ³		20.2	19.8	0.4
Capital Lease		3.2	1.9	1.3
Debt Prepayment ⁴		5.5	5.4	0.1
	0.0	\$38.7	\$27.1	\$11.6
Total Capital Financing (before Debt Service Offsets)	4,184.2	\$504.2	\$324.5	\$179.7
Debt Service Offsets:				
Debt Service Assistance		0.0	0.0	0.0
Bond Redemption		0.0	0.0	0.0
MWRA Short-term Borrowings	180.0	0.0	0.0	0.0
Total Capital Financing	4,364.2	\$504.2	\$324.5	\$179.7

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

² Numbers may not add due to rounding.

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

⁴ Debt Prepayment will be used defeasance of bonds at end of fiscal year.

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.

The following table summarizes the projected CIP impact on the operating budget by project over the next ten years.

Fiscal Year	CEB Impacts (000)										
	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	Total
DI Treatment Plant Asset Protection (not including Co-Digestion or Combined Heat and Power Plant)	(\$21)	\$0	\$0	\$0	(\$46)	(\$48)	(\$98)	(\$63)	(\$65)	\$0	(\$342)
DI Treatment Plant Asset Protection - Hydroturbine Replacements	0	0	0	(56)	0	0	0	63	0	0	7
South Boston CSO Tunnel Inspection/Cleaning and Outfalls Inspection	0	530	(546)	0	0	0	0	0	0	0	(16)
Total Wastewater (inflated)	(\$21)	\$530	(\$546)	(\$56)	(\$46)	(\$48)	(\$98)	\$0	(\$65)	\$0	(\$351)
Metro Tunnel Redundancy	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Watershed Div CIP - Quabbin Admin Building Renovations	0	106	0	0	(116)	0	0	0	0	0	(10)
Wachusett Algae Treatment Facility	0	0	0	0	0	119	0	0	0	0	119
Total Water (inflated)	\$0	\$106	\$0	\$0	(\$116)	\$119	\$0	\$0	\$0	\$0	\$110
TOTAL MWRA	(\$21)	\$637	(\$546)	(\$56)	(\$162)	\$72	(\$98)	\$0	(\$65)	\$0	(\$241)

In total, the impact of capital projects and initiatives are projected to decrease operational costs by \$241,000 over the next ten years.

RATE ASSESSMENT AND METHODOLOGY

Community Profile and Assessments

MWRA is authorized to provide wholesale water and sewer services to 61 communities or local bodies. Fifty-four local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty-seven local bodies purchase both. Approximately 3.1 million people, or 44% of the population of Massachusetts, live 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 FY25, rate revenue from BWSC will account for 30% of MWRA's total rate revenue.

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.

The following table presents the calculation of MWRA's FY25 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. 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.

**Calculation of the Final FY25 Rate Revenue Requirement
(000's)**

	Sewer	Water	Total
Allocated Direct Expenses	\$210,704	\$110,309	\$321,014
Allocated Indirect Expenses	\$30,967	\$44,473	\$75,440
PLUS			
Capital Expenses:			
Debt Service	\$297,397	\$168,027	\$465,424
Debt Service Assistance	\$0	\$0	\$0
Current Revenue for Capital	\$19,798	\$402	\$20,200
Other Capital Expenses	\$7,318	\$11,227	\$18,545
PLUS			
Non-Rate Revenue:			
Investment Income	-\$16,377	-\$12,022	-\$28,399
Fees and Other Revenue	-\$5,699	-\$11,036	-\$16,735
Rate Stabilization	\$0	\$0	\$0
EQUALS			
Rate Revenue Requirement	\$544,109	\$311,379	\$855,488

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.

Massachusetts Water Resources Authority
Final FY25 Water and Sewer Assessments

MWRA Fully Served Water and Sewer Customers	Final FY24 Water Assessment	Final FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Final FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Final FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
ARLINGTON	\$5,723,767	\$5,700,350	-0.4%	\$9,375,412	\$9,492,790	1.3%	\$15,099,179	\$15,193,140	\$93,961	0.6%
BELMONT	3,281,643	3,259,822	-0.7%	5,652,772	5,692,509	0.7%	8,934,415	8,952,331	17,916	0.2%
BOSTON (BWSC)	101,284,742	109,867,908	8.5%	148,321,901	150,037,179	1.2%	249,606,643	259,905,087	10,298,444	4.1%
BROOKLINE	8,536,286	8,373,742	-1.9%	13,902,081	13,457,245	-3.2%	22,438,367	21,830,987	(607,380)	-2.7%
CHELSEA	5,466,192	5,851,930	7.1%	9,640,943	9,894,333	2.6%	15,107,135	15,746,263	639,128	4.2%
EVERETT	6,179,040	6,856,064	11.0%	10,045,294	10,362,447	3.2%	16,224,334	17,218,511	994,177	6.1%
FRAMINGHAM	9,526,952	9,692,961	1.7%	14,213,653	14,830,822	4.3%	23,740,605	24,523,783	783,178	3.3%
LEXINGTON	8,832,742	8,432,204	-4.5%	8,861,891	9,153,352	3.3%	17,694,633	17,585,556	(109,077)	-0.6%
MALDEN	8,565,543	9,497,417	10.9%	14,777,974	14,576,224	-1.4%	23,343,517	24,073,641	730,124	3.1%
MEDFORD	7,823,249	8,041,818	2.8%	13,530,297	14,191,728	4.9%	21,353,546	22,233,546	880,000	4.1%
MELROSE	3,520,729	3,865,069	9.8%	7,002,292	6,926,272	-1.1%	10,523,021	10,791,341	268,320	2.5%
MILTON	4,176,564	4,046,121	-3.1%	6,314,438	6,786,934	7.5%	10,491,002	10,833,055	342,053	3.3%
NEWTON	14,430,518	15,254,114	5.7%	23,540,735	24,471,190	4.0%	37,971,253	39,725,304	1,754,051	4.6%
NORWOOD	4,646,813	4,735,735	1.9%	9,252,685	9,377,625	1.4%	13,899,498	14,113,360	213,862	1.5%
QUINCY	14,041,679	14,668,740	4.5%	23,052,419	23,271,259	0.9%	37,094,098	37,939,999	845,901	2.3%
READING	2,826,508	2,854,927	1.0%	5,245,406	5,198,653	-0.9%	8,071,914	8,053,580	(18,334)	-0.2%
REVERE	6,411,786	6,555,178	2.2%	12,448,042	12,651,589	1.6%	18,859,828	19,206,767	346,939	1.8%
SOMERVILLE	9,500,557	10,694,450	12.6%	17,759,770	17,561,095	-1.1%	27,260,327	28,255,545	995,218	3.7%
STONEHAM	3,617,722	3,671,848	1.5%	5,906,212	6,085,041	3.0%	9,523,934	9,756,889	232,955	2.4%
WALTHAM	11,996,268	12,987,389	8.3%	14,796,930	15,008,366	1.4%	26,793,198	27,995,755	1,202,557	4.5%
WATERTOWN	4,202,656	4,583,303	9.1%	7,004,552	7,277,190	3.9%	11,207,208	11,860,493	653,285	5.8%
WINTHROP	1,865,387	2,127,216	14.0%	3,978,407	4,029,198	1.3%	5,843,794	6,156,414	312,620	5.3%
TOTAL	\$246,457,343	\$261,618,306	6.2%	\$384,624,106	\$390,333,041	1.5%	\$631,081,449	\$651,951,347	\$20,869,898	3.3%

MWRA Full Sewer and Partial Water Customers	Final FY24 Water Assessment	Final FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Final FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Final FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
ASHLAND	\$0	\$0	-	\$2,924,453	\$2,975,664	1.8%	\$2,924,453	\$2,975,664	\$51,211	1.8%
BURLINGTON	1,668,047	2,637,231	58.1%	6,153,342	6,231,204	1.3%	7,821,389	8,868,435	1,047,046	13.4%
CANTON	2,490,180	2,745,413	10.2%	5,085,296	5,157,794	1.4%	7,575,476	7,903,207	327,731	4.3%
NEEDHAM	1,887,130	1,212,985	-35.7%	7,084,841	7,445,411	5.1%	8,971,971	8,658,396	(313,575)	-3.5%
STOUGHTON	103,566	97,985	-5.4%	5,714,438	5,752,600	0.7%	5,818,004	5,850,585	32,581	0.6%
WAKEFIELD	3,337,730	3,304,401	-1.0%	6,826,973	6,791,838	-0.5%	10,164,703	10,096,239	(68,464)	-0.7%
WELLESLEY	4,211,496	3,262,215	-22.5%	6,630,804	7,020,669	5.9%	10,842,300	10,282,884	(559,416)	-5.2%
WILMINGTON	1,145,370	484,407	-57.7%	3,173,321	3,341,156	5.3%	4,318,691	3,825,563	(493,128)	-11.4%
WINCHESTER	2,356,818	2,034,253	-13.7%	4,875,271	5,385,020	10.5%	7,232,089	7,419,273	187,184	2.6%
WOBURN	5,851,127	5,715,234	-2.3%	10,478,117	11,159,078	6.5%	16,329,244	16,874,312	545,068	3.3%
TOTAL	\$23,051,464	\$21,494,124	-6.8%	58,946,856	61,260,434	3.9%	\$81,998,320	\$82,754,558	\$756,238	0.9%

MWRA Fully Served Sewer-only Customers	Final FY24 Water Assessment	Final FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Final FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Final FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
BEDFORD				\$3,784,242	\$3,886,054	2.7%	\$3,784,242	\$3,886,054	\$101,812	2.7%
BRAINTREE				10,766,148	10,613,254	-1.4%	10,766,148	10,613,254	(152,894)	-1.4%
CAMBRIDGE				30,213,141	31,407,738	4.0%	30,213,141	31,407,738	1,194,597	4.0%
DEDHAM				6,409,056	6,319,318	-1.4%	6,409,056	6,319,318	(89,738)	-1.4%
HINGHAM SEWER DISTRICT				2,172,503	2,165,417	-0.3%	2,172,503	2,165,417	(7,086)	-0.3%
HOLBROOK				2,028,551	2,122,461	4.6%	2,028,551	2,122,461	93,910	4.6%
NATICK				6,408,947	6,648,860	3.7%	6,408,947	6,648,860	239,913	3.7%
RANDOLPH				7,144,574	7,343,719	2.8%	7,144,574	7,343,719	199,145	2.8%
WALPOLE				4,614,313	4,670,240	1.2%	4,614,313	4,670,240	55,927	1.2%
WESTWOOD				3,249,150	3,171,027	-2.4%	3,249,150	3,171,027	(78,123)	-2.4%
WEYMOUTH				14,230,541	14,167,109	-0.4%	14,230,541	14,167,109	(63,432)	-0.4%
TOTAL				\$91,021,166	\$92,515,197	1.6%	\$91,021,166	\$92,515,197	\$1,494,031	1.6%

MWRA Fully Served Water-only Customers	Final FY24 Water Assessment	Final FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Final FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Final FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
LYNNFIELD WATER DISTRICT	\$945,917	\$919,790	-2.8%				\$945,917	\$919,790	(\$26,127)	-2.8%
MARBLEHEAD	3,130,039	3,043,998	-2.7%				3,130,039	3,043,998	(86,041)	-2.7%
MARLBOROUGH	7,138,193	7,379,850	3.4%				7,138,193	7,379,850	241,657	3.4%
NAHANT	592,489	567,027	-4.3%				592,489	567,027	(25,462)	-4.3%
NORTHBOROUGH	1,476,411	1,550,117	5.0%				1,476,411	1,550,117	73,706	5.0%
SAUGUS	5,446,924	5,363,922	-1.5%				5,446,924	5,363,922	(83,002)	-1.5%
SOUTHBOROUGH	1,202,081	1,086,340	-9.6%				1,202,081	1,086,340	(115,741)	-9.6%
SWAMPSCOTT	2,610,031	2,496,307	-4.4%				2,610,031	2,496,307	(113,724)	-4.4%
WESTON	2,867,622	2,462,486	-14.1%				2,867,622	2,462,486	(405,136)	-14.1%
TOTAL	\$25,409,707	\$24,869,837	-2.1%				\$25,409,707	\$24,869,837	(\$539,870)	-2.1%

MWRA Partial Water-only Customers	Final FY24 Water Assessment	Final FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Final FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Final FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
DEDHAM-WESTWOOD WATER DISTRICT	\$670,890	\$909,823	35.6%				\$670,890	\$909,823	\$238,933	35.6%
LYNN (LWSC)	133,677	163,485	22.3%				133,677	163,485	29,808	22.3%
PEABODY	3,952,791	2,323,753	-41.2%				3,952,791	2,323,753	(1,629,038)	-41.2%
TOTAL	\$4,757,358	\$3,397,061	-28.6%				\$4,757,358	\$3,397,061	(\$1,360,297)	-28.6%
SYSTEMS TOTAL	\$299,675,872	\$311,379,328	3.91%	\$534,592,128	\$544,108,672	1.78%	\$834,268,000	\$855,488,000	\$21,220,000	2.54%

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.

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 as expenses are changing each year. The Rate Revenue Requirement in any year is the difference between MWRA expenses and other revenue sources, most notably non-rate revenue, investment income, and debt service assistance from the Commonwealth (which directly reduces debt service expense). For FY25, community assessments are projected to represent 95.0% 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 rates and assessments might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rates and assessments. The planning estimates are not predictions of what rates and assessments will be but rather they provide the context and framework for guiding MWRA financial policy and management decision making that ultimately determine the level of actual rate change on an annual basis. Conservative projections of future rates and assessments benefit the MWRA by providing assurance to the rating agencies that MWRA anticipates to raise revenues sufficient to pay for its operations and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rates and assessments enable member communities to adequately plan and budget for future payments to MWRA.

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 ultimate goal being sustainable and predictable rate changes.

The table below and Appendix D (in more detail) present the combined estimated future rate revenue requirements through FY29.

Rates & Budget Projections						
Final FY25 CEB	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
Total Rate Revenue (\$000)	\$ 834,268	\$ 855,488	\$ 883,648	\$ 912,517	\$ 942,439	\$ 973,775
Rate Revenue Change from Prior Year (\$000)	\$ 19,620	\$ 21,220	\$ 28,160	\$ 28,869	\$ 29,921	\$ 31,336
Rate Revenue Increase	2.4%	2.5%	3.3%	3.3%	3.3%	3.3%
Use of Reserves (\$000)	\$ 305	\$ -	\$ 809	\$ 780	\$ 782	\$ 740

Estimated Household Bill

Based on annual water usage of 61,000 gallons	\$1,375	\$1,431	\$1,493	\$1,558	\$1,626	\$1,697
Based on annual water usage of 90,000 gallons	\$2,029	\$2,111	\$2,203	\$2,298	\$2,398	\$2,503

Increasing debt service to pay down and 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 the projected growth of base operating costs. The estimated \$37.9 million increase in direct expenses from FY25 to FY29 is primarily the result of an assumed annual inflation rate.

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

- Direct expense inflation rate of 2.7% for salaries and 3.0% for other direct expenses starting in FY26;
- CIP inflation rate of 2.5%;
- Capital spending based on the latest CIP expenditure forecast.
- Long-term fixed rate debt issues with a 25-year term and 5.0% interest rates in FY25, and 30 year terms and 6.0% rates from FY26 and beyond;
- Variable rate interest projected at 4.75% in FY25, and 4.0% from FY26 and beyond.

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 2.15% replaces the need to borrow a dollar long-term at an assumed 6% rate;
- Overall inflationary pressures;
- Debt refinancing opportunities;
- Capital spending; and
- Growth in direct expenses, greater than current assumptions.

MWRA Rates Management

Planning estimates for 2025 through 2029 forecast rate revenue requirement increases of 2.5% in FY25, and 3.3% from FY26 to FY29.

The FY25 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;
- Continues the Authority's multi-year rates management strategy of providing sustainable and predictable assessment increases to our member communities; and
- Continues the smoothing strategy to even out the rate revenue requirement and rate changes caused by fluctuations in debt service at the utility level.

Net Position

The statement of net position (or net assets) provides the information on the assets and liabilities of the Authority, with net position being the difference between total assets and total liabilities. The Authority's net position for FY24 is \$2.0 billion based on the FY24 draft financials. The most recent seven fiscal years can be seen in the following table:

\$s in 000

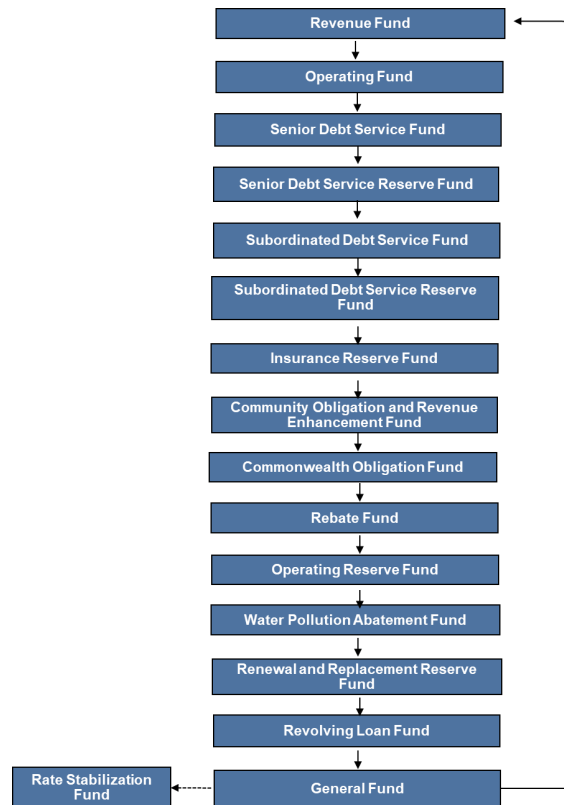
	<u>2024 Draft</u>	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>
Current Assets	\$ 1,068,178	\$ 958,172	\$ 903,848	\$1,015,387	\$ 109,747	\$ 100,271	\$ 95,963
Capital Assets (Net)	5,476,320	5,525,902	5,569,082	5,658,876	5,755,377	5,840,416	5,948,350
Other Assets	464,805	436,156	399,217	470,823	1,413,757	1,614,475	1,529,221
Total Assets	\$ 7,009,303	\$ 6,920,231	\$6,872,147	\$7,145,086	\$ 7,278,881	\$ 7,555,162	\$ 7,573,534
Current Liabilities	504,419	438,428	428,672	482,637	473,853	362,949	350,382
Non-Current Liabilities	4,542,678	4,690,590	4,878,438	5,176,425	5,279,049	5,626,126	5,617,753
Total Liabilities	\$ 5,047,097	\$ 5,129,018	\$5,307,110	\$5,659,062	\$ 5,752,902	\$ 5,989,075	\$ 5,968,135
Net Position							
Net Investment in Capital Assets	871,612	1,184,479	1,057,624	957,356	894,437	827,050	759,757
Restricted	544,014	509,220	450,765	461,566	420,009	368,532	357,767
Unrestricted	546,580	97,514	56,648	67,102	211,533	370,505	487,875
Total Net Position	\$ 1,962,206	\$ 1,791,213	\$1,565,037	\$1,486,024	\$ 1,525,979	\$ 1,566,087	\$ 1,605,399

When both restricted and unrestricted funds are available for use, it is the Authority's policy to use restricted funds first, then unrestricted funds as needed. Restricted funds include construction, debt service, and operating revenue.

General Bond Resolution Funds

The Authority's General Bond Resolution requires that it maintain certain funds related to its operations and as security for its bondholders. The General Bond Resolution establishes the required balances and allocation of all moneys controlled by the Authority. A copy of the General Bond Resolution can be found at [amended-restated-general-resolution-mwra-05-15-2023](#).

General Bond Resolution Flow of Funds



Fund Balances

Revenue Fund – MWRA shall deposit all income, revenue, receipts, and other moneys derived by the Authority from its operation of the Systems and engaging in other activities authorized by the enabling act into the Revenue Fund. The Revenue Fund is the top in the flow of funds under the General Revenue Bond Resolution. Moneys in the Revenue Fund are transferred on a monthly basis for operating, debt service and other costs of the Authority as required by the General Bond Resolution. As of June 30, 2024, the Revenue Fund had \$104.1 million available.

Operating Fund – All of the Operating Expenses of the Authority as defined in the General Revenue Bond Resolution are paid out of the Operating Fund. The Authority is required to maintain the Operating Fund at a balance equal to the next three months of Operating Expenses. On a monthly basis moneys are moved from the Revenue Fund to the Operating Fund to maintain the required balance. As of June 30, 2024, the Operating Fund had a balance of \$86.3 million.

Debt Service Fund – The principal and interest costs associated with MWRA’s outstanding senior lien debt is paid out of the Debt Service Fund. On a monthly basis funds are transferred from the Revenue Fund to the Debt Service Fund equal to 1/6th of the next interest payment or 1/12th of the next principal payment for each series of bonds. The schedule for principal and interest transfers is such that the payments are funded a month and one day ahead of the next payment date as required by the General Revenue Bond Resolution. The balance in the Debt Service Fund as of June 30, 2024 was \$222.9 million.

Subordinated Debt Service Fund – The principal and interest associated with MWRA’s outstanding subordinate lien debt. On a monthly basis funds are transferred from the Revenue Fund to the Subordinated Debt Service Fund equal to 1/6th of the next interest payment or 1/12th of the next principal payment for each series of bonds. The schedule for principal and interest transfers is such that the payments are funded a month and one day ahead of the next payment date as required by the General Revenue Bond Resolution. The balance in the Subordinated Debt Service Fund as of June 30, 2024 was \$36.3 million.

Water Pollution Abatement Fund – This fund is used for payments on the debt service due to the Massachusetts Clean Water Trust (formerly the Massachusetts Water Pollution Abatement Trust). The Water Pollution Abatement Fund is funded from the Revenue Fund. The Balance in the Water Pollution Abatement Fund was \$46.4 million on June 30, 2024.

Commonwealth Obligation Fund – This Fund is utilized to pay Commonwealth Obligations as defined under the General Revenue Bond Resolution. Primarily Commonwealth Obligations are amounts payable to the Commonwealth of Massachusetts including Watershed Trust expenses, Payments in Lieu of taxes and other state government charges. The Commonwealth Obligation Fund. The Commonwealth Obligation Fund balance is based of payments due to the Commonwealth and is funded on a regular basis from the Revenue Fund. The balance in the Commonwealth Obligation Fund on June 30, 2024 was \$0.0 million.

Construction Fund – The Construction Fund is primarily funded through the proceeds of debt issuances, and some current revenue. Moneys in the Construction Fund are utilized to pay the cost of the Authority’s capital projects and related costs as defined in the General Revenue Bond Resolution. The Construction Fund had a balance of \$158.1 million on June 30, 2024.

The following table shows a three-year history of fund balances as well as a projection for June 30, 2025. The FY25 year-end projection is based upon General Bond Resolution requirements, projected debt issuances, and projected interest rates. Year-end projected balances for FY25 are subject to change and may vary from the projection.

Fund Balances - \$s in Millions				
Funds	6/30/2022	6/30/2023	6/30/2024	Projected 6/30/2025
Revenue Fund	\$50.0	\$57.5	\$104.1	\$78.4
Operating Fund	\$83.0	\$79.0	\$86.3	\$88.9
Debt Service Fund	\$183.0	\$233.0	\$222.9	\$119.0
Subordinate Debt Service Fund	\$65.0	\$52.0	\$36.3	\$41.7
Water Pollution Abatement Fund	\$73.0	\$71.0	\$46.4	\$55.2
Commonwealth Obligation Fund	\$0.0	\$0.0	\$0.0	\$0.0
Construction Fund	\$228.0	\$150.0	\$158.1	\$105.5
Total	\$682.0	\$642.5	\$654.1	\$488.7

Reserves

Under the terms of its General Bond Resolution, MWRA maintains various reserve funds. Two of MWRA's reserves, Rate Stabilization and Bond Redemption, are used to smooth rate increases. Moneys in the funds are funded from year-end CEB budget surpluses. The amounts in the funds as of June 30, 2024, and the permitted and planned uses are discussed below:

Rate Stabilization - Under the terms of the General Bond Resolution, the annual use of Rate Stabilization monies cannot exceed 10% of the year's senior debt service. Rate stabilization is funded by CEB surpluses and is one of two funds available to smooth rate increases. This reserve balance was \$39.0 million as of 6/30/24. The FY25 CEB includes no use of rate stabilization. The June 30, 2024 balance was \$39.0 million. Planning estimates based on the FY25 Budget assumes use of \$3.3 million in Rate Stabilization associated with the HEEC cable between FY26 and FY31.

Bond Redemption - Monies in the Bond Redemption Fund can be used only to retire or prepay outstanding debt. Like Rate Stabilization, Bond Redemption is funded by CEB surpluses and is also available to smooth rate increases by reducing debt service. There is no annual limit on the amount of Bond Redemption funds used in a year. However, there are constraints based on bond maturity dates. The FY16, through FY25 CEB assumed no use of Bond Redemption. The balance as of June 30, 2024 was \$26.1 million and is projected to remain unchanged in FY25.

In addition to the Rate Stabilization and Bond Redemption funds, MWRA maintains four funded reserves required by the terms of the General Bond Resolution: Debt Service, Operating, Insurance, and Renewal and Replacement. The amount in each reserve, the basis for determining the funding requirement and when a reserve can be used to reduce rate revenue requirements are discussed below:

Debt Service Reserve - This is MWRA's largest reserve, and is funded from bond proceeds. The funding of this reserve is based on the lesser of four tests, and is currently funded at 50% of the maximum annual debt service. The fund can be used to pay debt service when the amount in the reserve is greater than the remaining debt service. The balance of this reserve fund as of June 30, 2024, was \$169.6 million and projected to remain unchanged in FY25.

Operating Reserve - The required balance is one-sixth of operating expenses for a year, as defined in the Bond Resolution. The balance of this reserve fund as of June 30, 2024, was \$57.6 million and based on FY25 CEB the required balance by the end of FY25 will be \$59.5 million.

Insurance Reserve - 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 adequacy of the funding level every three years. As of June 30 2024, the reserve is funded with securities with a par value of \$14M and is projected to remain unchanged in FY25. The \$14 million level has been determined to be acceptable and reasonable based on the last independent review completed in FY23.

Renewal and Replacement Reserve - The required balance is set at \$35 million with the difference between the \$10 million in cash and the required balance based on the triennial recommendation of a consulting engineer being available in short-term borrowing capacity. MWRA's consulting engineer completed its triennial review of this reserve balance in 2023.

The following table shows a three-year history of reserve balances as well as projections for June 30, 2025. The FY25 year-end projections are based upon General Bond Resolution requirements and projected debt issuances. Year-end projected balances for FY25 are subject to change and may vary from the projection.

Reserve Balances - \$s in Millions				
Reserves	6/30/2022	6/30/2023	6/30/2024	6/30/2025 Projection
Rate Stabilization	\$40.3	\$39.3	\$39.0	\$39.0
Bond Redemption	\$26.1	\$26.1	\$26.1	\$26.1
Debt Service Reserve - 50% of max Debt Service	\$156.6	\$169.6	\$169.6	\$169.6
Operating Reserve - 1/6 of annual operating expenses	\$47.3	\$49.7	\$57.6	\$59.5
Insurance Reserve - Est. by independent consultant, as of 2023	\$14.0	\$14.0	\$14.0	\$14.0
Renewal & Replacement Reserve - \$10 million required balance	\$10.0	\$10.0	\$10.0	\$10.0
Total	\$294.3	\$308.7	\$316.3	\$318.2

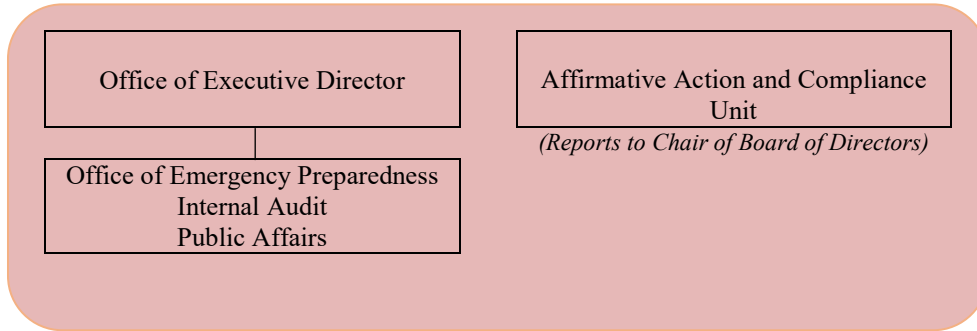
STATEMENT OF FINANCIAL POSITION

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, 2023 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE DIVISION



The **Executive Division** 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 Division also oversees a centralized MWRA-wide security program to preserve and protect MWRA facilities, systems and employees.

The Executive Division includes the Office of Executive Director, Office of Emergency Preparedness, Internal Audit, Public Affairs, and the Affirmative Action and Compliance Unit (AACU). Each of these Departments is accounted for separately in the MWRA budget. In addition, the Director of the Tunnel Redundancy Program reports to the Executive Director. However, the Tunnel Redundancy Program is budgeted under the Operations Division budget.

The **Office of the Executive Director** includes the Board of Directors' cost center as well as 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 "fiscal 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 (WSCAC) and the Wastewater Advisory Committee (WAC). (A description of the Advisory Board,

FY25 Final Current Expense Budget OFFICE OF THE EXECUTIVE DIRECTOR

DEPARTMENT	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
EXECUTIVE OFFICE	\$ 554,817	\$ 489,206	\$ 600,171	\$ 520,943	\$ (79,228)	-13.2%
BOARD OF DIRECTORS	127	1,195	98,762	98,547	(215)	-0.2%
ADVISORY BOARD / OTHER COMMITTEES	758,545	759,603	711,248	683,822	(27,426)	-3.9%
TOTAL	\$ 1,313,489	\$ 1,250,004	\$ 1,410,181	\$ 1,303,312	\$ (106,869)	-7.6%

WSCAC and WAC is set forth in Appendix E). The Executive Office budget accounts for less than 1% of the MWRA FY23 Direct Expense Budget.

FY25 Goals and Initiatives:

Ensuring a safe and reliable source of drinking water to MWRA customers, and wastewater discharges that meet all applicable regulations drives both capital and current expense budget costs. Five strategic priorities integral to MWRA’s mission were identified for action in MWRA’s FY2021-FY2025 Five-Year Strategic Business Plan.

- I. Drinking Water Quality and System Performance**
- II. Wastewater Management & System Performance**
- III. Infrastructure Management & Resilience**
- IV. Finance & Management**
- V. Environmental Sustainability**

Under each of these priorities, MWRA identified goals and initiatives to guide the Authority’s action. The Executive Department uses the Business Plan to provide the framework for MWRA staff to manage and measure performance. The Office of the Executive Director has also identified core initiatives that support MWRA’s mission and strategic priorities.

- 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.

FY25 Final Current Expense Budget OFFICE OF THE EXECUTIVE DIRECTOR							
LINE ITEM	FY22	FY23	FY24	FY25	Change		
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24		
WAGES & SALARIES	\$ 552,839	\$ 481,051	\$ 690,297	\$ 610,854	\$ (79,443)	-11.5%	
OVERTIME	-	301	-	-	-	-	
TRAINING & MEETINGS	-	-	850	850	-	0.0%	
PROFESSIONAL SERVICES	163,583	160,255	209,295	216,634	7,339	3.5%	
OTHER MATERIALS	1,374	6,912	3,450	3,450	-	0.0%	
OTHER SERVICES	595,693	601,485	506,289	471,524	(34,765)	-6.9%	
TOTAL	\$ 1,313,489	\$ 1,250,004	\$ 1,410,181	\$ 1,303,312	\$ (106,869)	-7.6%	

Budget Highlights:

The FY25 Budget is \$1.3 million, a decrease of \$107,000 or 7.6%, as compared to the FY24 Budget.

- \$611,000 for **Wages and Salaries**, a decrease of \$79,000 or 11.5%, as compared to the FY24 Budget. The FY25 Budget includes funding for four FTEs, matching the FY24 Budget.
- \$217,000 for **Professional Services**, 3.5% above the FY24 Budget. This budget funds the Water Supply Citizens’ Advisory Committee (WSCAC) and the Wastewater Advisory Committee (WAC). This budget includes increases in health insurances and hourly salary expense.
- \$472,000 for **Other Services**, a decrease of \$35,000 or 6.9%, as compared to the FY24 Budget. The primary component of this line item is the MWRA Advisory Board operating expenses, which are under the FY25 Budget mainly in rentals/leases.

OFFICE OF THE EXECUTIVE DIRECTOR	FY24 FTEs	FY25 FTEs
EXECUTIVE OFFICE	4.0	4.0
TOTAL	4.0	4.0



Fells Reservoir

OFFICE OF EMERGENCY PREPAREDNESS

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. In April 2019, the MWRA bifurcated OEP, creating a separate Security Department. ESU was transferred to the Department of Planning and Sustainability. The Security Department continues to work in close coordination with the Division of Planning and Sustainability to accomplish the overall goals of security and preparedness on behalf of the MWRA and the community it serves.

FY25 Final Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS

LINE ITEM	FY22	FY23	FY24	FY25	Change	
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24	
WAGES & SALARIES	\$ 491,008	\$ 519,221	\$ 613,923	\$ 788,651	\$ 174,728	28.5%
OVERTIME	5,360	4,843	-	-	-	-
MAINTENANCE	499,855	587,121	817,639	1,058,306	240,667	29.4%
TRAINING & MEETINGS	395	-	7,500	13,500	6,000	80.0%
PROFESSIONAL SERVICES	2,306,740	2,316,997	2,654,139	2,946,261	292,122	11.0%
OTHER MATERIALS	3,051	6,451	3,250	4,510	1,260	38.8%
OTHER SERVICES	102,744	157,722	393,124	405,404	12,280	3.1%
TOTAL	\$ 3,409,153	\$ 3,592,355	\$ 4,489,575	\$ 5,216,632	\$ 727,057	16.2%

FY25 Goals and Initiatives:

I. System Security

- ***Goal#1 Provide appropriate security for all Waterworks facilities, to allow continued provision of safe drinking water.***
 - Develop implement, and review existing policies and programs to provide security, and critical infrastructure protection the MWRA’s water systems.
 - Continue ensuring that new construction and rehabilitation of facilities include an integrated security and surveillance system improvement component. Continue task order security enhancement designs for selected water and wastewater critical sites, fencing and gate installation, guardrails, pipe gates, bollards, barbed wire and other facility hardening initiatives.
 - Establish a backup security monitoring center and communications head end at Norumbega.
 - Conduct facility security audits and implement the resulting enhancement and remedial work recommendations.
 - Improve the cyber security of the MWRA’s Physical Security Network.
- ***Goal#2 Provide appropriate security for all wastewater facilities, to allow continued environmentally sound collection and treatment of wastewater.***

- Develop, implement, and review existing policies and programs to provide security, and critical infrastructure protection, for the MWRA’s wastewater systems. All initiatives set forth in Section I above for MWRA’s water systems apply to MWRA’s wastewater systems as well, unless they address a specific water system location.
- **Goal #3 – Prepare for threats that could affect the water and wastewater delivery systems**
 - Manage and direct security guard, security monitoring, and security maintenance contracts.
 - Develop and maintain strong liaison relationships with law enforcement and other external stakeholders to ensure that threat intelligence is received, reviewed, reported and if appropriate, acted upon
 - Provide security guidance and awareness to MWRA Executive Management and employees as appropriate.

FY24 Year-End Accomplishments:

- Completed four new security and cybersecurity policies which were approved by the Executive Director and promulgated to the staff via Pipeline. Continued efforts to review and revise existing policies and established a procedure for ensuring that security and cybersecurity policies are reviewed on an at least annual basis.
- Continued work on updating and formalizing Security policies and metrics as an outcome of AWIA.
- Issued three (3) Cybersecurity and/or Physical Security Situational Awareness/Training alerts to MWRA employees via Email, Toolbox Talks or Pipeline during FY24.
- Provided Physical Security and Cybersecurity awareness training to all new employees during the onboarding process.
- Provided annual Cybersecurity training, as well as, conducted an unannounced “phishing” drill to all users. Remedial training was afforded to users that failed the fishing drill.

Budget Highlights:

The FY25 Final Budget is \$5.2 million, an increase of \$727,000 or 16.2% as compared to the FY24 Budget.

- \$788,000 for **Wages and Salaries**, an increase of \$175,000 or 28.5% as compared to the FY24 Budget, due primarily for wage increases associated with collective bargaining agreements as well as the addition of one new position. The FY25 Budget includes funding for six FTEs, one over the FY24 Budget.

OFFICE OF EMERGENCY PREPAREDNESS	FY24 FTEs	FY25 FTEs
EMERGENCY PREPAREDNESS	5.0	6.0
TOTAL	5.0	6.0

- \$1.1 million for **Ongoing Maintenance**, an increase of \$241,000 or 29.4% over the FY24 Budget. This budget includes funding of \$180,000 to cover the MWRA-wide security systems preventative maintenance materials and equipment, including cameras, intrusion detection and card readers; \$631,000 for MWRA-wide security systems preventative maintenance services, and \$47,000 for the intrusion alarm annual and semi-annual monitoring services contracts.
- \$2.9 million for **Professional Services**, a \$292,000 or 11.0% over prior year’s Budget. The budget includes \$2.9 million for the Security Guard Services contract for all MWRA facilities: Chelsea, Deer

Island Wastewater Treatment Plant (DITP), and Carroll Water Treatment Plant (CWTP). This security contract accounts for the budget increase.

- \$405,000 for **Other Services**, \$13,000 over the FY24 Budget as this includes funds to cover Verizon billing for security costs associated with telecommunication lines for Alarm and CCTV systems at the various MWRA facilities.



Nut Island Headworks

AFFIRMATIVE ACTION AND COMPLIANCE UNIT

Under section 7(g) of MWRA’s enabling act, the **Affirmative Action and Compliance Unit (AACU)** is established to “report directly to the chairman of the Authority and provide for the enforcement of affirmative action plans for employment, procurement and contracting activities of the Authority.” The 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.

FY25 Final Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT

LINE ITEM	FY22	FY23	FY24	FY25	Change	
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24	
WAGES & SALARIES	\$ 580,189	\$ 536,659	\$ 713,787	\$ 752,135	\$ 38,348	5.4%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	2,949	2,224	6,790	21,790	15,000	220.9%
PROFESSIONAL SERVICES	-	-	800,000	800,000	-	0.0%
OTHER MATERIALS	628	764	4,425	4,425	-	0.0%
OTHER SERVICES	1,693	2,656	2,340	2,340	-	0.0%
TOTAL	\$ 585,459	\$ 542,303	\$ 1,527,342	\$ 1,580,690	\$ 53,348	3.5%

FY25 Goals and Initiatives:

In performing its core goals, the AACU undertakes the following initiatives on an on-going basis:

- Utilize a network of external partners to assist divisions and departments with affirmative action compliance and promote MWRA's non-discrimination policy for all individuals in or recruited into its workforce.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Provide assistance to the Human Resources Department in the coordination and oversight of all external/internal recruitment and selection activities, including interviews, hiring, transfers, and promotions of candidates, including members of protected classes.
- 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.
- Support divisions and departments in understanding and implementing MBE/WBE/DBE policies, practices, as well as monitoring and reporting contractor compliance and expenditures.

- Maintain a DEI workgroup with the mission to improve diversity, inclusion, equity, and respect in the workplace, and to implement workgroup recommendations.

FY24 Year-End Accomplishments:

- Provided management assistance to the Human Resources Department in the overall recruitment and selection process for qualified candidates for eighty-three (83) new hires and one hundred and eleven (111) promotions.
- Conducted oversight of 98 construction and professional projects, including monitoring the minority and women workforce as well as MBE/WBE/DBE compliance.

Budget Highlights:

The FY25 Budget is \$1.6 million, an increase of \$53,000 or 3.5% over the FY24 Budget.

- \$800,000 for **Professional Services matching FY24’s funding for** second year of AACU’s Disparity Study, which began in FY24 and is expected to conclude in FY25.
- \$752,000 for **Wages and Salaries**, an increase of \$38,000 or 5.4% over the FY24 Budget. The FY25 Budget includes funding for seven FTEs, matching the FY24 Budget.

AFFIRMATIVE ACTION & COMPLIANCE UNIT	FY24 FTEs	FY25 FTEs
AACU	7.0	7.0
TOTAL	7.0	7.0



Baffle Dams Quabbin Reservoir

INTERNAL AUDIT

The **Internal Audit Department** is prescribed under section 7(h) of the MWRA’s enabling act to “monitor the quality, efficiency and integrity of the Authority’s operating and capital programs and make periodic recommendations and reports to the Executive Director and the Board of Directors.” **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 coordinating 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 construction labor burden reviews, construction change orders and claim audits, and vendor and other contract audits.

FY25 Final Current Expense Budget INTERNAL AUDIT

LINE ITEM	FY22	FY23	FY24	FY25	Change	
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24	
WAGES & SALARIES	\$ 577,746	\$ 573,256	\$ 823,104	\$ 897,931	\$ 74,827	9.1%
OVERTIME	-	45	-	-	(45)	-100.0%
MAINTENANCE	7	0	0	0	-	-
TRAINING & MEETINGS	144	225	7,800	8,400	600	7.7%
OTHER MATERIALS	518	836	2,027	1,525	(502)	-24.8%
OTHER SERVICES	2,073	2,023	5,671	5,671	-	0.0%
TOTAL	\$ 580,488	\$ 576,540	\$ 838,602	\$ 913,527	\$ 74,925	8.9%

FY25 Goals and Initiatives:

In addition to its statutory core functions, the Department has set the following goals for FY25:

- 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 provide accurate and useful management information.
- Assure that contractors, consultants and vendors doing business with MWRA have adequate accounting and billing systems to provide current, complete and accurate cost and price information and project invoicing.

FY24 Year-End Accomplishments:

- Identified \$2,950,853 in savings through the fourth quarter related to: internal audits, management advisory services, consultant audits, preliminary consultant reviews, construction labor burden reviews, vendor reviews, facility lease agreements; supporting final activities relating to the Harbor Electric Energy Company (HEEC) agreement for the new cable, the true-up of the capacity charge and O&M

costs for 2023 for the new cable, and on-going savings from the lease of the engine house by the Fore River Railroad Corporation.

- Issued final audit reports on Accounts Payable Process controls and procedures, Payroll Process controls and procedures, Travel Expense (Mileage) Reimbursement, MIS Asset Management, and Navy Yard lease. Issued five incurred cost audits, five preliminary consultant reviews, eleven preliminary labor burden reviews on construction contracts, and fifty-seven cost rate letters to professional service consultants.
- Provided management advisory analysis services dealing with MWRA overhead rates, support Selection Committee activities to award S592, Operations and Maintenance of the Fore River Pelletizing Plant and various contract, amendment and change order negotiations.
- Supported creation of five new policies and updates related to two existing policies.
- Seven audit recommendations have been closed during the period.

Budget Highlights:

The FY25 Budget is \$914,000, an increase of \$75,000 or 8.9% as compared to the FY24 Budget.

- \$898,000 for **Wages and Salaries**, an increase of \$75,000 or 9.1% as compared to the FY24 Budget, primarily for wage increases associated with collective bargaining agreements. The FY25 Budget includes funding for 7.0 FTE, matching FY24’s level.

INTERNAL AUDIT DEPARTMENT	FY24 FTEs	FY25 FTEs
INTERNAL AUDIT	7.0	7.0
TOTAL	7.0	7.0



Alewife Brook Wastewater Pump Station

PUBLIC AFFAIRS

The **Public Affairs Department** is the institutional link to the public and government. The Department’s responsibilities are spread over five separate sections.

The **Legislative Section** of 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. MWRA’s highest legislative priority continues to focus on the need for a robust “Commonwealth Rate Relief Package” to help offset anticipated rate increases over the next several years.

The **Community Relations Section** deals directly with cities and towns in the MWRA service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives. Community Relations staff also work in conjunction with Planning Department staff to ensure compliance with 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 internal and external web sites and social media platforms, and provides design, editorial, and graphics services for other sections of MWRA.

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

FY25 Final Current Expense Budget							
PUBLIC AFFAIRS							
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24		
WAGES & SALARIES	\$ 957,993	\$ 867,024	\$ 1,427,314	\$ 1,533,633	\$ 106,319	7.4%	
OVERTIME	1,492	2,358	500	500	-	0.0%	
FRINGE BENEFITS	-	-	-	-	-	-	
MAINTENANCE	496	-	-	-	-	-	
TRAINING & MEETINGS	445	1,220	9,061	9,061	-	0.0%	
PROFESSIONAL SERVICES	-	-	1,300	1,300	-	0.0%	
OTHER MATERIALS	19,057	33,206	25,941	25,941	-	0.0%	
OTHER SERVICES	14,253	28,897	50,370	50,370	-	0.0%	
TOTAL	\$ 993,736	\$ 932,705	\$ 1,514,486	\$ 1,620,805	\$ 106,319	7.0%	

FY25 Goals and Initiatives:

The core function of the Public Affairs Department is to support the MWRA’s achievement of all five key strategic priorities set forth in the FY21-FY25 Five-Year Strategic Business Plan. To that end, the Department has set the following initiatives:

- Work with the Massachusetts Legislature to advocate on behalf of member communities regarding issues that are crucial to the Authority’s core mission. The Executive Director and Director of

Intergovernmental Affairs routinely meet with House and Senate leaders to discuss issues that are crucial to the Authority and its customers. All newly filed legislation and regulations that could impact the Authority from an operational and administrative perspective are analyzed and monitored, and appropriate responses are formulated in concert with the Office of the Executive Director (OED).

- Enhance overall public understanding of MWRA’s mission, goals, and benefits to the public through extensive outreach and effective communication.
 - Develop and implement proactive strategies for educating and informing key MWRA constituencies and the public at large about MWRA’s mission, projects and progress, and promote understanding for associated costs.
 - Gain public support for MWRA programs and projects while responding to the needs and concerns of elected, appointed public officials, and the public.
 - Work to identify Environmental Justice communities across the service area and make sure MWRA has the tools to reach all communities that it serves.
 - Continue to grow the user population of MWRA’s Everbridge communication platform in order to reach as many residents as possible, keeping them up to date on meetings, reports, infrastructure projects, and CSO Notifications
 - Continue to expand the presence of MWRA’s portable water fountain at public events in service communities.
- Maintain and update MWRA’s Community Contact Database. This Community Contacts tracking application is used to notify MWRA’s communities of any operational issues or emergencies affecting them or surrounding communities.
- Continue to provide accurate and timely information to the public through the MWRA’s website and social media accounts, e.g., Twitter, Flickr and Instagram.
- Continue to respond to media requests in a timely and accurate fashion.
- Continue to develop presentations and graphics for use in a wide range of MWRA programs.
- Communications staff now has responsibility for the MWRA’s drone program and will continue to take baseline photos of MWRA facilities and infrastructure, in addition to other requests for drone footage, in compliance with FAA regulations.
- Continue to design and produce Annual Water Quality Report for every household within the MWRA service area.
- Continue to provide educational support through classroom visits, teacher training, educational material development, and facility tours. With classroom visits uncertain for the coming school year, School Program staff will continue to provide remote presentations and additional materials on the website.
- Provide technical support to 14 cities and towns that host MWRA’s emergency back-up aqueducts as part of the Public Access Aqueduct Program.

- Continue to work with cities and towns to implement the Public Access Initiative on the Wachusett, Weston, Sudbury, and Cochituate Aqueducts.
- 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.

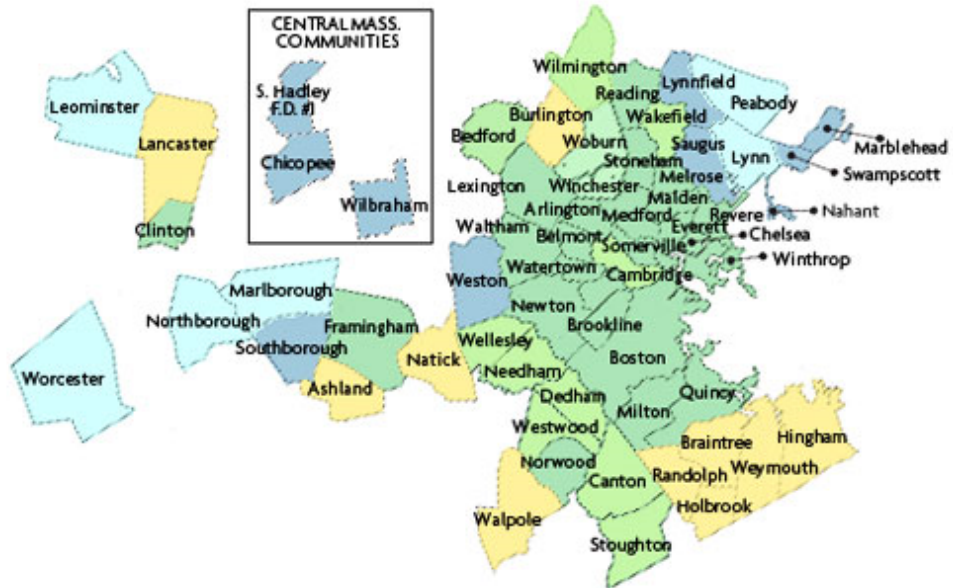
FY24 Year-End Accomplishments:

- Governor Healey’s House 2 Budget did not include a statewide appropriation for the Sewer Rate Relief Fund. However, the House Ways and Means Committee budget included a \$1,500,000 appropriation. Governor Healey vetoed this appropriation because it was not consistent with the House 2 recommendation. The House of Representatives overrode this veto to restore the funding, however the State Senate has taken no action on the override.
- A major initiative that was completed in for FY25 was the refresh of MWRA’s website.
- Recognizing the importance of providing accessible communications, engaging with communities, and fostering involvement from all members of the public, MWRA prepared a Language Access Plan (LAP) outlining how the Authority will reach individuals who have limited English proficiency. MWRA is committed to improving the accessibility of our programs, policies and activities for the non-English speaking residents within the communities it serves.
- Successfully grew the Everbridge communication platform to over 1650 public opt-in subscription in an effort to keep community members informed of construction project updates, service notices, and public meetings. Sent critical updates for construction projects, Monthly Water Quality Updates and Board Meeting notifications. Continued efforts will be made to increase public opt-in subscriptions and expand MWRA utilization of this platform, including the newly developed CSO Public Notification effort.
- MWRA continues to hold both virtual and in-person public meetings and meetings with local officials to keep our communities and their residents updated on upcoming and ongoing infrastructure investments in our local communities.
- Aqueduct Trails: To date, MWRA staff has issued Section 8 (m) Permits to most communities hosting the Wachusett, Wachusett Open Channel, Weston, Sudbury, and Cochituate Aqueducts as part of the Public Access Aqueducts Program. To date, MWRA has authorized approximately 30 miles of Aqueduct Trails, including a small portion in Sherborn that was opened this year. MWRA estimates that approximately 23 miles are currently open. MWRA has also received applications for new trail segments in the towns of Weston and Stoneham.



MWRA SERVICE AREA

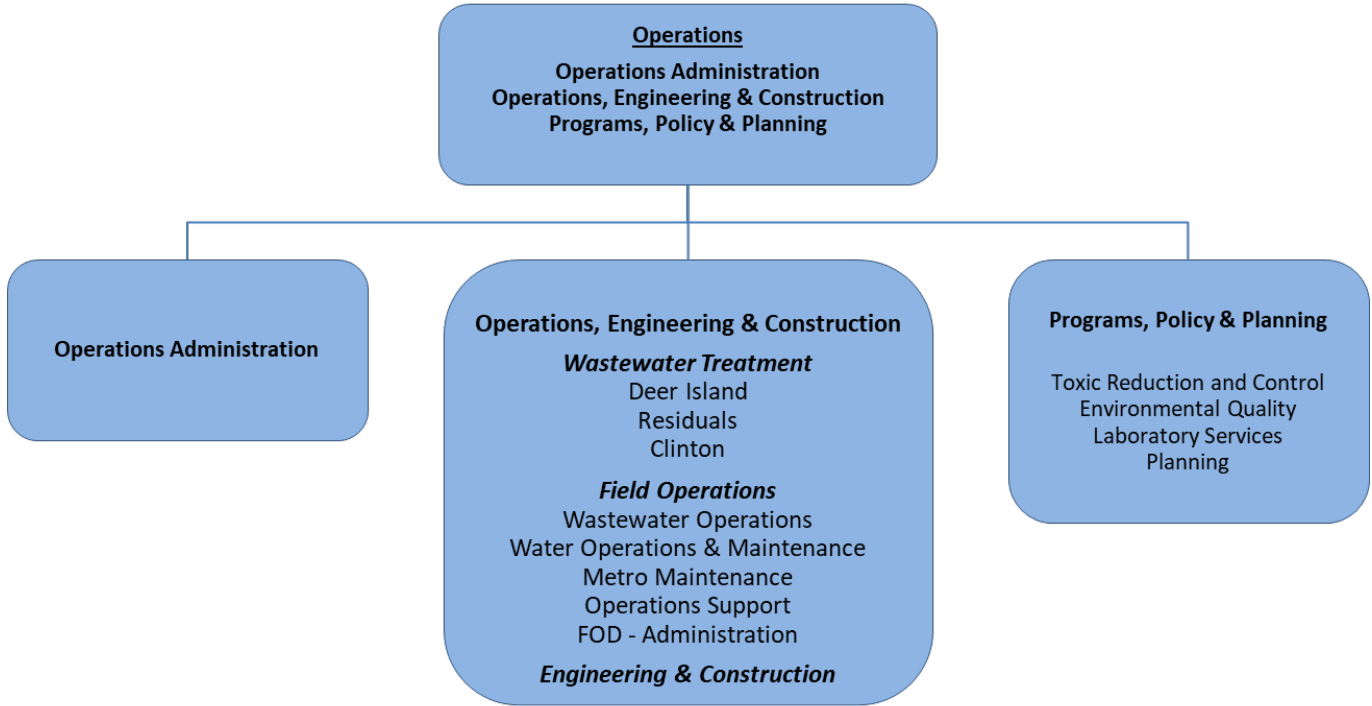
- Water only
- Partial/emergency water only
- Sewer only
- Full sewer, partial/emergency water only
- Water and sewer





Operations Division Budget

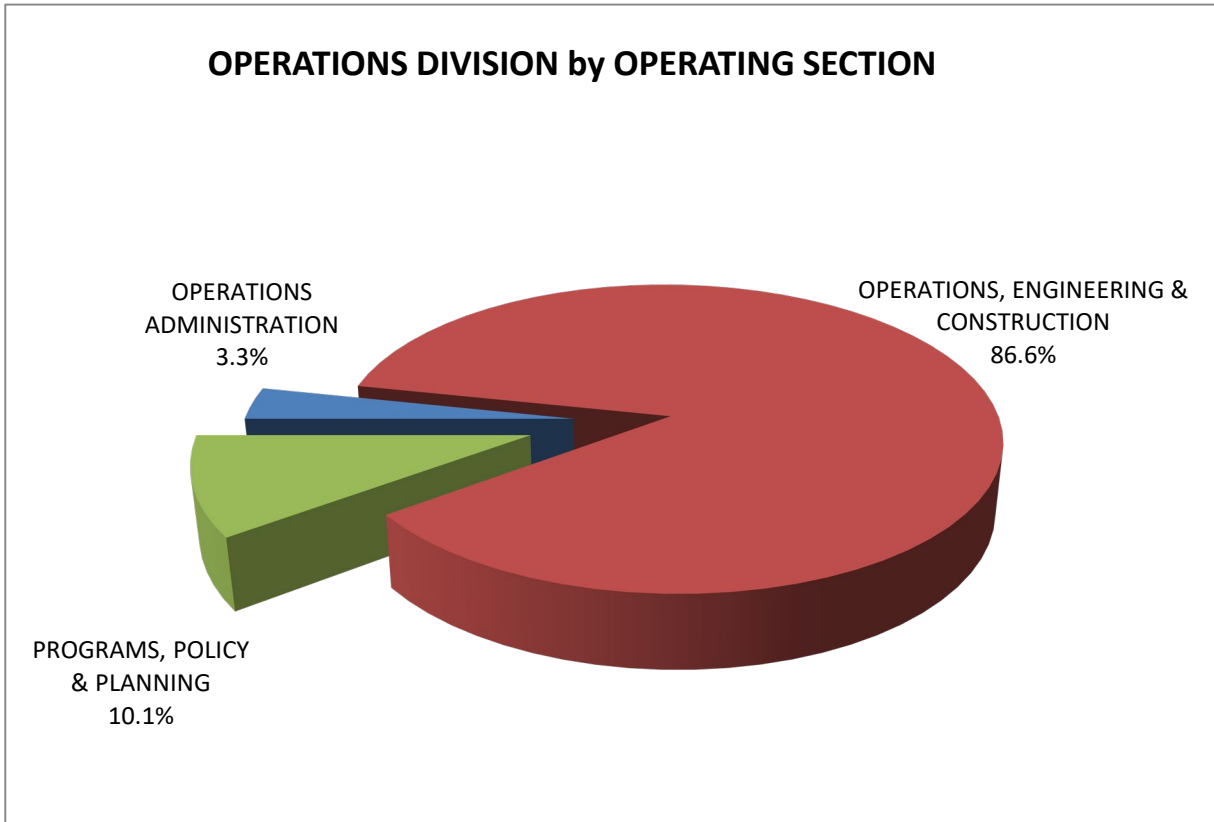
OPERATIONS DIVISION



The **Operations Division** provides MWRA’s wastewater and water system services including operations, maintenance, and treatment; environmental monitoring and laboratory testing and analyses; and engineering, construction, planning, and administration. MWRA’s Chief Operating Officer (COO) leads this division.

FY25 Final Current Expense Budget						
OPERATIONS DIVISION						
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 83,222,451	\$ 82,716,894	\$ 98,934,471	\$ 103,818,148	\$ 4,883,677	4.9%
OVERTIME	4,907,881	5,075,251	5,587,383	5,987,867	400,484	7.2%
FRINGE BENEFITS	111,060	111,539	128,158	113,999	(14,159)	-11.0%
CHEMICALS	11,788,437	18,038,588	28,269,124	19,706,033	(8,563,091)	-30.3%
UTILITIES	29,261,640	32,371,078	31,062,391	32,026,710	964,319	3.1%
MAINTENANCE	23,790,036	27,767,971	31,412,930	39,735,320	8,322,390	26.5%
TRAINING & MEETINGS	113,322	151,992	206,054	228,255	22,201	10.8%
PROFESSIONAL SERVICES	2,039,908	2,202,053	3,024,657	3,402,201	377,544	12.5%
OTHER MATERIALS	3,421,101	3,593,864	5,077,282	5,168,103	90,821	1.8%
OTHER SERVICES	20,880,019	23,034,662	34,995,864	31,019,389	(3,976,475)	-11.4%
TOTAL	\$ 179,535,855	\$ 195,063,892	\$ 238,698,314	\$ 241,206,025	\$ 2,507,711	1.1%

The Operations Division is composed of the Operations Administration Department and four operating sections, led by the Deputy Chief Operating Officer (DCOO), Chief Engineer, Director of Wastewater and Director of Water. In addition to managing the operating sections, the managers provide support to the Chief Operating Officer on key MWRA operations, technical, policy, community coordination, permitting and public constituency matters.



The **Operations Administration Department** provides division-level oversight and general management support in the following areas: administration, personnel, finance, contract administration, comprehensive energy planning and management, regulatory affairs and environmental management, and general management. The Operations Administration Department budget represents 3.3% of the Operations Division budget and includes funds for MWRA vehicle purchases and division-wide professional memberships.

The Department’s budget also covers the Tunnel Redundancy Program that oversees and manages the upcoming multi-decade \$2.1 billion water system Tunnel Redundancy Program, expected to be active from FY18 through FY42. Given the complexity of the project, the group is independent of existing engineering and construction departments and reports directly to the Executive Director. However, the department’s CEB is included within the Operations Division budget to allow for sufficient administrative support.

The **Programs, Policy & Planning Section** is composed of the Toxic Reduction and Control, Environmental Quality, Laboratory Services, and Planning departments. In total, the budgets for these departments represent 10.1% of the Operations Division’s budget. Brief descriptions of the departments in this section are as follows:

- 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 oversees implementation of MWRA's 8-M Permits processes.
- The **Environmental Quality Department (EnQual)** has two units: EnQual-Water and EnQual-Wastewater. EnQual-Water manages compliance with the reporting requirements of the MassDEP Drinking Water Regulations, as well as conducts and oversees the drinking water quality-monitoring program. EnQual-Wastewater manages compliance with the reporting requirements of MWRA's National Pollutant Discharge Elimination System (NPDES) permits. This unit analyzes environmental data and prepares reports on the quality of sewage influent and effluent and the water quality of Boston Harbor and its tributary rivers and Massachusetts Bay.
- The **Laboratory Services Department** supports various client groups in the Operations Division, the Massachusetts 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 **Planning Department** provides planning, advocacy, and decision support services on policy, public health, regulatory, and operations matters regarding MWRA's potable water and wastewater systems.

The **Operations, Engineering & Construction Section** is composed of the Wastewater Treatment, Field Operations, and Engineering & Construction departments. In total, the budgets for these departments represent 86.6% of the Operations Division's budget. Brief descriptions of the departments in this section are as follows:

- The **Wastewater Treatment Department** operates and maintains the Deer Island Treatment Plant (DITP), Clinton Wastewater Treatment Plant, and Residuals Processing Facility (pelletization plant) in Quincy.
- The **Field Operations Department (FOD)** manages the following functions: wastewater pretreatment, wastewater collection and transport, water distribution, and water treatment including the Carroll Water Treatment Plant (CWTP). This department is responsible for operating, maintaining, and metering both the water and wastewater systems.
- The **Engineering and Construction Department** supports the maintenance, repair, and rehabilitation of the wastewater and water systems by providing in-house engineering, drafting, surveying, consultant management, construction management, and other technical assistance. The department is also responsible for implementation and monitoring of the Combined Sewer Overflow (CSO) plan.

FY25 Final Current Expense Budget						
OPERATIONS DIVISION by OPERATING SECTION						
OPERATING SECTION	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
OPERATIONS ADMINISTRATION	\$ 5,492,531	\$ 5,154,941	\$ 7,868,375	\$ 7,978,854	\$ 110,479	1.4%
OPERATIONS, ENGINEERING & CONSTRUCTION	154,625,330	170,399,701	207,905,185	208,773,210	868,025	0.4%
PROGRAMS, POLICY & PLANNING	19,417,994	19,509,250	22,924,754	24,453,961	1,529,207	6.7%
TOTAL	\$ 179,535,855	\$ 195,063,892	\$ 238,698,314	\$ 241,206,025	\$ 2,507,711	1.1%

FY25 Goals and Initiatives:

The Operations Division core function is to plan, develop, implement, and operate efficient, reliable, and economical water treatment/delivery and wastewater transport/treatment systems in an environmentally sound manner. Accordingly, the Division takes the lead on the following MWRA goals included in the FY21-FY25 Five-Year Strategic Business Plan:

I. Drinking Water Quality and System Performance

- **Goal #1- Compliance with Regulatory Requirements and Public Health Standards:** Maintain drinking water quality to protect public health, and continue to ensure that MWRA water meets all applicable regulations. Special initiatives include:
 - Identify and evaluate the impact of different treatment strategies and scenarios on the mitigation of transportation related contaminants into the source water.
 - Evaluate new water quality monitoring equipment and testing techniques to monitor and maintain high quality water all the way to the ends of the community systems.
 - Participate with other nationwide water utilities in Water Research Foundation studies, specifically research opportunities pertaining to algae monitoring and mitigation strategies in source water.
 - Collaborate with CVA communities to modify chlorine-dosing strategy to minimize the formation of disinfection byproducts.
 - Increase water quality monitoring at the Quabbin Reservoir by the installation of a seasonal water quality-profiling buoy. Implement routine and automatic data transfers to ensure data is proactively reviewed and managed.
 - Evaluate data from UCMR4 2018-2020 monitoring and compare against nationwide occurrence data.
 - Advocate for responsible and reasonable new and revised state and federal drinking water regulations, and provide training and technical support to communities for new regulations.

- **Goal #2 – Water Quality Public Communications:** Continue to effectively report and communicate water quality information to our customers and public officials. Special initiatives include:
 - Regulatory communicate routine TCR monitoring data to Water Departments and assist with water quality sampling or training, as needed.
 - Continue to strengthen planning and emergency response documents for Boil Water Order (BWO) events. Work with departments to create, disseminate and train staff on materials that can be used during a BWO event or at a public information call center.

- **Goal #3 – Technical Assistance for Water Communities:** Assist member communities to improve local water distribution systems through ongoing financial, technical and operational support programs to maximize long-term water quality benefits. Special initiatives include:
 - Enhance outreach and technical assistance within the existing Lead Service Line Replacement program to support communities in response to EPA’s revisions to the Lead and Copper Rule.
 - Develop the capability to evaluate potential changes to corrosion control treatment using a pipe loop system constructed using “harvested” lead service lines.

II. Wastewater Quality and System Performance

- **Goal #4 – Compliance with Regulatory Requirements:** Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system. Initiatives include:
 - Continue to carry out the Pretreatment Program to protect receiving water quality, maximize the beneficial reuse of wastewater residuals, and protect workers and MWRA’s wastewater treatment plants and receiving waters.
 - Continue to monitor DITP processes to ensure high quality treated effluent, optimizing plant performance to ensure all applicable NPDES permit limits continue to be attained.
 - Operate the newly installed enhanced phosphorus control systems at the Clinton Wastewater Treatment Plant to ensure compliance with its new NPDES permit.
- **Goal #5 – Regulatory Changes:** Continue to initiate plans and studies to prepare for regulatory changes; identify opportunities to refine monitoring requirements; and improve effluent quality. Special initiatives include:
 - Develop strategies to address emerging contaminants, such as PFAS, micro plastics, etc. as they are identified, and frame an approach to respond to the public’s concerns about these contaminants.
 - Assess thresholds for annual nitrogen loading, including evaluating the existing thresholds and the environmental impact of nitrogen, as well as whether these thresholds developed over 20 years ago are valid or should be modified.
 - Review new waste treatment technologies as they arise to continuously improve treatment performance and efficiency.
 - Continue to work with researchers investigating the use of wastewater as an indicator of the presence of the Covid-19 virus.
- **Goal #6 – Wastewater Infrastructure:** Move forward with design and construction of major wastewater infrastructure rehabilitation and renewal projects. Initiatives include:
 - Continue to design and implement facility rehabilitation projects for various pump stations, headworks, CSO facilities and the Deer Island Treatment Plant.
 - Continue to implement an ongoing program to review, prioritize and accelerate interceptor renewal projects.
- **Goal #7 – CSO Plan Compliance:** Complete all CSO milestones by 2021 and demonstrate that the CSO Plan meets its performance objectives. Special initiatives include:
 - Conduct an evaluation of the CSO treatment processes to determine potential opportunities to better meet permit limits. Confirm or reassess treatment processes as part of CSO facility rehabilitation projects.

- Implement a subscriber-based CSO Public Notification Program. Provide notification of a CSO overflow within 4 hours of start of the discharge.
- Implement near real-time SSO reporting system to provide public information and ensure reporting timeframes meet regulatory requirements.
- **Goal #8 – Technical Assistance for Wastewater Communities:** Assist member communities to improve their wastewater collection systems through ongoing technical, financial, and operational support programs. Initiatives include:
 - Provide technical and operational support including TV inspections, fieldwork assistance, or other targeted assistance, as needed.
 - Promote and manage MWRA’s Inflow/Infiltration Local Financial Assistance Program to facilitate reduced I/I in local community infrastructure.

III. Infrastructure Management and Resilience

- **Goal #9 – System Maintenance and Enhancement:** Maintain and enhance water and wastewater system assets over the long term at the lowest possible life cycle cost and acceptable risk, consistent with customer, community, and regulatory support levels.
 - The FY25 Capital Improvement Program forecasts \$349.7 million in spending in FY25, of which \$176.7 million supports Wastewater System Improvements and \$145.8 million supports Waterworks System Improvements.
 - For FY25, the FY25 Final CIP includes 197 active contracts of which 69 are for design of Wastewater and Waterworks Systems Improvements and 40 are for construction, with projected spending of \$65.6 million for design and \$161.9 million for construction. In addition, there are 88 active other contracts with total spending of \$120.4 million.

Special initiatives include:

- Continue use of Condition Monitoring for all Water and Wastewater sites. Expand Condition Monitoring techniques to provide earlier indication of asset degradation.
- Conduct an updated benchmarking analysis in order to identify gaps and sustain the goal of maximizing asset protection while potentially identifying new best practices in the industry.
- Update the wastewater metering system and evaluate new technologies to ensure continued accurate flow accounting and to enhance its usefulness for operational and evaluation purposes by adding additional monitoring locations.
- Continue to research and develop Key Performance Indicators (KPI) to compare our performance internally and against the industry.
- Enhance and monitor water pipeline protection to maximize pipeline lifetime.
- Expand integration between the MWRA’s Authority-wide Enterprise Asset Management (EAM) system Maximo with Lawson (Infor), Process Information (PI) and Automated Vehicle Location (AVL) systems to expand the use of Predictive Management (PdM) tasks, increasing functionality, asset tracking and improved workflow to reduce equipment downtime and control budget spikes. Utilize updated MAXIMO to increase opportunities for paperless work.
- Continue to upgrade and improve upon the Supervisory Control and Data Acquisition (SCADA) and Process Information and Controls System (PICS) hardware and software to meet the current industry standard and to address cyber security concerns.
- **Goal #10 – Emergency Preparedness:** Prepare for catastrophic events and malicious acts that could affect the water and wastewater systems. Operations Division initiatives include:

- Continue to improve and incorporate redundancy and operational flexibility within the water system to ensure uninterrupted service.
- Design and implement projects including those that eliminate or mitigate single points of failure within MWRA's water transmission and distribution system.
- Continue to train staff on various potential emergency scenarios and participate in broader Massachusetts Emergency Management Agency (MEMA) and other training exercises.
- Complete the Preliminary Design and Environmental Impact Report for the Metropolitan Tunnel Redundancy Program and initiate final design.
- Update MWRA's earthquake preparedness to bring our facilities up to current standards as they are rehabilitated.
- Move forward with Wastewater Facility Emergency Response Planning to identify potential measures to minimize disruptions from failures of facilities, including development of a comprehensive Emergency Response Plan for each facility.
- Create and implement a predetermined schedule of review for facility risk assessments.
- Participate in Lower Mystic Resiliency Planning as an abutter to the Lower Mystic.

VI. Environmental Sustainability

- **Goal #17 – Energy Optimization:** Continue to maximize energy efficiency of MWRA operations, renewable energy production, and revenue generation opportunities using MWRA's energy assets.
 - Self-generate ~ 28.5% of the Deer Island Treatment Plant's (DITP) required power through optimization of power generation assets, including the wind turbines, Steam Turbine Generation (STG) back pressure system, photovoltaic panels, and Combustion Turbine Generators (CTGs).
 - Contribute ~ \$3.2 million in energy revenue to MWRA's ratepayers through optimization of power generation assets and participation in energy revenue programs such as demand response, energy credits, power sales, and utility rebates. Also, avoid at least \$1.4 million in capacity charges through use of self-generation assets during peak load events.

Special initiatives include:

- Incorporate employee education on energy efficiency in MWRA training outlets, e.g. tool box talks.
 - Design new gas turbine combined heat and power equipment to take advantage of the higher power and thermal efficiencies of new equipment, maximizing the production of additional electric power for on-site use at Deer Island as well as cost savings while reducing maintenance spending on aging equipment.
 - Evaluate and implement where feasible combined heat and power technology in plant operations to improve energy efficiency (e.g. pellet plant, Clinton)
 - Continue to develop the battery storage projects and work with the utility and its contractor to optimize demand savings. Evaluate opportunities for future battery storage projects. Explore community solar opportunities that will stimulate large-scale remote solar installations and save money on our electric bills.
 - Expand our fleet of electric vehicles and charging stations.
 - Explore a new MWRA-wide building/plant information management system that includes a comprehensive energy management system.
- **Goal #18 – Climate Change Adaptation:** Continue to monitor climate change research and move forward with plans to reduce impacts of projected sea level rise and storm surge events on MWRA infrastructure. Initiatives include:

- Continue to incorporate design modifications into facility renovations and maintenance activities to address sea level rise and storm surge.
- Plan and install flood protection barriers at water and wastewater sites which fall below expected elevations of flood waters under condition of a FEMA 100 year storm plus 2 ½ feet to minimize damage and still provide service.
- **Goal #19 – Water System Expansion:** Advance reasonable water system expansion. Initiatives include:
 - Continue to provide assistance to communities seeking admission to the MWRA’s water system or seeking emergency withdrawals.
 - Work with prospective communities to inform them of the benefits of admission.

The strategic priorities and goals that apply to each department within the Operations Division are presented in departmental budget sections. For more information about MWRA’s Business Plan, please refer to the Business Plan section of the Transparency page on MWRA’s website at mwra.com.

FY24 Year-End Accomplishments:

For more information about this topic, please refer to the Performance Indicator section of the Transparency page on MWRA’s website at mwra.com.

I. Drinking Water Quality and System Performance

- Met water quality and treatment standards in the drinking water system during FY24.
 - MWRA and DCR collected algae samples on Wachusett and Quabbin Reservoirs. Staff performed algal toxin and taste and/or odor compound sampling at treated water taps through the routine monitoring season. Results revealed no cyanotoxin detections at active reservoir systems during any routine sampling events.
 - As of April 1, 2024, started a new Interdepartmental Service Agreement with UMass Amherst, focusing on organic matter in the Wachusett Reservoir.
 - Ensured winter maintenance of all reservoir buoy-related equipment; installed additional batteries on all buoys in FY24. Facilitated the bidding of a replacement boat for reservoir sampling and buoy maintenance. Procured replacement CMS analyzers to replace older units as budgeted for in the FY23 and FY24 Capital Improvement Plans.
- Performed reservoir level management control at all metropolitan reservoirs to maintain normal operating levels.
- The Laboratory Services Department performed 147,336 tests (including data entry of field tests) related to drinking water quality including the annual Lead and Copper Rule testing.
- The Laboratory Services Department performed numerous tests in support of community efforts to identify and reduce lead service lines in schools.
- Local Water System Assistance Program: Through June 2024, distributed \$48.9 million in Local Water System Assistance Program interest-free loans, plus an additional \$8.5 million under the Lead Service Line Replacement Loan Program in FY24. In total, MWRA has distributed \$606.4 million in loans to fund 536 local projects with participation from 43 of the 47 eligible water communities. This total includes the \$30 million pilot program in FY98-00. Since 1998, MWRA has replaced or cleaned and lined 603 miles of local water main (about 8% of the regional system)

via projects funded by MWRA financial assistance. In addition, MWRA has loaned \$43.8 million to 17 member communities for Lead Water Service Line Replacement projects.

- Community Leak Detection Program: Through June 2024, Assisted many customer communities with both routine and emergency assistance, including:leak detection for Boston, Brookline, Chelsea, Everett, Malden, Medford, Newton, Revere, Stoneham, Waltham and Winthrop.

II. Wastewater Quality and System Performance

- Deer Island received the Platinum Peak Performance Award for calendar year 2023 from the National Association of Clean Water Agencies (NACWA) for the 16th continuous year. The award recognizes facilities for outstanding compliance with their National Pollutant Discharge Elimination System (NPDES) permit limits. DITP has had no permit violations for over 17 years.
- Deer Island met secondary permit limits at all times, treating on average 98.2% of flows with full secondary treatment. More detailed information about DITP's NPDES Permit compliance is available on the Transparency/Performance Indicator section of MWRA's website.
- Eversource completed the Fourth annual maintenance on the 115 kVA cross-harbor marine power cable to Deer Island during November 2023. Eversource worked on the switchgear equipment, which required Deer Island to go on backup generation. All flows received disinfection and met numerical effluent standards.
- Processed 100.5 average tons per day of sludge at the Pelletization Plant and disposed of 5,275 tons of grit and screenings through a contracted vendor.
- In FY24, the TRAC Department completed the following Environmental Protection Agency (EPA)-required work for significant industrial users (SIUs): 180 inspections, 156 monitoring events, and 375 sampling of connections. TRAC also issued or renewed 349 permits to SIUs and non-SIUs.
- The Department of Laboratory Services (DLS) performed 268,064 tests during FY24 including 133,191 tests for the wastewater system including the MA Bay water column testing for the Harbor and Outfall Monitoring program.
- Met all NPDES reporting requirements including routine monthly, quarterly, and annual reports, and required notifications under Part II of permits, Contingency Plan, DITP blending order.
- Performed testing in-house PFAS Testing for MWRA and community compliance testing as requested. Arranged for contract testing of wastewater samples by a newly revised and expanded EPA Method for the new Clinton permit and as requested by TRAC.
- *Sewer Grant/Loan Program* – Through June 2024, distributed \$29.2 million in grants and interest-free loans to member sewer communities for Infiltration/Inflow reduction and sewer system rehabilitation projects in FY24. In total, MWRA has distributed \$560 million in grants and loans to fund 685 local projects with participation from all 43-member sewer communities.

III. Infrastructure Management and Résilience

Maintenance

- For FY24, the Operations Division spent \$31.0 million on maintenance of which \$11.4 million was for materials and \$19.6 million was for services.
- Issued Notice to Proceeds for Asset Protection Program contracts including the following:
 - Deer Island Protect System Replacement Phase 2 (Jul-2023)
 - Deer Island Roof Replacement Construction (Dec-2023)
 - Deer Island As Needed Design 10-1 (Dec-2023)

- Deer Island As Needed Design 10-2 (Dec-2023)
- Deer Island As Needed Design 10-3 (Dec-2023)
- Residuals Facility Upgrades Design (Oct-2023)
- Substantially completed projects:
 - Deer Island Radio Repeater System Upgrade Phase 2 (Feb-2024)
- **Clinton Wastewater Treatment Plant** - Completed numerous maintenance projects at the including the following representative work:
 - Maintenance staff installed new #2 bisulfite pump, motor, backflow pressure valve, check valves and they blew out the piping manifold. Maintenance staff replaced the torn bucket on the sludge belt filter press conveyor, a Muffin Monster grinder in the lower dewatering sludge line going to belt filter press, and the suction valve in front of the grinder.
 - Maintenance staff took apart soda ash machine piping to remove a blockage of soda ash, jetted both A and B soda ash lines, removed a leaking valve assembly and installed a new feed pipe for soda ash system.
 - Maintenance staff completed rebuilding the #1 Penn Valley soda ash pump.
 - Maintenance staff completed the installation of aluminum stairs in the influent wet well area.
 - Maintenance staff installed a new hypochlorite tank (#2), completed piping on the tank and replaced a level sensor.
- Substantially completed projects:
 - Substantially completed Clinton Influent Screw Pump Replacement (Nov-2023)
- **Water System** - Completed numerous maintenance projects including the following representative work:
 - Completed the CWTP half plant maintenance.
 - Staff in coordination with guidance from an expert panel began operational testing of the lead pipe test rigs using control rigs as well as multiple dosing scenarios to measure the effectiveness of sodium orthophosphate on lead service lines.
 - Managed the design and coordination of Cell #3 of the Norumbega Covered Storage Tank cleaning. The tank had not been cleaned since its activation in 2004. Norumbega is a 115MG tank with three cells, approximately 42MG each. Cell #2 was cleaned the previous year and the remaining cell, Cell #1, will be cleaned in FY25.
 - All MWRA Significant Hazard and High Hazard Class dam regulatory Phase 1 inspections were completed and reports have been submitted to the Office of Dam Safety.
 - Invasive species survey, control and removal work completed for 2023 season at Shaft 8 Intake Pool, the Wachusett, Quabbin/Pottapaug Pond, Sudbury, Foss, Ware River, Weston and Chestnut Hill Reservoirs. Detail invasive plant surveys were completed at all MWRA reservoirs.
 - Completed successful winter drawdowns at Foss Reservoir and Chestnut Hill Reservoir.
 - River Road Slope Stabilization Improvements work completed and Certificate of Completion request submitted to Clinton Conservation Commission.
 - Managed the consultant for the CWTP SCADA System Upgrades contract and provided SCADA support for the replacement of all PLCs.

- Successfully maintained all instrumentation, network, and communications infrastructure for the MWRA Water and Wastewater systems.
- In water system through June 2024, exercised 750 and replaced 6 mainline valves; exercised 458 and replaced 6 blow-off valves.
- **Wastewater System** - Completed numerous maintenance projects including the following representative work:
 - Houghs Neck Pump Station: MWRA Facilities staff installed upgraded flood protection barriers, raising the flood protection level of the station.
 - DeLauri Pump Station: MWRA maintenance staff replaced the chains on Screen 1
 - DeLauri Pump Station: Electricians replaced the VFD for pump number 2.
 - Intermediate Pumping Station: Maintenance staff replaced the conveyor belts and rollers for the screenings conveyance system.
 - Braintree-Weymouth Pump Station: Maintenance M&O specialists and Electricians replaced RWW Pump 2 and sent it out to be rebuilt.
 - Caruso Pump Station: MWRA HVAC Specialists and Technicians replaced a failed heating coil for the air-handling unit servicing the screen room.
 - Caruso Pump Station: MWRA Maintenance staff replaced the Pump 1-4 motor.
 - Alewife Brook Pump Station – Staff replaced a grinder.
 - Quincy Pump Station: Facilities Staff completed the waterproofing and re-facing of the chimney.
 - Prison Point Pump Station: M&O Specialists and Plumbers replaced the stripping pump.
 - Cottage Farm: Plumbers replaced the final effluent sample pump.
 - Chelsea Creek Headworks: Maintenance staff assisted the manufacturer in warranty repair work for the Odor Control Fan #2.
 - Chelsea Creek Headworks: Maintenance staff repaired a broken inline grit screw.
 - In the wastewater system through June 2024, inspected 28.0 miles and cleaned 25.0 miles of MWRA pipeline. Inspected 687 structures and rehabilitated 78 manholes. Also inspected 21 and cleaned 18 inverted siphon barrels.

Capital Improvements

- Capital spending for FY24 totaled \$208.2 million broken out by category as follows: \$94.0 million for Wastewater System projects, \$105.0 million for Water System projects, and \$9.2 million for Business and Operations Support projects.
- Awarded or Issued Notices to Proceed for numerous contracts including the following:
 - Wastewater System - \$31.3 million:
 - Digester Storage Tank Rehabilitation Design/ESDC – July 2023 - \$10.0 million
 - Deer Island Roof Replacement – November 2023 - \$8.9 million
 - Prison Point Construction 2 – August 2023 - \$2.5 million
 - Deer Island Asset Protection – As Needed Design – October 2023 - 3 contracts \$2.4 million each
 - West Roxbury Tunnel Inspection – June 2024 - \$1.6 million
 - Columbus Park Headworks Air Handling Equipment – July 2023 - \$1.1 million
 -
 - Water System- \$12.3 million:

- Metropolitan Tunnel Interim Improvements - CP-2 Shaft 5 – February 2024 - \$5.4 million
- Quinapoxet Dam Removal – October 2023 - \$2.5 million
- Sudbury/Foss Dam Construction – 2 contracts - \$2 million (June 2024) and \$0.3 million (November 2023)
- Carrol Water Treatment Plant Parapet Wall Repairs – January 2023 - \$1.4 million
- Metropolitan Tunnel Interim Improvements - CP-2 Tops of Shafts REI – June 2024 - \$0.9 million

For more information about projects in the Capital Improvement Program, please refer to the Fiscal Year 2025 Capital Improvement Program document located on the Budget page of the MWRA's website at mwra.com.

Emergency Preparedness

- Assisted with implementation of MWRA's Pandemic Emergency Action Plan to meet requirements of America's Water Infrastructure Act (AWIA). Issued regular internal reports on the status and prevailing guidance regarding the COVID19 pandemic in Massachusetts. Also worked with the current vendor, Biobat, to monitor and report the presence of the virus in MWRA's wastewater.
- Completed and certified compliance with the Emergency Response Planning requirements of America's Water Infrastructure Act. Initiated major staff training exercise related to potential railroad spills at Wachusett Reservoir.
- In July and August, staff presented at MWRA's Community Emergency Response Planning Training on building flushing after lengthy shutdowns due to COVID19 and proper coliform sampling technique. Provided a virtual presentation to the Chelsea sampling staff on proper coliform sampling technique and chlorine residual measurement.
- Coordinated the design, procurement and installation training for flood protection equipment to be installed at key MWRA wastewater facilities. Participated in Metro Mayors' Climate Change Coalition Task Force and continued to monitor new research related to the effects of climate change in the service area. Co-chaired and participated in multi-agency Mystic River Regional Infrastructure exercise.

VI. Environmental Sustainability

- Received a total of \$1.1 million in revenue for energy generated at numerous facilities including hydroelectric from Oakdale Station and Cosgrove Station; wind from Charlestown Pump Station; and solar from Carroll Water Treatment Plant.
- Continue 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, non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) credits, and receipt of utility rebates for CEB-funded efficiency projects resulted in \$1.6 million in revenue in FY24. MWRA also avoided more than \$1.4 million in capacity charges through operation of self-generation assets during peak load events as called by the regional transmission organization (ISO New England).
- Deer Island self-generated 24.8% of the plant's total required power FY24.
- Spec'd and purchased 6 additional electric vehicles for the Authority.
- Continued to operate and optimize the phosphorous treatment system and natural gas lines at the Clinton Wastewater Treatment Plant; fourth full year of operation for both. The lower seasonal effluent phosphorus limit of 150 ug/L and 3.8 pounds per day loading limit became effective starting April 1, 2019. The effluent for FY24 has met these new lower limits.

Budget Highlights:

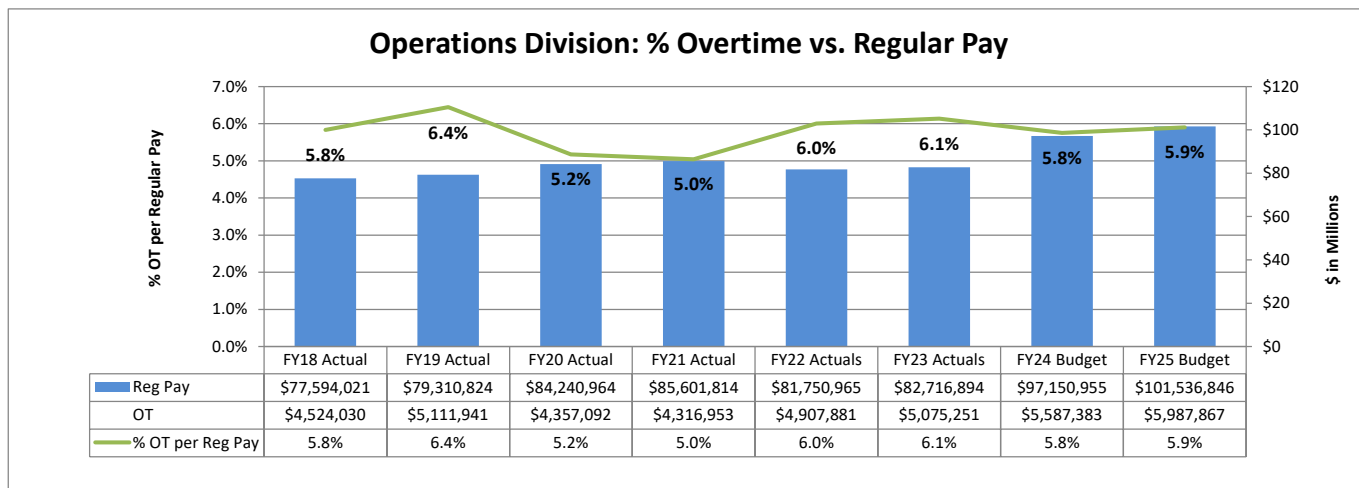
The FY25 Budget is \$241.2 million which is \$2.5 million, or 1.1%, more than the FY24 Budget.

- The FY25 Budget of \$103.8 million for **Wages and Salaries** is an increase of \$4.9 million or 4.9% from the FY24 Budget primarily due to wage increases associated with collective bargaining agreements. The FY25 Budget funds 917 full-time equivalent positions for the Operations Division departments, including Tunnel Redundancy staffing, a reduction of two FTEs from the FY24 position level. Staffing for the water system Tunnel Redundancy Program dropped 2 positions to 14 positions in the FY25 Budget as this department takes shape. However, MWRA currently plans to add FTEs over the next few fiscal years to support this project.

FTEs		
Operations by Department		
DEPARTMENT	FY24 FTEs	FY25 FTEs
OPERATIONS ADMINISTRATION*	33.3	32.1
OPERATIONS, ENGINEERING & CONSTRUCTION	732.0	729.6
PROGRAMS, POLICY & PLANNING	153.7	155.3
TOTAL	919.0	917.0

*includes Tunnel Redundancy

- The FY25 Budget of \$6.0 million for **Overtime** is a net increase of \$400,000 or 7.2% from the FY24 Budget primarily due to collective-bargaining wage increases and resizing estimates based on trends. The budget includes \$2.4 million for emergencies and storms; \$1.5 million for planned work primarily required on off-shifts and during periods of lower flows; and \$1.8 million for routine coverage of operations per prevailing collective bargaining agreements.



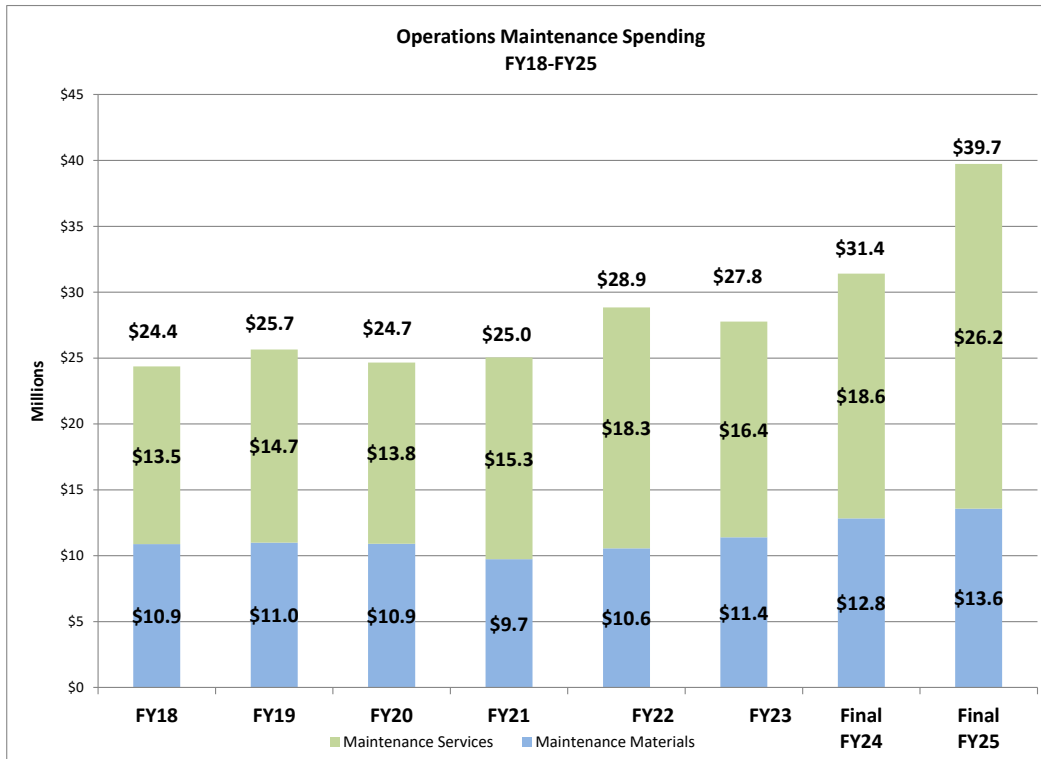
- The FY25 Budget of \$19.7 million for Chemicals is a decrease of \$8.6 million or 11.0% over the FY24 Budget, as this market has return to pre-pandemic norms which impacted contractual prices and market projections. The FY25 Budget includes \$8.9 million for disinfection and treatment in the water system and \$10.8 million for disinfection, treatment, and odor control in the wastewater system. The budget includes \$3.6 million for soda ash, \$6.7 million for sodium hypochlorite, \$3.9 million for ferric chloride, \$805,000 million for carbon dioxide, \$772,000 for sodium bisulfite, \$563,000 for polymer, \$914,000

for liquid oxygen, \$796,000 for hydrogen peroxide, \$314,000 for aquammonia, \$518,000 for hydrofluosilicic acid, \$378,000 for activated carbon, and \$170,000 for sodium hydroxide.

- The FY25 Budget of \$32.0 million for **Utilities** includes \$24.8 million for electricity, \$3.4 million for diesel fuel, \$2.8 million for water, \$844,000 for natural gas, and \$131,000 for propane and other utilities. The utility budget is \$17.6 million for the Deer Island Treatment Plant, \$4.3 million for Wastewater Operations, \$6.1 million for Water Operations, \$828,000 for the Chelsea office and maintenance facilities, and \$312,000 for the Clinton Wastewater Treatment Plant. The utilities budget is \$964,000 or 3.1% more than the FY24 budget.



- The FY25 Budget for **Maintenance** is \$39.7 million, a net increase of \$8.3 million or 26.5% from the FY24 Budget primarily due to changes in project priorities from year to year. The FY25 Budget includes \$26.2 million for services and \$13.6 million for materials. By maintenance area, the largest categories of spending for materials and services include \$18.7 million for plant and machinery; \$6.7 million for building and grounds; \$5.8 million for specialized equipment; \$3.9 million for electrical; \$2.3 million for HVAC systems, and \$1.7 million for pipeline. The budget also funds special initiatives such as energy conservation projects at DITP and in the Field Operations Department facilities; invasive plant control in the water reservoirs; painting and coating upkeep at the wastewater treatment plants; and easement clearing on MWRA's aqueducts. As shown below, the range of maintenance spending has been fairly consistent over the last few fiscal years.



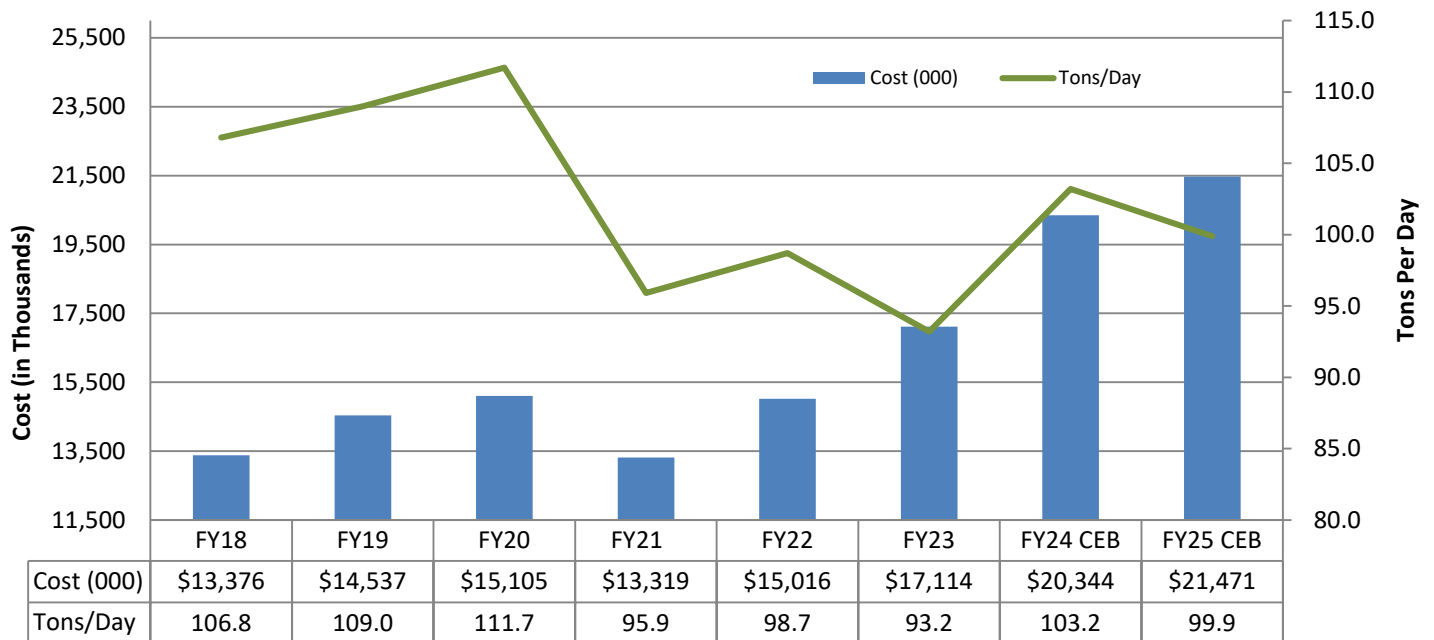
Norumbega Covered Storage Tank and Norumbega Open Reservoir (now a backup supply)

- The FY25 Budget of \$228,000 for **Training and Meetings** covers specialized training, attendance at industry conferences, and site visits as required to vendors and other plants. It specifically funds training for topics such as spill response and boom deployment; spill control and prevention; trenchless technology; cyber security; and electrical voltage. The budget also continues to include funds to support workforce development efforts as part of MWRA’s succession planning initiative. The FY25 Budget is \$22,000 more than the FY24 Budget.
- The FY25 Budget for Professional Services is \$3.4 million, including \$2.2 million for lab and testing services, \$777,000 for engineering services, and \$332,000 for all other services. Major items in the

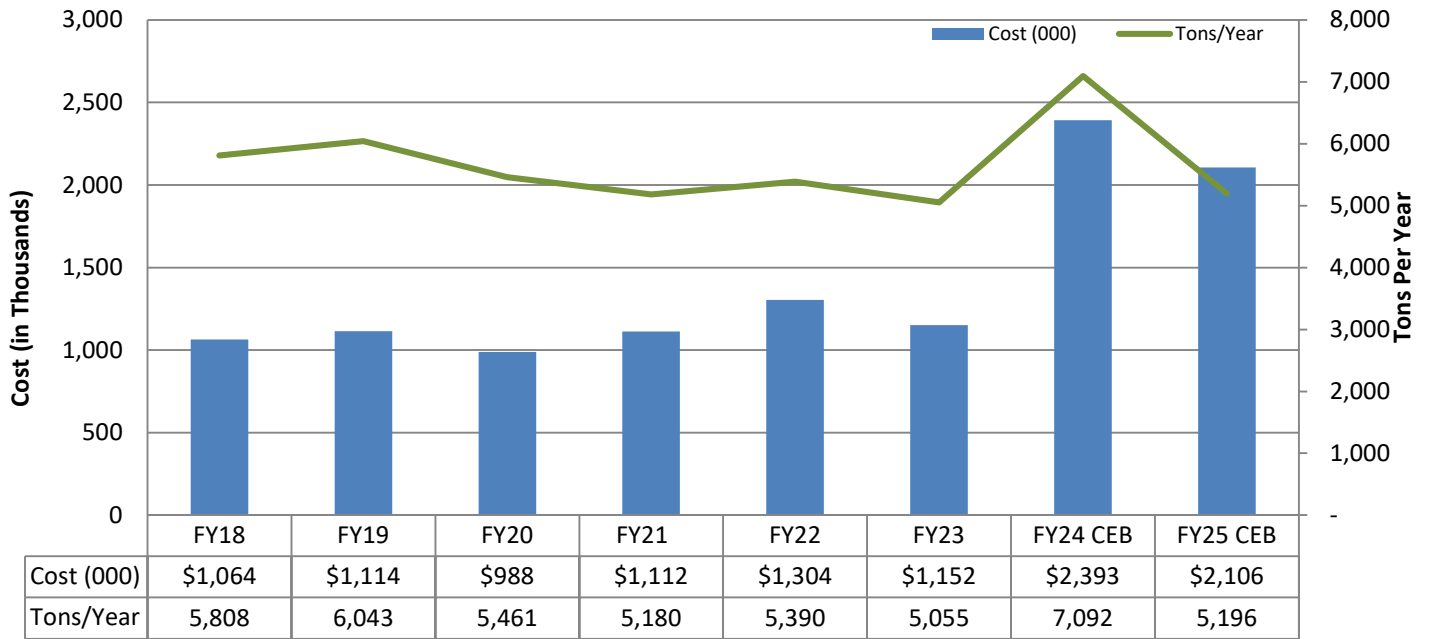
budget include \$1.8 million for Harbor and Outfall Monitoring; \$300,000 for Backup Battery System for Deer Island, \$250,000 Local Limit Placeholder Boston Harbor NYDES permit, \$100,000 for as-needed engineering services to support CEB-funded projects; \$187,000 for PFAS monitoring, \$150,000 for site remediation inspection services; \$150,000 UMAss organic material in Wachusett study; \$100,000 for a comprehensive reservoir-wide plant survey in the water system; and \$53,000 for invasive species control services in the reservoirs. The FY25 Budget is \$378,000 or 12.5% above the FY24 Budget primarily due to the inclusion of new contract for HOM water column monitoring.

- The FY25 Budget of \$5.2 million for **Other Materials** includes \$1.5 million for Vehicle Replacements; \$1.2 million for Lab and Testing Supplies; \$622,000 for Equipment and Furniture; \$432,000 for Work Clothes; \$406,000 for Health and Safety Supplies; \$381,000 for other materials; and \$266,000 for Vehicle Expenses (gas, mileage reimbursement). The budget increased \$91,000 or 1.8% from the FY24 Budget.
- The FY25 Budget for **Other Services** is \$31.0 million, including \$22.7 million for sludge pelletization; \$3.4 million for building space leases and rentals (including the Chelsea office facility); \$2.1 million for grit and screenings removal and disposal; \$696,000 for telecommunications services; \$712,000 for dues, memberships, and subscriptions; \$530,000 for police details; and \$278,000 for other services. The FY25 Budget a decrease of \$4.0 million or 11.4% from the FY24 Budget is primarily due to the projected drop in sludge quantities, contractual prices for grit and screenings removal and sludge pelletization contracts, memberships and dues, offset by resizing of budgets for other items based on trends and needs.

Sludge



Grit & Screenings



Alewife Brook Wastewater Pump Station

OPERATIONS ADMINISTRATION

Operations Administration funds the CEBs for two departments including Operations Administration and Tunnel Redundancy Program Management.

The **Operations Administration Department** includes the Office of the Chief Operating Officer (COO); the Office of the Deputy Chief Operating Officer (DCOO); 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, comprehensive energy planning and management, regulatory affairs, environmental management, and general management.

The **Tunnel Redundancy Program Management Department** was created by MWRA's Board of Directors on February 15, 2017 to oversee the planning, design, and construction of a northern and a southern deep rock tunnel that will provide redundancy for the Metropolitan Tunnel system (waterworks). This \$1.5 billion CIP-funded project will take more than a decade to complete. Also, given the complexity of the project, the group is independent of existing engineering and construction departments and reports directly to the Executive Director. However, the department's CEB is included within the Operations Division budget to allow for sufficient administrative support.

FY25 Final Current Expense Budget OPERATIONS ADMINISTRATION

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 4,081,703	\$ 3,526,849	\$ 4,422,240	\$ 4,533,494	\$ 111,254	2.5%
OVERTIME	2,097	18	5,000	5,000	-	0.0%
FRINGE BENEFITS	-	-	360	360	-	0.0%
MAINTENANCE	2,107	954	-	34,000	34,000	-
TRAINING & MEETINGS	18,955	47,361	52,300	52,300	-	0.0%
PROFESSIONAL SERVICES	8,905	-	161,002	161,002	-	0.0%
OTHER MATERIALS	641,683	672,581	1,545,000	1,561,000	16,000	1.0%
OTHER SERVICES	737,081	905,977	1,682,473	1,614,698	(67,775)	-4.0%
TOTAL	\$ 5,492,531	\$ 5,154,941	\$ 7,868,375	\$ 7,978,854	\$ 110,479	1.4%

FY25 Final Current Expense Budget OPERATIONS ADMINISTRATION by Programs

PROGRAM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
OPERATIONS ADMINISTRATION	\$ 4,103,328	\$ 3,617,969	\$ 4,875,132	\$ 5,087,430	\$ 212,298	4.4%
WATER REDUNDANCY PGR MGMT	1,389,203	1,536,972	2,993,243	2,891,424	(101,819)	-3.4%
TOTAL	\$ 5,492,531	\$ 5,154,941	\$ 7,868,375	\$ 7,978,854	\$ 110,479	1.4%

FY25 Final Current Expense Budget
WATER REDUNDANCY PROGRAM MANAGEMENT

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 1,360,061	\$ 1,284,933	\$ 1,985,608	\$ 1,889,564	\$ (96,044)	-4.8%
OVERTIME	727	-	5,000	5,000	-	0.0%
FRINGE BENEFITS	-	-	360	360	-	0.0%
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	1,201	-	17,000	17,000	-
MAINTENANCE	2,107	954	-	34,000	34,000	-
TRAINING & MEETINGS	4,614	21,829	30,000	30,000	-	0.0%
PROFESSIONAL SERVICES	-	-	1,000	1,000	-	0.0%
OTHER MATERIALS	9,028	4,485	40,500	56,500	16,000	39.5%
OTHER SERVICES	12,666	223,570	930,775	858,000	(72,775)	-7.8%
TOTAL	\$ 1,389,203	\$ 1,536,972	\$ 2,993,243	\$ 2,891,424	\$ (101,819)	-3.4%

FY25 Goals and Initiatives:

The Operations Administration Department’s purview and function supports all the goals of the Operations Division set forth in the department budgets in the Operations, Engineering & Construction section and the Program, Policy and Planning section.

Key FY25 initiatives include:

- **Tunnel Redundancy Program** – Plans for FY25 include hiring additional staff, raising awareness of the project in the engineering and construction communities, and developing detailed plans for all phases of implementation including procurement, design, engineering, and construction. The Tunnel Final Design is expected to be awarded in the fall of 2024.
- **Energy** – Continue to refine and implement MWRA’s comprehensive energy management strategy, primarily with a focus on expanding solar energy sites and securing grant funding from relevant programs; increasing the use of electric vehicles in MWRA’s fleet; optimizing energy generation assets for ‘behind the meter’ use and revenue from power sales and market-based incentive programs; implementing MOUs with two utility companies for energy conservation projects at numerous facilities; and consolidating energy data management to support decision-making.
- **Regulatory** – Continue to advocate for MWRA during the regulatory review processes for key issues including implementation of the CSO Program assessment phase and development of the requirements for the new NPDES permit for the Deer Island Treatment Plant.
- **Organizational succession** – Continue to develop and implement succession plans to ensure efficient and effective organizational continuity as a significant portion of MWRA’s workforce retires in the next few years. Key aspects of this initiative include documenting institutional policies and practices; identifying and developing employees qualified for promotion into key positions; hiring additional qualified employees to ensure ‘depth of bench’ in staffing in critical functions; and in general, providing programs to the overall MWRA workforce for learning and development.

Budget Highlights:

The FY25 Budget is \$8.0 million, an increase of \$110,000 or 1.4%, compared to the FY24 Final Budget.

- \$4.5 million for **Wages and Salaries**, an increase of \$111,000 or 2.5%, as compared to the FY24 Final Budget. The FY25 Budget supports 32.1 full-time equivalents (FTEs). That total includes 14 positions from the Tunnel Redundancy Management Unit as the program ramps up. FTEs for Tunnel Redundancy fell from 16 to 14 FTEs during the recent budget cycle. The FY25 Budget also funds wage increases associated with collective bargaining agreements.
- \$52,000 for **Training & Meetings** to fund attendance at conferences for the COO, DCOO, and department staff as well as division-wide attendance at major industry professional conferences held annually. The budget also funds attendance by tunnel redundancy program staff at industry conferences to stay current on relevant technical topics and to educate potential engineering and construction vendors about the upcoming projects.
- \$161,000 for **Professional Services** for inspection and remediation of MWRA's underground storage tanks.
- \$1.6 million for **Other Materials**; \$16,000 above the FY24 Final Budget. The major item in this budget line is \$1.5 million for vehicle purchases for replacement of vehicles valued at less than \$100,000, MWRA's minimum threshold for funding from the Capital Improvement Program (CIP). The FY25 Budget supports replacement of up to 35 vehicles or approximately 6% of the active fleet. This line item also includes \$35,000 for purchase of geotech software for the Tunnel Redundancy Program.
- \$1.6 million for **Other Services** which includes \$775,000 for Rock Core Shed, \$150,000 for fuel tank storage maintenance services and \$625,000 for memberships and dues, primarily in industry associations for MWRA and departmental staff. MWRA continues to fund annual memberships in organizations such as the National Association of Clean Water Agencies (NACWA), Association of Metropolitan Water Agencies (AMWA), American Water Works Association (AWWA), and Boston NOW (focused on Boston Harbor).



OPERATIONS, ENGINEERING & CONSTRUCTION

Operations, Engineering & Construction

Wastewater Treatment

Deer Island
Residuals
Clinton

Field Operations

Wastewater Operations
Water Operations & Maintenance
Metro Maintenance
Operations Support
FOD - Administration

Engineering & Construction

The work of this section is directed by a team of three senior managers including the Director of Wastewater, Director of Waterworks, and Chief Engineer; each of whom report to the Chief Operating Officer (COO). The purview of this section is as follows:

- operations and maintenance of MWRA's wastewater treatment facilities including Deer Island Wastewater Treatment Plant, Clinton Wastewater Treatment Plant, Residuals Pelletizing Facility, Combined Sewer Overflow facilities, and screenhouses;
- operations and maintenance of MWRA's wastewater distribution system including pipelines, pump stations, and other appurtenances;
- operations and maintenance of MWRA's water treatment facilities including the Carroll Water Treatment Plant serving communities in the Boston metropolitan area and the Brutsch Water Treatment Plant serving communities in the Chicopee Valley Aqueduct (CVA) Water System communities;
- operations and maintenance of the water distribution system including pipelines, pump stations, and valves;
- operations and maintenance of the wastewater and water metering system, Operations Control Centers, and Supervisory Control and Data Acquisition (SCADA) system;
- engineering and construction functions for the Operations Division; and
- energy conservation, capacity, and efficiency maintenance and capital projects.

**FY25 Final Current Expense Budget
OPERATIONS, ENGINEERING & CONSTRUCTION**

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 63,965,697	\$ 64,244,616	\$ 76,964,992	\$ 80,676,160	\$ 3,711,168	4.8%
OVERTIME	4,627,092	4,801,446	5,263,964	5,671,002	407,038	7.7%
FRINGE BENEFITS	108,129	108,318	124,316	110,157	(14,159)	-11.4%
CHEMICALS	11,788,437	18,038,588	28,269,124	19,706,033	(8,563,091)	-30.3%
UTILITIES	29,204,766	32,292,768	31,022,767	31,949,656	926,889	3.0%
MAINTENANCE	23,362,356	27,266,650	30,882,213	39,115,207	8,232,994	26.7%
TRAINING & MEETINGS	84,431	92,777	118,600	146,100	27,500	23.2%
PROFESSIONAL SERVICES	422,232	457,867	635,505	705,505	70,000	11.0%
OTHER MATERIALS	1,337,439	1,377,971	1,713,051	1,740,812	27,761	1.6%
OTHER SERVICES	19,724,751	21,718,700	32,910,653	28,952,578	(3,958,075)	-12.0%
TOTAL	\$ 154,625,330	\$ 170,399,701	\$ 207,905,185	\$ 208,773,210	\$ 868,025	0.4%

The Operations, Engineering & Construction Section is composed of the Wastewater Treatment, Field Operations, and Engineering and Construction departments, which report directly to the Chief Operating Officer. In total, the budgets for these programs represent 84.7% of the Operations Division's FY25 Budget.

**FY25 Final Current Expense Budget
OPERATIONS, ENGINEERING & CONSTRUCTION by Programs**

PROGRAM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WASTEWATER TREATMENT	\$ 75,366,316	\$ 83,678,397	\$ 101,499,093	\$ 100,848,614	\$ (650,479)	-0.6%
FIELD OPERATIONS	71,663,455	78,982,800	96,736,374	97,842,782	1,106,408	1.1%
ENGINEERING & CONSTRUCTION	7,595,559	7,738,504	9,669,718	10,081,814	412,096	4.3%
TOTAL	\$ 154,625,330	\$ 170,399,701	\$ 207,905,185	\$ 208,773,210	\$ 868,025	0.4%

WASTEWATER TREATMENT

The primary function of the Wastewater Treatment Department is to collect and treat community wastewater so that it can be discharged either into the Massachusetts Bay or the South Nashua River in compliance with federal and state environmental standards. The second function of the Department is to recycle sludge to produce fertilizer and provide for the proper disposal of any materials not suitable for treatment or fertilizer.

FY25 Final Current Expense Budget WASTEWATER TREATMENT

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 21,384,594	\$ 22,355,220	\$ 25,263,704	\$ 26,430,851	\$ 1,167,147	4.6%
OVERTIME	1,690,671	1,843,115	1,543,472	1,836,251	292,779	19.0%
FRINGE BENEFITS	42,321	43,842	42,745	47,245	4,500	10.5%
CHEMICALS	5,076,013	9,066,074	15,095,927	10,307,737	(4,788,190)	-31.7%
UTILITIES	17,151,697	17,576,331	16,767,800	17,957,501	1,189,701	7.1%
MAINTENANCE	12,913,354	13,552,142	12,483,301	17,960,072	5,476,771	43.9%
TRAINING & MEETINGS	13,168	1,952	32,100	39,100	7,000	21.8%
PROFESSIONAL SERVICES	34,508	42,280	284,500	354,500	70,000	24.6%
OTHER MATERIALS	594,463	630,183	738,450	811,700	73,250	9.9%
OTHER SERVICES	16,465,527	18,567,258	29,247,094	25,103,657	(4,143,437)	-14.2%
TOTAL	\$ 75,366,316	\$ 83,678,397	\$ 101,499,093	\$ 100,848,614	\$ (650,479)	-0.6%

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 FY25 Final Budget.

FY25 Final Current Expense Budget WASTEWATER TREATMENT by Program

PROGRAM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
DEER ISLAND	\$ 56,383,443	\$ 62,420,080	\$ 69,286,959	\$ 72,918,962	\$ 3,632,003	5.2%
RESIDUALS	16,407,567	18,451,362	29,155,163	24,984,253	(4,170,910)	-14.3%
CLINTON	2,575,306	2,806,955	3,056,971	2,945,399	(111,572)	-3.6%
TOTAL	\$ 75,366,316	\$ 83,678,397	\$ 101,499,093	\$ 100,848,614	\$ (650,479)	-0.6%

DEER ISLAND WASTEWATER TREATMENT PLANT

The **Deer Island Wastewater Treatment Plant** (Deer Island or DITP) budget accounts for 30% of the Operations Division's FY25 Final Budget. DITP has a peak 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 deep rock 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% 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 aerobic microorganisms to consume organic matter that remain in the primary effluent flow. Secondary treatment raises the level of pollution removal to over 85%. More than 100 tons of pure oxygen is manufactured each day at Deer Island's cryogenic oxygen facility to support the aerobic biological treatment process.

Sludge from primary and scum from both primary and secondary treatment is thickened in gravity thickeners. Excess sludge from secondary treatment is thickened in centrifuges. Polymer is used in the secondary sludge 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 at their widest point and approximately 140 feet tall (128 ft. liquid level). 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 for later recycling. The methane gas produced in the digesters is used in the plant's on-site combined heat and power facility to save operating costs by reducing consumption of fuel oil for heating and purchased electricity. The remaining digested sludge is pumped through pipes embedded in the sidewall of the Nut Island inter-island tunnel and

Braintree-Weymouth extension tunnel directly to the MWRA’s Pelletizing Facility at Fore River, where it is further processed into a Class A EQ fertilizer product as defined by EPA.

**FY25 Final Current Expense Budget
DEER ISLAND TREATMENT PLANT**

LINE ITEM	FY22	FY23	FY24	FY25	Change	
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24	
WAGES & SALARIES	\$ 20,274,768	\$ 21,192,078	\$ 24,040,995	\$ 25,160,937	\$ 1,119,942	4.7%
OVERTIME	1,600,843	1,771,487	1,458,781	1,743,232	284,451	19.5%
FRINGE BENEFITS	39,971	42,686	40,245	44,745	4,500	11.2%
CHEMICALS	4,608,684	8,528,957	14,280,907	9,739,230	(4,541,677)	-31.8%
UTILITIES	16,788,440	17,175,730	16,398,059	17,645,673	1,247,614	7.6%
MAINTENANCE	12,404,670	12,996,891	12,002,272	17,440,045	5,437,773	45.3%
TRAINING & MEETINGS	13,168	1,402	28,600	35,600	7,000	24.5%
PROFESSIONAL SERVICES	26,308	19,702	270,000	320,000	50,000	18.5%
OTHER MATERIALS	429,134	418,563	495,700	495,700	-	0.0%
OTHER SERVICES	197,457	272,584	271,400	293,800	22,400	8.3%
TOTAL	\$ 56,383,443	\$ 62,420,080	\$ 69,286,959	\$ 72,918,962	\$ 3,632,003	5.2%

Organizational Structure:

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

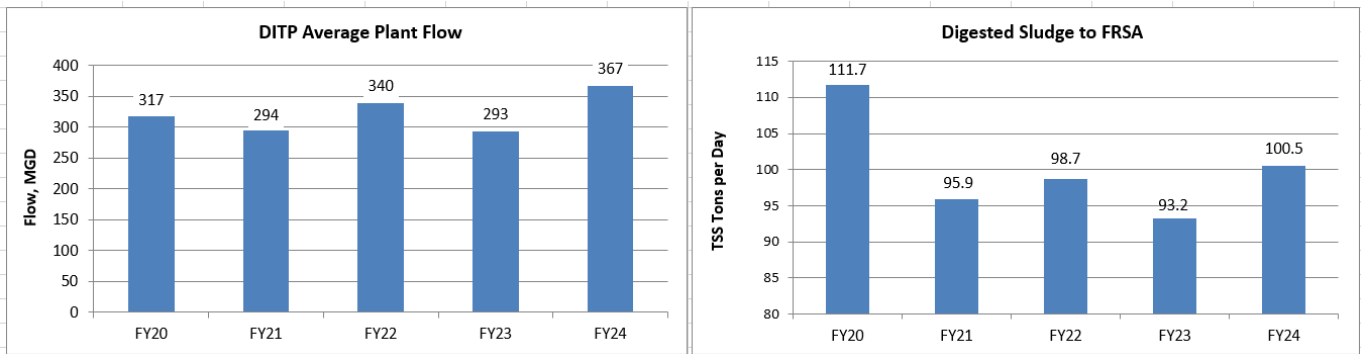
- Operations manages the day-to-day treatment operation of plant processing units, performs minor preventative maintenance activities, and oversees plant functions 24 hours per day, seven days per week.
- Thermal Power Plant manages and operates the Deer Island generation and thermal systems. Power Plant personnel provide 24-hour operation of the high-pressure, high temperature steam power plant. This facility is capable of producing up to 75 megawatts of electrical power including green energy assets with hydro-electric power, wind and solar.
- 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. Process Control 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, predictive, and corrective maintenance repairs on all equipment, utilizing a computerized maintenance management system (CMMS) to coordinate scheduling and document all work completed. 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 perform 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 Operations and Maintenance. 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 DITP community and external clients, and ensures quick access to plant drawings and technical information for operational and maintenance needs.
- **O&M Support** 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 Deer Island Director’s Office provides overall management for the plant plus policy direction and support in the areas of public access and community relations.

Operating Assumptions:

Deer Island’s FY25 Budget assumes treatment of an average flow of 311 mgd based on four years (FY20-23) of historical data. The projected quantity of digested sludge to be pumped to FRSA (TSS basis) is 99.9TPD. This is based on four years of recent operating data for FY20-23.



Deer Island’s FY25 Budget accounts for the impact of self-generation of electricity from the steam turbine generators (STG), combustion turbine generators (CTG), hydroelectric generators, wind turbine generators, and photovoltaic panels. These assets will provide approximately 26.0% of the total electricity needs of the plant.

Deer Island continues to comply with the conditions of the National Pollutant Discharge Elimination System (NPDES) Permit issued in 1999, which has been administratively continued since FY05. Staff reviewed and provided comments on the 2023 Draft NPDES Permit for DITP. Staff began evaluation to determine if any process or reporting changes are required when new permit goes into effect. In preparation for potential new NPDES seasonal permit limits for indicator bacteria, staff has been testing higher chlorine residual targets (and higher sodium hypochlorite dosing) in the disinfection basins. This is to continue to develop operating strategies for the new permit. Deer Island’s FY25 Budget assumed a full year under the new permit

FY25 Goals and Initiatives:

I. Wastewater Quality and System Performance

- **Goal #4 – Compliance with Regulatory Requirements:** Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system. Through FY24, Deer Island has met all of its compliance goals.

- **Key Regulatory Performance Measurements:**

Effluent Characteristic	Permit Limits	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
Dry Day Flow (mgd)	436	297.0	257.7	316.8	100%
cBOD (mg/L)	25	6.3	6.8	5.7	100%
TSS (mg/L)	45	11.4	11.3	9.6	100%
TCR (ug/L)	631	<40	<40	<40	100%
Fecal Coliform	14,000	8	7	7	100%
pH (S.U.)	6 to 9	6.7	6.6	6.6	100%
Acute Toxicity	Pass	Pass	Pass	Pass	100%
Chronic Toxicity	Pass	Pass	Pass	Pass	100%

- **Goal #6 – Wastewater Infrastructure:** Move forward with design and construction of major wastewater infrastructure rehabilitation and renewal projects.
 - Issue Notice to Proceed for numerous contracts including the following major DITP asset protection projects including:
 - Digester Gas Flare No. 4 Des/ESDC (Oct-2024)
 - Centrifuge Replacement Des/ESDC/REI (Dec-2024)
 - Combined Heat and Power Design/ESDC/REI (Aug-2024)
 - Fire Alarm System Replacement Construction (Mar-2025)
 - Fire Alarm System Replacement REI (Mar-2025)
 - HVAC Design/ESDC (Aug-2024)
 - Deer Island Dystor Membrane Replacement (Mar-2025)
 - Cryo Plant Equipment Replacement Design/ESDC/REI (Mar-2025)
 - Clarifier Rehab Phase 2 REI (Dec-2024)
 - MCC & Switchgear Replacement Construction (Mar-2025)
 - Odor Control Rehab Design/ESDC (Dec-2024)
 - Gas Protection System Replacement Phase 2 (Sep-2024)
 - Make substantial progress according to FY25 CIP schedule for other near-term major DITP projects including:
 - Eastern Seawall and Shoreline Protection Remediation,
 - Digester & Storage Tank Rehabilitation Design/ESD,
 - South System Pump Station Variable Frequency Drive Replacement Design/ESDC/REI,
 - Radio Repeater System Upgrade 2,
 - Clarifier Rehab Phase 2 Design/ESDC,
 - Clarifier Rehab Phase 2 Construction,
 - Clarifier Rehab Phase 2 REI.

- Substantially complete CIP phases for DITP asset protection including the:
 - Deer Island Treatment Plant Roof Replacements Dec-24
 - Radio Repeater System Upgrade Phase 2 Jun-25
 - Miscellaneous VFD Replacements FY19-23 Jun-25

II. Infrastructure Management and Resilience

- **Goal #9 – System Maintenance and Enhancement:** Maintain and enhance water and wastewater system assets over the long term at the lowest possible life cycle cost and acceptable risk, consistent with customer, community, and regulatory support services levels. Through FY23, Deer Island has met all of its goals in this area.

- **Key Maintenance Measurements:**

Indicator	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
Critical Equipment Availability	99.8%	99.9%	99.0%	100%
Predictive Maintenance Completion	98.8%	99%	99%	100%
Predictive Maintenance - % of work orders	25%	25.1%	25.0%	25%
Maintenance Backlog (hours)	17,639 Standard	17,365 Standard	17,375 Standard	Within industry standard
Preventive Maintenance Completion	98.7%	99%	99%	100%
Maintenance Kitting - % of work orders	57.1%	57.3%	57.0%	57%

V. Environmental Sustainability

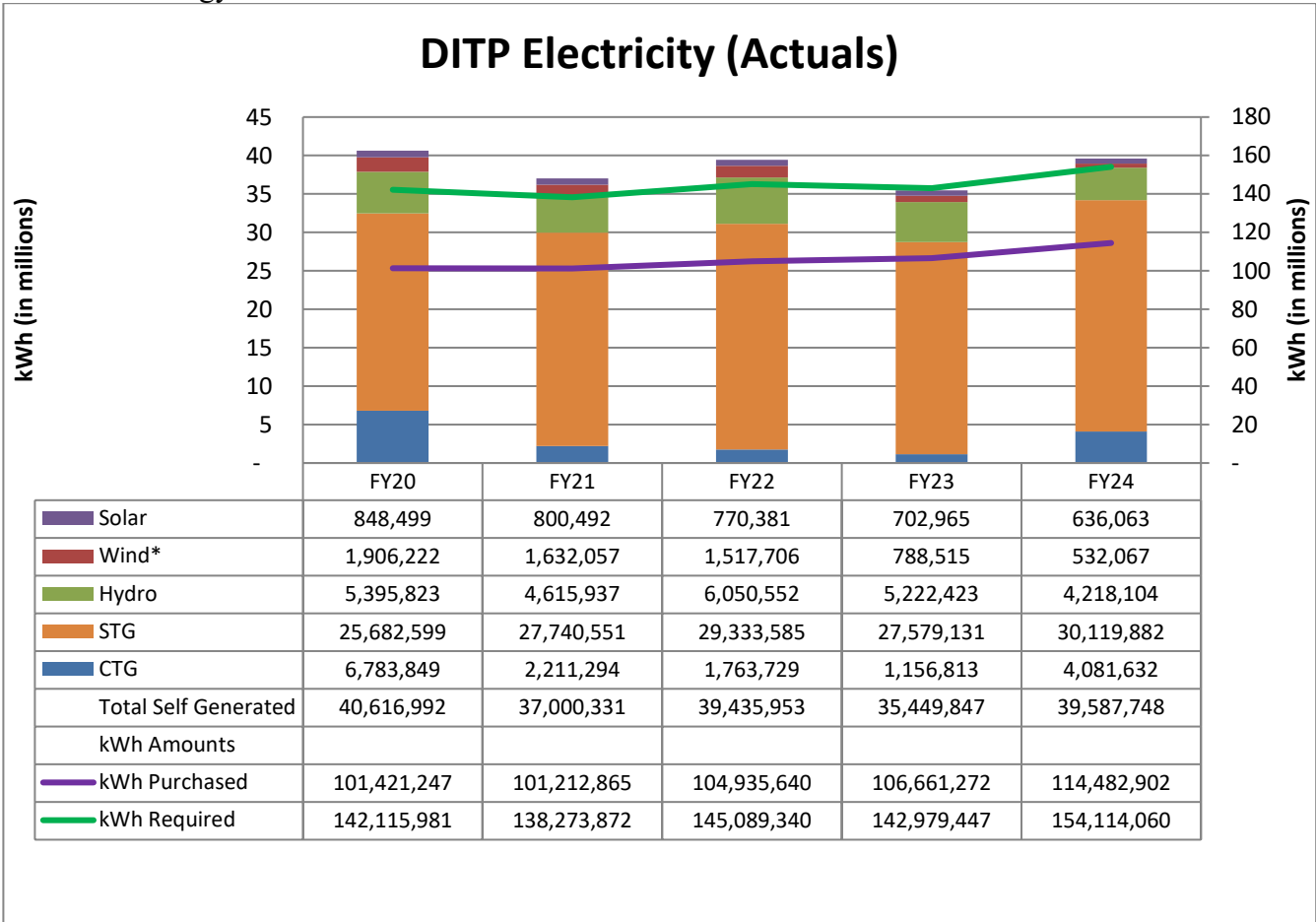
- **Goal #15 – Energy Optimization:** Continue to maximize energy efficiency of MWRA operations, renewable energy production, and revenue generation opportunities using MWRA’s energy assets.

- **Key Performance Measurements and Accomplishments:**

Indicator	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
% Required Power Self-Generated - Total	27.3%	24.8%	24.8%	28.5%
% Required Power Self-Generated – Renewables	26.1%	24.0%	24.0%	26.4%
Thermal/Power Plant Digester Gas Utilization	98.3%	98.3%	98.7%	98.1%
Avoided capacity costs	\$1,233,091	\$1,352,028	\$1,384,658 *	\$867,000
Generate revenue from energy programs (RPS credits, demand response)	\$1,472,827	\$1,191,356	\$360,543	\$1,090,570

* This is an estimate.

- Continue to implement projects to reduce energy use, increase energy revenue, decrease greenhouse gas emissions, and increase self-generation capacity, particularly via renewable energy.



* On May 29, 2023 (FY23) one of the two wind turbines on Deer Island had a catastrophic failure. Staff are reviewing options to replace this wind turbine.

FY24 Year-End Accomplishments:

- Deer Island received the Platinum Peak Performance Award for calendar year 2023 from the National Association of Clean Water Agencies (NACWA) for the 17th continuous year. The award recognizes facilities for outstanding compliance with their National Pollutant Discharge Elimination System (NPDES) permit limits. DITP has had no permit violations for over 17 years.
- Deer Island met secondary permit limits at all times, treating on average 98.2% of flows with full secondary treatment. More detailed information about DITP’s NPDES Permit compliance is available on the Transparency/Performance Indicator section of MWRA’s website.
- Eversource completed the Fourth annual maintenance on the 115 kVA cross-harbor marine power cable to Deer Island during November 2023. Eversource worked on the switchgear equipment, which required Deer Island to go on backup generation. All flows received disinfection and met numerical effluent standards.

- Completed numerous major maintenance projects including:
 - HVAC staff changed out one R-410a 70-ton chiller and one Chilled Water Pump for the Digester Gas Cooling system. The Digester Cooling system cools and removes moisture from digester gas before digester gas is transported to the Thermal Power Plant for fuel to be used in the boilers producing high-pressure steam for heating and power generation.
 - The Residuals Complex has numerous inline grinders, which provide continuous grinding of sludge into uniform, homogenized slurry. Mechanical staff changed out ten inline grinders, which are smaller than the larger channel grinders, due to normal wear and tear.
 - Staff purchased fourteen low voltage Variable Frequency Drives (VFDs) for the Secondary return sludge system with a 50HP motor. The original VFDs were installed in the late 1990s and are failing, obsolete, and replacement parts are no longer available. DITP Medium Voltage staff installed all VFDs.
 - Plumbing staff purchased and installed ten 4” tees, ten 6” tees, ten 4” elbows, and thirty-five 6” glass-lined ductile iron fittings for the Primary Sludge system. These fittings showed signs of corrosion due to grit scouring and hydrogen sulfide gas from normal use.
 - Plumbing Staff rebuilt six Gravity Thickener Overflow seal water panels. The seal water protects the pump mechanical seal from overheating and excessive wear. The original seal water panel was constructed of copper piping and fittings, due to age and exposure to hydrogen sulfide gas, the copper fittings and pipe have corroded and failed. The new panels are constructed of long-lasting stainless steel.
 - Residuals staff removed and replaced two digester mixers. The mixers were recommended for refurbishment based upon impeller and bearing wear, which was identified by vibration analyses. Mixers are critical to plant performance. It provides the driving force for mixing the digester content and ensuring a uniform temperature within the sludge mass.
 - Maintenance staff replaced several electrical conduits, lights, outlets, and eyewash units (EWU) in the sodium hypochlorite containment area. Plumbers removed and replaced all the EWU and associated piping. Plumbing staff utilized Stainless Steel pro-press piping and fittings. Electrical staff removed all old conduit and wiring replacing with new conduits, conductors, LED lights, and outlets. All EWU shower included heat trace wiring. Instrument staff replaced sump pits level indicators. This will allow sump pit alarms to ring through to Primary Operations.
 - Medium Voltage electricians replaced the relay, relay syncrocloser and trip unit on Combustion Turbine Generator 2 B. This was identified as not operating as designed during a scheduled outage.

- Issued Notice to Proceeds for Asset Protection Program contracts including the following:
 - Deer Island Protect System Replacement Phase 2 (Jul-2023)
 - Deer Island Roof Replacement Construction (Dec-2023)
 - Deer Island As Needed Design 10-1 (Dec-2023)
 - Deer Island As Needed Design 10-2 (Dec-2023)
 - Deer Island As Needed Design 10-3 (Dec-2023)
 - Residuals Facility Upgrades Design (Oct-2023)

- Substantially completed projects:
 - Deer Island Radio Repeater System Upgrade Phase 2 (Feb-2024)

Budget Highlights:

The FY25 Budget is \$72.9 million, an increase of \$3.6 million or 5.2% compared to the FY24 Budget.

- \$25.2 million for **Wages and Salaries**, an increase of \$1.1 million or 4.7%, compared to the FY24 Budget, primarily due to wage increases associated with reserves for un-awarded collective bargaining agreements (FY25). The FY25 Budget also includes \$190,000 for stand-by pay to support operational and maintenance needs primarily during storms and emergencies.
- \$1.7 million for **Overtime**, an increase of \$284,000 or 19.5% compared to the FY24 Budget due to wage increases associated with reserves for un-awarded collective bargaining agreements (FY25) and an increase for operations shift coverage. The FY25 Budget is based on multi-year historical trends and supports overtime required for operational coverage, critical maintenance projects, and regulatory requirements (i.e. inspections).
- \$9.7 million for **Chemicals**, a decrease of \$4.5 million or 31.8% compared to the FY24 Budget. The decrease is due price adjustments. The FY25 Budget, which is based on multi-year historical usage trends and projected market prices, includes \$3.7 million for sodium hypochlorite, a decrease of \$2.5 million primarily due to price; \$3.7 million for ferrous/ferric chloride, a decrease of \$1.8 million primarily due to price; \$796,000 for hydrogen peroxide, a decrease of \$76,000 due to price; \$511,000 for polymer, an increase of \$312,000; \$358,000 for activated carbon, an increase of \$57,000; \$476,000 for sodium bisulfite, an increase of \$105,000 and \$156,000 for sodium hydroxide, a decrease of \$30,000. The budget includes the full year impact \$420,000 on sodium hypochlorite and \$306,000 on sodium bisulfite for the anticipated impact of a new NPDES permit
- \$17.6 million for **Utilities**, an increase of \$1.2 million primarily due to \$1.3 million increase in electricity mostly due to pricing and \$258,000 for water for higher pricing and quantity. This is offset by a \$316,000 decrease in diesel fuel for lower pricing and quantity.
- \$17.4 million for **Maintenance**, an increase of \$5.4 million or 45.3% compared to the FY24 Budget. The FY25 Budget includes \$5.7 million for materials and \$11.8 million for services. Of the total, \$10.6 million or 61% is for plant and machinery materials and services, \$2.0 million is for electrical system maintenance and \$1.7 million is for building and grounds work, and \$1.1 million is for HVAC system maintenance. The budget reflects project priorities with a particular emphasis on maintenance of critical equipment.
- \$320,000 for **Professional Services**, an increase of \$50,000 from the FY24 Budget. The FY25 Budget includes \$300,000 for a study to look at the feasibility of a battery backup system.
- \$496,000 for **Other Materials**, level funded from the FY24 Budget. The FY25 Budget includes \$166,000 for health and safety materials, \$120,000 for work clothes, \$86,000 for equipment and furniture, \$58,000 for vehicles expenses (bulk fuel and mileage reimbursements), and \$44,000 for office supplies.
- \$294,000 for **Other Services**, an increase of \$22,000 or 8.3%, from the FY24 Budget due to \$28,000 increase in Health/Safety Services. The FY25 Budget includes \$132,000 for health and safety services, \$55,000 for permit fees, \$40,000 for telephones, \$20,000 for membership dues and subscriptions,

\$18,000 for police details, \$15,000 for freight charges, and \$5,000 for printing services. The budget is based on historical averages for most items in this category.

RESIDUALS MANAGEMENT

The **Residuals Management Program** manages the processing and disposal of approximately 95-110 dry tons per day (on average per year) total suspended solids (TSS) of sludge from the anaerobic digestion process at the Deer Island Wastewater Treatment Plant, as well as the disposal of grit and screenings from all MWRA facilities. MWRA pumps liquid digested sludge from Deer Island through the inter-island tunnel to the Fore River Pelletizing Plant where the sludge is dewatered, dried, and shipped by either rail or truck for use as fertilizer or to other appropriate disposal options. MWRA is committed to the beneficial use of biosolids to the greatest extent practicable. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

- MWRA has contracted with the New England Fertilizer Company (NEFCo) since 1991 to operate the sludge pelletizing plant and to market and distribute biosolids products. The first 10-year contract ran from 1991-2001. The second 15-year contract continued from 2001 to December 31, 2015. MWRA and NEFCo negotiated a five-year contract extension that commenced in January 2016 and ended December 31, 2020. MWRA and NEFCo negotiated another two-year extension, which commenced January 1, 2021 and is in effect during calendar years 2021 and 2022. The extension includes a third optional year for calendar year 2023, which the MWRA Board of Directors approved to execute at the June 2022 Board of Director’s meeting. The third 10-year contract continued from January 1, 2024 to December 31, 2033.
- The FY25 Budget is based on the assumption of 99.9 average tons per day (TPD; TSS basis), consistent with historical averages from recent years.
- 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.

FY25 Final Current Expense Budget RESIDUALS MANAGEMENT PROGRAM

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 162,315	\$ 162,124	\$ 169,609	\$ 175,036	\$ 5,427	3.2%
MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	3,200	3,200	-	0.0%
PROFESSIONAL SERVICES	6,700	15,740	-	20,000	20,000	-
OTHER MATERIALS	-	311	30,000	-	(30,000)	-100.0%
OTHER SERVICES	16,238,552	18,273,187	28,952,354	24,786,017	(4,166,337)	-14.4%
TOTAL	\$ 16,407,567	\$ 18,451,362	\$ 29,155,163	\$ 24,984,253	\$ (4,170,910)	-14.3%

FY25 Goals and Initiatives:

II. Wastewater Quality and System Performance

- **Goal #4 – Compliance with Regulatory Requirements:** Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system.
 - Continue marketing efforts for Bay State Fertilizer.
 - Maintain beneficial use of MWRA’s processed pellets.

Key Performance Measurements:

Indicator	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
Pelletize all sludge received from DITP	100%	100%	100%	100%
Average Tons Per Day Sludge (TSS basis)	98.7	93.2	100.5	99.9
Monthly Ave % Capture – Processed Sludge (goal per contract with NEFCo)	90.7%	90.9%	90.9%	90%
Properly dispose of grit & screenings	100%	100%	100%	100%
Annual grit and screenings tonnage	5,390	5,064	5,275	5,196

- **Goal #6 – Capital Improvements:** Move forward with design and construction of major wastewater infrastructure rehabilitation and renewal projects.
 - Continue work on the following Residuals Asset Protection Program contracts:
 - Residuals Facility Plan/EIR (Aug-2024)

FY24 Year-End Accomplishments:

- Through NEFCo, processed and pelletized 100.5 tons per day of sludge on average from DITP.
- Through contracted operator, collected and properly disposed of 5,275 tons of grit and screenings.
- For FY24, earned \$9,400 in sales of Bay State Fertilizer, MWRA’s retail product. As part of the pelletization contract, the sale and collection of the revenue of the individual bags of Bay State Fertilizer has shifted to the Contractor as of January 1, 2024.

Budget Highlights:

The FY25 Budget is \$25.0 million, which is \$4.2 million or 14.3% less than the FY24 Budget.

- \$175,000 for **Wages and Salaries**, an increase of \$5k or 3.2%, funds one permanent position and stand-by pay to provide coverage for emergencies during off-shifts. This department also receives on-going management oversight and staff support from other departments of the MWRA including Deer Island, Treasury, and Operations Administration.
- **Professional Services** has a budget of \$20,000, an increase of \$20,000 from FY24 due to the inclusion of funding for bi-annual stack testing required in FY25

- **Other Materials** The \$30,000 budget in FY24 has been removed. This was to fund plastic bag material for sale of Bay State Fertilizer. This function has shifted to the Contractor as part of the new contract that started January 1, 2024.
- \$24.8 million for **Other Services**, an decrease of \$4.2 million or 14.4% from the FY24 Budget based on contractual prices for the new sludge pelletization contract and decrease in the grit and screen contract based on lower quantities. The two major items funded in the FY25 Final Budget include \$21 million for grit and screenings disposal and \$22.7 million for sludge pelletization services, both are provided through contracts with private vendors.



MWRA Sludge Pelletizing Facility

CLINTON

The Clinton Wastewater Treatment Plant provides advanced wastewater 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 first series of facility upgrades were completed in 1992.

Under a prior NPDES permit, MWRA commenced operations of a new Phosphorous building as of May 2018 to meet more stringent phosphorus removal requirements and lower discharge limit. A most recent NPDES permit was issued April 1, 2023 to mirror a new General Permit for all Medium Wastewater Treatment Facilities effective November 1, 2022. The Clinton Plant complies with all phosphorous limits established under the NPDES permit.

FY25 Final Current Expense Budget CLINTON WASTEWATER TREATMENT PROGRAM

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 947,511	\$ 1,001,018	\$ 1,053,100	\$ 1,094,878	\$ 41,778	4.0%
OVERTIME	89,828	71,628	84,691	93,019	8,328	9.8%
FRINGE BENEFITS	2,350	1,156	2,500	2,500	-	0.0%
CHEMICALS	467,329	537,117	815,020	568,507	(246,513)	-30.2%
UTILITIES	363,257	400,601	369,741	311,828	(57,913)	-15.7%
MAINTENANCE	508,684	555,251	481,029	520,027	38,998	8.1%
TRAINING & MEETINGS	-	550	300	300	-	0.0%
PROFESSIONAL SERVICES	1,500	6,838	14,500	14,500	-	0.0%
OTHER MATERIALS	165,329	211,309	212,750	316,000	103,250	48.5%
OTHER SERVICES	29,518	21,487	23,340	23,840	500	2.1%
TOTAL	\$ 2,575,306	\$ 2,806,955	\$ 3,056,971	\$ 2,945,399	\$ (111,572)	-3.6%

The plant provides secondary treatment using an activated sludge process in combination with advanced nutrient removal, chlorination and dechlorination. The major facilities include headworks, primary sedimentation tanks, digesters, sludge processes, trickling filters, aeration tanks, secondary sedimentation tanks, phosphorus removal via chemical addition and filtration and disinfection and dechlorination facilities. The plant discharges its effluent into the South Nashua River in accordance with the discharge limits of the facility's NPDES permit, with a design flow of 3.01 mgd. The plant has a potential peak flow rate of 12 mgd. Residual materials are pressed and transported to an MWRA-owned landfill for final disposal. Staff manage and regularly monitor the landfill site, which discharges leachate back to the Clinton Wastewater plant for treatment.

FY25 Goals and Initiatives:

This department contributes significantly to the following MWRA goals included in the draft FY21-FY25 Five-Year Strategic Business Plan;

II. Wastewater Quality and System Performance

- **Goal #4 – Compliance with Regulatory Requirements:** Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system.
 - Fully comply with new phosphorous removal requirements.
 - Comply with Department of Environmental Protection (DEP) finding for landfill height levels and sloping that require ongoing remediation efforts.
- **Key Regulatory Performance Measurements:**

Effluent Characteristic ^α	Permit Limit ^β	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal % compliance
Daily Average Flow (MGD) – 12 month rolling average	3.01 MGD	3.24 MGD	2.49 MGD	3.76 MGD	100%
BOD (mg/L)	20 mg/L	2.03 mg/L	1.71 mg/L	1.75 mg/L	100%
TSS (mg/L)	20 mg/L	2.54 mg/L	2.32 mg/L	2.56 mg/L	100%
TCR (mg/L)	17.6 mg/L	<0.02 mg/L	<0.02 mg/L	<0.02 mg/L	100%
E.coli (cfu/100mL)	126 cfu/100mL	5.81 cfu/100mL	5.27 cfu/100mL	7.60 cfu/100mL	100%
pH (S.U.)	6.5-8.3	7.35 S.U.	7.48 S.U.	7.43 S.U.	100%
Acute Toxicity (%)	>100%	>100%	>100%	(**)54.1%	100%
Chronic Toxicity (%)	≥62.5%	≥62.5%	(*)12.5%	(**)12.5%	100%
Total Phosphorus (mg/L)	0.15 mg/L Apr-Oct 1.0 mg/L Nov-Mar	0.11 mg/L	0.10 mg/L	0.06 mg/L	100%
Total Ammonia as Nitrogen (mg/L)	2 mg/L Jun-Oct 5 mg/L May 10 mg/L Nov-Apr	0.100 mg/L	0.092 mg/L	0.100 mg/L	100%

^α Annual averages are shown for all characteristics except toxicity. Toxicity reported by lowest reported result during fiscal year. Not all permit limits are shown. Permit limits shown are for monthly average BOD, TSS, TCR, E. coli, Total Phosphorus, Total Ammonia Nitrogen, or daily maximum or minimum (pH, acute and chronic toxicity).

^β Clinton's new NPDES permit went into effect on April 1, 2023

(*)Chronic Toxicity levels below target due to Q1. Staff investigated these intermittent instances of apparent toxicity in the plant effluent and found no obvious cause. The next three tests showed no evidence of toxicity (all results were 100%).

(**) Chronic Toxicity levels below target due to Q4. Staff investigated these intermittent instances of apparent toxicity in the plant effluent and found no obvious cause. All other quarters were above permit limit.

- **Goal #6 – Wastewater Infrastructure:** Move forward with design and construction of major wastewater infrastructure rehabilitation and renewal projects included in the FY25 CIP.

Issue notice to proceed for:

- Clinton Digester Cover and Secondary Valve Replacement Project (Sep-2024)
- Clinton Screw Pump Replacement Phase 2 Construction (Nov-2024)

III. Infrastructure Management and Resilience

- **Goal #9 – System Maintenance and Enhancement:** Maintain and enhance water and wastewater system assets over the long term at the lowest possible life cycle cost and acceptable risk, consistent with customer, community, and regulatory support levels.
 - Make substantial progress or complete major maintenance projects.
 - Replace Trickling Filter #4

V. Environmental Sustainability

- **Goal #15 – Energy Optimization:** Continue to maximize energy efficiency of MWRA operations, renewable energy production, and revenue generation opportunities using MWRA’s energy assets.
 - Continue operations of recently installed natural gas line to replace use of fuel oil in the facility.
 - Continue to evaluate and implement energy audit recommendations.

FY24 Year-End Accomplishments:

- Clinton received the Silver Peak Performance Award for calendar year 2023 from the National Association of Clean Water Agencies (NACWA). The award recognizes facilities for outstanding compliance with their National Pollutant Discharge Elimination System (NPDES) permit limits.
- Staff performed process operation and maintenance of the new phosphorus reduction facility (PRF). The PRF was shut down for the winter and restarted in March in order to meet very low NPDES permit limits for phosphorus effective April 1, 2020. During the winter downtime, staff implemented a number of minor system modifications and improvements were made to increase the reliability of the system including replacement of 100% of the filter cartridges in PRF filter #2 (250 cartridges) following OEM recommendations. The lower seasonal effluent phosphorus limit of 150 ug/L and 3.8 pounds per day loading limit became effective starting April 1, 2019. The effluent for FY24 has met these new lower limits.
- Substantially completed Clinton Influent Screw Pump Replacement (Nov-2023)
- Completed numerous maintenance projects including the following:
 - Maintenance staff installed new #2 bisulfite pump, motor, backflow pressure valve, check valves and they blew out the piping manifold. Maintenance staff replaced the torn bucket on the sludge belt filter press conveyor, a Muffin Monster grinder in the lower dewatering sludge line going to belt filter press, and the suction valve in front of the grinder.
 - Maintenance staff took apart soda ash machine piping to remove a blockage of soda ash, jetted both A and B soda ash lines, removed a leaking valve assembly and installed a new feed pipe for soda ash system.
 - Maintenance staff completed rebuilding the #1 Penn Valley soda ash pump.
 - Maintenance staff completed the installation of aluminum stairs in the influent wet well area.
 - Maintenance staff installed a new hypochlorite tank (#2), completed piping on the tank and replaced a level sensor.

Budget Highlights:

The FY25 Final Budget for Clinton is \$2.9 million, a decrease of \$112,000 or 3.7% from the FY24 Budget.

- \$1.1 million for **Wages and Salaries**, a change of \$42,000 or 4.0%, from the FY24 Budget due to wage increases associated with reserves for un-awarded collective bargaining agreements (FY25).
- \$93,000 for **Overtime**, an increase of \$8,000 or 9.8% compared to the FY24 Budget. Overtime is used for critical maintenance work and to meet the 24 hour, 7 days per week emergency coverage

requirement. The increase based on historical spending and reflects potential impact of un-awarded collective bargaining agreements (FY25).

- \$569,000 for **Chemicals**, a decrease of \$247,000 or 30.3% from the FY24 Budget, primarily for lower prices.
- \$312,000 for **Utilities**, a decrease of \$58,000 or 15.7% from the FY24 Budget due to lower electricity pricing. The budget includes \$261,000 for electricity, \$45,000 for natural gas, and \$2,000 for water.
- \$520,000 for **Maintenance**, an increase of \$39,000 or 8.1% from the FY24 Budget due to higher cost for plumbing and electrical service contracts.
- \$316,000 for **Other Materials**, an increase of \$103,000, or 48.5% from the FY24 Budget. This line item includes \$292,000 for clean fill for the landfill operation, which caused the increase due to new contract pricing.
- \$24,000 for **Other Services**, an increase of \$500 or 2.1% from the FY24 Budget. This line item includes \$13,000 for permit fees, \$6,000 for telephones, and \$4,000 for railroad easement expenses.



Clinton Wastewater Treatment Plant

FIELD OPERATIONS

The primary function 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 Wastewater Treatment Plant.

FY25 Final Current Expense Budget FIELD OPERATIONS

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 35,086,334	\$ 34,243,008	\$ 42,203,485	\$ 44,344,610	\$ 2,141,125	5.1%
OVERTIME	2,906,448	2,920,321	3,619,242	3,729,501	110,259	3.0%
FRINGE BENEFITS	65,687	64,356	81,071	62,412	(18,659)	-23.0%
CHEMICALS	6,712,424	8,972,514	13,173,197	9,398,296	(3,774,901)	-28.7%
UTILITIES	12,053,069	14,716,437	14,254,967	13,992,155	(262,812)	-1.8%
MAINTENANCE	10,448,044	13,712,303	18,398,912	21,155,135	2,756,223	15.0%
TRAINING & MEETINGS	47,731	87,055	67,000	87,500	20,500	30.6%
PROFESSIONAL SERVICES	387,017	415,587	351,005	351,005	-	0.0%
OTHER MATERIALS	726,517	724,361	959,301	905,312	(53,989)	-5.6%
OTHER SERVICES	3,230,184	3,126,858	3,628,194	3,816,856	188,662	5.2%
TOTAL	\$ 71,663,455	\$ 78,982,800	\$ 96,736,374	\$ 97,842,782	\$ 1,106,408	1.1%

FOD consists of five operating units: Wastewater Operations, Water Operations and Maintenance, Metropolitan Maintenance, Operations Support, and Administration.

FY25 Final Current Expense Budget FIELD OPERATIONS by Programs

Program	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WASTEWATER OPERATIONS	\$ 13,468,362	\$ 14,462,234	\$ 15,770,108	\$ 15,530,007	\$ (240,101)	-1.5%
WATER OPERATIONS & MAINT	31,874,402	37,669,748	47,693,532	45,970,905	(1,722,627)	-3.6%
METRO MAINTENANCE	14,020,954	13,513,829	16,234,299	19,396,748	3,162,449	19.5%
OPERATIONS SUPPORT	7,919,609	8,875,945	11,405,322	11,008,232	(397,090)	-3.5%
FOD ADMIN	4,380,128	4,461,044	5,633,113	5,936,890	303,777	5.4%
TOTAL	\$ 71,663,455	\$ 78,982,800	\$ 96,736,374	\$ 97,842,782	\$ 1,106,408	1.1%

Wastewater Operations operates MWRA's wastewater transport facilities, including four continuously staffed headworks facilities; thirteen fully automated pumping stations; and five Combined Sewer Overflow (CSO) facilities which are similarly unstaffed. The wastewater system is monitored and controlled from the operations control center (OCC) in MWRA's Chelsea facility. Wastewater Operations aims to meet all operational and regulatory performance standards and requirements efficiently and cost-effectively.

**FY25 Final Current Expense Budget
WASTEWATER OPERATIONS**

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 5,756,843	\$ 5,876,965	\$ 6,675,951	\$ 7,120,358	\$ 444,407	6.7%
OVERTIME	1,191,704	909,868	1,149,595	1,185,219	35,624	3.1%
FRINGE BENEFITS	25,776	19,169	34,140	21,769	(12,371)	-36.2%
CHEMICALS	499,075	877,236	1,200,540	710,332	(490,208)	-40.8%
UTILITIES	5,673,687	6,569,354	6,562,444	6,343,462	(218,982)	-3.3%
MAINTENANCE	19,135	74,278	-	-	-	-
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	96,203	36,339	68,396	69,825	1,429	2.1%
OTHER SERVICES	205,939	99,025	79,042	79,042	-	0.0%
TOTAL	\$ 13,468,362	\$ 14,462,234	\$ 15,770,108	\$ 15,530,007	\$ (240,101)	-1.5%

Water Operations and Maintenance operates and maintains the water supply and treatment facilities to provide an adequate supply of properly treated drinking water to meet all operational and regulatory performance requirements. The Unit is responsible for the treatment and delivery of approximately 200 million gallons per day (average mgd) of water from the Quabbin and Wachusett reservoirs to the community water systems.



Water must be supplied to customer communities at the expected pressure. This unit is also responsible for the maintenance of 300 miles of distribution pipeline and 6,000 valves in a water system that 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 twelve pumping stations in the Metropolitan area and operates and maintains MWRA’s western waterworks facilities, including the Carroll Water Treatment Plant, the Metro West Tunnel, the Brutsch Water Treatment Plant, the Cosgrove Intake Facility, the Norumbega Reservoir, and the covered storage facilities. There are two operations centers providing 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 office Facility and the Western Operations Center is located at the Carroll Water Treatment Plant.

**FY25 Final Current Expense Budget
WATER OPERATIONS & MAINTENANCE**

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 13,381,802	\$ 13,199,957	\$ 15,955,648	\$ 16,875,874	\$ 920,226	5.8%
OVERTIME	1,184,366	1,489,874	1,384,515	1,426,592	42,077	3.0%
FRINGE BENEFITS	27,364	33,780	28,557	28,844	287	1.0%
CHEMICALS	6,213,349	8,091,078	11,972,657	8,687,964	(3,284,693)	-27.4%
UTILITIES	5,797,904	7,084,873	6,717,598	6,741,143	23,545	0.4%
MAINTENANCE	4,216,253	6,689,819	10,677,466	11,222,085	544,619	5.1%
PROFESSIONAL SERVICES	358,562	377,223	201,004	201,004	-	0.0%
OTHER MATERIALS	315,295	307,776	323,394	297,692	(25,702)	-7.9%
OTHER SERVICES	379,507	394,378	432,693	489,707	57,014	13.2%
TOTAL	\$ 31,874,402	\$ 37,669,748	\$ 47,693,532	\$ 45,970,905	\$ (1,722,627)	-3.6%

Metro Maintenance is responsible for the maintenance of MWRA’s wastewater and water facilities within the Route 128 area. Staff maintain interceptors, pumps, facility equipment, and buildings and grounds.

**FY25 Final Current Expense Budget
METRO MAINTENANCE**

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 8,662,113	\$ 8,227,882	\$ 10,592,113	\$ 11,061,166	\$ 469,053	4.4%
OVERTIME	435,246	401,822	882,359	908,830	26,471	3.0%
FRINGE BENEFITS	10,756	9,519	16,701	10,137	(6,564)	-39.3%
CHEMICALS	-	4,200	-	-	-	-
UTILITIES	-	-	-	-	-	-
MAINTENANCE	4,629,758	4,556,888	4,300,193	6,964,971	2,664,778	62.0%
PROFESSIONAL SERVICES	15,210	30,788	110,000	110,000	-	0.0%
OTHER MATERIALS	215,051	200,420	251,145	259,856	8,711	3.5%
OTHER SERVICES	52,820	78,638	81,788	81,788	-	0.0%
TOTAL	\$ 14,020,954	\$ 13,513,829	\$ 16,234,299	\$ 19,396,748	\$ 3,162,449	19.5%

Operations Support provides technical support to the FOD in three areas. Operations engineering staff coordinate all engineering issues related to the operation of the water and wastewater systems, and provide technical support to Operations staff. The SCADA unit is responsible for the maintenance of the water and wastewater Supervisory Control and Data Acquisition (SCADA) systems. Metering Department staff maintain revenue meters and provide flow data. Staff collect meter data for operational and revenue generating purposes from the water and wastewater systems. Over 200 water meters and over 250 wastewater meters are operated and maintained by MWRA staff. The data collection and analysis supports MWRA Rates and Budget Department’s allocation of MWRA rate revenue requirements.

**FY25 Final Current Expense Budget
OPERATIONS SUPPORT**

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 5,980,266	\$ 6,104,875	\$ 7,911,832	\$ 8,183,414	\$ 271,582	3.4%
OVERTIME	75,531	88,756	152,220	156,790	4,570	3.0%
FRINGE BENEFITS	1,760	1,875	1,644	1,647	3	0.2%
CHEMICALS	-	-	-	-	-	-
UTILITIES	58,527	92,157	67,846	79,315	11,469	16.9%
MAINTENANCE	1,222,063	1,999,165	2,617,652	1,937,844	(679,808)	-26.0%
PROFESSIONAL SERVICES	11,332	7,463	40,001	40,001	-	0.0%
OTHER MATERIALS	74,148	63,210	77,522	67,281	(10,241)	-13.2%
OTHER SERVICES	495,982	518,444	536,605	541,940	5,335	1.0%
TOTAL	\$ 7,919,609	\$ 8,875,945	\$ 11,405,322	\$ 11,008,232	\$ (397,090)	-3.5%

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

**FY25 Final Current Expense Budget
FOD ADMIN**

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 1,305,310	\$ 833,329	\$ 1,067,941	\$ 1,103,798	\$ 35,857	3.4%
OVERTIME	19,601	30,001	50,553	52,070	1,517	3.0%
FRINGE BENEFITS	31	13	29	15	(14)	-48.3%
UTILITIES	522,951	970,053	907,079	828,235	(78,844)	-8.7%
MAINTENANCE	360,835	392,153	803,601	1,030,235	226,634	28.2%
TRAINING & MEETINGS	47,731	82,393	67,000	87,500	20,500	30.6%
PROFESSIONAL SERVICES	1,913	113	-	-	-	-
OTHER MATERIALS	25,820	116,616	238,844	210,658	(28,186)	-11.8%
OTHER SERVICES	2,095,936	2,036,373	2,498,066	2,624,379	126,313	5.1%
TOTAL	\$ 4,380,128	\$ 4,461,044	\$ 5,633,113	\$ 5,936,890	\$ 303,777	5.4%

FY25 Goals and Initiatives:

I. Drinking Water Quality and System Performance

- **Goal #1 – Compliance with Regulatory Requirement and Public Health Standards:** Maintain drinking water quality to protect public health, and continue to ensure that MWRA water meets all applicable regulations.
 - Optimize operation of water treatment facilities to produce high quality, safe drinking water while maximizing water aesthetics (i.e. taste, clarity and odor).
 - Monitor drinking water quality in collaboration with member communities and the Department of Conservation and Recreation (DCR) in order to verify high quality water and provide guidance for operating decisions.

- Operate the reservoir system to optimize both quality and quantity of water available for water supply purposes and to meet statutory and regulatory requirements for downstream releases.

- **Key Regulatory Performance Measurements:**

Indicator	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
Turbidity < 5NTU	100%	100%	100%	100%
pH >9.1 & Alkalinity >37 mg/l	100%	100%	100%	100%
Disinfection Effectiveness	100%	100%	100%	100%

- Complete the 2024/2025 Carroll Water Treatment Plant half plant maintenance.
- Inspect, clean, and/or paint water storage tanks according to the prevailing maintenance plan.
- Continue valve replacement and exercising annual goals.

II. Wastewater Management and System Performance

- **Goal #4 – Compliance with Regulatory Requirements:** Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system.

- **Key Regulatory Performance Measurements:**

Indicator	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
Total annual flow (billion gallons based on DITP mgd) – Process all flow at headworks within system parameters	123.93	106.9	134.7	113.09
Minimize choking at headworks (# of hours/highly dependent on weather):				
Nut Island	0	0	0	0
Columbus Park	76.30	36.67	87.5	0
Ward Street	49.06	20.42	59.9	0
Chelsea Creek	52.77	15.73	36.5	0

III. Infrastructure Management and Resilience

- **Goal #9 – System Maintenance and Enhancement:** Maintain and enhance water and wastewater system assets over the long term at the lowest possible life cycle cost and acceptable risk, consistent with customer, community, and regulatory support service levels.
- Continue to ensure proper operations and maintenance of the water and wastewater systems and minimize system downtime by performing:
 - Preventative maintenance
 - Predictive maintenance
 - Corrective maintenance on equipment and linear assets
 - Leak surveys of the water system

- Water system valve inspections and exercise
 - Wastewater pipelines, structures, water storage tanks, and inverted siphons inspections, and cleanings.
- Inspect, maintain, and improve the dams, dikes, and other facilities constituting the watershed system infrastructure through ongoing maintenance and an adequate multi-year capital improvement program to ensure system reliability and limit potential flood hazards.
- **Key Maintenance Measurements:**

Indicator	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
% Total Revenue Calculated Using Meters				
Water	99.5%	98.6%	99.1%	98.0%
**Wastewater	95%	98.6%	97.8%	95.0%
Water System:				
Leak Detection – miles surveyed)	190.48	167	143	150
Main Line Valves – # exercised	1168	582	750	850
Main Line Valves – # replaced	21	2	6	15
Blow-off Valves – # exercised	745	484	458	600
Blow-off Valves – # maintained	10	15	28	20
Wastewater System:				
Pipeline Inspections – miles	30.69	33.62	28	32
Pipeline Cleaning – miles	38	37.85	25	36
Structure Inspections – # structures	814	652	687	650
Manhole Rehabilitation – # manholes	84	38	78	100
Inverted Siphon Inspections – # siphons	35	49	21	48
Inverted Siphon Cleaning – # siphons	47	46	18	30
Metro Maintenance-Equipment and Facilities:				
Ops Light Preventive Maint (PM) - % maint hours	14%	11%	13%	10-15%
Preventive Maintenance Completion	100%	100%	100%	100%
*Maint Kitting – % work orders kitted	63%	63%	64%	60%
Ops Light Maint % PM Completion	100%	100%	100%	100%
Maintenance Backlog – crew hours	18,476	14,046	12,983	9-13.5k

VI. Environmental Sustainability

- **Goal #17 – Energy Optimization:** Continue to maximize energy efficiency of MWRA operations, renewable energy production, and revenue generation opportunities using MWRA’s energy assets.
 - Continue to implement projects to reduce energy use, increase energy revenue, decrease greenhouse gas emissions, and increase self-generation capacity, particularly via renewable energy, including:
 - Energy audits at all facilities as needed.
 - Stand-alone renewable energy projects at all MWRA facilities.
 - Electrification for heating and MWRA vehicle fleet energy efficiency, non-fossil fuel heating, and renewable energy projects into new construction, rehabilitation projects, and equipment replacement.

○ **Key Performance Measurements:**

Indicator	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
Energy programs-Generate revenue from FOD-managed facilities:				
Power Sales	\$927,553	\$1,114,379	\$763,488	\$798,000
Demand Response	\$132,534	\$90,325	\$124,667	\$61,000
Renewable Portfolio Standard Credits	\$397,298	\$264,464	\$371,442	\$191,681

FY24 Year-End Accomplishments:

Water System

- Completed the CWTP half plant maintenance.
- Staff in coordination with guidance from an expert panel began operational testing of the lead pipe test rigs using control rigs as well as multiple dosing scenarios to measure the effectiveness of sodium orthophosphate on lead service lines.
- Managed the design and coordination of Cell #3 of the Norumbega Covered Storage Tank cleaning. The tank had not been cleaned since its activation in 2004. Norumbega is a 115MG tank with three cells, approximately 42MG each. Cell #2 was cleaned the previous year and the remaining cell, Cell #1, will be cleaned in FY25. During the cleaning phase of Cell #2 a 72-inch coupling on the effluent side of the tank was found leaking. In FY24 all 72-inch couplings on the effluent side of the tank were replaced and the 72-inch couplings on the influent side will be replaced in FY25.
- All MWRA Significant Hazard and High Hazard Class dam regulatory Phase 1 inspections were completed and reports have been submitted to the Office of Dam Safety.
- Invasive species survey, control and removal work completed for 2023 season at Shaft 8 Intake Pool, the Wachusett, Quabbin/Pottapaug Pond, Sudbury, Foss, Ware River, Weston and Chestnut Hill Reservoirs. Detail invasive plant surveys were completed at all MWRA reservoirs.
- Completed successful winter drawdowns at Foss Reservoir and Chestnut Hill Reservoir.
- River Road Slope Stabilization Improvements work completed and Certificate of Completion request submitted to Clinton Conservation Commission.
- Staff successfully operated the Deer Island Water Supply system.
- Managed the consultant for the CWTP SCADA System Upgrades contract and provided SCADA support for the replacement of all PLCs.
- Successfully maintained all instrumentation, network, and communications infrastructure for the MWRA Water and Wastewater systems.
- Continued cybersecurity projects to improve SCADA cybersecurity profile in accordance with NIST guidelines.
- Successfully managed the operation of the NIH water system during the critical construction activities of installing a linestop and 48-inch gate valves under the Section 89 Replacement contract. The Bear

Hill tank was connected to the system via Stoneham's Distribution system at this time. Waterworks staff successfully managed system demands to allow the pumps at Spot Pond Pump Station to meet demand conditions to reduce unwanted headlosses and keep normal water supply to NIH communities.

- Assisted many customer communities with both routine and emergency assistance, including: leak detection for Boston, Brookline, Chelsea, Everett, Malden, Medford, Newton, Revere, Stoneham, Waltham and Winthrop.
- Staff provided support for Newton during their Newton Covered Tank rehabilitation project.

Wastewater System

- Houghs Neck Pump Station: MWRA Facilities staff installed upgraded flood protection barriers, raising the flood protection level of the station.
- DeLauri Pump Station: MWRA maintenance staff replaced the chains on Screen 1 which was in need of replacement due to wear and elongation.
- DeLauri Pump Station: Electricians replaced the VFD for pump number 2.
- Intermediate Pumping Station: Maintenance staff replaced the conveyor belts and rollers for the screenings conveyance system because of broken gearbox and worn belts.
- Braintree-Weymouth Pump Station: Maintenance M&O specialists and Electricians replaced RWW Pump 2 and sent it out to be rebuilt due to a faulty moisture sensor.
- Caruso Pump Station: MWRA HVAC Specialists and Technicians replaced a failed heating coil for the air-handling unit servicing the screen room.
- Caruso Pump Station: MWRA Maintenance staff replaced the Pump 1-4 motor.
- Alewife Brook Pump Station – Staff replaced a grinder.
- Quincy Pump Station: Facilities Staff completed the waterproofing and re-facing of the chimney.
- Prison Point Pump Station: M&O Specialists and Plumbers replaced the stripping pump.
- Cottage Farm: Plumbers replaced the final effluent sample pump.
- Chelsea Creek Headworks: Maintenance staff assisted the manufacturer in warranty repair work for the Odor Control Fan #2. The work included replacing the fan shaft and bearings, re-alignment of the motor, and balancing the fan.
- Chelsea Creek Headworks: Maintenance staff repaired a broken inline grit screw.

Energy Conservation

- Coordination with the Town of Weston to further planning for solar development at the Norumbega Reservoir.
- Updated the Decarbonization Standard Operating procedures for use by engineering, maintenance, and operations staff to ensure any project design or equipment replacement focuses on energy efficiency and emissions reductions, in addition to requirements to optimize utility or other available incentives.
- Continued work with NGRID and Eversource on updating existing Memorandum of Understanding (MOU) to align with current three-year energy efficiency plan goals and related MWRA energy and

emission reductions plans. These MOUs outline the enhanced incentives that MWRA energy efficiency projects will receive.

- MWRA avoided ISO-NE peak hour demand by taking the Deer Island and Carroll facilities off the grid and supplying facility power with backup generators, therefore avoiding capacity charges of approximately \$1.4 million for Deer Island and approximately \$60,000 for the Carroll Plant for FY2024.
- Successful participation in ISO-NE Demand Response Program at Deer Island, Carroll, Loring Road and Brutsch Water Treatment Facility and the new Eversource (Deer Island) and National Grid (Carroll) Demand Response programs, generating approximately \$323,000 in revenue through March 2024.
- Eversource EV Make Ready Program – EV charging analysis at Deer Island and Southborough is ongoing. Eversource has approved Deer Island, Southborough, and Chelsea for funding of infrastructure costs. Chelsea project was executed in FY24, with installation expected in FY25. Deer Island and Southborough agreement execution expected in FY25, with installation at Southborough expected in FY25. Staff are also engaged with NGRID on approval for EV Charging at the Carroll Plant and Clinton.
- MWRA was awarded \$17,500 from MassDEP EVIP Program for the purchase of five (5) Chevy Bolt EVs.
- MWRA was selected by Eversource to receive a no-cost fleet electrification assessment. This assessment will provide a full fleet conversion strategy including fuel cost and carbon emissions savings, fleet purchase cost and incentives, and charging station infrastructure recommendations.
- MWRA was awarded a grant of \$96,000 through the MassDEP GAP III Clean Energy Results Program in FY23, for the installation of air source heat pumps at the Newton and New Neponset Street Pump Stations. The scope of work for these projects is nearing completion and is expected to go out to bid by the end of FY24.
- Successful execution of a power supply contract for MWRA’s Profile Accounts.
- Development of an agency-wide EV Charging Policy.

Budget Highlights:

The FY25 Final Budget is \$97.8 million, an increase of \$1.1 million or 1.14% from the FY24 Budget.

- \$44.3 million for **Wages and Salaries**, an increase of \$2.1 million or 5.1% over the FY24 Budget, and reflects increases to collective bargaining agreements. The FY25 Budget includes \$428,800 for stand-by pay to ensure support for operational and maintenance needs during wet weather and emergencies and \$96,000 for interns to provide support in several areas including Operations Engineering, SCADA, and Pipe and Grounds Maintenance.
- \$3.7 million for **Overtime**, an increase of \$110,000 or 3.0% over the FY24 Budget. The FY25 Budget for overtime, which incorporates collective bargaining increases, includes \$1.9 million for emergency related overtime; \$1 million for planned overtime; and \$736,000 for operational coverage needs.

- \$9.4 million for **Chemicals**, a decrease of \$3.8 million or 28.66% under the FY24 Budget. The FY25 budget includes \$8.7 million for water treatment chemicals and \$710,000 for wastewater treatment chemicals and is based on multi-year historical usage trends and projected market prices. The budget includes \$2.9 million for sodium hypochlorite, \$3.3 million for soda ash, \$805,000 for Carbon Dioxide, \$914,000 for liquid oxygen, \$314,000 for aqua ammonia, \$518,000 for Hydrofluosilic Acid, \$244,000 for sodium bisulfite, \$250,000 for other oxidizers, \$20,000 for Activated Carbon, \$30,000 for other chemicals (sodium thiosulfate) and \$14,000 for Sodium Hydroxide.
- \$13.9 million is included for **Utilities**, a decrease of \$263,000 or 1.84% under the FY24 Budget. The FY25 Budget includes \$11.2 million for electricity, \$1.4 million for diesel fuel, \$799,000 for natural gas, \$456,000 for water and \$63,000 for propane.
- \$21.1 million for **Maintenance**, an increase of \$2.8 million or 14.9% over the FY24 Budget due to project priorities and projected needs. The FY25 Budget includes \$9.6 million in major projects, \$5.3 million in day-to-day needs \$5.4 million for services, and \$832,000 for energy initiatives. Some of the major projects included for the FY25 Budget are:

- Annual Tank Cleaning - West	\$3,000,000
- Duct Cleaning at Pump Stations	\$700,000
- Shaft Eight Retaining Wall Repair	\$610,000
- Hatch Cover Replacements at Loring Road	\$600,000
- Invasives Control at the Wachusett Reservoir	\$400,000
- NITP Fire Pump & Controller Replacement	\$380,000
- \$87,500 for **Training and Meetings**, an increase of \$20,500 or 30.6% over the FY24 Budget. The budget covers training required for work duties, health and safety compliance, job-related licensures and certifications, cyber-security and SCADA technical training.
- \$351,000 for **Professional Services**, level funded from the FY24 Budget. The FY25 Budget includes \$184,000 for engineering services comprised of \$154,000 for as-needed engineering services to support CEB-funded maintenance projects; and \$40,000 for consulting services to configure security operations technology for SCADA. Additionally, the professional services budget includes \$100,000 for an annual Macrophyte (invasive species) survey at the reservoirs; and \$53,000 for quality assurance services for Macrophyte harvesting, and \$4,000 for Digsafe membership.
- \$905,000 for **Other Materials**, a decrease of \$54,000 or 5.6% under the FY24 Budget. The FY25 Budget includes \$270,000 for work clothes, \$205,000 for furniture, \$200,000 for health and safety supplies, \$167,000 for vehicle expenses, \$34,200 for office supplies, \$26,000 for lab and testing supplies, \$1,900 for other materials, and \$1,000 for postage.
- \$3.8 million for **Other Services**, an increase of \$189,000 or 5.2% from the FY24 Budget primarily due to an increase in costs associated with the building lease located at 2 Griffin Way Chelsea, MA. The FY25 Budget includes \$2.6 million for annual lease payments for the Chelsea office building; \$610,000 for telecommunication services, and \$501,000 for police details.



Sudbury Dam Repointing



Blow off valve replacement in Dedham

ENGINEERING AND CONSTRUCTION

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 reliable wastewater collection and treatment. Staff is organized into three units: 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. This work supports projects necessary for the maintenance, repair, and rehabilitation of wastewater and waterworks systems. In accordance with the CIP, the Department plans and implements the rehabilitation of existing facilities and construction of new facilities. This includes pipelines, pump stations, storage facilities, and treatment facilities on schedules that allow for sufficient system capacity and performance.

The **Wastewater Engineering Unit** manages all wastewater design and engineering projects including Combined Sewer Overflow (CSO) engineering activities as well as specialized technical services in electrical, structural, mechanical, and civil engineering disciplines.

The **Water Engineering Unit** manages all water design and engineering projects. The unit also maintains the Design Information Services Center (DISC), which provides computer-aided design and drafting (CADD) services.

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.

FY25 Final Current Expense Budget ENGINEERING AND CONSTRUCTION

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 7,494,769	\$ 7,646,388	\$ 9,497,803	\$ 9,900,699	\$ 402,896	4.2%
OVERTIME	29,973	38,010	101,250	105,250	4,000	4.0%
FRINGE BENEFITS	121	120	500	500	-	0.0%
MAINTENANCE	958	2,205	-	-	-	-
TRAINING & MEETINGS	23,532	3,770	19,500	19,500	-	0.0%
OTHER MATERIALS	16,459	23,427	15,300	23,800	8,500	55.6%
OTHER SERVICES	29,040	24,584	35,365	32,065	(3,300)	-9.3%
TOTAL	\$ 7,595,559	\$ 7,738,504	\$ 9,669,718	\$ 10,081,814	\$ 412,096	4.3%

FY25 Goals and Initiatives:

The Engineering and Construction Department has significant responsibility for the following MWRA goals included in the draft FY21-FY25 Five-Year Strategic Business Plan;

Wastewater Quality and System Performance

- **Goal #6 – Wastewater Infrastructure:** Move forward with design and construction of major wastewater infrastructure rehabilitation and renewal projects. Initiatives include:
 - Continue to design and implement facility rehabilitation projects for various pump stations, headworks, and CSO facilities.
 - Continue to implement an ongoing program to review, prioritize, and accelerate interceptor renewal projects.
- **Goal #7 – CSO Plan Compliance:** Demonstrate that the CSO Plan meets its performance objectives. Ensure compliance with CSO NPDES permit requirements.
 - Comply with the CSO Variances for the Alewife Brook/Upper Mystic River Basin and Lower Charles River/Charles Basin issued to MWRA and CSO communities for the period Sept 1, 2019 through Aug. 31, 2024.

III. Infrastructure Management and Resilience

- **Goal #9 – System Maintenance and Enhancement:** Maintain and enhance water and wastewater system assets over the long term at the lowest possible life cycle cost and acceptable risk consistent with customer, community, and regulatory support levels.
 - Issue Notices to Proceed for numerous contracts in accordance with the FY25 CIP.
 - Substantially complete numerous project phases in accordance with the FY25 CIP.

For more information about Capital Improvement Program projects, please refer to the Fiscal Year 2024 Capital Improvement Program document located on the Budget page of the MWRA's website at mwra.com.

FY24 Year-End Accomplishments:

- Awarded or Issued Notices to Proceed for numerous contracts including the following:
 - Wastewater System:
 - Prison Point Construction 2 Piping Rehabilitation
 - Water System:
 - Quinapoxet Dam Removal Construction
 - Valve Replacement Phase 8 Design and Resident Inspection Services
 - Cathodic Protection of Distribution Mains Section 71 Construction
 - Carroll Water Treatment Plant Parapet Wall Repairs
 - Sudbury/Foss Dam Construction
 - Top of Shaft 5 Interim Improvements
- Substantially completed numerous design and construction phases including the following:
 - Wastewater System:
 - Nut Island Odor Control HVAC Improvements Construction Ph 2
 - Fuel Oil Tank Replacement Construction Ph 2
 - Prison Point Construction 2 Piping Rehabilitation
 - Chelsea 008 Pipe Replacement
 - Remote Headworks Shaft Access Improvements Construction
 -

- Water System:
 - Wachusett Lower Gate House Windows & Doors
 - Carroll Water Treatment Plant Chemical Feed System Improvements
 - Rehabilitation of Sections 23, 24 & 27 Water Main Construction
 - Electrical Distribtuion Upgrades at Southboro

Budget Highlights:

The FY25 Budget is \$10.1 million, an increase of \$412,000 or 4.6%, as compared to the FY24 Budget.

- \$9.9 million for **Wages and Salaries**, an increase of \$403,000 or 4.2% compared to the FY24 Budget primarily for wage increases associated with collective bargaining agreements. FY25 CEB was level funded at 80 approved positons before applying the vacancy rate.
- \$105,000 for **Overtime**, which includes wage increases and overtime associated with nine construction projects scheduled for FY25. Overtime covers resident inspection at construction sites after regular work hours to ensure monitoring of construction projects. Overtime also covers unplanned design or survey needs, evening attendance at public meetings, and achieving project deadlines.
- \$20,000 for **Training & Meetings** to cover attendance at conferences and technical seminars. This funds staff attendance at conferences as part of MWRA's workforce development and succession planning strategies.
- \$24,000 for **Other Materials** to cover office supplies, work clothes, health and safety supplies, and survey equipment.
- \$32,000 for **Other Services** for printing/duplicating, telephone expenses, memberships and dues, on-line engineering services and police details.

PROGRAMS, POLICY AND PLANNING

Programs, Policy & Planning

Toxic Reduction and Control
Environmental Quality
Laboratory Services
Planning

The Deputy Chief Operating Officer oversees this section, which focuses on the following:

- Master planning, business planning, and strategic initiatives (such as system expansion);
- Environmental programs and regulatory coordination;
- Water and wastewater quality testing and reporting;
- Divisional budget preparation and monitoring;
- Financial planning and analysis;
- Accounts payable and contract administration;
- Human resources management functions; and
- Energy program planning, evaluation, analysis, reporting and audits.

The Deputy Chief Operating Officer also provides support to the Chief Operating Officer on key MWRA operations, technical, policy, community coordination, permitting, and public constituency matters.

FY25 Final Current Expense Budget PROGRAMS, POLICY & PLANNING

LINE ITEM	FY22	FY23	FY24	FY25	Change	
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24	
WAGES & SALARIES	\$ 15,175,053	\$ 14,945,430	\$ 17,547,238	\$ 18,608,494	\$ 1,061,256	6.0%
OVERTIME	278,691	273,786	318,419	311,865	(6,554)	-2.1%
FRINGE BENEFITS	2,931	3,221	3,482	3,482	-	0.0%
UTILITIES	56,873	77,110	39,625	60,055	20,430	51.6%
MAINTENANCE	425,572	500,367	530,717	586,112	55,395	10.4%
TRAINING & MEETINGS	9,936	11,854	35,154	29,855	(5,299)	-15.1%
PROFESSIONAL SERVICES	1,608,772	1,744,187	2,228,150	2,535,694	307,544	13.8%
OTHER MATERIALS	1,441,977	1,543,309	1,819,231	1,866,291	47,060	2.6%
OTHER SERVICES	418,189	409,986	402,738	452,113	49,375	12.3%
TOTAL	\$ 19,417,994	\$ 19,509,250	\$ 22,924,754	\$ 24,453,961	\$ 1,529,207	6.7%

The Programs, Policy & Planning Section is composed of the Toxic Reduction and Control, Environmental Quality (EnQual), Laboratory Services, and Planning departments. The Environmental Quality Department has two units; EnQual-Wastewater and EnQual-Water Quality Assurance. In total, the budgets for these programs represent 10.1% of the Operations Division's FY25 Budget.

**FY25 Final Current Expense Budget
PROGRAMS, POLICY & PLANNING by Program**

PROGRAM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
TOXIC REDUCTION & CONTROL	\$ 4,758,727	\$ 4,950,790	\$ 5,519,706	\$ 5,925,181	\$ 405,475	7.3%
ENVIRONMENTAL QUALITY	5,216,155	5,397,303	6,244,513	6,865,268	620,755	9.9%
LABORATORY SERVICES	7,039,673	6,763,038	8,009,845	8,390,544	380,699	4.8%
PLANNING	2,403,439	2,398,119	3,150,690	3,272,968	122,278	3.9%
TOTAL	\$ 19,417,994	\$ 19,509,250	\$ 22,924,754	\$ 24,453,961	\$ 1,529,207	6.7%



Nut Island Headworks

TOXIC REDUCTION AND CONTROL

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 1,250 annually), issuing permits (approximately 500 annually), conducting sampling (more than 2,500 events annually), and carrying out enforcement activities (approximately 300 annually). The program tracks more than 1,900 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements.

FY25 Final Current Expense Budget TOXIC REDUCTION AND CONTROL

LINE ITEM	FY22	FY23	FY24	FY25	Change	
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24	
WAGES & SALARIES	\$ 4,421,164	\$ 4,584,920	\$ 5,123,698	\$ 5,275,379	\$ 151,681	3.0%
OVERTIME	186,244	182,729	197,419	203,342	5,923	3.0%
FRINGE BENEFITS	1,823	1,822	1,800	1,800	-	0.0%
MAINTENANCE	20,108	21,030	16,500	14,501	(1,999)	-12.1%
TRAINING & MEETINGS	100	87	5,300	1	(5,299)	-100.0%
PROFESSIONAL SERVICES	-	-	1	250,000	249,999	24999900.0%
OTHER MATERIALS	109,926	139,858	150,488	150,657	169	0.1%
OTHER SERVICES	19,362	20,344	24,500	29,501	5,001	20.4%
TOTAL	\$ 4,758,727	\$ 4,950,790	\$ 5,519,706	\$ 5,925,181	\$ 405,475	7.3%

FY25 Goals and Initiatives:

II. Wastewater Management and System Performance

- **Goal #4 – Compliance with Regulatory Requirements:** Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system.
 - Continue to carry out the Pretreatment Program to protect receiving water quality, maximize the beneficial reuse of wastewater residuals, and protect workers and MWRA’s wastewater treatment plants and receiving waters.
 - Ensure compliance with MWRA and Federal regulations by issuing appropriate enforcement actions as outlined in the Enforcement Response Plan.
 - Staff will continue to transition the 8M permitting process into TRAC’s Pre-treatment Information Management System (PIMS) software.
 - TRAC staff will utilize the PIMS software to schedule and track work and to draft permits and track permit requirements. Sampling required by permits is entered into the PIMS system by permittees’ contract laboratories. This electronic reporting system has EPA’s Cross Media Electronic Reporting Rule (CROMERR) approval.
- **Goal #5 – Regulatory Changes:** Continue to initiate plans and studies to prepare for regulatory changes; identify opportunities to refine monitoring requirements; and improve effluent quality.
 - Prepare updated Local Limits Studies for Deer Island in accordance with EPA guidelines to confirm appropriate discharge limits from industries.

- Continue to closely follow developing permit issues such as the impact of changes in bacterial and nutrient water quality standards; effluent loading limits; emerging contaminants and PFAS regulations; stormwater permitting; endangered species designations and phosphorus and PFAS in biosolids.

FY24 Year-End Accomplishments:

- In FY24 TRAC amended MWRA’s Regulations for Sewer Use (360 CMR 10.000). Changes to the regulations incorporated requirements and recommendations from a 2021 EPA audit; Increases to implementation charges and annual charges paid by permit holders by 3% in FY25 through FY29; and changes to clean up minor typos and unclear language. Changes went through the public comment period, the public hearing process, and then were approved by the MWRA Board of Directors prior to being published in the Code of Massachusetts Regulations.
- TRAC updated the Sewer Use Discharge Permit applications to include the requirement for industries to test for Per-and polyfluoroalkyl substances (PFAS) when submitting a permit application. This data will help to provide a better picture of industrial PFAS sources by industry type.
- In accordance with EPA’s Cross-Media Reporting Regulation (CROMERR), in FY23 TRAC successfully registered all laboratories submitting wastewater sample results on behalf of TRAC permitted industrial users with an EPA Shared CROMERR Services (SCS) user account, making all data received in PIMS CROMERR compliant. In FY24, EPA approved the process of electronic receipt of self-monitoring data, making MWRA one of the earlier programs in the country to meet the CROMERR regulatory requirement.
- Key performance indicators includes;

Indicators	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
EPA Required SIU Monitoring Events	159	159	156	159
Non-SIU Monitoring Events	90	59	138	90
SIU Connections to be Sampled	421	382	375	387
EPA Required SIU Inspections	184	189	180	177
SIU Permits due to Expire	82	62	87	63
Non-SIU Permits due to Expire	268	452	262	272
Issue Annual Industrial Pretreatment Program Report	Oct 2022	Oct 2023	Oct 2024	Oct 2025

Budget Highlights:

The FY25 Budget is \$5.9 million, an increase of \$405,000 or 7.35%, from the FY24 Budget.

- \$5.3 million for **Wages & Salaries**, an increase of \$152,000 or 2.96% over the FY24 Budget primarily due to wage increases associated with collective bargaining agreements. The budget includes \$82,000 for stand-by pay for wet weather sampling events.

- \$203,000 for **Overtime**, an increase of \$5,900 or 3.0% over the FY24 Budget primarily due to increases associated with collective bargaining agreements. Overtime covers sampling, monitoring, and inspections during off-hours as well as emergencies and wet weather events.
- \$14,500 for **Ongoing Maintenance**, an decrease of \$2,000 or 12% under the FY24 Budget. This funds sampling equipment, materials, and maintenance of equipment used in sampling discharges at permitted industries.
- \$250,000 for **Engineering Services**, an increase of \$250,000 over the FY24 Budget. This funds sampling analysis associated with the NPDES (National Pollutant Discharge Elimination System) permit.
- \$151,000 for **Other Materials**, an increase of \$200 or .11% over the FY24 Budget. Funding in this line item mainly supports lab and testing supplies, health and safety materials, and work clothes.
- \$29,500 for **Other Services**, an increase of \$5,000 or 20.4% over the FY24 Budget. This line item also funds printing costs for regulations, telecommunications, public advertising of industrial users in Significant Noncompliance, and police details for sampling work done in public streets.



TRAC staff collecting and testing wastewater samples to monitor the collection system

ENVIRONMENTAL QUALITY

The core functions of the Environmental Quality Department are to monitor and report on the quality of drinking water and to ensure compliance with regulatory reporting requirements governing drinking water; to monitor wastewater and the receiving water environment as laid out in the Ambient Monitoring Plan; and to ensure compliance with regulatory reporting requirements governing wastewater treatment and discharges.

FY25 Final Current Expense Budget ENVIRONMENTAL QUALITY

LINE ITEM	FY22	FY23	FY24	FY25	Change	
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24	
WAGES & SALARIES	\$ 3,534,748	\$ 3,588,267	\$ 3,968,005	\$ 4,463,593	\$ 495,588	12.5%
OVERTIME	9,654	5,827	22,000	22,000	-	0.0%
FRINGE BENEFITS	66	70	200	200	-	0.0%
MAINTENANCE	98,652	94,725	208,000	227,156	19,156	9.2%
TRAINING & MEETINGS	4,673	7,289	17,000	17,000	-	0.0%
PROFESSIONAL SERVICES	1,364,862	1,499,043	1,821,148	1,904,579	83,431	4.6%
OTHER MATERIALS	123,113	119,430	121,400	136,700	15,300	12.6%
OTHER SERVICES	80,387	82,652	86,760	94,040	7,280	8.4%
TOTAL	\$ 5,216,155	\$ 5,397,303	\$ 6,244,513	\$ 6,865,268	\$ 620,755	9.9%

The **Environmental Quality Department** (EnQual) has two units: EnQual-Water Quality Assurance (EnQual-Water) and EnQual-Wastewater (EnQual-WW). EnQual-Water manages compliance with the reporting requirements of the Massachusetts Department of Environmental Protection (MADEP) Drinking Water Regulations, as well as conducts and oversees the drinking water quality-monitoring program. Activities include maintaining the Contaminant Monitoring System (CMS), reservoir profiling buoys, water quality instrumentation, and a mobile CMS unit for as-needed sampling including emergency response situations. The group also conducts an algae monitoring program, responds to customer complaints, conducts sampler training; reviews and reports system and community water quality data while assessing needs for treatment plant chemical dose changes; and conducts community sampler training. The unit assists water department officials with water quality concerns such as declining chlorine residuals, total coliform or *E. coli* detections including preparation for possible Boil Water Order events, storage tank management, and regulatory level assessments.

EnQual-WW manages compliance with the reporting requirements of MWRA's National Pollutant Discharge Elimination System (NPDES) permits. The group must submit permit reports to state and federal regulators, the science advisory panel and its subcommittees, and post many of these reports on its Harbor and Bay web pages. EnQual-WW manages environmental data and monitors and reports on the environmental quality of Massachusetts Bay, sewage influent and effluent, Boston Harbor and its tributary rivers, and Harbor beaches. EnQual-WW uses the monitoring data to demonstrate benefits of CSO control and support future decision-making. EnQual-WW also keeps current with upcoming and draft regulations, providing comments and evaluating potential impacts on MWRA operations.

**FY25 Final Current Expense Budget
ENVIRONMENTAL QUALITY by Program**

PROGRAM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
ENQUAL	\$ 2,951,230	\$ 3,158,473	\$ 3,660,252	\$ 3,812,369	\$ 152,117	4.2%
WATER QUALITY ASSURANCE	2,264,925	2,238,830	2,584,261	3,052,899	468,638	18.1%
TOTAL	\$ 5,216,155	\$ 5,397,303	\$ 6,244,513	\$ 6,865,268	\$ 620,755	9.9%

The Environmental Quality Department has significant responsibility for the following MWRA goals included in the Five-Year Strategic Business Plan (FY21-FY25):

FY25 Goals and Initiatives:

I. Drinking Water Quality and System Performance

- **Goal #1 – Compliance with Regulatory Requirements and Public Health Standards:** Maintain drinking water quality to protect public health, and continue to ensure that MWRA water meets all applicable regulations and reporting requirements.
 - Manage water facility NPDES permits, and provide monthly and quarterly reports to regulators.
 - As of April 1, 2024, started a new Interdepartmental Service Agreement with UMass Amherst, focusing on organic matter in the Wachusett Reservoir.
 - In coordination with the MA Department of Conservation & Recreation (DCR), continue to develop operational emergency response plans for nuisance and harmful algal blooms, detection of taste and odor compounds, and algal toxins..
 - Monitor algal toxins and taste and odor compounds in source and drinking water and adapt the program to the rapidly changing regulatory landscape of this issue.
 - Continue the process of transitioning water quality reporting to automated platforms from an EnQual-Water database.
 - Respond to MADEP and the U.S. Environmental Protection Agency (USEPA) regarding regulatory changes for drinking water quality monitoring, as in previous years.
 - Assess the market for new technologies associated with continuous drinking water monitoring, sensors, and alarming (ongoing). Participate in an EPA-facilitated Online Water Quality Monitoring Forum to stay well-informed of equipment other utilities are using.
 - Assist communities with drinking water regulatory compliance including level assessments, coliform sample plan updates, sample site investigations, Boil Water Order planning, and water quality reporting.
 - Generate and present various water quality data weekly on both the Wachusett & Quabbin systems to treatment plant and water quality staff to assess and/or modify treatment plant chlorine dosing.
 - Support Lead and Copper regulatory program by providing data to the Expert Panel for the lead Pipe Rig, collecting samples from the rig, and performing field tests. Coordinate and collect samples for “Find and Fix” requirements of the Lead and Copper Rule program. As part of the new Lead and Copper Rule with a compliance deadline of October 2024, any residence that is over the Action Level needs a follow-up sample at a nearby routine community sample site.

- **Goal #2 –Water Quality Public Communications:** Continue to effectively report and communicate water quality information internally and to our customers.

- As part of an Authority Consequence Management Plan, operate a comprehensive network of water quality monitoring stations; operate and maintain four reservoir profiling buoys, maintain a mobile water quality trailer to provide field-monitoring capabilities; and oversee a quality-monitoring program for emergency standby reservoirs. Develop and train staff on emergency response procedures and contaminant response procedures for reservoir or distribution system events.
- Collect samples and evaluate data for the emergency standby reservoirs to ensure they are ready for use in the event of a drinking water shortage. Continue to annually report on reservoir data.
- Train water department staff from MWRA communities in drinking water coliform sampling and chlorine residual and other water quality parameter testing, drinking water quality complaints, emergency response, and regulatory compliance assistance. Disseminate monthly chlorine residual reports to communities. Train additional MWRA-member community staff on the use of water quality instruments that measure multiple parameters. Semi-annually provide training on water quality topics during MWRA's semi-annual Emergency Response Training.
- Finalize algae and cyanobacteria response plans.

II. Wastewater Quality and System Performance

- **Goal #4– Compliance with Regulatory Requirements:** Meet or surpass environmental compliance standards at all MWRA treatment facilities and throughout the wastewater collection system.
 - Respond to public interest and improve timeliness of accurate reporting. Improve systems to more quickly gather and report accurate combined sewer overflow (CSO) and sanitary sewer overflow (SSO) location and volume data. Sewage releases from CSOs, blending, and certain SSOs are now reported within two hours to a subscriber list and posted on MWRA's website.
 - Continue to develop and manage a monitoring program for Boston Harbor and its tributary rivers, and Massachusetts Bay, reflecting permit and CSO Variance requirements, relevant current concerns, and long-term interests of the area.
 - Continue to implement the reporting requirements of DITP and Clinton Treatment Plant NPDES permits. Respond to regulatory changes and program initiatives, including any new permits.
 - Continue to produce scientific reports and manage environmental monitoring data; make data and analysis available in-house, in public presentations, online, and in designed print products; keep up-to-date data available for presentations to regulators and other interested parties.
- **Goal #5 – Regulatory Changes:** Continue to initiate plans and studies to prepare for regulatory changes; identify opportunities to refine monitoring requirements; and improve effluent quality.
 - Review other draft permits, including general permits that affect MWRA facilities, and regulatory changes, e.g., water quality standards and criteria.
- **Goal #7 – Combined Sewer Overflow Plan Compliance:** Assist Engineering & Construction to complete all CSO milestones in the Long Term Control Plan and assess the performance of the combined sewer system, and identify additional mitigation projects as needed to meet goals.
 - Provide technical and scientific support for additional analyses following the EPA-required CSO Program performance assessment.
 - Working with staff from Planning, Engineering and Construction, and Operations, continue work on the CSO performance assessment, and assist with CSO Variance requirements. To continue to meet Variance requirements for the Mystic/Alewife and Charles watersheds, produce annual water quality report bringing together disparate datasets such as localized rainfall data, metered and modeled CSO discharges, and receiving water quality.

FY24 Year-End Accomplishments:

III. Drinking Water Quality and System Performance

- ***Goal #1 – Compliance with Regulatory Requirement and Public Health Standards:***
 - In FY24, MWRA and DCR collected algae samples on Wachusett and Quabbin Reservoirs. Staff performed algal toxin and taste and/or odor compound sampling at treated water taps through the routine monitoring season. Results revealed no cyanotoxin detections at active reservoir systems during any routine sampling events.
 - Continued to develop and implement automation of weekly water quality reporting and application development.
 - Staff, working in conjunction with the Engineering & Construction department and consultant, continue to meet to redesign the Route 12 shed sampling intake system.
 - Throughout FY24 staff completed the following initiatives:
 - Community assistance sampling events: 13 events
 - Water quality complaint assistance: 8 events
 - Offline pipeline or tank clearance sampling: 25 events
 - Drinking water sampler training: 9 events
 - Performed “Find and Fix” sampling: As part of the updated Lead and Copper Rule announced in 2021, any residence that is over the Action Level needs a follow-up sample at a nearby routine community sample site within 3 days. ENQUAL performed this task in 2024 at over 40 locations, all within the DEP timeline.
 - Continuing into FY24, ENQUAL staff provided sampling support for the Carroll Water Treatment Plant lead pipe-rig study. This project involved multiple groups across the agency with a goal to measure lead in tap water using community lead service lines with various corrosion control treatment.
 - Ensured winter maintenance of all reservoir buoy-related equipment; installed additional batteries on all buoys in FY24. Facilitated the bidding of a replacement boat for reservoir sampling and buoy maintenance. Procured replacement CMS analyzers to replace older units as budgeted for in the FY23 and FY24 Capital Improvement Plans.
- ***Goal #2 –Water Quality Public Communications: Continue to effectively report and communicate water quality information to our customers and public officials.***
 - Assisted numerous MWRA communities with sampling/testing needs in FY24. Most assistance was related to storage tank clearance sampling following cleaning events, coliform detection investigations, special Optimal Water Quality Parameter sampling, or coliform sampling.
 - Provided updated community sampling training and community water quality briefings.
 - Continued to provide monthly virtual drinking water sampler training to newly hired MWRA and community sampling staff.
 - Presented information on water quality at both the spring and fall Emergency Response Planning training that MWRA provides routinely.
 - Conducted training sessions on chemical delivery acceptance procedures for water and wastewater operators.

EnQual-Wastewater

- **Goal #4– Compliance with Regulatory Requirements:**
 - EnQual-Wastewater published 12 technical reports in FY24.
 - Implemented MWRA’s sewage notification web pages and database to meet the rapid notification requirements for CSOs, SSOs, and blending in the Sewage Notification Regulations (314 CMR 16.00). Met all NPDES routine reporting deadlines and required notifications under Part II of permits, Contingency Plan, DITP blending order.
 - Conducted all permit-required ambient monitoring sampling, collecting and analyzing seawater, sediment and flounder, lobster, and mussel samples for evidence of outfall-related environmental degradation (none was observed).
 - Complied with monitoring and reporting requirements for permits including the Medium Wastewater General Permit for Clinton and the Dewatering & Remediation General Permit for Norumbega tank cleaning, Hydroelectric General Permit for Cosgrove Intake Facility and Oakdale Power Station. Also complied with monitoring and reporting requirements for the CSO Variances for the Alewife/Upper Mystic and Charles Rivers.
- **Goal #5– Regulatory Changes:**
 - Reviewed and commented on other communities’ draft and final permits. Reviewed and commented on the draft updated NPDES Permit for DITP. Identified possible impacts to operations, laboratory, TRAC, and NPDES reporting. Provided information to member communities and advisory committees to assist them in making their comments.
- **Goal #7– Combined Sewer Overflow Compliance:**
 - Continued monitoring and data analyses required by the CSO Variances for the Charles and Alewife/Mystic Rivers. Assisted with public briefings, interagency meetings, and reports for variances. Continued to use the CSO public notification system implemented in July 2020 to make required notifications to regulatory agencies, boards of health, and subscribers. As of August 2024, notifications are being sent to 383 subscribers, including the required notifications to regulatory agencies and boards of health.
 - Made notifications of blending, CSOs, and SSOs, and updated website data, in accordance with the Sewage Notification Law and Regulations requiring reporting within two hours.

Budget Highlights:

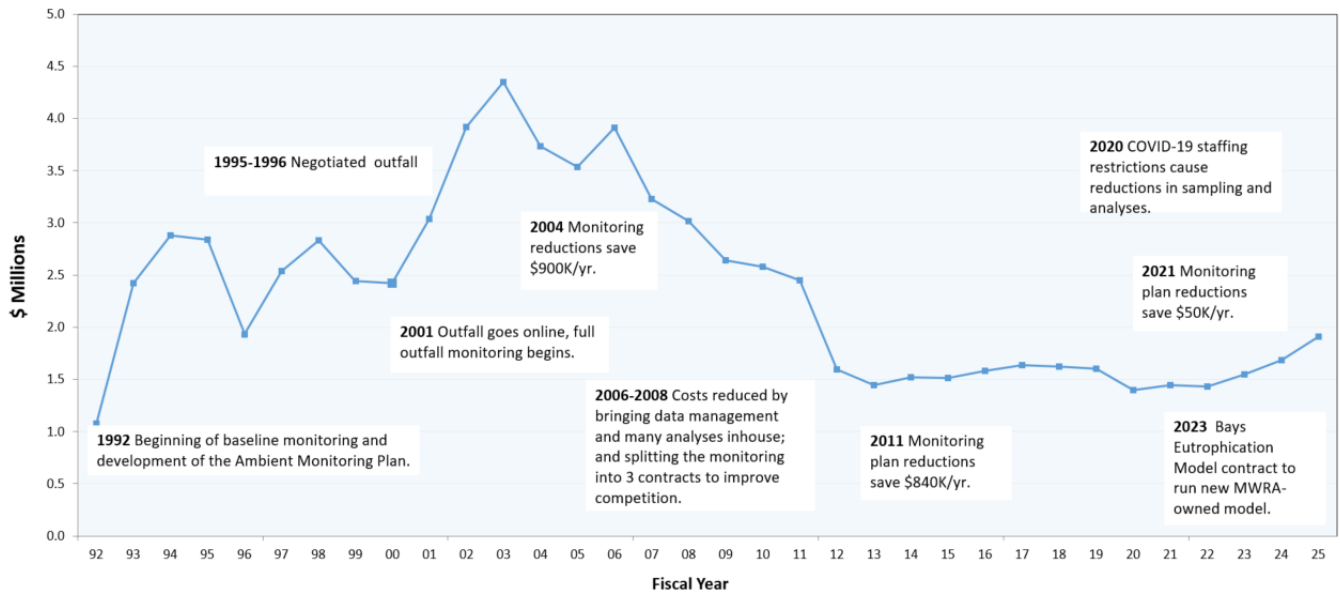
The FY25 Final Budget is \$6.8 million, an increase of \$620,755 or about 10% over the FY24 Budget. This increase is due cost escalation for new monitoring contracts, and salary increases.

- \$4.4 million for **Wages and Salaries**, an increase of \$495,588 or 12%, due to wage increases for 33 permanent positions and 7 intern. The budget includes \$108,600 for interns to assist with permit deliverables, data analysis, water quality sampling, and technical support and \$40,290 for stand-by pay associated with wet weather and water quality monitoring and rapid notifications.
- \$1.9 million for **Professional Services**, an increase of \$83,431 or 4.5% from the FY24 Budget due to contract cost escalation including an increase of \$50,000 for reservoir monitoring by UMass Amherst and a \$20,000 task order to Deltares to investigate the Bay Eutrophication Model's measurement of dissolved oxygen.

- The FY25 budget for the OP-401A HOM water contract and its follow-on OP-466 total \$1M; the FY25 budget for the OP-401B HOM benthic contract and its follow-on contract amendment total \$455,056. In addition, the budget contains the following activities that are co-funded through cost-sharing or cost-reduction agreements:
 - UMass Amherst: Investigating the impact of organic matter in Wachusett Reservoir (\$150,000).
 - University of Maine’s buoy off Cape Ann: instruments measuring algae, chlorophyll and other water-quality indicators (Two contracts, \$85,000).
 - The Center for Coastal Studies: monitors water quality in Cape Cod Bay (\$141,486).
- \$227,000 for **Maintenance**, an increase of \$19,000 or 9.2% from the FY24 Budget because of a service contract for 27 SL1000 portable water quality field meters, and for CMS batter replacement (+\$19K). Included in FY25 are funds for project materials needed to renovate the Rte. 12 sampling shed at the Wachusett Reservoir (\$100K).
- \$136,000 for **Other Materials** an increase of \$15,300 or 12% from the FY24 Budget, for scheduled equipment replacement. The budget includes \$69,000 for lab and testing supplies for the Contaminant Monitoring System (CMS).
- \$94,000 for **Other Services**, an increase of \$7,000 or 8% from the FY24 Budget, due to sending more equipment to vendors for maintenance as well as increased costs for algal toxin shipments. Also included is \$57,000 for Verizon services for the CMS, Ipads, and iPhones.
- \$22,000 for **Overtime** to support wet weather and water quality monitoring programs, level funded with the FY24 budget.
- \$17,000 for **Training and Meetings** to cover staff participation in professional conferences and technical and software training, which is level funded with the FY24 Budget.

The FY24 Budget reflects approximately \$840,000 in annual savings due to the reduction in scope of HOM monitoring that took place in 2011 through 2013. Additional reductions were implemented starting in FY21, resulting in about \$50,000 in annual savings (see figure below). These changes were based on favorable findings of many years of monitoring data and regulatory approval.

**Enqual-WW Historical Monitoring Expenses
FY92-24 Actuals & FY25 CEB**



Norumbega Covered Storage Tank and Norumbega Open Reservoir (now a backup supply)

LABORATORY SERVICES

The core function of the **Department of Laboratory Services** is to provide high quality and responsive laboratory services to MWRA’s water and wastewater treatment programs, including the Watershed Division of the Department of Conservation and Recreation (DCR) and the MWRA member water and wastewater communities. This involves 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, Southborough, Quabbin, the Central Laboratory at Deer Island, and Clinton. 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, and wastewater residuals. The Department 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 (MassDEP).

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

FY25 Final Current Expense Budget LABORATORY SERVICES

LINE ITEM	FY22	FY23	FY24	FY25	Change	
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24	
WAGES & SALARIES	\$ 5,138,316	\$ 4,731,593	\$ 5,743,345	\$ 6,044,720	\$ 301,375	5.2%
OVERTIME	82,386	84,450	99,000	86,523	(12,477)	-12.6%
FRINGE BENEFITS	1,042	1,329	1,482	1,482	-	0.0%
UTILITIES	56,873	77,110	39,625	60,055	20,430	51.6%
MAINTENANCE	306,812	384,612	306,217	344,455	38,238	12.5%
TRAINING & MEETINGS	4,500	1,562	2,854	2,854	-	0.0%
PROFESSIONAL SERVICES	242,456	245,144	406,001	380,115	(25,886)	-6.4%
OTHER MATERIALS	1,035,537	1,073,941	1,283,141	1,308,763	25,622	2.0%
OTHER SERVICES	171,751	163,297	128,180	161,577	33,397	26.1%
TOTAL	\$ 7,039,673	\$ 6,763,038	\$ 8,009,845	\$ 8,390,544	\$ 380,699	4.8%

FY25 Goals and Initiatives:

The Laboratory Services Department has significant responsibility for the following MWRA goals included in MWRA’s FY21 - FY25 Five-Year Strategic Business Plan:

I. Drinking Water Quality and System Performance

- **Goal #1 – Compliance with Regulatory Requirement and Public Health Standards:** Maintain drinking water quality to protect public health, and continue to ensure that MWRA water meets all applicable regulations.

- **Goal #3 – Technical Assistance for Water Communities:** Assist member communities to improve local water distribution systems through ongoing financial, technical, and operational support programs to maximize long-term water quality benefits.
 - PFAS testing: MWRA has developed the capability to meet the new MassDEP PFAS testing requirements for both fully and partially served communities.

II. Wastewater Quality and System Performance

- **Goal #4 – Compliance with Regulatory Requirements:** Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system.
 - CSO Assessment: Continue to perform weekend CSO receiving water sampling during/after significant wet weather events.
 - PFAS testing: MWRA is developing the capability to assess the PFAS inputs into the wastewater system and the subsequent impacts on effluent quality and fertilizer pellet marketability.
 - Decision support: Provide as-needed laboratory services to support assessment of regulatory and operational issues.
- **Goal #5 – Compliance with Regulatory Requirements:** Continue to initiative plans and studies to prepare for regulatory changes; identify opportunities to refine monitoring requirements; and improve effluent quality. Special initiatives include:
 - Continue to work with researchers investigating the use of wastewater as an indicator of the presences of the Covid19 virus and other diseases.

In addition, the Laboratory Services Department provides support functions for other MWRA Departments. FY24 Major Initiatives in support of those functions include:

- **NPDES Permits** – Provide laboratory data and consulting to wastewater operations and EnQual on Deer Island draft or final NPDES permits. The draft DITP permit includes substantial increases in the amount of PFAS testing required, including quarterly testing of influent, effluent and sludge, and an estimated 750 samples per year from permitted industries.
- **Revised Lead and Copper Rule** – EPA has already imposed some requirements of the new rule on MWRA. This includes an increase in the number of compliance samples and “find and fix” response. Additionally the required treatment optimization (pipeloop) study is now fully underway. Two major changes that are yet to be implemented are the 5th liter sampling at residences with lead service lines, and the requirement to sample 20% of all schools and daycares each year. The MA DEP school program (in conjunction with UMASS) drastically increased school testing in the latter half of FY24, and this is expected to continue in FY25. All of these changes together will represent a major increase in the anticipated number of samples per year, and will likely require increased staffing for the lab.

School Lead Testing Initiative – This special project began in FY16 and is continuing into FY25. MWRA’s lab completed 4,055 lead and copper tests from 154 schools and childcare facilities in 35 communities during FY24. Since 2016, MWRA’s Laboratory has conducted over 44,000 tests from 647 schools and daycares in 45 communities. We have also completed 1,007 home lead tests under the DPH sampling program since 2017. Overall MWRA’s lab completed 8,019 drinking water lead and copper tests in FY23.

- **Ethics Training** – Continue laboratory ethics and data integrity training to meet MassDEP laboratory certification and National Environmental Laboratory Accreditation Program (NELAP) requirements.

- **Laboratory Renovation Projects** – MWRA is planning for eventual replacement of the HVAC system and fume hoods at the Central Lab. Replacement of the system that circulates laboratory grade water throughout the Central Lab will be completed in the 1st quarter of FY25.

- **Key Department Performance Measurements and Accomplishments:**

Indicator	FY21 Actual	FY22 Actual	FY23 Actual	FY24 Actual	FY25 Goal
Total # of Tests Performed	268,686	275,619	268,064	282,994	280,000
Percent On-Time Results	95.5%	90.6%	91.9%	87.4%	95%
Average Turnaround Time (days)	5.48	7.89	7.51	8.84	9
Percent Quality Control Within Specifications	97.7%	98.1%	97.8%	96.9%	97%
Special Project: School Lead Project # Samples	968	1,416	248	4,055	As- needed

FY24 Year-End Accomplishments:

- The Department of Laboratory Services (DLS) performed 282,004 tests during FY24 including 133,191 tests for the wastewater system and 147,336 tests for the water system.
- **CSO Assessment:** Performed CSO receiving water sampling in the Charles and Mystic Rivers during/after significant wet weather events to document the recovery of the rivers after rain events. MWRA will use this information as part of the court-ordered CSO Assessment.
- **Pandemic Management:** Issued regular internal reports on the status and prevailing guidance regarding the COVID19 pandemic in Massachusetts. Also worked with the current vendor, Biobot Analytics, to monitor and report the presence of the virus in MWRA’s wastewater. Worked with DPH, other academic groups and association research projects to further the goal of Wastewater Based Epidemiology for the future.
- **PFAS Testing:** Performed testing in-house for MWRA and community compliance testing as requested. Arranged for contract testing of wastewater samples by a newly revised and expanded EPA Method for the new Clinton permit and as requested by TRAC.
- **Decision support:** Provided testing and analytical services to support assessment of numerous issues. These included School Lead testing, the drinking water lead pipeloop study, the next DITP NPDES Permit, the new Clinton NPDES Permit, consulting on PFAS regulations and concerns for both drinking water and wastewater, testing for algae blooms in the Emergency Distribution Reservoirs, and red tide testing in Massachusetts Bay.
- **Staff Turnover:** Staff turnover improved to 5.1% in FY24 from a high of 20.7% for FY22. The department started FY25 with no vacancies out of 59 budgeted regular positions, and 3 vacancies for contract positions.

Budget Highlights:

The FY25 Budget is \$8.4 million, an increase of \$381,000 or 4.8% compared to the FY24 Final Budget.

- \$6.0 million for **Wages and Salaries**, an increase of \$301,000 or 5.2% compared to the FY24 Budget primarily due to labor union contract agreements, and a high vacancy rate the prior year.
- \$87,000 for **Overtime**, a reduction of \$12,000 or 12.6% compared to the FY24 Final Budget based on recent history, to cover work associated with peak periods, emergencies, and special initiatives.
- \$60,000 for **Utilities**, an increase of \$20,000 or 51.6% compared to the FY24 Final Budget. The budget covers the purchase of gases and cryogenic liquids used for various laboratory instruments. A worldwide shortage of helium gas has driven price increases in the last year.
- \$344,000 for **Ongoing Maintenance**, an increase of \$38,000 or 12.5% compared to the FY24 Final Budget. This budget includes Lab equipment maintenance, repairs, and calibration for major lab instruments and once a year preventive maintenance for all ovens, water baths, incubators, refrigerators, freezers, chillers, meters, sensors, microscopes, thermometers, and balances. The budget for FY24 is based on historical spending levels.
- \$380,000 for **Professional Services**, a reduction of \$26,000 or 6.4% compared to the FY24 Final Budget. The decrease reflects better than anticipated pricing for testing for PFAS and Lithium required under UCMR5 and an anticipated need to test permitted industries in the wastewater system for PFAS, above and beyond the in-house testing capacity.
- \$2,900 for **Training and Meetings** to fund attendance at the Lab Accreditation/National Environmental Monitoring Conference and the Association of Public Health Laboratories (APHL) annual meeting. Also included are several new conferences and seminars to keep staff technically knowledgeable. The budget for FY25 is level funded with the FY24 Budget.
- \$1,309,000 for **Other Materials** an increase of \$26,000 or 2.0% compared to the FY24 Final Budget. This budget reflects the price of supplies and reagents required for test methods performed in house.
- \$162,000 for **Other Services** an increase of \$33,000 or 26.1% compared to the FY24 Final Budget. This increase reflects costs associated with shipping samples and materials between the five lab locations, and to outside laboratories as needed.



PLANNING

The **Planning 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 department previously had two units, the **Planning Unit** and the **Meter Data Unit**. As of FY21, the Meter Data Unit shifted to the Field Operations/Operations Support Department, so the budget no longer rolls up into the Planning Department.

FY25 Final Current Expense Budget PLANNING by Program

PROGRAM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
PLANNING	\$ 2,403,439	\$ 2,398,119	\$ 3,150,690	\$ 3,272,968	\$ 122,278	3.9%
METER DATA	-	-	-	-	-	-
TOTAL	\$ 2,403,439	\$ 2,398,119	\$ 3,150,690	\$ 3,272,968	\$ 122,278	3.9%

FY25 Final Current Expense Budget PLANNING

LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 2,080,825	\$ 2,040,650	\$ 2,712,190	\$ 2,824,802	\$ 112,612	4.2%
OVERTIME	407	780	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	663	2,916	10,000	10,000	-	0.0%
PROFESSIONAL SERVICES	1,454	-	1,000	1,000	-	0.0%
OTHER MATERIALS	173,401	210,080	264,202	270,171	5,969	2.3%
OTHER SERVICES	146,689	143,693	163,298	166,995	3,697	2.3%
TOTAL	\$ 2,403,439	\$ 2,398,119	\$ 3,150,690	\$ 3,272,968	\$ 122,278	3.9%

The functions of the **Planning Department** are:

- **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; models reservoir operations and 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. Staff assists in developing agency wide summaries of energy and greenhouse gas emission efficiency improvements.
- **System Planning and Renewal** – In coordination with colleagues across MWRA, staff with expertise in engineering and planning are responsible for water and wastewater system master planning,

infrastructure needs assessment, and capital project development. Key work includes:

- Reviews water and wastewater system expansion requests, water supply agreements, and emergency water withdrawal requests;
 - Assists with project siting decisions, environmental reviews, and permitting, including assessing impacts on MWRA facilities from other agencies' projects;
 - Develops strategies for reducing long-term emergency risks; and
 - Prepares plans for mitigating the risk of a range of hazards (i.e. climate change and sea level rise) on MWRA facilities and systems.
- **Regulatory and Policy Matters** – Staff work with various regulatory entities to advocate for cost-effective rule setting that protects the environment and promotes public health. Senior staff members also actively work with industry associations and other groups with agendas consistent with MWRA's to advance regulations that make environmental and economic sense. Senior staff conduct strategic policy research on a broad range of topics. Staff also conduct public health research and reports on potable water quality through production of the annual regulatory-required Consumer Confidence Report (CCR). Staff also coordinates with DCR on watershed protection initiatives. In conjunction with the Office of the Executive Director and Public Affairs, this unit serves as the Operations Division's lead on regulatory and policy matters potentially affecting MWRA's water and wastewater systems.
 - **Community Support Program** – This unit oversees and manages MWRA's financial assistance and technical community support programs. Staff are responsible for the development, implementation, and reporting on Inflow/Infiltration (I/I) reduction policy; oversight of and reporting on MWRA leak detection and demand management programs; and reporting 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, lead service line replacement funding, water distribution systems technical assistance, water leak detection technical assistance, and water conservation programs.

FY25 Goals and Initiatives:

- I. **Drinking Water Quality and System Performance** – The Planning Department's purview and function supports all the goals associated with this strategic priority. FY25 priorities include:
 - Provide cost-effective and timely mapping, modeling, data analysis, and regulatory review services to support decision-making on operational, planning, environmental, and regulatory issues.
 - Continue coordination with member communities for distribution of grants and loans for local sewer, water, and lead service line removal projects.
 - Conduct more intensive outreach on the revised lead service line replacement program, encouraging communities to adopt a 2032 goal for completion.
 - Conduct training and technical assistance to support communities in compliance with the revised Lead and Copper Rule. Continue outreach and coordination to schools and childcare facilities on lead testing and remediation. Work collaboratively with MA Department of Public Health on testing of water in homes with children who have elevated blood lead levels and other priority initiatives.
 - Continue to advocate for responsible and reasonable revised drinking water regulations.

- Distribute the federally required annual water quality report, the Consumer Confidence Report (CCR), to all households. Begin preparation for compliance with the revisions to the CCR rule.

II. Wastewater Quality and System Performance – The Planning Department’s purview and function supports all the goals associated with this strategic priority. FY25 priorities include:

- Provide cost-effective and timely mapping, modeling, data analysis, and regulatory review services to support decision-making on operational, planning, environmental, and regulatory issues
- Update selected record plans and real estate records.
- Comply with I/I mapping and planning requirements in state environmental regulations and NPDES permits; interact with regulators after submitting full I/I control plan for MWRA collection system.
- Continue coordination with member communities for distribution of grants and loans for local sewer projects.

III. Infrastructure Management and Resilience - Maintain and enhance water and wastewater system assets over the long term at the lowest possible life cycle cost and acceptable risk, consistent with customer, community, and regulatory support service levels. FY25 priorities include:

- Provide cost-effective and timely mapping, modeling, data analysis, and regulatory review services to support decision-making on planning, regulatory, and infrastructure issues.
- Complete the update to the water distribution system model.
- Complete the updating of the Water and Wastewater Master Plans.

V. Environmental Sustainability – The Planning Department’s purview and function supports all the goals associated with this strategic priority by directing and managing MWRA’s planning processes including water system expansion planning, and climate change adaptation and mitigation efforts. FY25 priorities include:

- Update reports on greenhouse gas tracking and energy efficiency efforts and develop a sustainability section on MWRA’s web page.
- Work with state and regional organizations and academic institutions to identify how MWRA can use existing long-term environmental data sets to help assess and project impacts of climate change.
- Continue to assist communities seeking admission to the MWRA’s water system or approval of emergency withdrawals.
- Develop MWRA’s long-term greenhouse gas reduction plan.

FY24 Year-End Accomplishments:

- Local Water System Assistance Program: Through June 2024, distributed \$48.9 million in Local Water System Assistance Program interest-free loans, plus an additional \$8.5 million under the Lead Service Line Replacement Loan Program in FY24. In total, MWRA has distributed \$606.4 million in loans to fund 536 local projects with participation from 43 of the 47 eligible water communities. This total includes the \$30 million pilot program in FY98-00. Since 1998, MWRA has replaced or cleaned and lined 603 miles of local water main (about 8% of the regional system) via projects funded by MWRA financial assistance.
- MWRA has loaned \$43.8 million (via 46 distributions) to 17 member communities for Lead Water Service Line Replacement projects.
- Community Leak Detection - Through June 2024, assisted three (3) municipalities in the MWRA’s service area with leak detection (via task-order contracts) in their systems in FY24.

- **Lead Reduction Assistance** - Continued outreach to communities on sampling in schools for lead in conjunction with third round of DEP’s Technical Assistance program. Continued laboratory assistance to MDPH for water sampling for schools and day care centers.
- **Regulatory Input** - Planning Department staff have continued to be active in state and federal review of the Lead and Copper Rule, Consumer Confidence Rule, PFAS rules, and Microbial/Disinfection Byproducts rules, as well as other proposed state and Federal rule changes. Provided community updates on the revised LCR.
- **Sewer Grant/Loan Program** – Through June 2024, distributed \$29.2 million in grants and interest-free loans to member sewer communities for Infiltration/Inflow reduction and sewer system rehabilitation projects in FY24. In total, MWRA has distributed \$560 million in grants and loans to fund 685 local projects with participation from all 43-member sewer communities.
- **Emergency Planning** - Provided substantial information to the State Auditor’s Office on emergency planning. Developed and participated in major staff training exercises related to significant failure of a portion of the transmission system, and a cyber-related operational technology incident.
- **Computer Modeling** - Provided computer modeling support for major capital programs including operational planning for pipeline shutdowns, metro tunnels emergency planning, and system expansion on the water side; and ongoing support for wastewater projects including the CSO evaluation. Assisted in project to update the water distribution system model.
- **Greenhouse Gas Reduction** - Continued coordination with local and regional climate change adaptation planning efforts. Completed and posted an update to MWRA’s greenhouse gas inventory
- **Climate Change Adaptation** - Coordinated the design, procurement and installation training for flood protection equipment to be installed at key MWRA wastewater facilities. Participated in Metro Mayors’ Climate Change Coalition Task Force and continued to monitor new research related to the effects of climate change in the service area.
- **Mystic River** - Staff continued to represent MWRA on the Mystic River Steering Committee (facilitated by EPA and Mystic River Watershed Association staff). Key objectives are improved water quality and access to the River and improved open space opportunities are key objectives.
- Completed 75 training events or drills.

FY24		
Type	Number	Comment
Reservoir Spill Field Drills and Training	11	Boom deployment and Quabbin and Wachusett, nights ops, riverine spill,
Ops Equipment deployment	2	Mobile pumping unit available when Lynnfield pump station taken off line and flushing of Shaft 7
Large tabletop/field drill	2	SCADA/Cyber security and major transmission leak
DI ERT drills	2	Boom deployment, spill response
Community ERP trainings	1	ERP training – half day sessions via Webex and in-person
Community Drinking Water Sampling training	6	Coliform training, drinking water sampling with Boston, Chelsea, Newton, Southborough
Laboratory Right-To-Know and Health and Safety Training	11	
Severe Weather Preparedness	2	BWSC and internal
Mobile Lab Training	7	
Water system isolation exercises	2	Norumbega Cell #3 and Shaft 7
Potential boil water order preparedness	2	Bedford and Newton
Misc.	2	Deer Island muster drill and activation of Sudbury Aqueduct to fill Chestnut Hill
CMS Alarms	25	
Total	75	

Budget Highlights:

- The FY25 Final Budget is \$3.3 million, an increase of \$122,000 or 3.9% as compared to the FY24 Budget, the increase primarily reflects Wages & Salary increases.
- \$287 million for **Wages and Salaries**, an increase of \$113,000 or 4.2% as compared to the FY24 Budget. The FY25 Budget funds 22 filled positions, matching the FY24 Budget. The increase in wages reflects the cost increases associated with collective bargaining agreements. Wages and Salaries includes \$5,000 for summer interns to assist with analyses in the areas of climate change, benchmarking, public health, and other projects in the spring of 2025.
- **Ongoing Maintenance** is not funded in FY25 due to the transfer of the Meter Data Unit in FY21.
- \$10,000 for **Training and Meetings**, matching the FY24 Budget. The budget covers participation in training and conferences primarily focused on water quality regulations and geographic information systems.
- \$1,000 for **Professional Services** costs associated with the translation of the CCR.
- \$270,000 for **Other Materials** which includes funding of \$205,000 for postage and mailing of the CCR, \$15,000 for water conservation kits, \$14,000 for replacement of gas meter sensors, and \$5,000 for mapping supplies.
- \$167,000 for **Other Services** which includes \$127,000 for printing the CCR; \$20,000 for technical assistance related to lead issues, \$10,000 for printing water conservation and other informational brochures, \$7,500 for costs associated with community lead service line reduction initiatives, and \$1,300 for Memberships and Dues for department employees.



Law Division
Budget

LAW DIVISION

Law

Legal Reviews
Litigation
Court Order Compliance
Environmental Regulation

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 and construction defects. 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.

FY25 Final Current Expense Budget						
LAW DIVISION						
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 1,461,249	\$ 1,366,321	\$ 1,976,521	\$ 1,708,784	\$ (267,737)	-13.5%
OVERTIME	-	428	-	-	-	-
TRAINING & MEETINGS	1,775	-	4,000	9,000	5,000	125.0%
PROFESSIONAL SERVICES	244,388	355,428	800,000	750,000	(50,000)	-6.3%
OTHER MATERIALS	6,385	8,104	3,500	3,500	-	0.0%
OTHER SERVICES	29,576	35,162	53,835	50,835	(3,000)	-5.6%
TOTAL	\$ 1,743,373	\$ 1,765,443	\$ 2,837,856	\$ 2,522,119	\$ (315,737)	-11.1%

FY25 Goals and Initiatives:

For FY25, the Law Division has identified the following goals and initiatives:

- Provide exemplary legal representation of MWRA.
- Provide timely and cost effective resolution of legal disputes involving MWRA through litigation, administrative proceedings, mediation, arbitration, or other alternative means of dispute resolution.
- Provide high quality legal services, advice and guidance to support the business and operational needs of MWRA in several areas of the law including employment, labor, construction, contracts,

procurement, environmental, energy, real estate, tort, regulatory compliance and ethics/conflict of interest.

- Provide legal advice on legislation and regulatory issues.

FY24 Year-End Accomplishments:

Worked with outside counsel in obtaining denial of motion to add MWRA as a cross-claim defendant, or in the alternative, for leave to file a third-party complaint against MWRA in a pending federal court action involving claims of, among others, property damage and personal injury for alleged PFAS contamination of drinking water wells and soil.

Obtained judgment in favor of MWRA reversing the Department of Unemployment Assistance's determination of eligibility of a former employee for unemployment benefits.

Negotiated a settlement of a claim for personal injuries resulting from a motor vehicle accident involving a MWRA vehicle.

Negotiated resolution of TRAC permittee's appeal of a penalty assessment, resulting in payment of a \$40,000 penalty to MWRA. Negotiated resolution of TRAC permittee's appeal of a penalty assessment, resulting in payment of a \$60,000 penalty to MWRA.

Finalized and closed out multi-claim settlement with contractor and engineer arising out of a headworks renovation project.

Received a dismissal from the MCAD for lack of probable cause of a charge of discrimination on the basis of disability and retaliation. Received a dismissal from the MCAD for lack of probable cause of a charge of discrimination on the bases of age, sexual orientation, race and color.

After mediation at the MCAD, settled a charge of discrimination on the bases of gender identity, disability and retaliation.

Received an arbitration award in favor of MWRA denying a grievance alleging that MWRA violated the collective bargaining agreement and discriminated against an employee on the basis of age when it did not select the employee for a promotional opportunity.

Received an arbitration award in favor of MWRA seeking a reclassification of an employee along with 3 years of retroactive pay.

Received a dismissal of an unfair labor charge from the Department of Labor Relations, in which a Union asserted that MWRA posted a position with an incorrect pay grade.

Received two favorable decisions from the Department of Unemployment Assistance Board of Review in appeals related to unemployment benefits.

Settled a number of grievances, resulting in withdrawals of arbitration demands.

Assisted with negotiations of successor collective bargaining agreements for all bargaining units.

Reviewed over four hundred 8(m) permits, including any applicable MEPA Section 61 findings. Finalized four (4) public access 8(m) permits, and four (4) direct connection permits.

Finalized and recorded and/or drafted various documents for real property interests including permanent and temporary easements, licenses and/or plans for MWRA Contract 7454 – Section 56 Replacement of Saugus River Crossing, MWRA Contract 7117 - Northern Intermediate High Section 89 Replacement Pipeline project, MWRA Contract 6224/6225 - Siphon and Junction Structure Rehabilitation project, MWRA Contract 7991/6898 – West Roxbury Tunnel Inspection, Sections 637 and 637A, MWRA's Hingham Pump Station and parcels located at 1151-1177 Boston-Providence Turnpike in Norwood and 352 Broadway in Saugus.

Finalized the following: Quabbin Watershed WPR Acquisition W-001238 in Wendell; Quabbin Watershed Fee Acquisition W-001243 in Petersham; Ware River Watershed Fee Acquisition W-001244 in Hubbardston; Wachusett Watershed Fee Acquisition W-001248 in Sterling; Quabbin Watershed WPR Acquisition W-001247 in Wendell; Quabbin Watershed WPR Acquisition W-001249 in New Salem; Quabbin Watershed Fee Acquisition W-001257 in Wendell; Wachusett Watershed Fee Acquisition W-001259 in Boylston; and Quabbin Watershed WPR Acquisition W-001254 in Barre.

Reviewed and revised draft Program Guidelines for Lead Service Line Replacement Program Projects.

Assisted with the preparation and filing of the Annual Report in the Boston Harbor federal court case. Also provided counsel and assistance to staff on various Combined Sewer Overflow (CSO) issues.

Reviewed over four hundred fifteen 8(m) permits, including any applicable MEPA Section 61 findings. Prepared amendments to three public access 8(m) permits, and reviewed Direct Connection permits.

Provided advice and counsel to TRAC staff regarding permitting, enforcement, and other regulatory matters arising under the TRAC program. Represented MWRA in various appeals related to TRAC permits.

Reviewed and advised on proposed legislation. Assisted with fulfilling public records requests and updating various policies. Assisted with matters presented to the Board of Directors.

Provided representation, advice and counsel in labor and employment matters, conflict of interest and open meeting law issues, claims and issues arising out of MWRA's operations and construction projects and in several areas affecting the Authority's environmental and energy interests including CSO issues, NPDES permits, variances and proposed regulations and regulatory action.

Budget Highlights:

The FY25 Budget is \$2.5 million, a decrease of \$316,000 or 11.1%, as compared to the FY23 Budget.

\$1.7 million for **Wages and Salaries**, a decrease of \$268,000 or 13.5%, as compared to the FY24 Budget primarily due to the elimination of two positions partially offset by wage increases associated with collective bargaining agreements. The FY25 Final Budget includes funding for 12.0 FTEs, 2.0 FTEs below the FY24 Budget.

	FY24	FY25
LAW DEPARTMENT	FTEs	FTEs
LAW	14.0	12.0
TOTAL	14.0	12.0

- \$750,000 for **Professional Services**, \$50,000 below FY24’s funding level.



Brutsch Water Treatment Facility



CVA System Map



Administration Division
Budget

ADMINISTRATION DIVISION

Administration

Director's Office
 Facilities Management
 Fleet Services
 Human Resources
 Management Information Systems
 Procurement
 Occupational Health and Safety

The **Administration Division** is responsible for managing the support service functions of the Authority. Its departments support daily operations and maintenance and ensure the implementation of the Authority's long-term goals and strategies.

FY25 Final Current Expense Budget						
ADMINISTRATION						
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 14,062,965	\$ 14,337,147	\$ 16,782,669	\$ 17,405,741	\$ 623,072	3.7%
OVERTIME	95,849	82,144	139,710	144,710	5,000	3.6%
FRINGE BENEFITS	21,603,858	23,010,397	25,695,225	27,720,125	2,024,900	7.9%
WORKERS' COMPENSATION	1,665,017	2,076,732	2,144,395	2,073,434	(70,961)	-3.3%
UTILITIES	91,116	143,138	2,500	21,466	18,966	758.6%
MAINTENANCE	4,551,805	5,962,746	6,343,686	5,859,575	(484,111)	-7.6%
TRAINING & MEETINGS	112,767	102,467	249,542	270,490	20,948	8.4%
PROFESSIONAL SERVICES	2,188,500	2,017,890	2,216,588	2,300,829	84,241	3.8%
OTHER MATERIALS	1,579,393	1,178,500	2,036,225	2,048,125	11,900	0.6%
OTHER SERVICES	3,612,632	3,151,749	2,478,215	1,930,730	(547,485)	-22.1%
TOTAL	\$ 49,563,902	\$ 52,062,910	\$ 58,088,755	\$ 59,775,225	\$ 1,686,470	2.9%

The Administration Division is comprised of seven departments: Director's Office (which includes Real Property); Facilities Management; Fleet Services; Human Resources; Management Information Systems (MIS); Procurement; and Occupational Health and Safety.

FY25 Final Current Expense Budget ADMINISTRATION by Department						
DEPARTMENT	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
ADMIN DIRECTOR'S OFFICE	339,680	436,491	383,151	410,912	27,761	7.2%
HUMAN RESOURCES	25,700,155	27,638,894	30,627,752	32,942,482	2,314,730	7.6%
MIS	12,572,853	13,056,658	17,125,559	16,452,514	(673,045)	-3.9%
FACILITIES MANAGEMENT	3,526,937	2,665,211	1,222,582	1,129,394	(93,188)	-7.6%
FLEET SERVICES	1,854,309	1,867,167	2,351,062	2,462,907	111,845	4.8%
PROCUREMENT	4,907,971	5,456,854	4,656,963	4,711,589	54,626	1.2%
REAL PROPERTY / ENVIR MGMT	130	-	-	-	-	-
OCCUPAT HEALTH AND SAFETY	661,867	941,635	1,721,686	1,665,427	(56,259)	-3.3%
TOTAL	\$ 49,563,902	\$ 52,062,910	\$ 58,088,755	\$ 59,775,225	\$ 1,686,470	2.9%

FY25 Goals and Initiatives:

Consistent with MWRA's Board approved FY21 - FY25 Five-Year Strategic Business Plan, the Administration Division's FY25 goals are as follows:

IV. Finance and Management

- **Goal # 12 – Ensure Cost-Effective Operational and Resource Management:**
 - Provide Real Estate Support to Tunnel Redundancy Project's property acquisition needs
 - Assure a safe and well-maintained working environment for all MWRA staff and appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
 - Maintain and expand MWRA-wide recycling efforts.
 - Work with staff MWRA-wide to improve specifications development and documentation.
 - Transition from paper to electronic processes.

- **Goal #13 – Leverage Information Technology to Improve Organizational Effectiveness:**
 - Deliver Information Technology (IT) services and solutions efficiently and effectively.
 - Continue to provide IT resources to support remote work and meetings.
 - Provide IT solutions to streamline work processes while ensuring the security and integrity of MWRA data by leveraging the use of existing or emerging technologies.
 - Maintain current technology hardware, software, and network infrastructure.
 - Maintain a secure technology environment.

- **Goal #14 – Maintain an Excellent Workforce:**
 - Attract and retain a qualified high-performance workforce, hire and promote qualified minority, female, and veteran employees, and offer a competitive total compensation package (salary and benefits) to all employees.
 - Continue to expand on MWRA's in-house job shadowing and career development training programs in anticipation of critical retirements over the next several years.
 - Continue to provide training to ensure employee safety. Continue to transition to virtual trainings to the extent possible.
 - Provide effective training necessary for employees to obtain and maintain required licenses and certifications to ensure a highly skilled workforce.

- o Continue MWRA's efforts to develop new recruitment and retention strategies to foster diversity, including traditionally underrepresented categories, people with disabilities and veterans.
- o Negotiate successor collective bargaining agreements with the five unions.

V. Environmental Sustainability

- ***Goal #15 – Continue to maximize energy efficiency of MWRA operations, renewable energy production, and revenue generation opportunities using MWRA's energy assets:***
 - o Integrate more alternative fueled vehicles into the Authority's fleet. Continue to install idle reduction devices in all Authority vehicles to comply with state and federal regulations and also purchase more fuel efficient vehicles.
 - o Continue to oversee the installation of additional electric vehicle charging stations at MWRA facilities.

FY24 Year-End Accomplishments:

- Offered in-person and virtual trainings to support different learning types.
- Continued to fill positions with qualified applicants using electronic processes and conducting interviews both virtually and in person.
- Participated in the Diversity, Equity, and Inclusion (DEI) Workgroup to promote diversity and inclusion within the workplace and in the MWRA's recruitment efforts.
- The wireless network was expanded into eleven sites Belchertown, Chelsea, Clinton, Cosgrove, CWTP, DITP, MMF, Needham, Nut Island, Southborough and Walpole.
- Built out new board room in the Chelsea facility with media upgrades.
- Completed the hardware and software upgrades of current backup solution.
- Continued to implement the Infor Learning Management System (LMS) to manage trainings, particularly with respect to tracking, course scheduling, and course delivery.
- Continued to support the agency's efforts in implementing succession planning activities due to an increase in retirements anticipated over the next several years.
- Continued to offer supervisory, professional, and career development training programs necessary to support succession planning initiatives.
- Developed additional specialized recruitment sources to attract women, minorities, and veterans for difficult to fill positions including expanding social network recruiting capabilities.
- Reduced future MWRA exposure on Workers' Compensation cases through aggressive claims management.

- Renewed the MWRA’s contract for dental insurance.
- Continued management of the MWRA’s Telework and Performance Evaluation programs which provide participating employees flexibility and ensure accountability.
- Investigated reported complaints of violations of MWRA policies and Code of Conduct. Implemented disciplinary action as necessary.
- Worked with various vendors to provide training for the Nut Island HVA and Odor Control Project.
- Conducted salary reviews for non-union employees to ensure compliance with the Massachusetts Equal Pay Act and internal pay equity principles.
- Developed specifications for new replacement vehicles and equipment. The majority of the vehicles and equipment will utilize alternative fuel, including Bio-Fuel which is consistent with the Authority’s goal of purchasing environmentally friendly products. Spec’d and purchased 6 additional electric vehicles for the Authority.
- Installed additional electric vehicle charging stations at Chelsea, Deer Island, CWTP, Southboro, and Clinton Treatment Facility.
- Completed the fuel management system installation at Chelsea, Deer Island, Southboro, and Lonergan Intake. Continue to work with MIS and Engineering staff on the implementation of a new fuel management system at the Weston facility.
- Completed 6,945 purchase orders for a total of \$62.2 million in FY24.
- Online vehicle and equipment auctions resulted in revenue of \$124,818. Recycled batteries 19.47 tons, paper 14.86 tons, scrap metal 189.08 tons generating \$53,246 in revenues.

Budget Highlights:

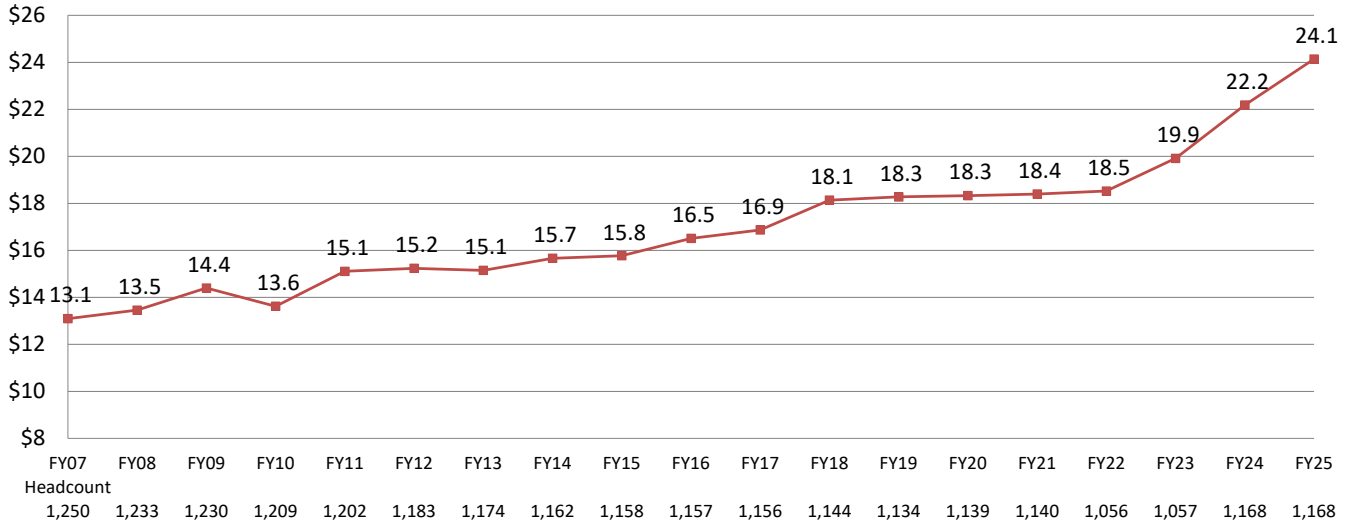
The FY25 Final Budget is \$59.8 million, an increase of \$1.7 million or 2.9% as compared to the FY24 Budget.

- \$17.4 million for **Wages and Salaries**, an increase of \$623,000 or 3.7% as compared to the FY24 Budget. The increase is primarily due to wage increases associated with collective bargaining agreements, partially offset by retirements and backfilling at a lower wage rate. The FY24 Final Budget funds 151 FTE, an increase two FTEs, from the FY24 Budget.
- \$145,000 for **Overtime**, \$5,000 or 3.6% above the FY24 Budget.

FTEs		
ADMINISTRATION by Department		
DEPARTMENT	FY24 FTEs	FY25 FTEs
ADMIN DIR OFFICE	3.0	3.0
HUMAN RESOURCES	17.0	20.0
MIS	59.0	59.0
FACILITIES MGMT	5.0	6.0
FLEET SERVICES	12.0	12.0
OH&S	10.0	11.0
PROCUREMENT	43.0	40.0
TOTAL	149.0	151.0

- \$27.7 million for **Fringe Benefits**, an increase of \$2.0 million or 7.9% as compared to the FY24 Budget, reflecting the continuing rise in health insurance costs.

**Health Insurance Spending
(in millions)**



- \$2.1 million for **Workers' Compensation**, \$71,000 below the FY24 Budget or 3.3%. Actual spending for Worker's Compensation can vary as evidenced below. The Workers' Compensation budget is based on the average of the last three years of actual spending excluding reserve adjustments.

<u>Worker's Compensation</u>	FY18 Actual	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	FY23 Actual	FY24 Final	FY25 Final	3 Year Average*
Compensation Payment	1,259,213	1,862,210	1,172,825	999,514	1,097,561	1,253,924	1,434,978	1,341,930	1,117,000
Medical Payments	718,233	707,099	516,755	641,740	454,995	696,914	547,680	583,533	597,883
Other	169,617	148,259	173,362	201,599	112,461	125,894	161,737	147,972	146,651
Total Worker's Comp.	\$2,147,063	\$2,717,568	\$1,862,942	\$1,842,853	\$1,665,017	\$2,076,732	\$2,144,395	\$2,073,435	\$1,861,534

- \$5.9 million for **Maintenance**, a decrease of \$484,000 or 7.6% as compared to the FY24 Budget, due to number of software licenses coming off multi-year maintenance and support agreements, and equipment on extended service agreements. In FY25, spending on computer licenses totals \$4.3 million, a decrease of \$500,000 from the FY24 Budget.
- \$270,000 for **Training and Meetings**, a change of \$21,000 or 8.4% as compared to the FY24 Budget.
- \$2.3 million for **Professional Services**, an increase of \$84,000 or 3.8% as compared to the FY24 Budget. The largest component of this line item is \$1.6 million for computer consultants matching FY24. The budget includes a cyber security monitoring and managing contract for \$462,000.

- \$2.0 million for **Other Materials**, an increase of \$12,000 or 0.6% as compared to the FY24 Budget. In FY25 this expense included \$632,000 for computer hardware and \$400,000 for reconfiguration expenses relating to the expiration of the Charlestown lease and relocation of staff to other facilities.
- \$1.9 million for **Other Services**, a decrease of \$547,000 or 22.7% as compared to the FY24 Budget, primarily due to the termination of the Charlestown Navy Yard Headquarters lease. The largest budget item is \$1.2 million for telephone services.



ADMINISTRATION DIVISION DIRECTOR'S OFFICE

The **Administration Division Director's Office** is responsible for the centralized support functions of procurement, human resources, management information systems, fleet services, facilities management, and real property. Additionally, the Director's Office ensures compliance with applicable statutes, regulations, Authority policies and procedures, and contract terms.

FY25 Final Current Expense Budget							
ADMINISTRATION DIVISION DIRECTOR'S OFFICE							
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24		
WAGES & SALARIES	\$ 335,390	\$ 339,936	\$ 363,929	\$ 391,690	\$ 27,761	7.6%	
OVERTIME	-	-	-	-	-	-	
FRINGE BENEFITS	-	-	-	-	-	-	
UTILITIES	-	-	-	-	-	-	
ONGOING MAINTENANCE	-	104	-	-	-	0.0%	
TRAINING & MEETINGS	-	3,485	4,000	4,000	-	0.0%	
PROFESSIONAL SERVICES	3,900	92,625	15,000	15,000	-	0.0%	
OTHER MATERIALS	29	-	-	-	-	-	
OTHER SERVICES	361	341	222	222	-	0.0%	
TOTAL	\$ 339,680	\$ 436,491	\$ 383,151	\$ 410,912	\$ 27,761	7.2%	

The Administration Director's Office core functions are to:

- Manage and coordinate the Authority's support service functions.
- Guide and coordinate division activities to support MWRA's goals and objectives.
- Continuously improve processes and performance for greater efficiency.

FY25 Goals:

- Provide real estate services for MWTP property acquisition needs.
- Provide real estate services (appraisal, negotiation, survey review, recording and/or planning) for: Section 56 Water Main Saugus River Crossing Project; Interceptor 7 Renewal Project; Sections 45 & 63 Extension Project
- Manage six (7) cellular vendor permit agreements (four at Turkey Hill, two at Walnut Hill, one at Fells Tower, including newly permitted vendor @ Turkey Hill)
- Provide real estate support to Legal, Operations and Public Affairs for issuance of 8(m) permits to public and private entities requesting use of MWRA controlled land
- Provide real property support to fulfill Public Records Requests
- Manage the Real Estate Mapping project with GIS Department, with a focus on mapping transmission tunnels
- Manage lease and financial obligations for Walpole Records Center; and MWTP Core Storage Space in Needham
- Produce PowerPoint detailing MWRA's acquisition process and Real Property services and support to be presented to internal staff with a focus on the Engineering and Construction department

FY24 Year-End Accomplishments:

- Managed communications, rent/utility/real estate tax payments for Walpole Records Center.
- Provided real estate services to MWTP (title research, appraisal, planning) for preferred launching and receiving shaft sites and boring investigations along the proposed tunnel alignment.
- Managed communications, rent/utility/real estate tax payments for MWTP Core Storage space in Needham.
- Provided real estate services and support (title research, appraisal, survey review and/or planning, document drafting/recording) for land acquisitions:: Contract 7116, Section 89 Replacement Project; Contract 7454, Section 56 Water Main Saugus River Crossing Project; Contract 7217 Interceptor 7 Renewal Project; Contract 7725, Sections 45 & 63 Extension Project
- Managed seven (6) cellular vendor permit agreements (three at Turkey Hill; two at Walnut Hill; one at Fells Tower, including 2 permit agreement renewals, processing of modification requests, and procurement of available space for an additional vendor at Turkey Hill. FY24 revenues for all towers were \$474,746, half of which went to the host communities.
- Provided real estate support to Operations and Public Affairs for issuance of 8(m) permits to 1) private entities requesting use of MWRA controlled land and 2) cities and towns applying to the Aqueduct Trails Program; managed current fee-based, long term 8(m) Permits which annual revenue in FY24 was \$90,027.
- Continued to manage, with GIS Department, Real Estate Mapping project to transfer MWRA's real property acquisitions and permits to a user-friendly GIS-map based interface.

Budget Highlights:

The FY25 Budget is \$411,000, an increase of \$28,000 or 7.2% as compared to the FY24 Budget.

- \$302,000 for **Wages and Salaries**, an increase of \$28,000 or 7.6% as compared to the FY24 Budget, primarily due to wage increases associated with collective bargaining agreements. The FY25 Budget supports three FTEs, matching the FY24 Budget.



Deer Island Treatment Plant Thermal Power Plant

FACILITIES MANAGEMENT

The **Facilities Management Department** provides mail, courier, shuttle and motor pool services to MWRA staff. Staff provides administrative and office support services that facilitate the efficient use of MWRA resources including the Walpole Record Center. These responsibilities include providing and managing the motor pools at both the Chelsea and Deer Island Facilities, transportation, mail, and courier services.

FY25 Final Current Expense Budget							
FACILITIES MANAGEMENT							
LINE ITEM	FY22	FY23	FY24	FY25	Change		
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24		
WAGES & SALARIES	\$ 423,786	\$ 430,431	\$ 482,504	\$ 385,569	\$ (96,935)	-20.1%	
OVERTIME	5,617	14,292	20,000	20,000	-	0.0%	
FRINGE BENEFITS	-	32	-	-	-	-	
UTILITIES	88,718	141,303	-	18,966	18,966	-	
MAINTENANCE	3,856	841	600	600	-	0.0%	
PROFESSIONAL SERVICES	880,437	10,392	4,000	4,000	-	0.0%	
OTHER MATERIALS	38,409	27,560	456,500	456,500	-	0.0%	
OTHER SERVICES	2,086,114	2,040,360	258,978	243,759	(15,219)	-5.9%	
TOTAL	\$ 3,526,937	\$ 2,665,211	\$ 1,222,582	\$ 1,129,394	\$ (93,188)	-7.6%	

FY25 Goals and Initiatives:

IV. Finance and Management

- **Goal #12 – Ensure Cost-Effective Operational and Resource Management:**
 - o Provide administrative and office support services.

FY24 Year-End Accomplishments:

- Implemented a pilot employee shuttle program to transport staff to and from Chelsea and the MBTA's Orient Heights Train Station.

Budget Highlights:

The FY25 Final Budget is \$1.1 million, a decrease of \$93,000 as compared to the FY24 Budget.

- \$386,000 for **Wages and Salaries**, a decrease of \$97,000 or 20.1% as compared to the FY24 Budget, primarily for wage increases associated with collective bargaining agreements and new hires and backfilling positions at lower rates. The FY25 Budget funds six FTEs, an increase of one from the FY24 Budget.
- \$457,000 for **Other Materials**, level funded with the FY24 Budget, The FY24 Budget includes \$400,000 in moving related expenses as employees are relocated and space reconfigured with MWRA departure from Charlestown space and that staff relocated to other facilities.
- \$244,000 for **Other Services**, \$15,000 or 5.9% below the FY24 Budget. Includes \$235,000 for the Walpole Records Center lease and associated operating costs.



FLEET SERVICES

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, Deer Island, Southboro, and Lonergan Intake in Barre fuel facility, the gas card program and the development and processing of specifications for new vehicles and equipment.

FY25 Final Current Expense Budget							
FLEET SERVICES							
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24		
WAGES & SALARIES	\$ 728,961	\$ 740,381	\$ 957,398	\$ 1,047,243	\$ 89,845	9.4%	
OVERTIME	24,021	3,428	20,000	25,000	5,000	25.0%	
FRINGE BENEFITS	825	66	250	250	-	0.0%	
UTILITIES	2,398	1,835	2,500	2,500	-	0.0%	
MAINTENANCE	540,791	544,002	665,500	682,500	17,000	2.6%	
TRAINING & MEETINGS	-	1,172	4,000	4,000	-	0.0%	
OTHER MATERIALS	556,078	575,172	700,000	700,000	-	0.0%	
OTHER SERVICES	1,235	1,111	1,414	1,414	-	0.0%	
TOTAL	\$ 1,854,309	\$ 1,867,167	\$ 2,351,062	\$ 2,462,907	\$ 111,845	4.8%	

FY25 Goals and Initiatives:

IV. Finance and Management

- **Goal #12 – Ensure Cost-Effective Operational and Resource Management:**
 - Continue to cost effectively maintain the Authority's fleet of vehicles and equipment.
- **Goal #13 – Maintain a Safe Workforce:**
 - Continue to Purchase vehicles with additional safety lighting to enhance driver/vehicle visibility and added blue tooth technology to all vehicles.
 - Purchase vehicles with current driver safety technology, including collision avoidance and lane departure warning, and seat belt activation..

V. Environmental Sustainability

- **Goal #15 – Continue to maximize energy efficiency of MWRA operations, renewable energy production, and revenue generation opportunities using MWRA's energy assets:**
 - Integrate more Electric vehicles into the Authority's fleet. Continue to install idle reduction devices in all Authority vehicles to comply with state and federal regulations and also purchase more fuel efficient vehicles.
 - Continue to oversee the installation of additional electric vehicle charging stations at MWRA facilities.

FY24 Year-End Accomplishments:

- Developed specifications for new replacement vehicles and equipment. The majority of the vehicles and equipment will utilize alternative fuel, including Bio-Fuel which is consistent with the Authority's goal of purchasing environmentally friendly products.

- Completed the fuel management system installation at Chelsea, Deer Island, Southboro, and Lonergan Intake. Continue to work with MIS and Engineering staff on the implementation of a new fuel management system at the Weston facility.
- Spec'd and purchased 6 additional electric vehicles for the Authority.
- Installed additional electric vehicle charging stations at Chelsea and Deer Island.
- Electric charging stations installed at CWTP, Southboro, and Clinton Treatment Facility.

Budget Highlights:

The FY25 Budget is \$2.5 million, an increase of \$112,000 or 4.8% as compared to the FY24 Budget.

- \$1.0 million for **Wages & Salaries**, an increase of \$90,000 or 9.4% as compared to the FY24 Budget, primarily for wage increases associated with collective bargaining agreements offset by retirements and backfilling at lower rates. The FY25 Budget funds 12 FTEs, the same as the FY24 Budget.
- \$683,000 for **Ongoing Maintenance**, 2.6% or \$17,000 slightly above the FY24 Budget.
- \$700,000 for **Other Materials**, level funded with FY24 Budget. The FY25 Budget funds vehicle/equipment fueling which is based on historical fuel usage and current pricing. 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.



New Chevy Volt at Charging Station

HUMAN RESOURCES

FY25 Final Current Expense Budget							
HUMAN RESOURCES							
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24		
WAGES & SALARIES	\$ 1,745,748	\$ 1,812,383	\$ 2,057,908	\$ 2,330,658	\$ 272,750	13.3%	
OVERTIME	-	765	-	-	-	-	
FRINGE BENEFITS	21,601,605	23,009,219	25,693,300	27,718,200	2,024,900	7.9%	
WORKERS' COMPENSATION	1,665,017	2,076,732	2,144,395	2,073,434	(70,961)	-3.3%	
MAINTENANCE	258	91	-	-	-	-	
TRAINING & MEETINGS	-	1,500	3,963	4,713	750	18.9%	
PROFESSIONAL SERVICES	639,777	694,382	647,150	731,391	84,241	13.0%	
OTHER MATERIALS	8,442	4,431	19,650	17,650	(2,000)	-10.2%	
OTHER SERVICES	39,308	39,391	61,386	66,436	5,050	8.2%	
TOTAL	\$ 25,700,155	\$ 27,638,894	\$ 30,627,752	\$ 32,942,482	\$ 2,314,730	7.6%	

The **Human Resources Department** is responsible for the overall management of MWRA employees. The Department enables employees to contribute successfully to MWRA's goals and objectives through effective recruitment, labor management, training, and employee benefits management.

The Human Resources Department is comprised of several units:

- The **Employment, Compensation, Benefits and HRIS, and HR Operations Units** coordinate and oversee all external recruitment and selection activities including hirings, lateral transfers, and promotions to meet the business needs of MWRA; develop and coordinate MWRA compensation and benefits strategies and programs, including the MWRA's workers' compensation program; ensure the proper processing and recording of personnel actions; and oversee personnel investigations. The Compensation Unit 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.
- The **Training Unit** develops, coordinates, delivers, and evaluates MWRA's technical and professional development training programs, as well as programs designed to improve employee knowledge, skills, productivity, and the quality of workplace interaction and safety.

In addition, the Human Resources Department includes the Centralized Fringe Benefits cost center, which carries the budget for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

**FY25 Final Current Expense Budget
HUMAN RESOURCES by Unit**

UNIT	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
EMPLOYEE/COMP/BEN	\$ 1,286,200	\$ 1,291,313	\$ 1,406,044	\$ 1,563,792	\$ 157,748	11.2%
LABOR RELATIONS	359,426	455,860	559,436	571,053	11,617	2.1%
TRAINING	728,745	708,263	742,577	873,362	130,785	17.6%
CENTRALIZED FRINGE BENEFITS	23,325,784	25,183,458	27,919,695	29,934,275	2,014,580	7.2%
TOTAL	\$ 25,700,155	\$ 27,638,894	\$ 30,627,752	\$ 32,942,482	\$ 2,314,730	7.6%

FY24 Year-End Accomplishments:

- Continued to manage employee leaves for qualifying reasons under the Massachusetts Paid Family Medical Leave law and the federal Family and Medical Leave Act.
- Continued to review and approve, when applicable, employee requests for reasonable accommodations.
- Continued to fill positions with qualified applicants using electronic processes and conducting interviews both virtually and in person.
- Participated in the Diversity, Equity, and Inclusion (DEI) Workgroup to promote diversity and inclusion within the workplace and in the MWRA’s recruitment efforts.
- Continued to utilize specialized recruitment resources to attract women, minority, and veteran candidates to fill positions, including expanding social network recruiting capabilities.
- Continued to support the agency’s efforts in implementing succession planning activities in anticipation of increases in retirements over the next several years.
- Continued to offer supervisory, professional, and career development training programs necessary to support succession planning initiatives.
- Reduced future MWRA exposure on Workers’ Compensation cases through aggressive claims management.
- Renewed the MWRA’s contract for dental insurance.
- Investigated reported complaints of violations of MWRA policies and Code of Conduct. Implemented disciplinary action as necessary.
- Offered a variety of professional and technical training to MWRA employees, including but not limited to Confined Space Entry, Hoisting License Mandatory Refresher Training, Wastewater & Water Operator Exam Prep, OSHA 40-Hour Hazardous Waste Operations and Response (HAZWOPER) training, OSHA 10-Hour Construction Safety, OSHA 8-Hour Annual Refresher, created learning paths

on LinkedIn Learning specific to MWRA skills needs, Supervisory Development, RCRA/DOT Safety, Work-zone Safety, Lockout/Tagout, Electrical Safety, Electric and Plumbing Code Review classes, Keolis & MBTA Track Safety, and a number of training contact hours (TCH) classes for Water and Wastewater License holders.

- Worked with various vendors to provide training for the Nut Island HVAC and Odor Control Project.
- Continued to provide DEI trainings to all employees on a biennial schedule.
- Offered in-person and virtual trainings to support different learning types.
- Continued to implement the Infor Learning Management System (LMS) to manage trainings, particularly with respect to tracking, course scheduling, and course delivery.
- Conducted salary reviews for non-union employees to ensure compliance with the Massachusetts Equal Pay Act and internal pay equity principles.
- Conducted compensation survey of several bargaining unit positions, including some hard-to-fill positions, to assess MWRA's wage competitiveness amongst similar public sector employers.
- Worked with union partner to renew the OMC Laborer-in-Training pilot program, which establishes an entry-level career path.
- Worked with union partners to extend several recruitment and retention initiatives, including but not limited to recruitment rate pilot programs for hard-to-fill positions, enhanced shift differential pilot programs for continuous operations staff, and an employee referral fee pilot program.
- Successfully negotiated sign-on bonus fee pilot program for certain hard-to-fill positions.
- Continued to manage the MWRA's Telework and Performance Evaluation programs which provide participating employees flexibility and ensure accountability.
- Transitioned from an annual performance review cycle to a biennial performance review cycle.
- Successfully completed Year 2 of the CORE Mentorship Program which provides participants with a structured environment to develop and enhance the mentor-mentee relationship.
- Partnered with the City of Boston in connection with a climate workforce grant program aimed at placing City residents in green jobs.

Budget Highlights:

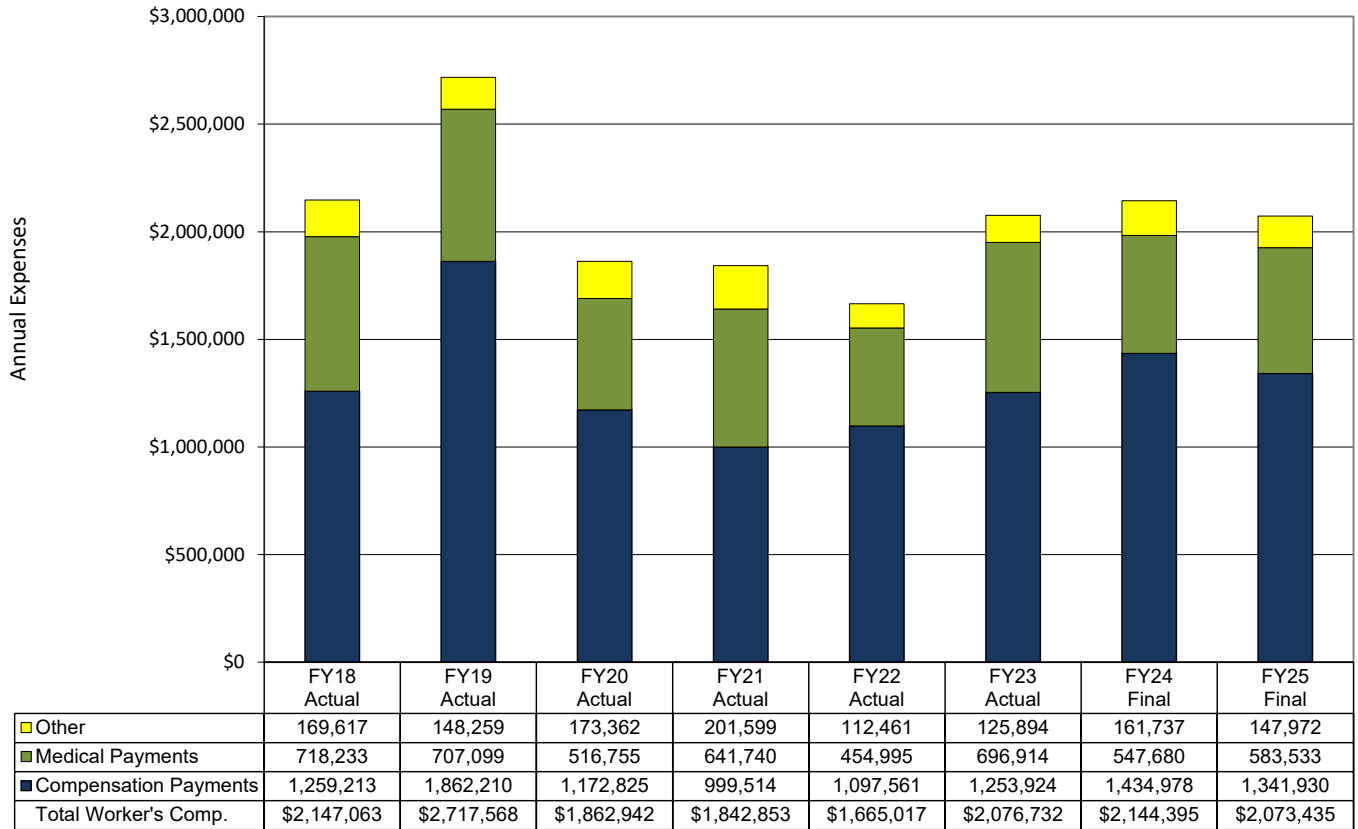
The FY25 Budget is \$32.9 million, an increase of \$2.3 million or 7.6% as compared to the FY24 Budget.

- \$2.3 million for **Wages and Salaries**, an increase of \$273,000 or 13.3%, as compared to the FY24 Budget, the increase reflect the collective bargaining agreements and additional staffing. The FY25 Budget includes funding for 20.0 FTEs, an increase of three FTEs from the FY24 Budget for training.
- \$27.7 million for **Fringe Benefits**, an increase of \$2.0 million or 7.9%, as compared to the FY24 Budget mainly for increases in health insurance costs. The FY25 Budget includes \$24.1 million for health insurance, \$1.7 million for Medicare, \$1.1 million for dental insurance, \$579,000 for the Massachusetts Paid Family and Medical Leave (PFML) law, \$140,000 for unemployment insurance, and \$40,000 for tuition reimbursement.

Human Resources Fringe Benefits				
Line Item	FY23 Actuals	FY24 Budget	FY25 Budget	Difference
Health Insurance	\$ 19,918,276	\$ 22,183,120	\$ 24,143,389	\$ 1,960,268
Dental Insurance	1,092,790	1,115,162	1,115,162	-
Unemployment Insuranc	49,032	140,000	140,000	-
PFML	367,346	468,491	578,839	110,348
Medicare	1,580,287	1,731,526	1,700,810	(30,716)
Tuition Reimbursement	1,488	55,000	40,000	(15,000)
Total Fringe Benefits	\$23,009,219	\$25,693,300	\$27,718,200	\$ 2,024,900

- \$2.1 million for **Workers’ Compensation**, a decrease of \$71,000 or 3.3%, as compared to the FY24 Budget, based on historical spending. The Workers’ Compensation expenses can be difficult to predict and the budget is based on an average of the prior three years of expenditures excluding reserve adjustments. Below is a graph showing actual expenditures beginning in FY18 and budgets for fiscal years FY24 and FY25. The Human Resources Department is responsible for the management of this program and the coordination with the third-party administrator and legal counsel.

**Worker's Compensation Expenses
FY18 - FY23 Actual & FY24 & FY25 CEB**



\$731,000 for **Professional Services**, an increase of \$84,000 or 13.0% as compared to the FY24 Budget. The major budgeted items for FY25 include \$385,000 for Professional Development and Technical Training, \$135,000 for Workers' Compensation Claims Administration and Legal Services, \$96,000 for Medical Evaluation Services, \$47,000 for Arbitrators and Arbitration Expenses, and \$27,000 for the Employee Assistance Program.

MANAGEMENT INFORMATION SYSTEM

The **MIS Department** provides MWRA with the secure information processing services necessary to carry out the Authority’s 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 and telephone systems, the department also provides library and records management services. The MIS department supports all MWRA staff, including those at the Charlestown Navy Yard (CNY), Chelsea Facility, Deer Island Wastewater Treatment Plant, Southborough Facility, Carroll Water Treatment Plant, and other remote sites.

FY25 Final Current Expense Budget MANAGEMENT INFORMATION SYSTEM						
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 5,833,706	\$ 5,901,502	\$ 7,209,749	\$ 7,395,560	\$ 185,811	2.6%
OVERTIME	1,177	1,741	12,000	12,000	-	0.0%
FRINGE BENEFITS	-	-	-	-	-	-
MAINTENANCE	3,711,804	4,441,213	5,677,586	5,176,475	(501,111)	-8.8%
TRAINING & MEETINGS	112,767	95,384	223,328	229,026	5,698	2.6%
PROFESSIONAL SERVICES	664,386	1,220,180	1,550,438	1,550,438	-	0.0%
OTHER MATERIALS	850,229	433,656	662,875	662,875	-	0.0%
OTHER SERVICES	1,398,784	962,982	1,789,583	1,426,140	(363,443)	-20.3%
TOTAL	\$ 12,572,853	\$ 13,056,658	\$ 17,125,559	\$ 16,452,514	\$ (673,045)	-3.9%

FY25 Goals and Initiatives:

IV. Finance and Management

- **Goal #13 – Leverage Information Technology to Improve Organizational Effectiveness:**
 - o Deliver Information Technology (IT) services and solutions efficiently and effectively.
 - o Provide IT solutions to streamline work processes by leveraging the use of existing or emerging technologies.
 - o Obtain feedback from users on satisfaction levels and desired new services and implement changes accordingly.
 - o Maintain current technology hardware, software, and network infrastructures.
 - o Maintain a secure technological environment by ensuring the confidentiality, availability, and integrity of MWRA data.
 - o Enhance Information Technology workforce capabilities through new certifications and license requirements.

The MIS Department divides the IT services that it provides into 4 programs. A description of each program and the specific initiatives in each are detailed below:

Information Technology Management Program

This program is intended to improve the Information Technology (IT) organization and the oversight processes for selecting, implementing and operating IT solutions throughout the MWRA.

- ***Project Portfolio Management:*** Continue the adoption of the IT project management solution and possibly integrate them with the ECM Management Dashboard and the development of an executive dashboard.
- ***IT Project Steering Committee:*** Increase awareness throughout the organization of MIS processes and initiatives.

Application Improvement Program Initiatives

This program, along with associated projects, continue MWRA's efforts to update and enhance a wide range of applications to improve efficiencies of business processes and effectiveness of the staff while ensuring the availability and integrity of the MWRA's data resources.

Administration and Finance Initiatives

- ***Electronic Document Management:*** The MWRA has implemented a Content Management System that will support e-Construction processes as well as design (e-Engineering) processes including corresponding Procurement and Contract Management processes (e-Procurement) and corresponding Document and Records Management processes. MWRA is now in the process of adding the workflows for the staff summary and MWRA policy and procedure review and approvals to the system.
- ***Archiving & Purge and e-Discovery:*** Leveraging existing vendor relationships and institutional knowledge gained by its use, staff implemented the archiving features within existing backup technology eliminating the need for personal folders (PST) and improving the e-discovery process.
- ***Website Replacement/Upgrade:*** A new hosted website www.mwra.com was launched leveraging current technologies, adoption of standards, and enhance the user/visitor experience.
- ***Enterprise Resource Planning (ERP) System Upgrades:*** : The initiative to upgrade and migrate the ERP system is underway. The Project and Technical Planning, Current State Analysis, System Provisioning, Super User and Technical Training, Design Workshops, and an initial pass at Data Conversion have been completed. System Build and Configuration are in process. The anticipated go-live date of the new system is the fall 2025.
- ***Budgeting Software Upgrade:*** This initiative will replace or migrate the legacy application to new budget application platform with better integration to Infor.
- ***Debt Management:*** The existing solution is no longer supported and in need of an upgrade. A procurement is underway to migrate to a new platform.

Compliance Management Initiatives

- ***Oracle Discoverer Migration to SAP Business Objects (BO):*** Over 600 Oracle Discoverer Workbooks have been successfully migrated to SAP Business Objects. Staff are now assisting Enqual with their migration of additional Discoverer Workbooks. The migration is expected to complete in FY25.
- ***Laboratory Information Management (LIMS):*** MWRA has engaged the vendor to conduct an assessment of our current system and business processes to provide a recommendation for the upgrade path and feature setup of the system. The assessment will be completed in FY25.
- ***Pretreatment Information Management System (PIMS):*** A number of service releases have been made to the system including updates to Copy of Record, NPDES reports, and infrastructure updates such as database password changes.

System Integration and Data Warehousing Initiatives

- ***ESRI GIS Infrastructure:*** The GIS environment has been upgraded along with implementation of recommended best practices. In addition the use of multi-factor authentication has been added to the portal.
- ***Enterprise Data Management:*** Develop an Authority-wide data architecture that maximizes benefits from data capture and ongoing maintenance. Implement Authority-wide data modeling and management, to standardize data access across multiple systems for a consistent view of the Authority across all business units.

Operations Management Initiatives

- ***Maximo:*** A point release upgrade, required to maintain support, of the Maximo environment was built in parallel with the ongoing interface enhancements. Planning is underway for the next major release upgrade of the system in FY26.
- ***Maximo/Lawson Interface Enhancements:*** The MWRA utilizes a custom interface to synchronize the Maximo Enterprise Asset Management (EAM) and Infor/Lawson Enterprise Resource Planning (ERP) systems. The interface has eighteen “touch points” where Infor/Lawson is the system of record for the majority of the data. The Maximo Integration Framework (MIF) is the primary controlling element for data flow between the two systems with supporting functions coded in Infor/Lawson. The objective of this project is to build on the existing interface by streamlining process flows, enhancing functionality, and adding data validation for optimal performance and transaction integrity. The new interfaces went live in Q4 FY24
- ***OMMS Application refresh:*** MWRA’s existing OMMS application is built using 20-year-old technology. Redesign of the application is complete and has been launched as a pilot with three towns. Staff continue to perform data validation prior to a full launch.

Information Security Program Initiatives

This program focuses on the strength, resiliency, and sustainability of MWRA's cyber security practices for its data and computing-related assets. The program also monitors for and protects against penetrations, intrusions, and malicious actions from both internal and external threats. The projects associated with this program continue to assess, implement, and improve MWRA's information security protections, including recommendations to improve each IT system's security profile. The following are the FY25 projects under this program:

- ***American Water Infrastructure Act (AWIA):*** Congress imposed new requirements for assessing and responding to water system vulnerabilities in the AWIA. AWIA requires that community drinking water systems develop or update risk assessments and emergency response plans and certify to EPA that they have been completed or updated by specific deadlines. Under AWIA, systems must now recertify that they have reviewed and updated their Risk and Resiliency Assessments (RRA) every five years. The initial assessment was completed in March 2020 and staff continue to address and implement security improvements based upon this assessment. 104 of the 105 of the identified tasks have been implemented. The last item will be completed with the launch of an upgrade to a custom application. The application has been piloted and staff are performing data validation prior to an official launch.
- ***Load Balancer Appliance Replacement:*** The current appliance (Netscaler) used for load balancing secure access to MWRA network resources is reaching End of Life (EOL). A replacement has been procured and is being implemented.
- ***Software Defined-Wide Area Network (SD-WAN):*** This initiative will provide resiliency to network connectivity along with added security with the further segmentation of network traffic and additional firewalls. SD-WAN has been implemented at six facility locations and is planned for three additional sites.
- ***Wireless Network Expansion:*** As MWRA becomes a more mobile workforce, the wireless infrastructure will be expanded to support staff as they move throughout facilities and use new collaboration spaces.
- ***Network Segmentation:*** Network segmentation is a recommended best practice from the U.S. Cybersecurity & Infrastructure Security Agency ("CISA"). Planning is underway to further segment network traffic to improve the security posture of the MIS network.

Technology Infrastructure Improvement Program

The MWRA IT department currently operates 942 desktops, 522 laptops, 400 virtual servers, 168 tablets, 405 Smartphones, and 20 wide area network circuits. This program will assess and implement consolidated and optimized versions of these core IT infrastructure elements as utility-like services and commodities. Furthermore, it will look to improve and optimize data management practices including: storage, backup, and archive and purge processes and technologies. The following projects are currently under way:

- ***Disaster Recovery:*** Build out of a Disaster Recovery site providing the ability to restore business data and applications should the Chelsea Data Center, servers or infrastructure get damaged or destroyed.

Plans are underway to adopt cloud based backup solution for the third copy of system and data backups. The implementation of SD-WAN has also improves site resiliency by providing dual paths for secure access the MWRA resources.

- **Telephone System Replacement:** A Cisco Unified Communications Manager, Voice over IP, telephone system has been implemented for most of the MWRA. Rollout for the Deer Island facility is contingent upon cabling upgrades that are being scoped.
- **Edge & Core Switch Hardware Refresh:** The current hardware is approaching end of life and will require replacement in order to maintain support. This initiative is being rolled out in multiple phases. Edge switches have been received and are installed in all locations except some Deer Island buildings due to cabling requirements. Deployment of switches on DITP is expected to continue in FY25.
- **Instrumentation and Controls of IT:** Plan for the implementation of additional tools to monitor and alert on the infrastructure and application health.
- **SAN Storage:** Implement recommended IT infrastructure changes that include enhancements to capacity and performance of networking and communications, storage, backups, server consolidation, disaster recovery, and integration approach and tools.
- **Deer Island Cabling and Switch Replacement:** Cabling in areas within Deer Island that were not impacted by the office consolidation are in need of an upgrade. Design specifications are being developed.
- .
- **Conference Room Media Upgrades:** Large conference rooms in Chelsea and CWTP will be outfitted with equipment similar to the new Deer Island boardroom. Chelsea was completed in FY24 and CWTP is expected to be complete in Q2 FY25.
- **Webcams:** Design and plan the upgrade of existing video streaming at Quabbin, Cosgrove and Deer Island. Implementation is expected to be completed in FY25.
- **Operating System and Database Upgrades:** Ongoing maintenance of server and database infrastructure to latest supported version.

FY24 Year-End Accomplishments:

- **PIMS Upgrades:** The PIMS application infrastructure was successfully upgraded to Windows 2022 Operating System. In addition a number of service releases have been made to the system including updates to Copy of Record, NPDES reports, and infrastructure updates such as database password changes.
- **Telog Infrastructure Upgrade:** The Telog infrastructure was successfully upgraded to a supported platform and Okta integration through GIS was implemented with Telog Unity.

- **Canto Cumulus Upgrade:** The Canto Cumulus application supporting digital photo archives was successfully launched.
- **Wireless Expansion:** The wireless network was expanded into eleven sites Belchertown, Chelsea, Clinton, Cosgrove, CWTP, DITP, MMF, Needham, Nut Island, Southborough and Walpole.
- **Conference Room Media Upgrades:** Built out new board room in the Chelsea facility
- **SD-WAN:** Designed and implemented Software Defined Wide Area Network to provide redundancy, resiliency and network traffic optimizations at Chelsea, Southboro, Clinton, Cosgrove, CWTP and Nut Island.
- **SD-WAN:** Implemented new asset management tool to manage both iOS and Windows devices.
- **IT Kiosk:** Implemented additional kiosk on Deer Island to provide self-service to IT accessories.
- **ESRI GIS:** Completed the application and underlying infrastructure upgrade. Integrated the application with Okta for single sign-on multi-factor authentication.
- **Library System:** Completed the upgrade to Genie Plus
- **System Backups:** Completed the hardware and software upgrades of current backup solution.
- **Storage Area Network:** Completed hardware refresh.
- **Plant Information (PI) System:** Completed the virtualization and software upgrade of the DITP PICS PI system and Carrol Water Treatment Plant
- **New Hire Application:** Updated the New Hire application to enhance its functionality and integration with Maximo

Budget Highlights:

The FY25 Budget is \$16.5 million, a decrease of \$673,000 or 3.9% as compared to the FY24 Budget.

- \$7.4 million for Wages and Salaries, an increase of \$186,000 or 2.6% as compared to the FY24 Budget. The increase in Wages and Salaries reflecting wage increases associated with collective bargaining agreements and salary adjustments associated with position changes/upgrades within the department partially offset by backfilling positions at lower wage rates. The FY25 Budget includes funding for 59 FTEs, matching the FY24 Budget.
- \$5.2 million for **Ongoing Maintenance**, a decrease of \$501,000 or 8.8%, as compared to the FY24 Budget. The decrease is attributed to new hardware purchased with bundled maintenance costs and the consolidation of management tools such as Ivanti and Citrix to WorkspaceOne.
- \$1.6 million for **Professional Services**, level funded at FY24's funding. Professional services

include computer consulting services to augment MIS staff as needed for upgrades that include Infor Cloudsuite, MHC, Maximo, Oracle, Aruba wireless, DataPARC, MSSP, LIMS Assessment.

- \$663,000 for **Other Materials**, an increase of \$65,000 or 10.9%, as compared to the FY24 Budget. The majority of these funds are to replace aging servers, plotters and mobile devices. Equipment to enhance wireless connectivity at various MWRA sites will also be purchased.
- \$1.4 million for **Other Services**, a decrease of \$363,000 or 20.3%, as compared to the FY24 Budget. Funding of \$1.2 million is for facility data and voice circuits and network upgrades which dropped from \$1.6 million in FY24. Remaining funds are for the lease of Automated Vehicle Location (AVL) services and Library subscriptions for the Authority.

PROCUREMENT

The **Procurement Department** provides timely and high quality services to all MWRA Divisions to enable MWRA programs to meet their public, production and schedule responsibilities. The Procurement Department is responsible for procuring materials, equipment, supplies, construction, professional, and non-professional services in a timely, efficient, and openly competitive process in accordance with MWRA applicable law and policies and procedures, including those related to meeting affirmative action goals. The Department also maintains a centralized, efficient, and cost-effective management of spare parts and operating supplies inventory.

FY25 Final Current Expense Budget							
PROCUREMENT							
LINE ITEM	FY22	FY23	FY24	FY25	Change		
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24		
WAGES & SALARIES	\$ 4,447,235	\$ 4,307,292	\$ 4,494,412	\$ 4,547,038	\$ 52,626	1.2%	
OVERTIME	41,142	35,460	41,500	41,500	-	0.0%	
FRINGE BENEFITS	1,129	818	1,200	1,200	-	0.0%	
MAINTENANCE	294,716	970,890	-	-	-	-	
TRAINING & MEETINGS	-	926	12,751	14,751	2,000	15.7%	
PROFESSIONAL SERVICES	-	311	-	-	-	-	
OTHER MATERIALS	71,619	70,934	91,000	91,000	-	0.0%	
OTHER SERVICES	52,130	70,223	16,100	16,100	-	0.0%	
TOTAL	\$ 4,907,971	\$ 5,456,854	\$ 4,656,963	\$ 4,711,589	\$ 54,626	1.2%	

The **Procurement Department** includes three operational 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.

FY25 Goals & Initiatives:

IV. Finance & Management

- **Goal #11 - Ensure Financial Sustainability, Integrity, and Transparency:**
 - Continue to conduct strategic energy procurements for both the purchase of energy and sale of energy credits generated from MWRA energy production.
- **Goal #12 – Promote Effective Business Operations and Resource Management:**
 - Maintain and expand recycling program in order to contain MWRA operating costs by removing recyclable materials from the waste stream.
 - Review and update policies and procedures for procurement of professional services, non-professional services and goods and materials.
 - Update construction contract documents.

FY24 Year-End Accomplishments:

- Provide training to MWRA staff on various procurement policies and procedures including purchasing of goods and materials and consultant selection committee service.
- Awarded the following Major Capital Improvement Program Contracts and Other Contracts necessary for Operations and Maintenance through Q4, FY24:
 - GRIT AND SCREENINGS HAULING AND DISPOSAL
 - INT HIGH PIPELINE IMPROVEMENTS (CP2)
 - ELECTRICAL TESTING AND TECHNICAL SERVICES
 - PHASE 12 SEWER MANHOLE REHABILITATION
 - NORUMBEGA COVERED STORAGE TANK CELL NO. 3 CLEANING
 - FIRE PROTECTION SPRINKLER SYSTEM SERVICE
 - GROUNDSKEEPING SERVICES, DITP
 - OVERHEAD DOOR MAINT. SRVS. VARIOUS MWRA FAC.
 - PRISON POINT CSO IMPRVMENTS -DISCHARGE HEADER REHAB
 - BOILER AND WATER HEATER SERVICE
 - CONTINUOUS EMISSIONS MONITORING SYSTEM SRVS., DITP
 - QUINAPOXET DAM REMOVAL
 - DEER ISLAND ROOF REPLACEMENT - VARIOUS
 - EMBANKMENT RAISING - NORTH DIKE AT LEOMINSTER PS
 - SECURITY EQUIPMENT MAINTENANCE & REPAIR SVS-ITC71
 - OVERHEAD DOOR MAINTENANCE, DITP
 - COMBUSTION TURBINE GENERATOR MAINTENANCE
 - ELECTRICAL EQUIPMENT TESTING, DITP
 - METROPOLITAN OPERATIONS PAVING
 - FUEL STORAGE TANK MAINTENANCE SERVICE
 - J.J. CARROLL WTP PARAPET WALL REPAIRS
 - EMERGENCY REPLACEMENT- MAKE-UP AIR HANDLING UNITS
 - HVAC SYSTEMS MAINTENANCE
 - WESTERN OPERATIONS FACILITIES GROUNDSKEEPING SERVI
 - TOP OF SHAFT 5 INTERIM IMPROVEMENTS (REBID)
 - THERMAL PLANT, HYDRO POWER AND WIND TURBINE MAINT
- SUDBURY RESERVOIR DAM SPILLWAY & GATEHOUSE REPAIRS
- 6945 PURCHASE ORDERS IN FY24 FOR A TOTAL OF \$62.2 MILLION
- ONLINE VEHICLE AND EQUIPMENT AUCTIONS RESULTED IN REVENUE OF \$124,848

Budget Highlights:

The FY25 Budget is \$4.7 million, an increase of \$55,000 or 1.2% as compared to the FY23 Budget.

- \$4.5 million for **Wages and Salaries**, an increase of \$53,000 or 1.2% as compared to the FY24 Budget. The increase in Wages and Salaries reflects wage increases associated with collective bargaining agreements partially offset by a decrease of 3 FTE and backfilling positions at lower wage rate. The FY25 Budget funds 40.0 FTEs, a drop of 3.0 FTEs from the FY24 Budget.

OCCUPATIONAL HEALTH AND SAFETY

The **Occupational Health and Safety** Department manages MWRA's compliance with Massachusetts Department of Labor Standards (state) and federal rules and regulations and provides programs, guidance and recommendations in areas of employee safety and health. The department oversees a program for regulatory compliance with state standards and works closely with other authority safety and health staff to communicate, implement, monitor and track safety and health regulatory compliance. OHS leads the agency's activities in a proactive way to minimize health issues and prevent situations that could create workers' compensation cases.

FY25 Final Current Expense Budget OCCUPATIONAL HEALTH AND SAFETY							
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24		
WAGES & SALARIES	\$ 548,139	\$ 805,223	\$ 1,216,769	\$ 1,307,983	\$ 91,214	7.5%	
OVERTIME	23,891	26,458	46,210	46,210	-	0.0%	
FRINGE BENEFITS	299	262	475	475	-	0.0%	
CHEMICALS	-	-	-	-	-	-	
UTILITIES	-	-	-	-	-	-	
MAINTENANCE	381	5,605	-	-	-	-	
TRAINING & MEETINGS	-	-	1,500	14,000	12,500	833.3%	
PROFESSIONAL SERVICES	-	-	-	-	-	-	
OTHER MATERIALS	54,457	66,747	106,200	120,100	13,900	13.1%	
OTHER SERVICES	34,700	37,340	350,532	176,659	(173,873)	-49.6%	
TOTAL	\$ 661,867	\$ 941,635	\$ 1,721,686	\$ 1,665,427	\$ (56,259)	-3.3%	

FY25 Goals and Initiatives:

V. Diversity, Equity, Inclusion & Workforce Development

- **Goal #16 – Ensure a safe and healthful work place for all employees, contractors, and visitors free of recognized hazards:**
 - o PPE assessments for western region, Metro region, Deer Island (Jan-June 2025)
 - o Schedule trainings for departments using online training portal (LMS) throughout 2025
 - o Schedule building walkthroughs with maintenance departments in Metro, Western and Deer Island (at least 40 buildings in 2025)
 - o Apply for DIA Workplace Safety grant in June 2025
 - o Observe Safety Day for employees in Sept 2025
 - o Conduct safety observations at various job site and record it on the application/ spreadsheet throughout 2025
 - o Schedule Toolbox talk with departments and help them set-up a calendar 2025 (in Dec 2024).
 - o Review, update, and develop safety programs for the Authority to comply with DLS standards and newly adopted Massachusetts State Plan approved by OSHA. Communicate the new programs to the workforce to ensure compliance to safety and health requirements.
 - o Continue to find cost effective measures to provide the Authority with appropriate safety equipment / PPE.

FY24 Year-End Accomplishments:

- Successfully launched SDS Search system online (On pipeline) using 3E portal
- Mapped SDS across metro and western region on 3E portal and updated binders in all locations/building that have chemicals
- Safety committee meetings scheduled in Southboro, Chelsea and Deer Island area per month
- Responded to Dept. of Labor standard notifications for Ward St and Columbus Park (wastewater stations) in collation with Wastewater and maintenance team
- Responded to Dept. of Labor standard injury notifications for MWRA
- Established practices of Toolbox talks across metro and western region
- DIA workplace Safety Grant applied in June 2024 and approved in Nov 2024 for Workzone Safety (6 classes) and Lockout Tagout (5 classes). Classes scheduled for Feb/Mar 2025.
- Conducting PPE assessment for the tools used by MWRA employees in Chelsea campus.
- Several Safety Training modules available online on LMS and are released to the departments in a timely manner with the training department.
- Building inspections in-progress in metro area and action taken reports being maintained online
- Incident Investigations being performed and steps taken to prevent it from happening again.
- Safety Observations performed via walkthroughs and logged in a spreadsheet and application.
- Maintained and evaluated injury and illness records in accordance with OSHA standards.
- Utilized safety audit software to assist in performing safety inspections of MWRA facilities.

Budget Highlights:

The FY25 Budget is \$1.7 million which is \$56,000 or 3.3% below the FY24 Budget. The Occupational Health and Safety department was established in FY20 when it was spun out of Operations.

- \$1.3 million for **Wages & Salaries**, an increase of \$91,000 or 7.5% over FY24 primarily due to wage increases associated with collective bargaining agreements and the addition of one FTE. OHS is staffed by 11 FTE's in FY25, an increase of one FTE.
- \$46,000 for **Overtime**, to respond to as needed incidents.
- \$120,000 for **Other Materials**, an increase of \$14,000 over the FY24 Budget which includes work clothes for \$105,000.
- \$177,000 for **Other Services**, a decrease of \$174,000 for services and freight to maintain Authority wide safety equipment like winches, fire extinguishers, respirators, AEDs, and first aid cabinets.



Finance Division
Budget

FINANCE DIVISION

Finance

Director's Office
Treasury
Controller
Rates and Budget
Risk Management

The **Finance Division** is responsible for managing the finance functions of the Authority. It performs a multitude of functions that support the daily operations and ensure the implementation of the Authority's long term goals and strategies. The Finance Division also 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).

FY25 Final Current Expense Budget						
FINANCE DIVISION						
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 3,488,514	\$ 5,036,272	\$ 5,866,156	\$ 6,143,078	\$ 276,922	4.7%
OVERTIME	176	7,258	-	-	-	-
FRINGE BENEFITS	-	88	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	259	625	7,000	7,000	-	0.0%
PROFESSIONAL SERVICES	430,591	493,816	704,505	704,505	-	0.0%
OTHER MATERIALS	7,533	9,352	11,300	11,300	-	0.0%
OTHER SERVICES	4,329	3,129	8,952	9,541	589	6.6%
TOTAL	\$ 3,931,402	\$ 5,550,540	\$ 6,597,913	\$ 6,875,424	\$ 277,511	4.2%

The Finance Division is comprised of five departments: Director's Office; Rates and Budget; Treasury; Controller; and Risk Management.

FY25 Final Current Expense Budget						
FINANCE by Department						
DEPARTMENT	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
DIR OFFICE (FINANCE)	\$ 276,129	\$ 294,366	\$ 300,565	\$ 310,105	\$ 9,540	3.2%
CONTROLLER	1,299,030	1,445,911	1,932,638	1,922,838	(9,800)	-0.5%
RATES AND BUDGET	883,074	1,605,512	1,793,457	2,004,173	210,716	11.7%
TREASURY	921,912	1,679,279	1,961,490	2,018,755	57,265	2.9%
RISK MANAGEMENT	551,257	525,472	609,763	619,553	9,790	1.6%
TOTAL	\$ 3,931,402	\$ 5,550,540	\$ 6,597,913	\$ 6,875,424	\$ 277,511	4.2%

FY25 Goals & Initiatives:

The Finance Division supports the fourth key strategic priority set forth in the Authority's FY21 - FY25 Strategic Business Plan.

IV. Finance & Management

- **Goal #11- Ensure Financial Sustainability, Integrity, and Transparency:**

- Develop and implement long-term strategies to ensure assessment increases to MWRA's Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Continue to implement MWRA's approach to sustainable rate increases while accounting for the pandemic's effects on its communities' revenue.
- Manage debt and investment portfolios to maximize prudent savings/returns in compliance with all applicable rules and regulations.
- Continue diversification strategy to insulate against overexposure and promote resiliency to changing market conditions.
- Maintain a system of internal controls to best protect the organization's resources.
- Continue to employ budget and expense control practices to manage expenses.
- Identify and pursue optimization in all aspects of MWRA financial operations.
- Continue to conduct strategic energy procurements.
- Continue to fund the pension fund at the annual required contribution level and to fund Other Post-Employment Benefits at a level that has a meaningful impact on the unfunded liability while being sustainable.

FY24 Year-End Accomplishments:

- Developed the FY25 Budget consistent with the FY24 planning estimates, for both the Current Expense Budget and the Capital Improvement Program.
- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.
- Prepared submission of MWRA's Comprehensive Annual Financial Report (CAFR) to the Government Finance Officers Association
- Held Budget Briefings with the MWRA Advisory Board to communicate FY24 departmental budgets and initiatives and how they relate to the MWRA's Master Plan.

Budget Highlights:

The FY25 Budget for the Finance Division is \$6.9 million, an increase of \$278,000 million or 4.2% as compared to the FY24 Budget.

- \$6.1 million for **Wages and Salaries**, an increase of \$277,000 or 4.7% as compared to the FY24 Budget, the increase reflects wage increases associated with collective bargaining agreements and the addition of one FTE. The FY25 Budget funds fifty-two (53) FTEs, an increase of one FTE over the FY24 Budget.

FTEs FINANCE by Department		
DEPARTMENT	FY24 FTEs	FY25 FTEs
DIR OFFICE (FINANCE)	2.0	2.0
CONTROLLER	16.0	16.0
RATES AND BUDGET	16.0	16.0
TREASURY	14.0	15.0
RISK MANAGEMENT	4.0	4.0
TOTAL	52.0	53.0

FINANCE DIRECTOR'S OFFICE

The **Finance 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 and accounts payable processing, and risk 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 financial issues.

The Division's continuing challenge in FY24 will be maintaining an agency-wide focus on balancing competing needs to minimize assessment increases while ensuring the provision of critical MWRA services.

FY25 Final Current Expense Budget FINANCE DIVISION DIRECTOR'S OFFICE							
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24		
WAGES & SALARIES	\$ 270,298	\$ 285,076	\$ 285,713	\$ 295,253	\$ 9,540	3.3%	
OVERTIME	-	-	-	-	-	-	
TRAINING & MEETINGS	259	625	3,000	3,000	-	0.0%	
OTHER MATERIALS	5,258	8,327	10,100	10,100	-	0.0%	
OTHER SERVICES	314	338	1,752	1,752	-	0.0%	
TOTAL	\$ 276,129	\$ 294,366	\$ 300,565	\$ 310,105	\$ 9,540	3.2%	

FY25 Goals and Initiatives:

IV. Finance & Management

- **Goal #11- Ensure Financial Sustainability, Integrity, and Transparency:**
 - Manage and coordinate the Authority's finance functions.
 - Identify and pursue optimization in all aspects of MWRA's financial operations.
 - Continue to fund the Pension Fund at the annual required contribution level and to fund Other Post-Employment Benefits at a level that has a meaningful impact on the unfunded liability while being sustainable.
 - 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 sustainable and predictable assessments and charges to our communities at both the water and wastewater utility level.

Budget Highlights:

The FY25 Budget is \$310,000, in increase of \$10,000 or 3.2% as compared to the FY24 Budget.

- \$295,000 for **Wages and Salaries**, an increase of \$10,000 or 3.3% as compared to the FY24 Budget, reflecting collective bargaining agreements. The FY25 Final Budget funds two FTEs, the same as in the FY24 Budget.

TREASURY

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

FY25 Final Current Expense Budget							
TREASURY							
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24		
WAGES & SALARIES	\$ 680,923	\$ 1,368,147	\$ 1,497,173	\$ 1,554,438	\$ 57,265	3.8%	
OVERTIME	176	244	-	-	-	-	
FRINGE BENEFITS	-	-	-	-	-	-	
TRAINING & MEETINGS	-	-	-	-	-	-	
PROFESSIONAL SERVICES	238,460	309,893	462,005	462,005	-	0.0%	
OTHER MATERIALS	1,862	567	500	500	-	0.0%	
OTHER SERVICES	491	428	1,812	1,812	-	0.0%	
TOTAL	\$ 921,912	\$ 1,679,279	\$ 1,961,490	\$ 2,018,755	\$ 57,265	2.9%	

FY25 Goals and Initiatives:

IV. Finance & Management

- **Goal #11- Ensure Financial Sustainability, Integrity, and Transparency:**
 - Manage debt and investment portfolio to maximize savings/returns in compliance with all applicable rules and regulations while maintaining compliance with the General Revenue Bond Resolution requirements regarding security and liquidity and contributing to the achievement of sustainable and predictable assessment increases.
 - Continue diversification strategy to insulate against overexposure and promote resiliency to changing market conditions.

FY24 Year-End 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. The credit report from Moody's noted that for the rates management and Compliance and Capital Planning key ratings indicators, MWRA was assigned the highest Aaa rating. These high credit ratings enable MWRA to borrow at very advantageous interest rates minimizing debt service expense.
- Completed the termination of MWRA five existing swap agreements removing the associated counterparty and credit risks. After taking into account the termination payment of \$27.9 million, the estimated savings from this transaction range from \$4.0 million to \$14.2 million.
- Completed a \$445.5 million refunding and new money Green Bond transaction on June 27, 2024. The overall transaction carried an All-in True Interest Cost of 3.68% with an average life of 11.7 years. During the order period, \$980.0 million in offers to purchase the \$445.5 million in bonds

were received, this allowed for interest yield reductions in most of maturities, reducing MWRA's costs for the borrowing. The refunding transaction was comprised of bonds, which due to increased interest rates, investors wanted to sell (tender) back to MWRA. After a fourteen business day notice period, \$559.0 million in bonds were offered to be tendered to MWRA. MWRA accepted \$359.0 million of the tendered bonds to be purchased for interest rate savings. Approximately \$11.0 million of the tendered bonds maturing between FY27 and FY29 were paid with current revenues resulting in \$1.5 million in interest savings. The remaining \$348.0 million were refunded resulting in \$39.9 million in gross savings or \$26.6 million or 7.6% in present value savings between FY25 and FY44. MWRA has issued a total of \$3.1 billion in Green Bonds.

- Completed two borrowings with the Massachusetts Clean Water Trust, the first was a \$38.5 million long-term borrowing with the Massachusetts Clean Water Trust in November 2023. The long-term borrowings are for a term of 20 years at a 2.0% interest rate. The second transaction completed in May 2024, was an interim loan for \$82.0 million.
- MWRA secured \$11.4 million in Principal Forgiveness Loans (Grants) from the Massachusetts Clean Water Trust funded by the American Rescue Plan Act (ARPA). The November 2023 grant was for \$3.4 million and the May 2024 grant for \$8.0 million.
- In June 2024 MWRA anticipates selling \$200 million in new money bonds to permanently finance outstanding short-term borrowings. As part of the transaction MWRA will offer a bond tender refunding for interest rate savings. Current projections have gross debt service savings of approximately \$22.1 million.
- Executed a \$12.4 million and a \$25.5 million defeasance of outstanding senior principal in January 2024 and June 2024 respectively. These defeasances reduced the debt service requirement between FY25 and FY30 by a total of \$40.4 million reducing the rate of increase to the Rate Revenue Requirement in those years. The transactions also resulted in \$1.8 million in interest savings by paying bonds on their call dates.

Budget Highlights:

The FY25 Final Budget is \$2.0 million, an increase of \$57,000 or 2.9% as compared to the FY24 Budget.

- \$1.6 million for **Wages and Salaries**, an increase of \$57,000 or 3.8% as compared to the FY24 Budget, this increase is driven by wage increases associated with collective bargaining agreements and an additional FTE. The FY25 Budget funds fifteen FTEs, one more than the FY24 Budget.
- \$462,000 for **Professional Services**, matching the FY24 Budget. These funds are used for banking, financial advisory, bond and disclosure counsel services.

CONTROLLER

The **Controller Department** consists of the Accounting, Accounts Payable, Accounts Receivable, and Payroll units. The department has the responsibility for ensuring integrity within the financial accounting system and integration among the four 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.

FY25 Final Current Expense Budget							
CONTROLLER							
LINE ITEM	FY22	FY23	FY24	FY25	Change		
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24		
WAGES & SALARIES	\$ 1,153,844	\$ 1,316,964	\$ 1,761,765	\$ 1,751,516	\$ (10,249)	-0.6%	
OVERTIME	-	-	-	-	-	-	
TRAINING & MEETINGS	-	-	4,000	4,000	-	0.0%	
PROFESSIONAL SERVICES	142,403	127,183	162,500	162,500	-	0.0%	
OTHER MATERIALS	228	93	200	200	-	0.0%	
OTHER SERVICES	2,555	1,671	4,173	4,622	449	10.8%	
TOTAL	\$ 1,299,030	\$ 1,445,911	\$ 1,932,638	\$ 1,922,838	\$ (9,800)	-0.5%	

FY25 Goals and Initiatives:

IV. Finance & Management

- **Goal #11- Ensure Financial Sustainability, Integrity, and Transparency:**
 - Implement process efficiencies in all department units.
 - Enhance controls to safeguard Authority assets and ensure accurate and timely reporting.
 - Continue to support management initiatives with underlying documentation and detail.
 - Implement any new or changed GASB standards as appropriate.
 - Manage the certification of Financial Statements by Independent Auditors.

FY24 Year-End Accomplishments:

- Successfully completed certified financial statement audit with no audit findings.
- Awarded the Certificate of Achievement for Excellence in Financial Reporting by the Government Finance Officers Association (GFOA) for the MWRA's FY23 Annual Comprehensive Financial Report. The FY24 Comprehensive Annual Financial Report will be submitted to the GFOA for review.

Budget Highlights:

The FY25 Budget is \$1.9 million, a decrease of \$10,000 or 0.5% as compared to the FY24 Budget.

- \$1.8 million for **Wages and Salaries**, a decrease of \$10,000 or 0.6%, as compared to the FY24 Budget, the decrease reflects backfilling vacant positions at a lower rate partially offset by wage increases associated with collective bargaining agreements. The FY25 Budget funds 16 FTEs, the same as the FY24 Budget.

RATES & BUDGET

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 works 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 rate projections.

FY25 Final Current Expense Budget							
RATES AND BUDGET							
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24		
WAGES & SALARIES	\$ 882,484	\$ 1,597,468	\$ 1,792,102	\$ 2,002,818	\$ 210,716	11.8%	
OVERTIME	-	7,015	-	-	-	-	
FRINGE BENEFITS	0	88	0	0	-	-	
TRAINING & MEETINGS	-	-	-	-	-	-	
PROFESSIONAL SERVICES	0	0	0	0	-	-	
OTHER MATERIALS	57	365	500	500	-	0.0%	
OTHER SERVICES	533	576	855	855	-	0.0%	
TOTAL	\$ 883,074	\$ 1,605,512	\$ 1,793,457	\$ 2,004,173	\$ 210,716	11.7%	

FY25 Goals and Initiatives:

IV. Finance & Management

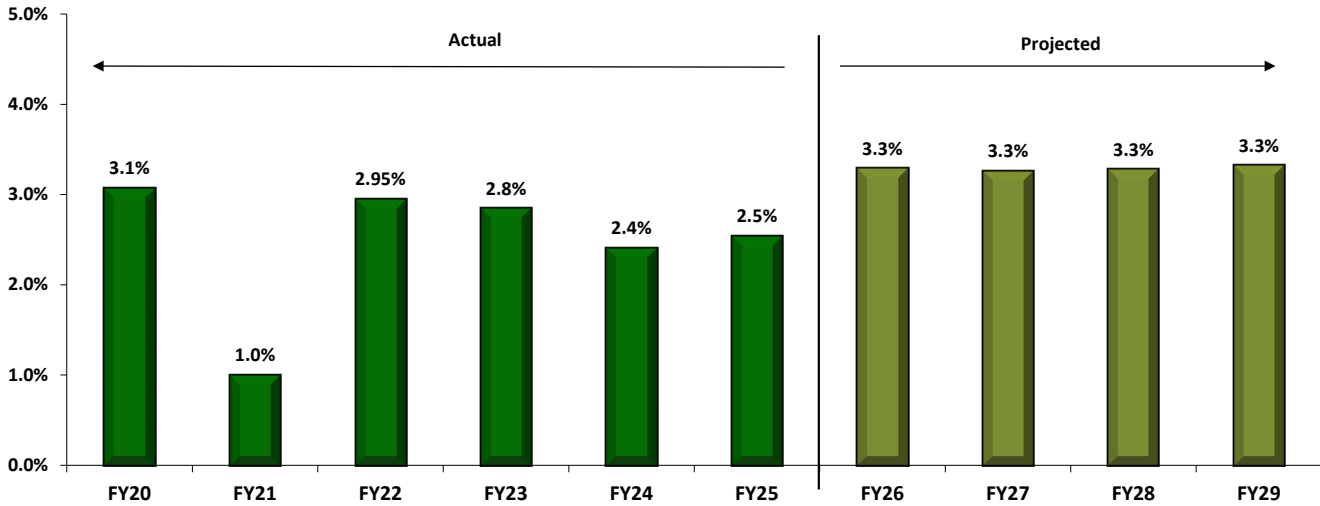
- **Goal #11- Ensure Financial Sustainability, Integrity, and Transparency:**
 - *Continue long-term strategic budgeting practices to ensure predictable and sustainable sewer and water assessments and charges to our member communities at both the combined and the water and wastewater utility level.*
 - *Continue to employ budget and expense control practices to manage expenses.*
 - *Continue to 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.*
 - *Provide financial analysis as required, including system expansion opportunities.*
 - *Start the process of evaluating and selecting software applications to replace the CEB and CIP programs.*
 - *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.*

FY24 Year-End Accomplishments:

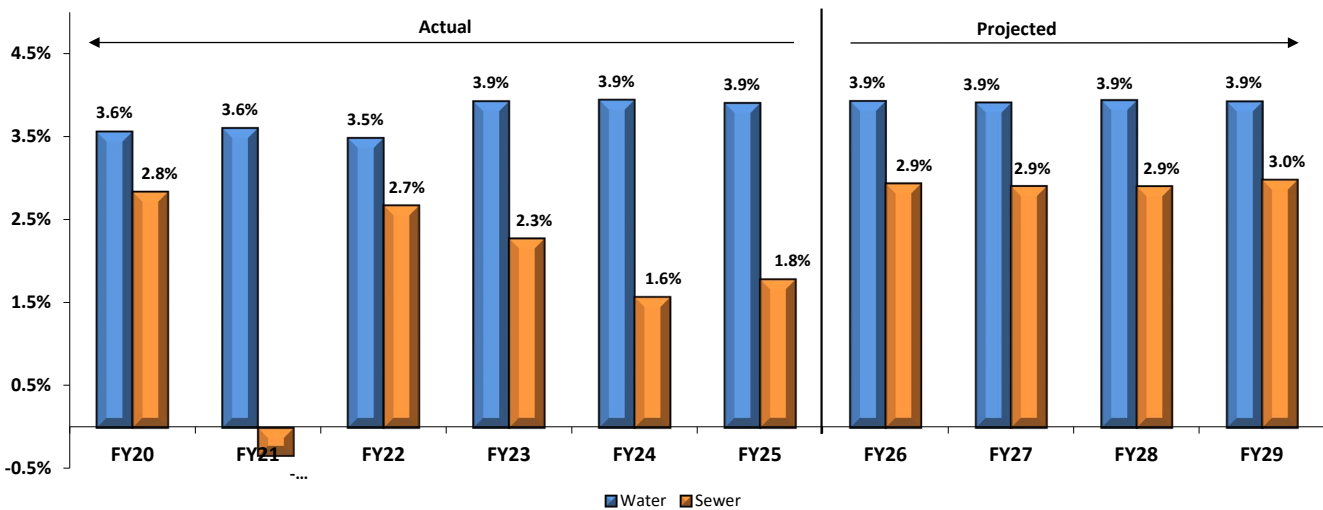
- Developed the FY25 Current Expense Budget below the FY24 planning estimates for combined water and sewer assessment increases.

- Developed the FY25 Capital Improvement Budget. Also, FY25 CIP complied with the established the five-year spending cap for the FY24-28 period.
- Communicated Final FY25 Assessments to the service area communities, staying within the 3.3% projected assessment changes that are in the MWRA’s multi-year planning model.
- Held Budget Briefings with the MWRA Advisory Board to communicate FY25 departmental budgets and initiatives and how they relate to the MWRA’s Master Plan.

**MWRA Combined Utilities
Historical and Projected Rate Revenue Changes**



**MWRA Water & Sewer Utilities
Historical and Projected Rate Revenue Changes**



Budget Highlights:

The FY25 Budget is \$2.0 million, an increase of \$211,000 or 11.7% as compared to the FY24 Budget.

- \$2.0 million for **Wages and Salaries**, an increase of \$211,000 or 11.8% as compared to the FY24 Budget, this increase is driven by wage increases associated with collective bargaining agreements. The FY25 Budget funds sixteen FTEs, matching the FY24 level.

RISK MANAGEMENT

The **Risk Management Department** is responsible for all MWRA insurance programs and risk management functions. Department staff manages 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 members are 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/vendor insurance certificate program. Department staff serves as liaisons to insurance industry participants including brokers, insurers, insurance consultants, and attorneys as well as providing support to all MWRA departments.

FY25 Final Current Expense Budget							
RISK MANAGEMENT							
LINE ITEM	FY22	FY23	FY24	FY25	Change		
	Actuals	Actuals	Final Budget	Final Budget	FY25 vs. FY24		
WAGES & SALARIES	\$ 500,965	\$ 468,618	\$ 529,403	\$ 539,053	\$ 9,650	1.8%	
OVERTIME	-	-	-	-	-	-	
FRINGE BENEFITS	-	-	-	-	-	-	
TRAINING & MEETINGS	-	-	-	-	-	-	
PROFESSIONAL SERVICES	49,728	56,740	80,000	80,000	-	0.0%	
OTHER MATERIALS	126	-	-	-	-	-	
OTHER SERVICES	438	114	360	500	140	38.9%	
TOTAL	\$ 551,257	\$ 525,472	\$ 609,763	\$ 619,553	\$ 9,790	1.6%	

FY25 Goals and Initiatives:

IV. Finance & Management

- **Goal #11- Ensure Financial Sustainability, Integrity, and Transparency:**

- 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 exposures and establishing contract insurance requirements and monitoring contractors/vendors for compliance.
- Process self-insured automobile, general liability, property damage, and construction contract claims in an efficient and timely manner.
- Provide support to all MWRA Departments on all insurance, claims, litigation and risk management issues.

FY24 Year-End Accomplishments:

- Successfully procured MWRA’s FY24 Insurance Program through a competitive bid process for all lines of coverage.
- Staff renewed MWRA’s FY24 license to operate as a self-insured entity for workers’ compensation claims by completing the annual application process with the Division of Insurance.
- Received, investigated and processed 111 self-insured Automobile (59), General Liability (35) and Property Damage (17) claims.

- Conducted 71 Contract Risk Assessments in support of Construction, Professional Services, License Agreements and Purchase Order Contracts.
- Performed 72 Insurance Package reviews in support of support of construction, professional services and purchase order contracts.
- Received, tracked, analyzed and processed 20 Construction Contract Claims in support of issuance of Engineer's Decisions by MWRA.
- Provided timely support to MWRA managers on all insurance, claims, litigation and risk management issues.

Budget Highlights:

The FY25 Final Budget is \$620,000, an increase \$10,000 or 1.6% as compared to the FY24 Budget.

- \$539,000 for **Wages & Salaries**, \$10,000 or 1.8% above the FY24 Budget. The increase reflects wage increases associated with collective bargaining agreements. The FY24 Budget funds four FTEs, the same as the FY24 Budget.



Quabbin Reservoir



Appendices

APPENDIX A

DIRECT EXPENSES BUDGET LINE ITEM DESCRIPTIONS

MWRA's direct expenses budget funds the annual expenses of its operating and support divisions. Though the direct expenses budget is approximately 31% 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 expenses 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, overtime meals, and tuition reimbursement.

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 sodium hypochlorite, soda ash, sodium bisulfite, and hydrofluosilicic acid.

Utilities - This line item includes funds for electricity, diesel fuel, natural gas 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.

FY25 Final Current Expense Budget MWRA Direct Expenses by Line Item						
LINE ITEM	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
WAGES & SALARIES	\$ 105,394,954	\$ 106,433,845	\$ 127,828,242	\$ 133,658,955	\$ 5,830,713	4.6%
OVERTIME	5,010,758	5,172,629	5,727,593	6,133,078	405,485	7.1%
FRINGE BENEFITS	21,714,918	23,122,023	25,823,383	27,834,124	2,010,741	7.8%
WORKERS' COMPENSATION	1,665,017	2,076,732	2,144,395	2,073,434	(70,961)	-3.3%
CHEMICALS	11,788,437	18,038,588	28,269,124	19,706,033	(8,563,091)	-30.3%
UTILITIES	29,352,756	32,514,216	31,064,891	32,048,176	983,285	3.2%
MAINTENANCE	28,842,198	34,317,838	38,574,255	46,653,200	8,078,945	20.9%
TRAINING & MEETINGS	232,056	258,753	498,597	568,346	69,749	14.0%
PROFESSIONAL SERVICES	7,373,709	7,546,594	10,410,484	11,121,730	711,246	6.8%
OTHER MATERIALS	5,039,040	4,837,988	7,167,400	7,270,879	103,479	1.4%
OTHER SERVICES	25,243,013	27,017,485	38,494,660	33,945,804	(4,548,856)	-11.8%
TOTAL	\$ 241,656,857	\$ 261,336,692	\$ 316,003,024	\$ 321,013,759	\$ 5,010,735	1.6%

FY25 Final Current Expense Budget MWRA Direct Expenses by Division						
DIVISION	FY22 Actuals	FY23 Actuals	FY24 Final Budget	FY25 Final Budget	Change FY25 vs. FY24	
EXECUTIVE	\$ 1,313,489	\$ 1,250,004	\$ 1,410,181	\$ 1,303,312	\$ (106,869)	-7.6%
EMERGENCY PREPAREDNESS	3,409,153	3,592,355	4,489,575	5,216,632	727,057	16.2%
ADMINISTRATION	49,563,902	52,062,910	58,088,755	59,775,225	1,686,470	2.9%
FINANCE	3,931,402	5,550,540	6,597,913	6,875,424	277,511	4.2%
LAW	1,743,373	1,765,443	2,837,856	2,522,119	(315,737)	-11.1%
AFFIRMATIVE ACTION	585,459	542,303	1,527,342	1,580,690	53,348	3.5%
INTERNAL AUDIT	580,488	576,540	838,602	913,527	74,925	8.9%
PUBLIC AFFAIRS	993,736	932,705	1,514,486	1,620,805	106,319	7.0%
OPERATIONS/PLANNING	179,535,855	195,063,892	238,698,314	241,206,025	2,507,711	1.1%
TOTAL	\$ 241,656,857	\$ 261,336,692	\$ 316,003,024	\$ 321,013,759	\$ 5,010,735	1.6%

Performance measures for all MWRA Divisions and Departments are published monthly in the MWRA “Yellow Notebook” and quarterly in the MWRA “Orange Notebook.” In addition, monthly financial staff summaries are presented to the Board of Directors reviewing monthly budget performance and explaining variances. All documents are available on-line at mwra.com.

APPENDIX B
BUDGET PROCESS AND TIMETABLE

MWRA operates on a fiscal year that starts July 1. The budget development process begins in August 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.

	Current Expense Budget (CEB)	Capital Improvement Program (CIP)
Date	Activity	Activity
Aug-23	Prepare budget guidelines and materials	Update database with current awards, change orders, and annual estimated inflation factor
Sep-23		Kick-off meeting
Sep-23	Kick-off meeting - Release database files to all departments	
Oct-23		Project Managers update project schedules and costs
Oct-23		Proposed CIP finalized
Nov-23	Budget staff prepare capital financing requirements and indirect expenses	Review of Proposed CIP with senior management
Nov-23	Update CEB impacts from CIP	
Nov-23		Proposed CIP Staff Summary and Board of Directors presentation
Dec-23	Proposed CEB, Rate Revenue Requirement and planning projections	
Dec-23	Review of Proposed CEB with Senior Management	
Dec-23		Present Proposed CIP at Board Of Directors Meeting
Dec-23		Advisory Board Review and Comments begins
Jan-24	Proposed CEB Staff Summary and Board of Directors presentation	
Feb-24	Present Proposed CEB at Board of Directors Meeting	
Feb-24	Advisory Board Review and Comments begins	
Mar-24	Spring Revisit - Distribute Proposed FY19 database files to all departments	
Apr-24	Update Proposed CEB	Update Proposed CIP
Apr-24	Public hearings	Public hearings
Apr-24	Receive Advisory Board Comments	Receive Advisory Board Comments
May-24	Prepare MWRA's response to Advisory Board Comments	Prepare MWRA's response to Advisory Board Comments
May-24	Prepare Draft Final CEB presentation for Board of Directors	Prepare Draft Final CIP presentation for Board of Directors
May-24	Presentation - Draft Final CEB to Board of Directors	Presentation - Draft Final CIP to Board of Directors
Jun-24	Draft Final CEB Staff Summary	Draft Final CIP Staff Summary
Jun-24	Board of Directors Meeting - Vote on Final CEB	Board of Directors Meeting - Vote on Final CIP

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.

Basis of Budgeting

The Authority is required by the Enabling Act to establish user rates for its water and sewer services which provide sufficient funds to recover the costs of operations (excluding depreciation), debt service, maintenance, replacements, improvements to its facilities, and appropriate reserves. MWRA budgets on the accrual basis, its financial statements are reported on the accrual basis of accounting and the economic measurement focus as specified by the Governmental Accounting Standards Board's (GASB) requirements for an enterprise fund.

The MWRA distinguishes operating revenues and expenses from nonoperation items. Operating revenues and expenses generally result from providing water and sewer services to its member communities. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses. All operating revenues are pledged for repayment of outstanding debt service.

In addition, MWRA applies the provisions of GASB Statement No. 62, Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements, to provide a better matching of revenues and expenses. The effect of this policy has been to defer certain outflows of resources, which will be recovered through future revenues in accordance with MWRA's rate model, and to record deferred inflows of resources for revenue collected through current rates for costs expected to be incurred in the future.

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 baseline 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 adequate based on a FY17 Insurance Reserve Fund review performed by an outside insurance consultant who estimated an acceptable fund level in the range of \$12 to \$16 million. The next Insurance Reserve Fund review is expected in February 2020.

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. The requirement of the Bond Resolution, 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 2014, prepared and delivered in accordance with the General Resolution. The next Triennial Report is scheduled for October 2017. The Consulting Engineer also provides an opinion as to the adequacy of the Authority rates, rentals, and other charges.

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, Finance, and Audit 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 Controller Department prepares MWRA financial statements. The Rates and Budget Department then prepares monthly variance reports that compare budgeted to actual revenues and expenses.

Variance Analysis

Division directors and staff review variance reports and explain variances between budgeted and actual expenditures as requested by the Rates and Budget Department. Variance explanations are prepared as needed, usually at the first quarter of the year, and following monthly for the rest of the 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 continually monitors 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 are provided to the Board of Directors, one for the first six months of a year and one at year-end. The reports include a comparison between planned project schedules to actual performance. The reports 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 are 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 third five-year cap for the FY14-18 period at its June 2013 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.

Debt Limit

The Authority's statutory debt limit is \$6,450,000,000. The current debt is well below the debt limit. The Authority's debt limit was most recently amended by Chapter 312 of the Acts of 2008 of the Commonwealth of Massachusetts.

APPENDIX D

MWRA Planning Estimates FY2025 to FY2034										
COMBINED UTILITIES	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034
EXPENSES										
Direct Expenses	\$321,014	\$329,908	\$339,262	\$349,558	\$358,931	\$369,075	\$379,398	\$390,256	\$401,249	\$412,657
Indirect Expenses	75,440	77,929	81,799	86,091	88,533	92,603	65,201	72,258	73,572	75,145
Capital Financing (before offsets)	<u>504,169</u>	<u>518,978</u>	<u>529,513</u>	<u>547,099</u>	<u>569,045</u>	<u>589,057</u>	<u>644,017</u>	<u>668,715</u>	<u>697,373</u>	<u>722,993</u>
Sub-Total Expenses	\$900,622	\$926,816	\$950,573	\$982,749	\$1,016,509	\$1,050,734	\$1,088,616	\$1,131,230	\$1,172,194	\$1,210,795
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Expenses	\$900,622	\$926,816	\$950,573	\$982,749	\$1,016,509	\$1,050,734	\$1,088,616	\$1,131,230	\$1,172,194	\$1,210,795
REVENUE & INCOME										
Non-Member and Other Revenue	\$16,735	\$17,218	\$17,717	\$18,241	\$18,618	\$18,774	\$19,079	\$19,441	\$19,805	\$20,188
Interest Income	28,399	25,141	19,560	21,287	23,377	25,533	27,655	29,724	31,050	31,904
Rate Stabilization	0	809	780	782	740	140	12	0	0	0
Total Other Revenue	\$45,134	\$43,168	\$38,056	\$40,310	\$42,734	\$44,446	\$46,746	\$49,165	\$50,856	\$52,092
Total Rate Revenue	\$855,488	\$883,648	\$912,517	\$942,439	\$973,775	\$1,006,288	\$1,041,870	\$1,082,065	\$1,121,338	\$1,158,703
Rate Revenue Increase	2.5%	3.3%	3.3%	3.3%	3.3%	3.3%	3.5%	3.9%	3.6%	3.3%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$1,431	\$1,493	\$1,558	\$1,626	\$1,697	\$1,771	\$1,850	\$1,934	\$2,021	\$2,110
Based on water use of 90k gpy (weighted)	\$2,111	\$2,203	\$2,298	\$2,398	\$2,503	\$2,613	\$2,729	\$2,853	\$2,981	\$3,112
WASTEWATER UTILITY										
EXPENSES										
Direct Expenses	\$210,704	\$216,484	\$222,632	\$229,512	\$235,503	\$242,159	\$249,015	\$256,065	\$263,266	\$270,772
Indirect Expenses	30,967	31,163	32,985	35,011	35,046	36,485	19,076	23,144	23,086	23,241
Capital Financing (before offsets)	<u>324,514</u>	<u>332,638</u>	<u>338,300</u>	<u>347,219</u>	<u>359,996</u>	<u>371,303</u>	<u>403,595</u>	<u>418,253</u>	<u>434,917</u>	<u>448,577</u>
Sub-Total Wastewater Expenses	\$566,185	\$580,285	\$593,917	\$611,742	\$630,545	\$649,947	\$671,685	\$697,462	\$721,270	\$742,590
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$566,185	\$580,285	\$593,917	\$611,742	\$630,545	\$649,947	\$671,685	\$697,462	\$721,270	\$742,590
REVENUE & INCOME										
Non-Member and Other Revenue	\$5,699	\$5,857	\$6,022	\$6,194	\$6,374	\$6,562	\$6,760	\$6,973	\$7,191	\$7,413
Interest Income	16,377	13,965	11,288	12,315	13,414	14,408	15,282	15,953	16,244	16,615
Rate Stabilization	0	425	350	300	200	140	12	0	0	0
Prior Year Utility Surplus/Deficit Transfer	0	0	0	0	0	0	0	0	0	0
Total Other Revenue	\$22,076	\$20,247	\$17,660	\$18,809	\$19,988	\$21,110	\$22,055	\$22,926	\$23,435	\$24,028
Wastewater Rate Revenue	\$544,109	\$560,037	\$576,257	\$592,933	\$610,557	\$628,837	\$649,630	\$674,537	\$697,835	\$718,562
Rate Revenue Increase	1.8%	2.9%	2.9%	2.9%	3.0%	3.0%	3.3%	3.8%	3.5%	3.0%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$852	\$888	\$925	\$965	\$1,006	\$1,050	\$1,096	\$1,147	\$1,198	\$1,250
Based on water use of 90k gpy (weighted)	\$1,256	\$1,310	\$1,365	\$1,424	\$1,485	\$1,549	\$1,617	\$1,692	\$1,768	\$1,844
WATER UTILITY										
EXPENSES										
Direct Expenses	\$110,309	\$113,425	\$116,630	\$120,047	\$123,428	\$126,916	\$130,383	\$134,191	\$137,983	\$141,885
Indirect Expenses	44,473	46,766	48,814	51,080	53,487	56,118	46,125	49,114	50,485	51,904
Capital Financing (before offsets)	<u>179,655</u>	<u>186,341</u>	<u>191,212</u>	<u>199,881</u>	<u>209,049</u>	<u>217,754</u>	<u>240,422</u>	<u>250,462</u>	<u>262,456</u>	<u>274,416</u>
Sub-Total Water Expenses	\$334,437	\$346,531	\$356,656	\$371,007	\$385,964	\$400,787	\$416,931	\$433,767	\$450,924	\$468,205
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$334,437	\$346,531	\$356,656	\$371,007	\$385,964	\$400,787	\$416,931	\$433,767	\$450,924	\$468,205
REVENUE & INCOME										
Non-Member and Other Revenue	\$11,036	\$11,361	\$11,694	\$12,047	\$12,244	\$12,212	\$12,319	\$12,468	\$12,615	\$12,775
Interest Income	12,022	11,176	8,272	8,973	9,963	11,124	12,372	13,771	14,806	15,289
Rate Stabilization	0	384	430	482	540	0	0	0	0	0
Prior Year Utility Surplus/Deficit Transfer	0	0	0	0	0	0	0	0	0	0
Total Other Revenue	\$23,058	\$22,920	\$20,396	\$21,502	\$22,747	\$23,336	\$24,691	\$26,239	\$27,421	\$28,064
Water Rate Revenue	\$311,379	\$323,611	\$336,260	\$349,506	\$363,217	\$377,451	\$392,239	\$407,528	\$423,503	\$440,141
Rate Revenue Increase	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$579	\$605	\$632	\$661	\$690	\$721	\$753	\$787	\$822	\$859
Based on water use of 90k gpy (weighted)	\$855	\$893	\$933	\$975	\$1,018	\$1,064	\$1,112	\$1,161	\$1,213	\$1,268

** Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the 2023 MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey.

APPENDIX E
FY25 Current Expense Budget - Capital Financing Detail (as of 6/30/24)

	Outstanding as of 6/30/24	Total	Sewer	Water
SRF¹				
1999E Sewer	\$ 3,071,924	\$ 399,132	\$ 399,132	\$ -
1999E Water		\$ -	\$ -	\$ -
1999F	\$ 62,970,000	\$ 14,159,642	\$ 14,159,642	\$ -
2000E Sewer	\$ 26,244,327	\$ 3,119,815	\$ 3,119,815	\$ -
2000E Water		\$ -	\$ -	\$ -
2001C Water		\$ -	\$ -	\$ -
2001D Sewer	\$ 312,895	\$ 40,841	\$ 40,841	\$ -
2001D Water		\$ -	\$ -	\$ -
2002H Sewer	\$ 37,630,000	\$ 4,909,506	\$ 4,909,506	\$ -
2002H Water		\$ -	\$ -	\$ -
2002I Sewer	\$ 915,672	\$ 103,053	\$ 103,053	\$ -
2002I Water		\$ -	\$ -	\$ -
2003A	\$ -	\$ -	\$ -	\$ -
2003C Sewer	\$ 14,526,011	\$ 1,291,329	\$ 1,291,329	\$ -
2003C Water		\$ -	\$ -	\$ -
2004C Sewer	\$ 4,913,724	\$ 501,589	\$ 501,589	\$ -
2004C Water		\$ -	\$ -	\$ -
2004D Sewer	\$ 28,820,000	\$ 2,577,334	\$ 2,577,334	\$ -
2004D Water		\$ -	\$ -	\$ -
2005C Sewer	\$ 2,464,108	\$ 255,647	\$ 255,647	\$ -
2005C Water		\$ -	\$ -	\$ -
2005D Sewer	\$ 32,542,021	\$ 3,024,520	\$ 3,024,520	\$ -
2005D Water		\$ 792,765	\$ -	\$ 792,765
2005E Sewer	\$ 59,100	\$ 24,961	\$ 24,961	\$ -
2005E Water		\$ 5,479	\$ -	\$ 5,479
2006C Sewer	\$ 3,282,730	\$ 291,153	\$ 291,153	\$ -
2006D Sewer	\$ 35,209,949	\$ 2,789,581	\$ 2,789,581	\$ -
2006D Water		\$ 1,589,819	\$ -	\$ 1,589,819
2006E Sewer	\$ 95,640	\$ 22,883	\$ 22,883	\$ -
2006E Water		\$ 10,281	\$ -	\$ 10,281
2007C Sewer	\$ 1,296,389	\$ 184,705	\$ 184,705	\$ -
2007C Water		\$ 145,476	\$ -	\$ 145,476
2007D Sewer	\$ 12,508,716	\$ 1,140,570	\$ 1,140,570	\$ -
2007E Sewer	\$ 35,789,355	\$ 2,723,828	\$ 2,723,828	\$ -
2007E Water		\$ 1,248,644	\$ -	\$ 1,248,644
2008G Sewer	\$ 1,262,736	\$ 360,211	\$ 360,211	\$ -
2008G Water		\$ 78,873	\$ -	\$ 78,873
2009C Sewer	\$ 48,435,091	\$ 3,237,532	\$ 3,237,532	\$ -
2009C Water		\$ 1,868,885	\$ -	\$ 1,868,885
2009D Sewer	\$ 5,029,330	\$ 620,403	\$ 620,403	\$ -
2009D Water		\$ 84,862	\$ -	\$ 84,862
2010 D Sewer	\$ 23,900,380	\$ 1,060,958	\$ 1,060,958	\$ -
2010 D Water		\$ 1,424,912	\$ -	\$ 1,424,912
2011A Sewer	\$ 4,275,336	\$ 304,327	\$ 304,327	\$ -
2011A Water		\$ 358,474	\$ -	\$ 358,474
2012C Sewer	\$ 4,971,180	\$ 516,070	\$ 516,070	\$ -
2012C Water		\$ 255,127	\$ -	\$ 255,127
2012D Sewer	\$ 26,007,941	\$ 2,749,493	\$ 2,749,493	\$ -
2012D Water		\$ 533,183	\$ -	\$ 533,183
2013B Sewer	\$ 18,271,882	\$ 2,049,375	\$ 2,049,375	\$ -
2013B Water		\$ 534,480	\$ -	\$ 534,480
2014C Sewer	\$ 5,921,564	\$ 283,803	\$ 283,803	\$ -
2014C Water		\$ 385,684	\$ -	\$ 385,684
2015A Sewer	\$ 42,777,576	\$ 2,650,310	\$ 2,650,310	\$ -
2015A Water		\$ 980,832	\$ -	\$ 980,832
2015B Sewer	\$ 2,823,443	\$ 212,809	\$ 212,809	\$ -
2015B Water		\$ 151,428	\$ -	\$ 151,428
2016A Sewer	\$ 38,072,047	\$ 2,131,627	\$ 2,131,627	\$ -
2016A Water		\$ 848,925	\$ -	\$ 848,925
2017A Sewer	\$ 23,380,471	\$ 542,295	\$ 542,295	\$ -
2017A Water		\$ 1,539,305	\$ -	\$ 1,539,305
2018E Sewer	\$ 39,438,015	\$ 1,078,115	\$ 1,078,115	\$ -
2018E Water		\$ 2,022,473	\$ -	\$ 2,022,473
2019D Sewer	\$ 43,716,111	\$ 2,031,799	\$ 2,031,799	\$ -
2019D Water		\$ 1,222,654	\$ -	\$ 1,222,654
2021A Sewer	\$ 44,137,469	\$ 1,558,840	\$ 1,558,840	\$ -
2021A Water		\$ 1,567,643	\$ -	\$ 1,567,643
2022A Sewer	\$ 18,008,561	\$ 556,843	\$ 556,843	\$ -

APPENDIX E
FY25 Current Expense Budget - Capital Financing Detail (as of 6/30/24)

	Outstanding as of 6/30/24	Total	Sewer	Water
2022A Water	\$ 10,000,000	\$ 607,186	\$ -	\$ 607,186
2023A Sewer	\$ 3,391,947	\$ -	\$ -	\$ -
2023A Water		\$ -	\$ -	\$ -
2023D Sewer	\$ 38,543,266	\$ 1,837,522	\$ 1,837,522	\$ -
2023D Water		\$ 550,485	\$ -	\$ 550,485
2025 Sewer Projected (2024A Interim)	\$ 82,000,000	\$ 2,892,514	\$ 2,892,514	\$ -
2025 Water Projected (2024A Interim)		\$ 2,406,339	\$ -	\$ 2,406,339
Total SRF Debt	\$ 817,016,907	\$ 85,449,151	\$ 64,234,937	\$ 21,214,214
MWRA Senior Debt				
2007B Refunding	\$ 602,275,000	\$ 79,827,088	\$ 67,054,754	\$ 12,772,334
2013A Refunding		\$ -	\$ -	\$ -
2014F Refunding	\$ 4,350,000	\$ -		
2016B New	\$ 7,630,000	\$ 320,000	\$ 160,000	\$ 160,000
2016C Refunding	\$ 276,560,000	\$ 23,862,800	\$ 14,300,300	\$ 9,562,500
2016D Refunding	\$ 43,075,000	\$ 1,487,250	\$ 966,713	\$ 520,538
2017B New	\$ 21,720,000	\$ 2,675,750	\$ 1,337,875	\$ 1,337,875
2017C Refunding	\$ 135,875,000	\$ 5,297,000	\$ 2,383,650	\$ 2,913,350
2018B New	\$ 57,340,000	\$ 7,658,250	\$ 4,594,950	\$ 3,063,300
2018C Refunding	\$ 8,030,000	\$ 5,960,000	\$ 4,416,250	\$ 1,543,750
2019B New	\$ 115,895,000	\$ 14,294,750	\$ 12,639,250	\$ 1,655,500
2019E New	\$ 50,000,000	\$ 3,242,659	\$ 1,621,330	\$ 1,621,330
2019F Refunding	\$ 290,880,000	\$ 71,807,678	\$ 28,723,071	\$ 43,084,607
2020B New Money	\$ 141,155,000	\$ 17,035,250	\$ 14,637,750	\$ 2,397,500
2021B New	\$ 53,305,000	\$ 7,723,750	\$ 5,379,500	\$ 2,344,250
2021C Refunding	\$ 496,870,000	\$ 24,078,818	\$ 12,427,956	\$ 11,650,861
2023B New	\$ 133,975,000	\$ 11,321,588	\$ 5,911,750	\$ 5,409,838
2023C Refunding	\$ 100,340,000	\$ 5,017,000	\$ 2,157,310	\$ 2,859,690
2024B New	\$ 166,260,000	\$ 14,793,000	\$ 7,184,750	\$ 7,608,250
2024C Refunding	\$ 279,275,000	\$ 3,425,925	\$ 1,678,703	\$ 1,747,222
FY25 New Money	\$ -	\$ 17,064,916	\$ 9,807,458	\$ 7,257,458
Tender Cash Bonds Savings	\$ -	\$ (553,500)	\$ (434,570)	\$ (118,930)
Defeasance Assumption	\$ -	\$ (1,133,250)	\$ (390,000)	\$ (743,250)
Total Senior	\$ 2,984,810,000	\$ 315,206,721	\$ 196,558,749	\$ 118,647,972
Subordinate Debt				
1999B	\$ 27,900,000	\$ 6,503,188	\$ 3,901,913	\$ 2,601,275
2008A Refunding	\$ 97,165,000	\$ 15,125,102	\$ 13,310,090	\$ 1,815,012
2008C Refunding	\$ 28,035,000	\$ 10,252,296	\$ 9,842,204	\$ 410,092
2008E Refunding	\$ 62,070,000	\$ 6,515,486	\$ 5,994,248	\$ 521,239
2012E Refunding	\$ 47,357,500	\$ 4,983,871	\$ 1,046,613	\$ 3,937,258
2014A Refunding	\$ 25,050,000	\$ 11,849,435	\$ 1,066,449	\$ 10,782,986
2018A Refunding	\$ 44,827,500	\$ 4,863,696	\$ 1,021,376	\$ 3,842,320
2018D Refunding	\$ 50,000,000	\$ 4,675,000	\$ 420,750	\$ 4,254,250
Total Subordinate Debt	\$ 382,405,000	\$ 64,768,074	\$ 36,603,642	\$ 28,164,432
Total SRF & MWRA Debt Service²	\$ 4,184,231,907	\$ 465,423,946	\$ 297,397,328	\$ 168,026,618
Other Capital				
Water Pipeline Commercial Paper	\$ -	\$ 9,827,661	\$ -	\$ 9,827,661
Current Revenue/Capital ³	\$ -	\$ 20,200,000	\$ 19,798,448	\$ 401,552
Capital Lease	\$ -	\$ 3,217,060	\$ 1,927,108	\$ 1,289,952
Debt Prepayment ⁴	\$ -	\$ 5,500,000	\$ 5,390,667	\$ 109,333
Total Other Capital	\$ -	\$ 38,744,721	\$ 27,116,223	\$ 11,628,498
Total Capital Financing (before Debt Service Offsets)	\$ 4,184,231,907	\$ 504,168,667	\$ 324,513,551	\$ 179,655,116
Debt Service Offsets				
Debt Service Assistance		\$ -	\$ -	\$ -
Bond Redemption		\$ -	\$ -	\$ -
Total Debt Service Offsets		\$ -	\$ -	\$ -
MWRA Short-term Borrowings	\$ 180,000,000	\$ -	\$ -	\$ -
Total Capital Financing	\$ 4,364,231,907	\$ 504,168,667	\$ 324,513,551	\$ 179,655,116

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

² Numbers may not add due to rounding.

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

⁴ Debt Prepayment will be used defeasance of bonds at end of fiscal year.

APPENDIX F

Advisory Boards and Committees

The Advisory Board

The Advisory Board is established by section 23 of the MWRA Enabling Act. The Advisory Board's primary purposes are as follows:

1. To appoints 3 members of the Board of Directors, with staggered 6-year terms.
2. To review and comment on the current expense and capital improvement budgets.
3. To approve expansion of the MWRA's service area, whether permanent or temporary.
4. To make recommendations to the governor and the legislature with respect to matters that affect the Authority.

The Authority's proposed annual current expenses budget and its capital improvement program budget must be submitted to the Advisory Board at least sixty days prior to the adoption of each budget by the Board of Directors. Amendments to the current expenses budget must be submitted to the Advisory Board at least thirty days prior to adoption, except in the event of emergencies. The Authority is required to provide a written response to any reports of the Advisory Board regarding its finances. The Advisory Board has provided the Authority with written comments to both the current expenses and the capital improvement budgets. The Advisory Board's budget for personnel and expenses is included in the Executive Division's budget.

Water Supply Citizens Advisory Committee to MWRA (WSCAC)

Originally formed in 1977 to review a proposed diversion of the Connecticut River for water supply to the metropolitan Boston area, WSCAC represents an unusual approach for engaging citizen participation in water resource policy decisions.

WSCAC advises the MWRA and the Department of Conservation and Recreation on water conservation and watershed protection strategies. The MWRA has implemented leak repair and demand management programs, avoiding the need for river diversion.

WSCAC's current focus is water quality - source protection and management of the watersheds, reservoirs and distribution system.

WSCAC worked with the New England Safe Drinking Water Task Force on the Safe Drinking Water Act reauthorization. WSCAC helped secure passage of state legislation - the Interbasin Transfer Act of 1983, the Water Management Act of 1985, and the Watershed Protection Act of 1992. State officials have tapped WSCAC for other statewide advisory groups.

The Wastewater Advisory Committee (WAC)

The MWRA Board of Directors created WAC in 1990 to offer independent recommendations on wastewater policies and programs. WAC's mission is to be an independent public forum for holistic discussion of wastewater issues. Membership is designed to reflect the knowledge and interest of major affected constituencies: engineering and construction, environmental advocacy, planning, academic research, and business.

WAC's contractual duties are as follows:

1. Provide independent advice to the MWRA Board and staff on wastewater programs and policies directly related to the MWRA
2. Review and comment to the Authority on wastewater reports and proposed documents; offer independent advice on current and proposed wastewater program and policy directions to further MWRA objectives
3. Reflect the knowledge and interest of major affected constituencies, including
 - a. Engineering
 - b. Construction
 - c. Business/industry
 - d. Planning
 - e. Academic research
 - f. Environmental advocacy
4. Advise MWRA on wastewater planning
5. Increase citizen participation and education by providing MWRA with assistance in outreach. Review programs and explain plans & policies to citizens
6. Attend Authority working groups related to wastewater programs and policy, including the Advisory Board and WSCAC
7. Propose to the Authority ways to continue effective and efficient long-term public involvement in wastewater programs.

WAC's focus includes:

- Protecting the ratepayer's massive investment in clean water remains one of WAC's primary interests, and it will continue to monitor maintenance as well as progress on the CSO project.
- WAC is interested in the possibilities of further energy efficiency and renewable energy production at all MWRA facilities.
- Other areas of interest:
 - Co-digestion as it expands across New England
 - Marketability of Bay State Fertilizer
 - Climate Change impacts
 - Regulatory changes that might affect MWRA

Appendix G

MWRA Capital Improvement Program Overview

In 1984, legislation was enacted to create the Massachusetts Water Resources Authority, an independent agency with the ability to raise its revenues from ratepayers, bond sales and grants. The primary mission was to modernize the area's water and sewer systems and clean up Boston Harbor. Since its establishment, the MWRA has invested over \$9.3 billion to improve the wastewater and waterworks systems serving its 61 customer communities with projected future spending of \$5.8 billion. The system serves 3 million people and more than 5,500 businesses.

Since 1985, MWRA has been subject to a Clean Water Act enforcement action to end years of wastewater pollution of Boston Harbor and its tributaries from the old Deer Island and Nut Island treatment plants and combined sewer overflows (CSOs). The enforcement case was initiated by the Conservation Law Foundation in 1983 and taken up by the U.S. Environmental Protection Agency in 1985. The Commonwealth of Massachusetts, the Boston Water and Sewer Commission, the City of Quincy and the Town of Winthrop are also parties to the case.

The Orders of the Court set forth the schedules of activities to be undertaken to achieve compliance with the law. Since 1985, MWRA has complied with 422 milestones which include the completion of extensive new wastewater treatment facilities at Deer Island in Boston and Nut Island in Quincy, a residuals facility in Quincy, and 35 CSO control projects in Boston, Cambridge, Chelsea, Brookline, and Somerville which comprise the long-term CSO control plan, the last of which were completed in December 2015.

As part of compliance with the Court's Orders, MWRA was required to file monthly compliance and progress reports on its ongoing activities through December 15, 2000 and quarterly compliance and progress reports through December 2016. MWRA was required to submit bi-annual compliance and progress reports through December 2020. Bi-annual reports were also submitted in 2021 prior to the approval of a 3-year extension to the court ordered Long Term Control Plan (December 2024). Under this extension period, annual updates will be submitted to the court.

During the same time, MWRA complied with regulatory mandates to improve waterworks facilities. The mandated waterworks projects included the MetroWest Water Supply Tunnel, the Carroll Water Treatment Plant, and several covered water storage facilities.

The mandated projects account for most of the Capital Improvement Program (CIP) spending. The five initiatives below account for nearly \$6.1 billion or nearly 70% of life spending to date:

- Boston Harbor Project - \$3.8 billion
- Combined Sewer Overflow - \$925 million
- MetroWest Tunnel - \$697 million
- Carroll Water Treatment Plant - \$430 million
- Covered Storage Facilities - \$239 million

As the MWRA reaches maturity as an agency, the infrastructure modernization and new facilities construction phase is nearing completion, and, barring new mandates, most of the Authority's future capital budget will be designated for Asset Protection, Water System Redundancy, Pipeline Replacement and Rehabilitation, and Business System Support.

Asset Protection focuses on the preservation of the Authority's operating facilities. Currently over \$2.9 billion in future spending is targeted for asset protection initiatives. Water System Redundancy aims to reduce the risks of service interruption and facilitate planned maintenance where major sections of the water delivery system assets can be taken off-line. Long-term water redundancy will be a critical future CIP initiative with estimated spending in excess of \$2.5 billion over the next 17 years. Pipeline Replacement and Rehabilitation focuses on the maintenance and replacement of water and sewer pipelines. Business System Support provides for the continuing improvement and modernization of technology and security systems.

The FY25 CIP Budget reaffirms MWRA's commitment to the community financial assistance programs on both the water and wastewater side.

Capital initiatives to date have been primarily funded through long-term borrowings, and the debt service on these outstanding bonds represents a significant and growing portion of the Authority's operating budget. As of June 30, 2024, MWRA's total debt was \$4.4 billion. The Authority's capital finance (including debt service) obligation as a percent of total expenses has increased from 36% in 1990 to 56.0% in the Final FY25 Current Expense Budget.

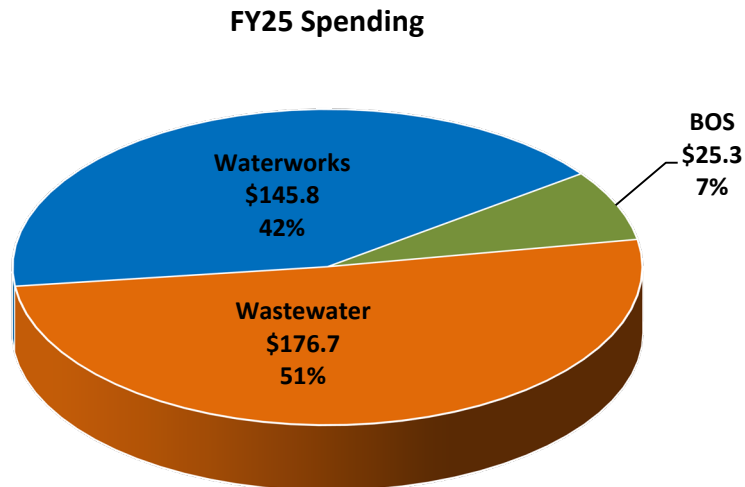
The MWRA's credit ratings of Aa1 from Moody's, AA+ from S&P, and AA+ from Fitch, reflect strong management of financial performance, application of operating surpluses to early debt defeasance, satisfactory debt service coverage ratios, well maintained facilities, comprehensive long-term planning of both operating and capital needs, and the strong credit quality of its member service communities.

To arrive at the FY25 CIP, the Authority identified the needs of the capital programs taking into account the recommendations of the Master Plan. The long-term strategy for capital work is identified in the Authority's Master Plan which was published in 2006 and updated in 2013 as well as 2018. The Master Plan serves as a road map for inclusion of projects in the CIP in every budget cycle. Additionally, the Authority's 5-Year Strategic Plan for FY21-FY25 was released in early 2021.

The FY25 CIP represents an update to the FY24 CIP and was approved by the MWRA Board in June 2024. The spending projections are the result of prioritizing the projects, establishing realistic estimates based on the latest information, striking a balance between maintenance and infrastructure improvements, and ensuring that there is adequate support for MWRA's core operations to meet all regulatory operating permit requirements.

FY25 Capital Spending

The FY25 Final Capital Improvement Program projects \$347.9 million in spending for FY25, of which \$176.7 million supports Wastewater System Improvements, \$145.8 million supports Waterworks System Improvements, and \$25.3 million is for Business and Operations Support.



The FY25 Final CIP includes \$95.5 million for community assistance programs, which are a combination of loan and partial grant programs, with net expenditures of \$65.9 million for the local Infiltration/Inflow program and net expenditures of \$29.6 million for the local water pipeline program.

The Fiscal Year 2025 Capital Improvement Program (CIP) represents an update to the FY24 CIP Program approved by the Board in June 2023 for Fiscal Year 2024. The FY25 Final CIP includes the latest cost estimates, revised schedules, and new projects, and reaffirms MWRA’s commitment to the community financing assistance programs on both the water and wastewater sides. The projects with significant spending in FY25 include Deer Island Clarifier Rehabilitation Phase 2 Construction (\$50.0 million), Waltham Water Pipeline Construction (\$10.6 million), Metro Water Tunnel Program Final Design (\$10.0 million) and NIH Redundancy & Storage - Section 89 & 29 Replacement Construction (\$9.3 million).

The \$347.9 million in projected spending is driven by 42 active wastewater and water projects. Of this \$347.9 million in spending, project contracts with spending greater than \$5.0 million in FY25, excluding local community assistance programs, total \$120.6 million and account for 34.7% of the total annual spending. These projects are presented in the following table:

Project	Subphase	FY25 \$s in Millions
Deer Island Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	\$50.0
Metro Redundancy Interim Improvements	Waltham Water Pipeline Construction	\$10.6
Metro Water Tunnel Program	Final Design/ESDC	\$10.0
NIH Redundancy & Storage	Section 89 & 29 Repl - Construction	\$9.3
Quabbin Transmission System	Wachusett Lower Gate House Pipe &Boiler Replacement Construction	\$8.0
New Connect Mains-Shaft 7 to WASM 3	Sect 25 & 24 - Construction CP-2	\$7.6
Deer Island Treatment Plant Asset Protection	DITP Roofing Replacement	\$7.4
Waterworks Facility Asset	Steel Tank/Improvement Construction	\$7.3
Clinton Wastewater Treatment Plant	Digestr Cover Replacement	\$5.5
Metro Tunnel Redundancy	Admin Legal & Public Outreach	\$5.0
Total Contracts ≥ \$5 million (excluding Loan Programs)		\$120.6
% of FY25 Spending		34.7%
Other Project Spending		\$227.3
Total FY25 Spending		\$347.9

Clarifier Rehabilitation Phase 2 Construction - \$50.0 million (\$289.8 million total construction cost). This project will rehabilitate the sludge removal system in the primary tanks and the aeration/recirculation systems in the secondary tanks. The influent gates, effluent launders and aeration systems, and concrete corrosion in primary clarifiers will also be addressed and repaired.

Waltham Water Pipeline Construction - \$10.6 million (\$29.4 million total construction cost). This contract will include installation of approximately 8,920 linear feet of new 36-inch diameter water main along Lexington Street in Waltham, from Meter 182 to a new meter near Totten Pond Road, including installation of valves, meters and other appurtenances, by-pass pumping, replacement of certain utilities, pavement restoration, traffic and environmental controls.

Final Design/ESDC for the Metropolitan Water Tunnel - \$10.0 million (\$117.8 million total contract cost). Final Design and Engineering Services During Construction of the Northern and Southern Tunnels, including connecting mains.

Northern Intermediate High Redundancy Section 89 and 29 Replacement Construction - \$9.3 million (\$35.9 million total construction cost). This is a redundancy project for MWRA's Northern Intermediate High service area. Section 89 will be replaced now that the redundant pipeline is completed. This contract was awarded in May 2021.

Wachusett Lower Gatehouse Pipe & Boiler Replacement Construction - \$8.0 million (\$20.5 million total construction cost). Replace the oldest piping in the Lower Gatehouse. Provide CFRP lining of the pipes between the dam and the Lower Gatehouse. Replace the existing propane fueled boilers and radiators.

Major Planned Contract Awards for FY25:

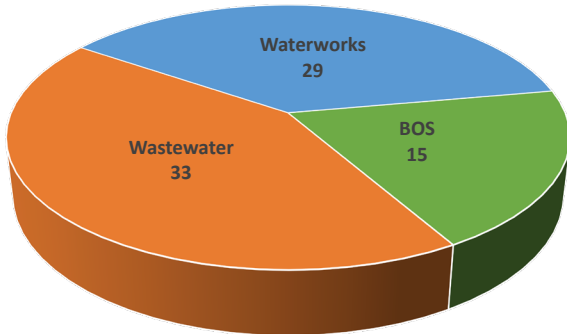
In Fiscal Year 2025, 77 contracts totaling \$371.2 million are projected to be awarded. The largest ten projected contract awards total \$183.5 million and account for 49.4% of expected awards.

Those planned awards are presented in the following table.

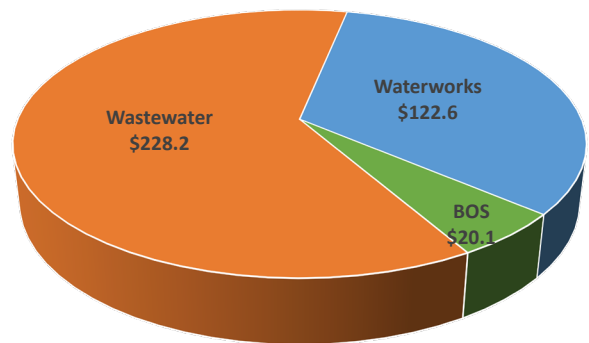
Project	Subphase	Notice to Proceed	Total Contract Amount \$s in Millions
Deer Island Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	Mar-25	\$35.0
Deer Island Treatment Plant Asset Protection	MCC & Switchgear Replacement Construction	Mar-25	\$23.5
Facility Asset Protection	Hayes Pump Station Rehabilitation Construction	Sep-24	\$22.7
Northern Extra High Service New Pipelines	CP-2 NEH Improvements	Dec-24	\$21.0
New Connect Mains - Shaft 7 to WASM 3	Section 75 Extension - Construction CP-1	Jul-24	\$16.9
Deer Island Treatment Plant Asset Protection	CHP Des/ESDC/REI	Aug-24	\$16.5
Deer Island Treatment Plant Asset Protection	Odor Control Rehab - Design/ESDC	Dec-24	\$14.0
Metro Redundancy Interim Improvements	WASM 3 Rehab CP-2	May-25	\$13.9
Alternative Energy Initiatives	Future Renewable Energy Projects	Dec-24	\$10.0
Waterworks Facility Asset	Steel Tank/Improvement Construction	Oct-24	\$9.8
Top 10 Planned Awards			\$183.2
% of Total Planned Awards			49.4%
77 Planned Awards			\$371.0

Of the 77 planned contract awards for FY25, 33 are for Wastewater, 29 are for Waterworks, and 15 for Business and Operation Services with associated dollar awards of \$228.2 million, \$122.6 million, and \$20.1 million, respectively. Deer Island’s Fire Alarm Replacement Construction is the largest planned award at \$35.0 million with a targeted notice to proceed of March 2025.

FY25 Planned NTPs (#)



FY25 Planned NTPs (\$s in millions)



FY25 New Projects

The FY25 CIP adds 3 new projects at a total cost of \$18.7 million with projected spending of \$14.2 million over the FY24-28 period. There are 2 water projects totaling \$13.7 million and 1 wastewater project at \$5.0 million. The largest new project is the Shaft L Interconnection Project with design and construction totaling \$7.6 million. The newest wastewater project is the High Level Sewer Culverts for \$5.0 million

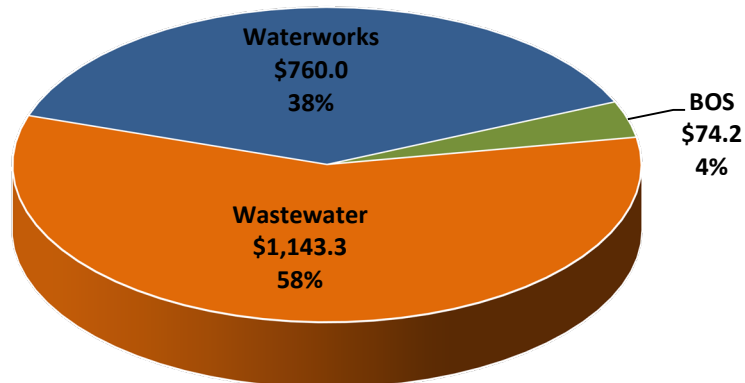
Project	Total Contract Amount	FY24-28 Spending	Beyond 28
Shaft L Interconnection Project	\$7.6	\$5.8	\$1.8
New Salem Building Design & Construction	\$6.1	\$3.3	\$2.8
Total Waterworks (#2)	\$13.7	\$9.2	\$4.5
High Level Sewer Culverts	\$5.0	\$5.0	\$0.0
Total Wastewater (#1)	\$5.0	\$5.0	\$0.0
3 New Projects	\$18.7	\$14.2	\$4.5

Additional details on these new projects with cash flows and descriptions can be found in Appendix 3.

FY24-28 Expenditures & Five-Year Spending Cap

Spending during the FY24-28 timeframe is planned to be \$2.0 billion, including local community spending of \$242.6 million for the I/I loan and grant program and \$130.9 million for the water pipeline loan program. Spending under the Wastewater and Waterworks programs is projected at \$1,143.3 million and \$760.0 million, respectively, followed by Business and Operations at \$74.2 million. The spending projections set forth here include updates to the approved FY24 CIP with the latest cost estimates, revised schedules, and new projects.

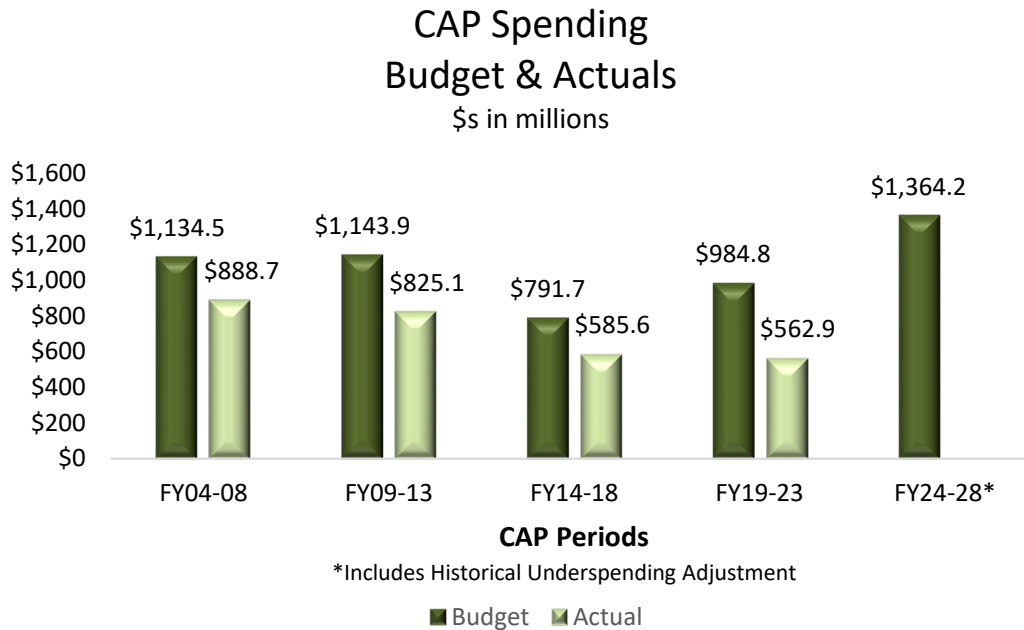
FY24-28 Spending



	FY24	FY25	FY26	FY27	FY28	Total FY24-28
Wastewater System Improvements	\$87.9	\$176.7	\$219.1	\$298.9	\$360.6	\$1,143.3
Waterworks System Improvements	\$123.8	\$145.8	\$161.8	\$152.4	\$176.2	\$760.0
Business & Operations Support	\$13.5	\$25.3	\$16.8	\$11.1	\$7.5	\$74.2
Total MWRA	\$225.2	\$347.9	\$397.8	\$462.4	\$544.3	\$1,977.5

FY24-28 Five-Year Spending Cap

The concept of a five-year spending Cap was first introduced at the Advisory Board’s recommendation in 2003 for the FY04-08 period. The FY24-28 Cap is the fifth cap established by the Authority at \$1.4 billion when the FY24 CIP was adopted. The Cap represents a targeted maximum spending limit to ensure adequate capital program funding and to serve as a guide for long-term planning estimates and community assessments. The following graph illustrates the history of the past four five-year Caps and the Final FY24-28 Cap, both in terms of the Cap levels and actual spending:



MWRA project spending (excluding water and wastewater loan programs) has been 25% under plan levels on average since FY04. Underspending for the past two Cap periods, FY14-18 and FY19-23, were 26% and 43%, respectively. To try to better predict future spending, the Authority discounts projected Cap spending by applying a Spend Rate Adjustment of 25%. This will be a better reflection of likely spending targets without removing future projects from plan. The FY24-28 Base-Line Cap is set at \$1.4 billion. The Base-Line Cap includes Cap cash flows total \$1.8

billion and net to \$1.36 billion after applying the 25% Spend Rate Adjustment. Annual cash flows for the Cap period are shown in the following table (in millions):

FY24-28 Baseline CAP		FY24	FY25	FY26	FY27	FY28	FY24-28
	Projected Expenditures excl. Metro Tunnel	\$288.2	\$357.9	\$313.5	\$349.8	\$349.1	\$1,658.5
	Metropolitan Tunnel	\$14.4	\$25.2	\$23.9	\$23.9	\$78.6	\$166.2
	I/I Program	(42.9)	(41.5)	(27.5)	(28.4)	(34.2)	(174.5)
	Water Loan Program	(14.1)	(10.9)	(5.0)	(2.6)	8.6	(24.0)
	MWRA Spending	\$245.6	\$330.8	\$304.9	\$342.8	\$402.2	\$1,626.3
	Contingency	15.2	21.8	20.7	23.6	31.7	113.0
	Inflation on Unawarded Construction	1.9	8.1	12.2	22.1	36.1	80.4
	Chicopee Valley Aqueduct Projects	(0.3)	(0.5)	0.0	0.0	0.0	(0.8)
	Projected Spending before Adjustment	\$262.4	\$360.2	\$337.8	\$388.5	\$469.9	\$1,818.9
Spend Rate Adjustment (25%)*	(65.6)	(90.1)	(84.5)	(97.1)	(117.5)	(454.7)	
FY24 Final FY24-28 Spending	\$196.8	\$270.2	\$253.4	\$291.4	\$352.5	\$1,364.2	

*Based on historical underspending FY04-FY22 excluding community loan programs

FY24-28 Cap spending based on the FY25 Final Budget totals \$1.8 billion before the Spend Rate Adjustment of \$440.4 million nets FY24-28 forecast of \$1.32 billion, \$43.0 million under the FY24-28 Base-Line Cap. Annual cashflows for the FY24-28 period are presented in the following table:

FY25 Final CAP		FY24	FY25	FY26	FY27	FY28	FY24-28
	Projected Expenditures excl. Metro Tunnel	\$212.4	\$324.9	\$360.8	\$422.6	\$476.4	\$1,797.1
	Metropolitan Tunnel	\$12.8	\$23.0	\$37.0	\$39.8	\$67.9	\$180.4
	I/I Program	(23.3)	(65.9)	(51.3)	(48.6)	(53.4)	(242.6)
	Water Loan Program	(33.4)	(29.6)	(31.5)	(20.0)	(16.4)	(130.9)
	MWRA Spending	\$168.5	\$252.4	\$315.0	\$393.7	\$474.4	\$1,604.0
	Contingency	0.0	15.9	21.5	27.1	34.9	99.4
	Inflation on Unawarded Construction	0.0	1.4	6.9	17.7	33.0	59.0
	Chicopee Valley Aqueduct Projects	0.0	0.0	(0.5)	(0.3)	0.0	(0.8)
	Projected Spending before Adjustment	\$168.5	\$269.7	\$342.8	\$438.2	\$542.3	\$1,761.5
Spend Rate Adjustment (25%)*	(42.1)	(67.4)	(85.7)	(109.5)	(135.6)	(440.4)	
FY25 Final FY24-28 Spending	\$126.4	\$202.3	\$257.1	\$328.6	\$406.8	\$1,321.1	

*Based on historical underspending FY04-FY22 excluding community loan programs

In addition to the Spend Rate Adjustment, the format of the Cap table is adjusted to account separately for MWRA and Metropolitan Water Tunnel Program spending, and excludes the local I/I grant and loan program and the local water pipeline loan spending which are both outside of MWRA's control. The Cap also excludes Chicopee Valley Aqueduct system projects. As in past Caps, contingency for each fiscal year is incorporated into the CIP to fund the uncertainties inherent to construction. The contingency budget is calculated as a percentage of budgeted expenditure outlays. Specifically, contingency is 7% for non-tunnel projects and 15% for tunnel projects. Inflation is added for unawarded construction contracts.

The Capital Improvement Program includes on-going Combined Sewer Overflow improvements in Boston, Chelsea and Somerville, rehabilitation of MWRA's Somerville Marginal, Prison Point and Cottage Farm CSO treatment facilities, and a new placeholder at the end of the cap period for design of any projects that come out of the Variance Water updated CSO Long-Term Control Plan process. MWRA continues to evaluate the needs of the program and will refine cost projections as more information becomes available.

The Capital Improvement Program continues to address critical redundancy improvements most notably the Metropolitan Water Tunnel Program. The FY25 CIP includes \$2.1 billion in spending for this project, an increase of \$347.8 million over the FY24 Approved CIP driven by updated cost estimates from the now completed preliminary design. The initial contract for Program Support Services began in April 2019 in the amount of \$10.2 million with an increase of \$7.0 million and 24-month time extension (with one additional optional contract extension for \$7.5 million in the CIP) and has a total budget of \$24.7 million that spans over a nine-year period. This contract provides assistance with program-wide activities, such as risk management, quality management, design and construction package planning, independent technical reviews, construction practices review and implementation, independent cost estimates, critical path scheduling, and budget tracking. The second contract, Preliminary Design & MEPA Review (Massachusetts Environmental Policy Act), for \$15.7 million was awarded in May 2020 and ended in January 2024. Spending for Preliminary Design and MEPA Review began in early FY21 and was completed in January 2024. The third contract, Metropolitan Water Tunnel Program Geotechnical Support Services, for \$12.8 million and a term of 36 months was awarded in December 2022. This contract focuses on the collection of geotechnical/geological data to support final design, bidding and construction of the Program. The Final Design was awarded in early FY25.

Today, the Authority is better positioned to reinvest in rehabilitation and replacement of aging facilities as result of conservative fiscal management which includes judicious control of expenses, and the fact that MWRA has implemented the practice of utilizing available funds resulting from positive current expense budget variances for defeasances resulting in the reduction of future fiscal years debt service expense. MWRA projects an overall reduction in outstanding principal of debt during the FY24-28 cap period.

FY24-28 Expenditures

Yearly projected expenditures for the FY24-28 period by program are shown below in millions:

	Future Spending Beyond FY23	FY24	FY25	FY26	FY27	FY28	Total FY24-28
Wastewater System Improvements	\$2,550.6	\$87.9	\$176.7	\$219.1	\$298.9	\$360.6	\$1,143.3
Interception & Pumping	885.1	22.0	24.0	38.3	80.3	118.3	282.9
Treatment	1,322.4	32.4	81.0	116.2	162.3	184.0	575.8
Residuals	90.6	0.0	0.4	10.0	7.1	3.5	20.9
CSO	25.3	10.2	5.4	3.5	0.6	1.4	21.1
Other Wastewater	227.2	23.3	65.9	51.3	48.6	53.4	242.6
Waterworks System Improvements	\$3,149.9	\$123.8	\$145.8	\$161.8	\$152.4	\$176.2	\$760.0
Drinking Water Quality Improvements	75.4	3.7	4.4	4.1	6.0	4.9	23.0
Transmission	2,461.4	44.7	58.7	56.1	59.2	96.1	314.8
Distribution & Pumping	615.3	35.4	34.0	58.8	58.9	44.0	231.1
Other Waterworks	(2.1)	40.0	48.7	42.9	28.4	31.2	191.1
Business & Operations Support	\$76.2	\$13.5	\$25.3	\$16.8	\$11.1	\$7.5	\$74.2
Total MWRA	\$5,776.8	\$225.2	\$347.9	\$397.8	\$462.4	\$544.3	\$1,977.5

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 FY24-28 timeframe. The top 20 project contracts in terms of spending for the FY24-28 period total \$799.3 million, which excludes local community assistance programs. These 20 projects account for over 40.4% of total period spending. Largest construction initiatives in terms of FY24-28 spending include the Clarifier Rehabilitation at Deer Island of \$224.4 million (total cost \$289.8 million), Metro Water Tunnel Program Final Design \$70.5 million (total cost \$117.8 million), NHS – Revere & Malden Pipelines CP-1 Section 53 Connection Construction \$55.5 million (total cost \$55.5 million), Ward Street Headworks of \$44.3 million (total cost \$147.8 million), Deer Island Asset Protection South System Pump Station VFD Replacement of \$40.5 million (total cost \$90.5 million), and Prison Point Rehabilitation \$38.7 million (total cost \$38.7 million).

The table below highlights major project spending in the FY24-28 timeframe:

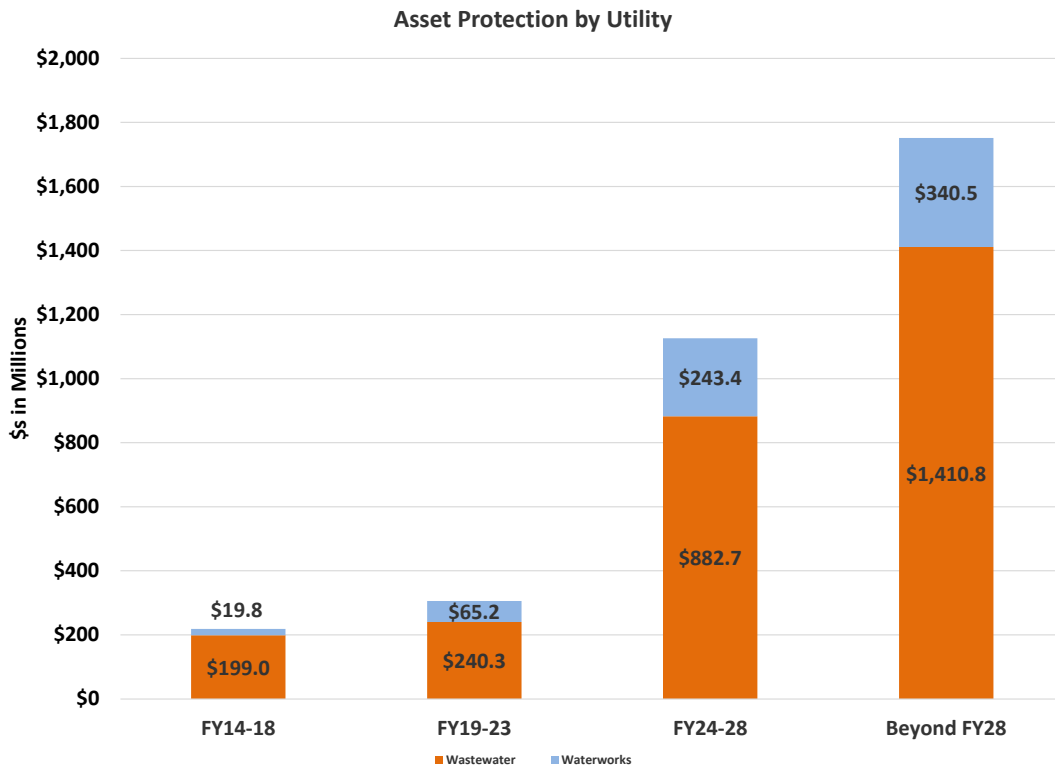
Project	Subphase	FY24- FY28 \$s in Millions
Deer Island Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	\$224.4
Metro Water Tunnel Program	Final Design/ESDC	\$70.5
NHS - Revere & Malden Pipelines	CP-1 Section 53 Connection - Construction	\$55.5
Facility Asset Protection	Ward St Headworks Construction	\$44.3
Deer Island Treatment Plant Asset Protection	SSPS VFD Replace Construction	\$40.5
Facility Asset Protection	Prison Point Rehab Repackaged	\$38.7
Metro Water Tunnel Program	Admin Legal & Public Outreach	\$35.5
Deer Island Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	\$35.0
Deer Island Treatment Plant Asset Protection	Combined Heat & Power - Construction	\$33.5
Facility Asset Protection	Columbus Park HW Construction	\$29.6
Metro Redundancy Interim Improvements	Waltham Water Pipeline Construction	\$25.9
Metro Water Tunnel Program	Tunnel Construction South CP2	\$25.0
Facility Asset Protection	Hayes Pump Station Rehab Construction	\$22.7
Deer Island Treatment Plant Asset Protection	Motor Control Center & Switchgear Replace Construction	\$21.0
Northern Extra High Service New Pipelines	CP-2 NEH Improvements	\$20.7
Quabbin Transmission System	Wachusett Lower Gate House Pipe & Boiler Replacement Construction	\$20.5
New Connect Mains-Shaft 7 to WASM 3	Sect 25 & 24 - Construction CP-2	\$19.9
NIH Redundancy & Storage	Section 89 & 29 Repl - Construction	\$18.4
Deer Island Treatment Plant Asset Protection	Digester/Storage Tank Rehab Construction	\$17.9
New Connect Mains-Shaft 7 to WASM 3	Section 75 Extension - Construction CP-1	\$16.9
Total Top 20 Spending Subphases (excluding Loan Programs)		\$799.3
% of FY24-28 Spending		40.4%
Other Project Spending		\$1,178.1
Total FY24-FY28 Spending		\$1,977.5

Asset Protection accounts for the largest share of capital expenditures for the FY24-28 period. The FY25 Final CIP includes \$1.1 billion for asset protection initiatives, representing 57.8% of total MWRA spending in this timeframe. Asset protection spending by program is as follows: Wastewater (\$882.7 million), Waterworks (\$243.4 million), and Business and Operations Support (\$16.8 million). Spending for Water Redundancy projects totals \$357.7 million in the same FY24-28 period, accounting for 18.1% of total spending.

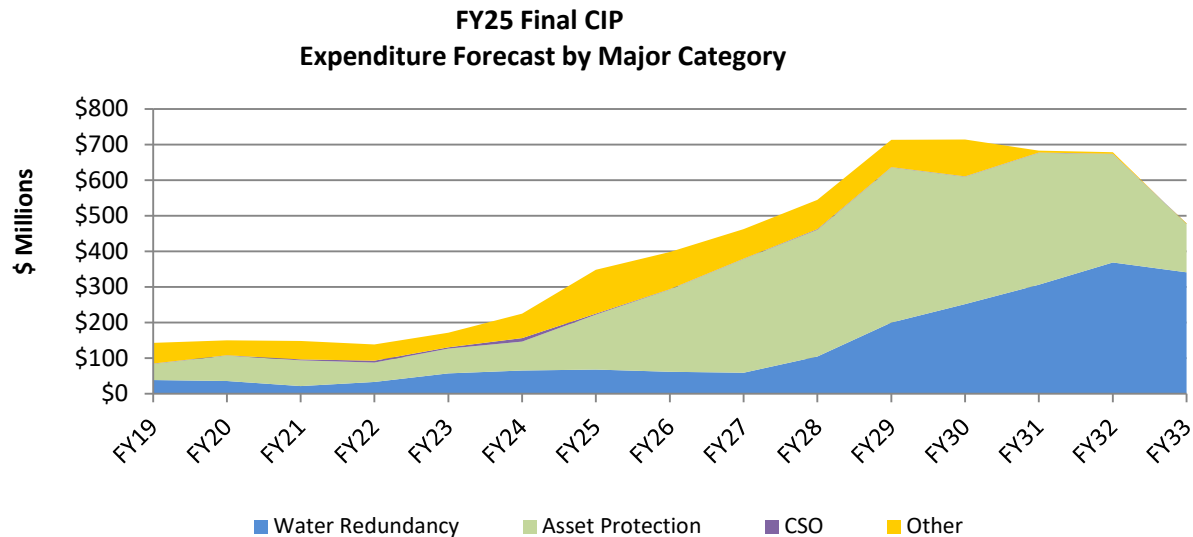
**Changing nature of the CIP by Category
(\$s in millions)**

Project Category	FY19-23	FY24-28	Beyond 28
Asset Protection	\$313.4	\$1,142.9	\$1,752.8
Water Redundancy	\$186.9	\$357.7	\$2,237.6
CSO	\$12.6	\$16.0	\$4.2
Other	\$238.4	\$460.8	-\$195.2
Total	\$751.3	\$1,977.5	\$3,799.3
Asset Protection	41.7%	57.8%	30.3%
Water Redundancy	24.9%	18.1%	38.7%
CSO	1.7%	0.8%	0.1%
Other	31.7%	23.3%	-3.4%
Total	100.0%	100.0%	9.3%

In terms of utility spending, Wastewater Asset Protection accounts for 77.2% of the FY24-28 projected Asset Projection spending at \$882.7 million of which \$558.4 million is designated for the Deer Island Wastewater Treatment Plant and \$324.3 million for headworks and pipelines. The \$243.4 million targeted for Waterworks Asset Protection includes \$155.9 million for water pipeline projects.



As illustrated by the following graph, the next two waves of spending over the FY24-28 and the FY29-33 periods will be for asset protection and water redundancy. This reflects MWRA’s commitment to maintaining its physical plant and addressing the need for water system redundancy in some critical service areas.



FY25 CIP Future Expenditures

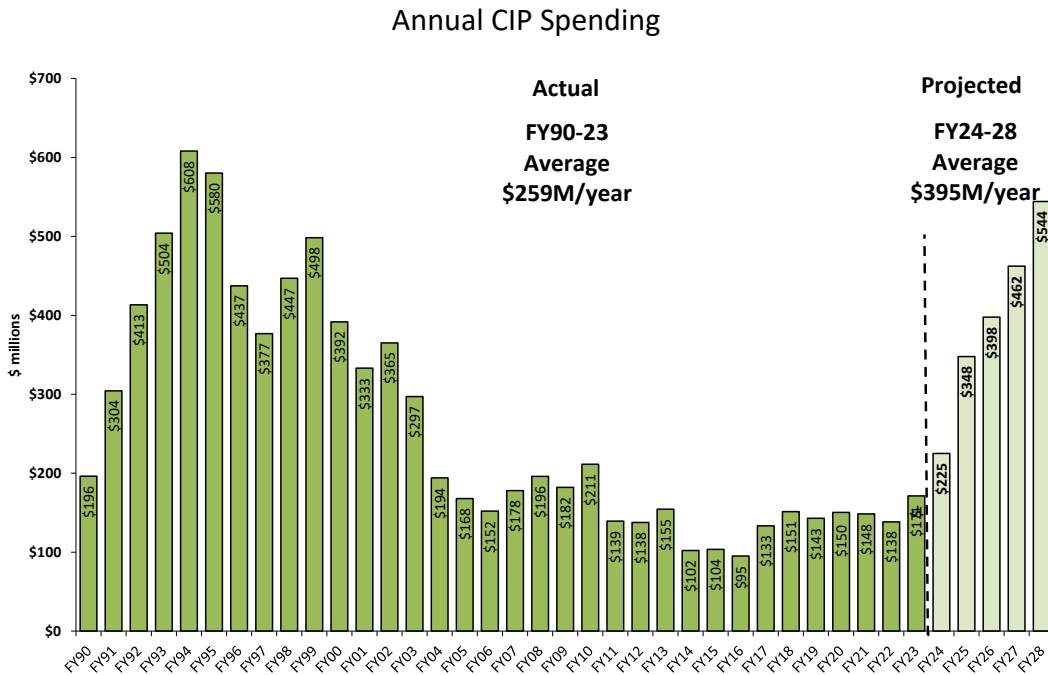
The FY25 CIP contains future spending (beyond FY23) estimated at \$5.8 billion, including \$2.6 billion for Wastewater (primarily Asset Protection of \$2.3 billion) and \$3.1 billion for Waterworks (primarily Redundancy projects of \$2.6 billion). Wastewater Asset Protection includes \$1.3 billion for Deer Island and \$780.9 million for Wastewater Facility Asset Protection (primarily pump station rehabilitation). Redundancy projects include the Metro Water Tunnel Program and Metro Redundancy Interim Improvement projects with future spending of \$2.1 billion and \$188.0 million, respectively. FY24-FY28 spending is projected at \$2.0 billion or 34.2% of future spending.

The table below represents the projected spending by the major project categories:

	Future Spending Beyond FY23	Total FY19-23	Total FY24-28	Beyond 28
Wastewater System Improvements	\$2,550.6	\$397.1	\$1,143.3	\$1,407.3
Interception & Pumping	885.1	161.5	282.9	602.3
Treatment	1,322.4	63.3	575.8	746.5
Residuals	90.6	15.6	20.9	69.7
CSO	25.3	12.6	21.1	4.2
Other Wastewater	227.2	144.1	242.6	-15.4
Waterworks System Improvements	\$3,149.9	\$314.4	\$760.0	\$2,389.9
Drinking Water Quality Improvements	75.4	10.8	23.0	52.3
Transmission	2,461.4	105.6	314.8	2,146.6
Distribution & Pumping	615.3	127.9	231.1	384.2
Other Waterworks	(2.1)	70.2	191.1	-193.2
Business & Operations Support	\$76.2	\$39.7	\$74.2	\$2.1
Total MWRA	\$5,776.8	\$751.3	\$1,977.5	\$3,799.3

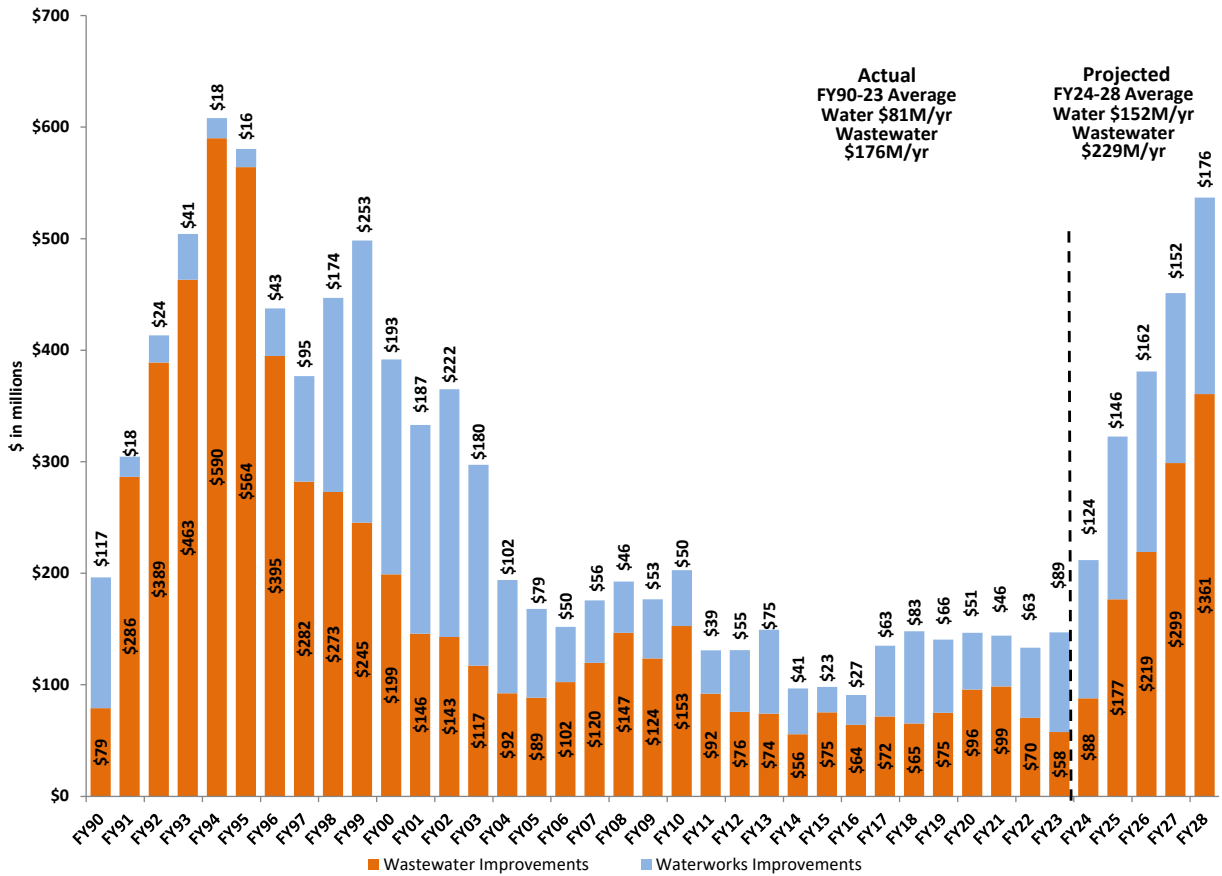
Historical & Projected Spending

The following chart captures the historical CIP spending through FY23 and projects spending through FY28 based on the FY25 CIP. Average annual CIP spending through FY23 was \$259 million. Average annual CIP spending for the FY24-28 period is projected to be \$395 million.



The following chart shows the historical CIP spending from FY90 through FY23 by utility with projections through FY28. Average annual CIP spending through FY23 was \$81 million for Waterworks and \$176 million for Wastewater. Average annual CIP spending for FY24-28 is projected to be \$152 million for Waterworks and \$229 million for Wastewater.

Annual CIP Spending by Utility



Community Loan Programs

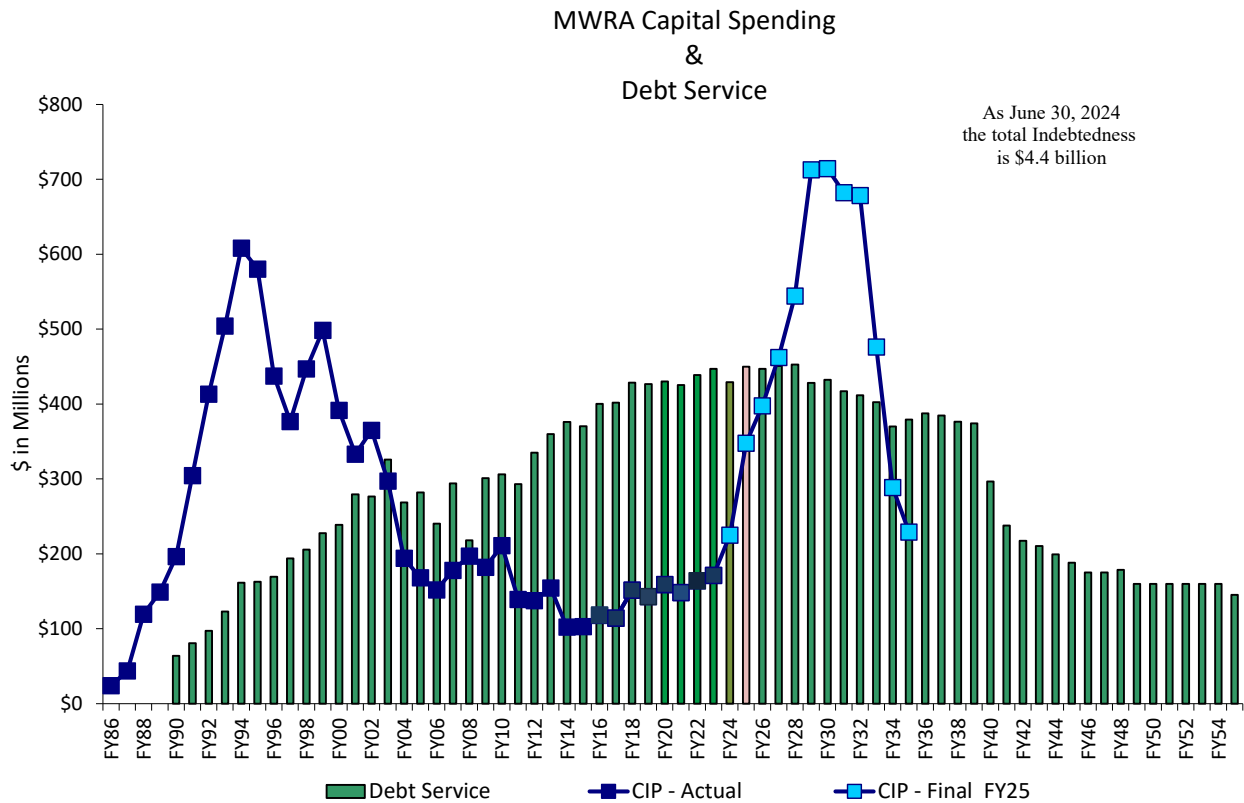
The MWRA offers its water and wastewater communities loan and grant opportunities for infrastructure preservation. Community loans are interest-free and repaid to MWRA over a 5-year or a 10-year period. On the water side, the program's goal is to improve local water system pipeline conditions to help maintain high water quality distribution from MWRA's treatment plant through local pipelines to customers' taps. The water loan program was established in 1998 and over 625 miles of pipeline have been improved. Similarly, on the wastewater side, the local financial assistance program provides MWRA sewer communities funding to perform local infiltration and inflow "I/I" reduction and sewer rehabilitation. The I/I program was established in 1993 and funds are currently approved for distribution through Fiscal Year 2030. Unlike the water loan program, the I/I program is a partial grant program. The FY25 CIP includes the expansion of the community assistance programs based on the MWRA Advisory Board recommendations. I/I Phase 15 with interest free loans only for \$100 million was included as well as Phase 16 for \$125 million (75% grant, 25% loan). Phase 4 water loans was added for \$300 million and Lead Service Line Replacement program was increased from \$100 million to \$200 million and now includes a 25% grant portion.

Over the FY24-28 timeframe, \$242.6 million in funding is projected to be distributed to MWRA wastewater communities and \$130.9 million is projected to be distributed to MWRA water communities for a total of \$373.5 million in community support.

\$s in Millions	FY24	FY25	FY26	FY27	FY28	FY24-28
I/I Financial Assistance (Net of repayments)	\$23.3	\$65.9	\$51.3	\$48.6	\$53.4	\$242.6
Local Water System Assistance (Net of Repayments)	\$33.4	\$29.6	\$31.5	\$20.0	\$16.4	\$130.9
Total Community Loan Programs	\$56.7	\$95.5	\$82.8	\$68.7	\$69.8	\$373.5

MWRA Capital Improvement Spending and Debt Service

As of June 30, 2024, MWRA’s total debt is \$4.4 billion, which is \$60.5 million less than the MWRA’s total debt as of June 30, 2023. While total outstanding debt is decreasing, debt service obligations continue to rise and are projected to increase in coming years.



APPENDIX H

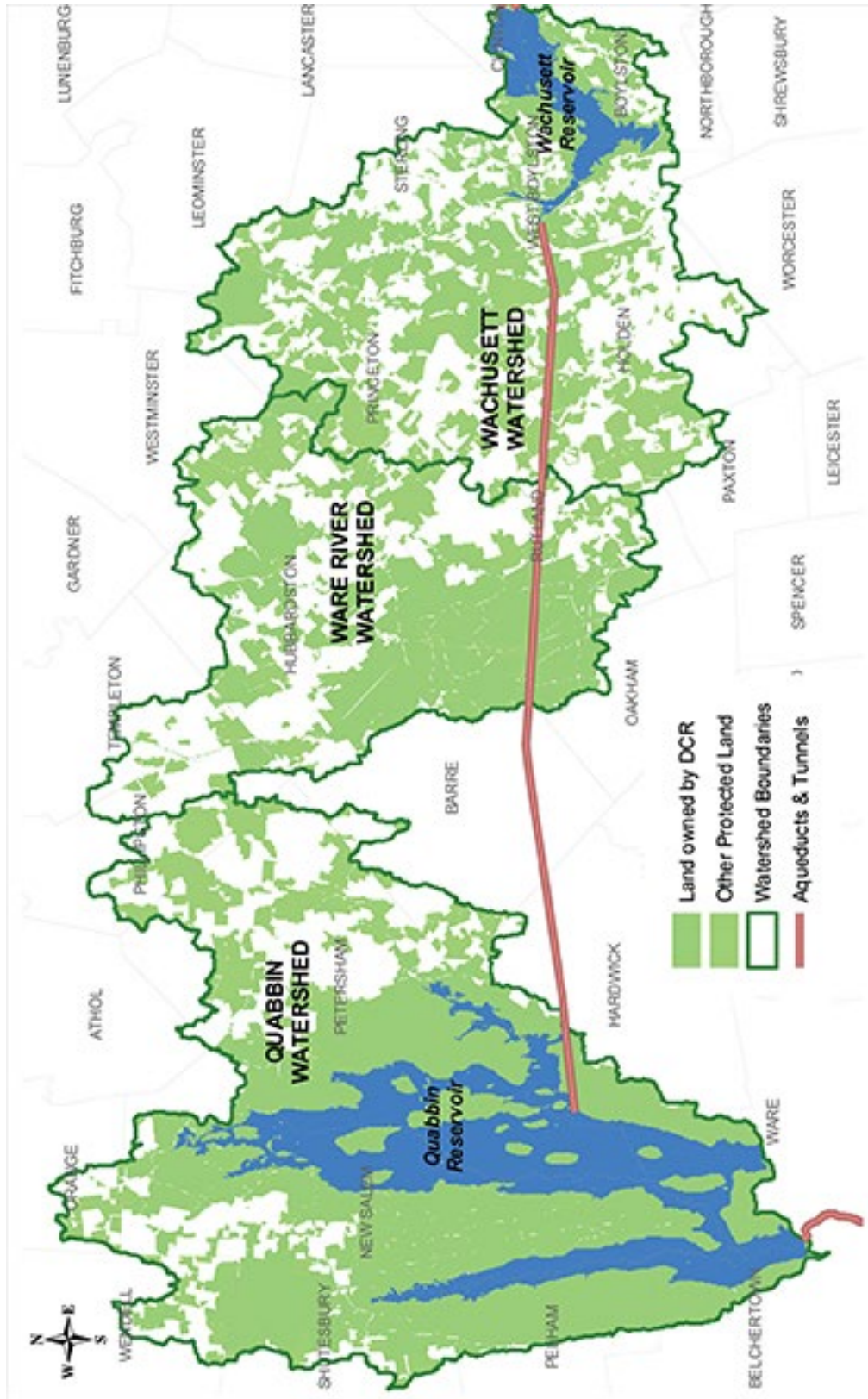
Water Supply Protection Trust

Code	Line Item	FY24 Final	FY25 Final	Change	% Change
AA	Personnel	\$ 12,401,454	\$ 13,803,586	\$ 1,402,133	11.3%
BB	Employee Expenses	\$ 20,000	\$ 20,000	\$ -	0.0%
CC	Contracted Services	\$ 30,000	\$ 25,000	\$ (5,000)	-16.7%
DD	Pensions/Insurance	\$ 5,804,733	\$ 6,363,755	\$ 559,022	9.6%
EE	Admin Expenses	\$ 160,000	\$ 135,000	\$ (25,000)	-15.6%
FF	Facility Operational Supplies	\$ 250,000	\$ 270,000	\$ 20,000	8.0%
GG	Energy Costs	\$ 410,000	\$ 440,000	\$ 30,000	7.3%
HH	Consultant Contracts	\$ 267,000	\$ 279,000	\$ 12,000	4.5%
JJ	Operational Services	\$ 130,000	\$ 130,000	\$ -	0.0%
KK	Equipment	\$ 770,000	\$ 956,300	\$ 186,300	24.2%
LL	Leases, Rentals	\$ 180,000	\$ 215,000	\$ 35,000	19.4%
NN	Construction Improvements	\$ 1,585,000	\$ 1,585,000	\$ -	0.0%
PP	Grants to Public Entities	\$ 100,000	\$ 100,000	\$ -	100.0%
TT	Specials Payments	\$ 150,000	\$ 160,000	\$ 10,000	6.7%
UU	IT Expenses	\$ 210,000	\$ 210,000	\$ -	0.0%
	Total Expenses	\$ 22,468,187	\$ 24,692,642	\$ 2,224,455	9.9%

6995	Hydro + Transmission	\$ 600,000	\$ 700,000	\$ 100,000	16.7%
4500	Forestry	\$ 250,000	\$ 200,000	\$ (50,000)	-20.0%
3148	Fishing & Recreation	\$ 150,000	\$ 175,000	\$ 25,000	16.7%
6900	Miscellaneous	\$ 10,000	\$ 10,000	\$ -	0.0%
	Total Revenue	\$ 1,010,000	\$ 1,085,000	\$ 75,000	7.4%

	Total Net Operating Budget	\$ 21,458,187	\$ 23,607,642	\$ 2,149,455	10.0%
	PILOT net of Fay School and Southboro rec use fee	\$ 8,900,000	\$ 8,900,000	\$ -	0.0%
	Grand Total to Budget in Indirect Expense Section	\$ 30,358,187	\$ 32,507,642	\$ 2,149,455	7.1%

APPENDIX H



MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

Fourth Quarter FY2024

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
September 11, 2024

Board of Directors Report on Key Indicators of MWRA Performance

4th Quarter – FY24

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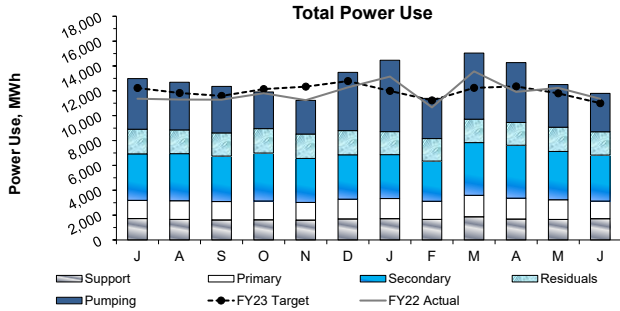
This quarterly report is prepared by MWRA staff to track a variety of performance measures for routine review by the Board of Directors. The content and format of this report is expected to develop as time passes. Information is reported on a preliminary basis as appropriate and available for internal management use and is subject to correction and clarification.

Frederick A. Laskey, Executive Director
 David Coppes, Chief Operating Officer
 September 11, 2024

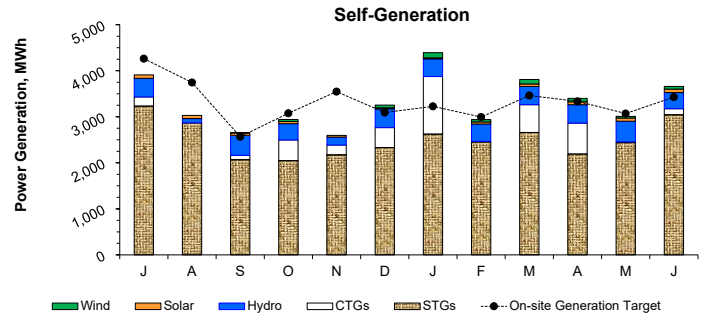
OPERATIONS AND MAINTENANCE

Deer Island Operations

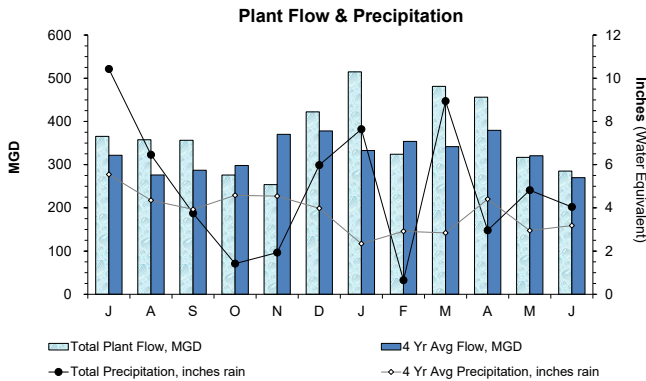
4th Quarter - FY24



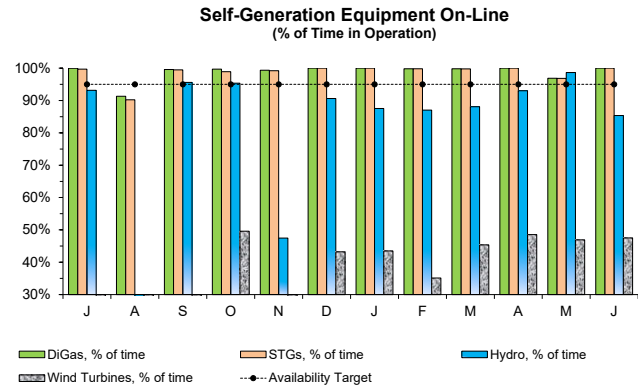
Total power usage in the 4th Quarter was 9.7% above target as plant flow for this period was 9.1% above target with historical (4 year average) data used to generate the electricity model. Power used in most areas and major treatment processes was within 5% of target, except for power used for raw wastewater pumping and for secondary treatment, which were 12.2% and 18.7% above target respectively, due to the higher plant flows. **Overall, total power usage for FY24 was 7.4% above target as total plant flow was 12.2% above the 4 year average plant flow target.**



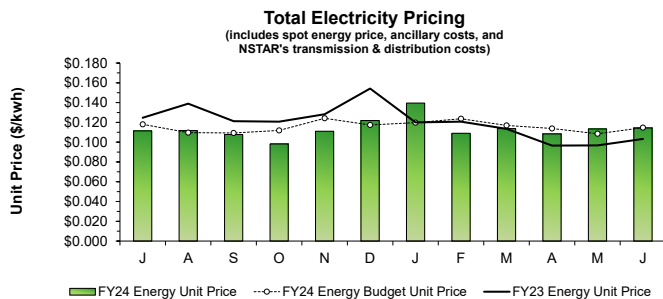
Power generated on-site during the 4th Quarter was 2.4% above the target due to 68% above target CTGs generation resulting from 48.2 hours of continuous operation from April 4 to April 6 as a source of backup power during a Nor'easter storm with damaging winds and an extended period of very high plant flows, as well as operation in June for an ISO-New England demand response summer audit, a called demand response event, and on two (2) days for peak demand shaving. STGs generation was 7.4% above target due to additional generation when supplemental fuel oil is used during periods of low or unstable digester gas production. Hydro Turbine generation was 21.3% below target due to reduced Turbine #2 availability mainly as a result of several wicket gate issues in June. Meanwhile, Turbine #1 remains unavailable pending a replacement gearbox and bearings. Solar Panel generation was 24.2% below target partially due to a failed grid inverter on the Residuals Odor Control Facility solar array which has kept the array out of service since September 12, 2022. Wind Turbine generation was 58.5% below target mainly as Turbine #1 remains out of service indefinitely. **Overall, power generation was on target (-0.5%) for FY24.**



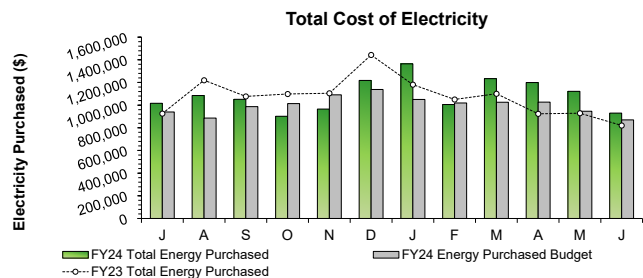
Total Plant Flow for the 4th Quarter was 9.1% above target with the budgeted 4 year average plant flow (352.7 MGD actual vs 323.3 MGD expected) as precipitation was 12.3% higher than target this quarter (11.82 inches actual vs. 10.53 inches expected). **Total Plant Flow for FY24 was 12.2% above target as precipitation was 29.6% above target.**



The DiGas System and STGs availability exceeded the 95% availability target in the 4th Quarter. Hydro Turbine availability was slightly below target at 92.3% due to several periods of high plant flows combined with high tides which prevented hydro turbine operation, in addition to several wicket gate issues in June. Hydro Turbine #1 remains offline pending a replacement gearbox and bearings. Wind Turbines availability was 47.7% as Turbine #1 remains out of service indefinitely and Turbine #2 met the target, with an availability of 95.3% during the 4th Quarter. **Overall for FY24, Wind Turbines availability was only 30.9% and Hydro Turbine availability was 81.9%, while availability for the other self-generating equipment exceeded the 95% availability target.**



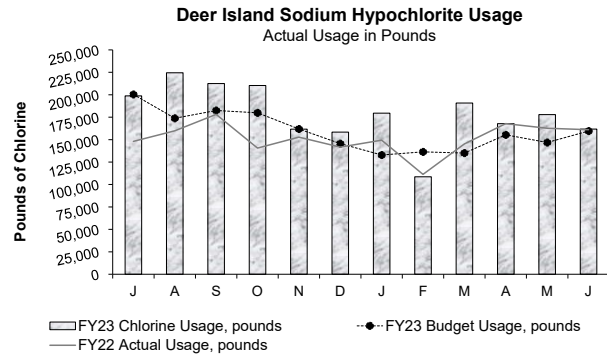
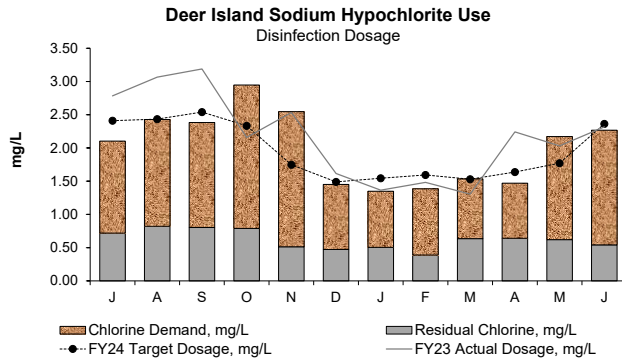
Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The actual Total Energy Unit Price is depicted for July through April (months with the latest available unit prices), while the May and June unit prices are estimated due to a billing delay with Direct Energy (NRG). Overall, the average unit price is estimated to be 1.9% lower than the budgetary estimate through June. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.



Year-to-date Total Cost of Electricity is estimated to be \$1,100,823 (9.2%) higher than budgeted through June. The actual Total Cost of Electricity is depicted for July through April (months with the latest available unit prices), while the May and June Costs of Electricity are estimated due to a billing delay with Direct Energy (NRG). Even though the estimated Total Energy Unit Price through June was 1.9% lower than target, the Total Volume of Electricity Purchased was 11.3% above target due mainly to higher-than-expected overall power usage as a result of higher plant flows.

Deer Island Operations

4th Quarter - FY24



The disinfection dosing rate in the 4th Quarter was within 2.0% of target with budgetary estimates even as plant flow was 9.1% higher than expected due to multiple heavy rain events. As a result, sodium hypochlorite usage in pounds of chlorine was 9.9% higher-than-target. DITP maintained an average disinfection chlorine residual of 0.60 mg/L with an average dosing rate of 1.97 mg/L as chlorine demand was 1.37 mg/L. On March 4, the disinfection basin effluent total chlorine residual target for dry weather flows was increased from 0.30 mg/L to greater than or equal to 0.50 mg/L in preparation for potential new NPDES seasonal permit limits for indicator bacteria. The purpose for the higher chlorine residual target (and higher sodium hypochlorite dosing) is to continue developing operating strategies for the new draft permit, an effort that was also undertaken in 2023. **Overall for FY24, the disinfection dosing rate of sodium hypochlorite was within 3.0% of the budgetary estimate.**

The overall disinfection dosing rate (target and actual) is dependent on plant flow, target effluent total chlorine residual levels, effluent quality and the current and proposed NPDES permit levels for fecal coliform and Enterococcus bacteria.

Secondary Blending Events

Month	Count of Blending Events	Count of Blending Events Due to Rain	Count of Blending Events Due to Non-Rain-Related Events	Secondary, as a Percent of Total Plant Flow	Total Hours Blended During Month
July	8	8	0	98.4%	27.30
August	3	3	0	99.1%	13.32
September	2	2	0	99.4%	12.36
October	0	0	0	100.0%	0.00
November	0	0	0	100.0%	0.00
December	3	3	0	96.7%	53.67
January	5	5	0	94.9%	90.09
February	0	0	0	100.0%	0.00
March	6	6	0	96.9%	63.77
April	3	3	0	97.4%	57.10
May	1	1	0	99.6%	4.74
June	1	1	0	99.8%	4.07
Total	32	32	0	98.2%	326.43

98.7% of all flows were treated at full secondary during the 4th Quarter. There were a total of five (5) secondary blending events due to high plant flows from heavy precipitation. These blending events resulted in 65.91 hours of blending and a total of 413.61 MGal of primary-only treated effluent blended with secondary effluent.

Overall in FY24, 98.2% of all flows received full secondary treatment, as there were 32 secondary blending events totaling 326.43 hours of blending and a total of 2,462.51 MGal of primary-only treated effluent blended with secondary effluent. All secondary blending events were due to high plant flows resulting from heavy precipitation, sometimes in combination with snow melt.

The Maximum Secondary Capacity during the entire FY24 was 700 MGD and secondary permit limits were met at all times throughout FY24.

Deer Island Operations & Maintenance Report

Environmental/Pumping:

The plant achieved an instantaneous peak flow rate of 1,145.6 MGD during the early afternoon of April 4. This peak flow occurred during a storm event that brought 1.56 inches of total precipitation to the metropolitan Boston area during the course of three (3) days. The Total Plant Flow in the 4th Quarter was 9.1% above the 4 year average plant flow target for the quarter as precipitation was 12.3% higher than the 4 year average (11.82 inches actual vs. 10.53 inches expected).

Disinfection/Dechlorination:

MWRA uses sodium hypochlorite to destroy pathogens in plant effluent after primary and secondary treatment. Indicator bacteria such as Fecal Coliform, E. coli, and Enterococcus are used to measure the presence of potential pathogens. To provide a proper pathogen kill, sodium hypochlorite, a disinfectant, is added to meet a chlorine demand then regulated by maintaining a chlorine residual. On March 4, the disinfection basin effluent total chlorine residual target for dry weather flows was increased to greater than or equal to 0.50 mg/L in preparation for potential new NPDES seasonal permit limits for indicator bacteria. The purpose for the higher chlorine residual target (and higher sodium hypochlorite dosing) is to continue developing operating strategies for the new permit, an effort that was also undertaken in 2023. DITP maintained an average disinfection chlorine residual of 0.60 mg/L with an average chlorine demand of 1.37 mg/L, with the adjusted higher target during the 4th Quarter. Higher usage of both sodium hypochlorite and sodium bisulfite, used for removing the residual chlorine before discharging the effluent, will be necessary in order to comply with the more stringent indicator bacteria limits in the proposed new NPDES permit.

Primary Treatment:

The contractor started the Clarifier Rehabilitation Project (Contract #7395) on May 15 by completing sump pump work that allowed the Primary Influent Channel A to be fully isolated during the clarifier rehabilitation work. Work completed through the end of June included putting all 96 primary influent gates in place, installing a new aeration header system, completing the installation of approximately 40% of the lower aeration system and 70% of the Linabond repair work, installing drains between Batteries A and B, among other work. Also in progress is work on the effluent gates, hatch and grating modifications, and expansion joint repairs. The contractor expects to complete this phase of work by the 42 calendar day milestone period.

Secondary Treatment:

Annual turnaround maintenance on Train #2 in the Cryogenic Oxygen Facility began on April 29 and was completed on May 10. This two (2) week turnaround maintenance is performed on roughly half of the components and systems in the Cryogenic Oxygen Facility. During this turnaround maintenance, the service contractor calibrated all the instrumentation on Cold Box unit #2 as well as, a number of other components of the oxygen plant. Train #1 with Cold Box unit #1 was placed into operation starting on April 21 to allow Cold Box #2 to be taken out of operation for the scheduled maintenance. The same turnaround maintenance will be completed on Train #1 in the fall.

Deer Island Operations

4th Quarter - FY24

Deer Island Operations & Maintenance Report (continued)

Odor Control Treatment:

Emissions compliance testing for the West Odor Control (WOC) treatment system at DITP was conducted by a contractor on June 6. The WOC treatment system treats process air from the South System Pump Station, Primary Batteries C and D, and the West Grit Facility. The DITP Air Quality Operating Permit issued by the MA DEP requires that DITP conduct emissions compliance testing for the various odor control emission units once every five (5) years to demonstrate compliance with applicable total reduced sulfur (TRS) and non-methane hydrocarbon (NMHC) emission limits. This testing requires the continuous emissions monitoring of the inlet and outlet of the odor control treatment system during three (3) separate, one (1) hour test runs for TRS at the outlet (stack) of the odor control system and for NMHC at each of the inlets. All preliminary emissions test results show that DITP was in compliance with the permit limits. The final report summarizing the test results will be prepared by the contractor and submitted to the MA DEP following review by DITP staff.

The odor control fan for wet chemical scrubber #1 in the East Odor Control (EOC) Facility, which handles the Primary A & B airflows, tripped unexpectedly at 8:29 a.m. on May 7 while maintenance was being performed in the facility. The fan was taken out of automated control and was being operated manually prior to the fan trip to allow staff to perform maintenance on the automated control system. The fan tripped unexpectedly and staff returned the fan to operation within 39 minutes. All the airflow fans in the facility were later taken out of operation briefly for 16 minutes while staff completed the maintenance on the control system. The scrubber #1 fan for the Primary A & B airflow treatment was offline for a combined total of 55 minutes as a result of the two (2) separate fan shutdowns.

The West Odor Control (WOC) Facility was taken offline for maintenance purposes on May 22 for a total shutdown of 54 minutes. The airflow shutdown allowed staff to safely move an isolation blank from the inlet duct for the wet chemical scrubber #2 fan to the duct for the scrubber #3 fan in order to replace the spray nozzles in scrubber #3. Process air was contained within the building and there were no odor complaints received as a result of either of these two (2) odor control treatment system shutdowns.

Carbon adsorber (CAD) units #3 and #4 in the North Pumping Odor Control (NPOC) Facility, units #4, #5, #7 and #8 in the West Odor Control (WOC) Facility, and units #2 and #4 in the Residuals Odor Control (ROC) Facility were emptied and refilled with new regenerated activated carbon media this quarter as part of routine maintenance to replace spent activated carbon.

Energy and Thermal Power Plant:

Overall, total power generated on-site accounted for 26.1% of Deer Island's total power use in the 4th Quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 24.0% of Deer Island's total electrical power use for the quarter.

DITP took delivery of 300,000 gallons of #2 fuel oil, a total of 31 oil tanker trucks, without incident from May 6 through May 10. This fuel oil is used for CTG operation, for boiler startup operations, and for supplemental fuel for boiler operation during periods of low or unstable digester gas production.

Boiler 201 in the Thermal Power Plant (TPP) was taken offline in the late evening of May 27 to allow the steam system to cool sufficiently overnight before the contractor and DITP Maintenance staff could proceed with the annual dump condenser cleaning on May 28, prior to placing the steam system in summer (vacuum) operating mode. Boiler 201 was returned to operation later in the evening, following the dump condenser work, to restore steam production and steam turbine power generation. The TPP began operating the steam system in summer mode starting on May 29 to maximize the energy generation from the steam turbines during the seasonally lower plant heat demand period.

This summer, DITP is enrolled in an Eversource Connected Solutions Curtailment (Demand Response) program to reduce a portion of DITP's load from the regional electrical grid during peak energy usage periods. In this program only green energy can be used to offset a committed energy demand or the load shed can be achieved by curtailing existing energy demand sources. DITP is enrolled in this program by curtailing the cryogenic oxygen generation process. To be successful, the oxygen generation process would be taken offline for the few hours of an event to defer 1.5 MW of power demand. From a treatment perspective, staff would use stored liquid oxygen that was previously produced and stored in the Liquid Oxygen (LOX) tank to feed the secondary activated sludge without impact to the process during this short interruption, then reactivate the cryogenic compressors after the event has ended to restore normal operation. DITP participated in this program during the summer of 2023 and earned over \$46,000 by participating. The cryogenic oxygen generation process was taken offline for three (3) hours from 5 p.m. to 8 p.m. on June 20 for an Eversource demand response called event.

CTG-1A was operated for approximately 2.1 hours on June 11 for an ISO-New England demand response summer audit. The performance on this audit determines DITP's demand response program payment for the next six (6) months. On June 18, DITP participated in the first ISO-NE demand response event of the season and operated CTG-1A for approximately 1.8 hours.

The Wind Turbine Maintenance contractor performed a quarterly inspection of Turbine #2 on June 25 and completed minor mechanical repairs on June 26 that were warranted due to findings from the inspection. The turbine was offline for approximately 19.5 hours.

Clinton Operations & Maintenance Report

Dewatering Building

Maintenance staff and the Facilities Specialist changed wash box seals on the #2 sludge press. They also brought #2 gravity thickener squeegee and rake assembly back on line with beach plate and welded C-channels solidly together. Then they changed out the drive motor on the #1 sludge thickener pump. Plant staff cleaned the polymer containment area and the probes on the mixing tank. M&O's and Deer Island jet vactor truck crew cleaned the gravity thickener scum well and jetted the gravity thickener scum troughs. The contractor worked on the dry polymer feed probe in the Dewatering Building.

Chemical Building

The M&O's cleaned the soda ash hatch cover on top of the silo to ensure proper seal. They also removed the discharge piping on soda ash pump #1 and cleaned out the hard soda ash that was inside the piping. Maintenance staff installed a new #1 Bisulfite pump and repaired a dampener on the #2 Bisulfite pump. Staff also checked the plant equipment for proper operation & lubrication.

Aeration Basins

Operations staff cleaned the pH and D.O. probes. They also washed down all three (3) aeration tanks. The contractor replaced the pH probes on aeration tanks #2 and #6.

Phosphorus Reduction Facility (PRF)

Maintenance and Operations staff completed an acid wash of the troughs for all three (3) filters. They also washed down the #2 rapid mix, coagulation, and flocculation tank train. Operations staff cleaned and changed reagents in both CL17 chlorine analyzers.

Headworks Building

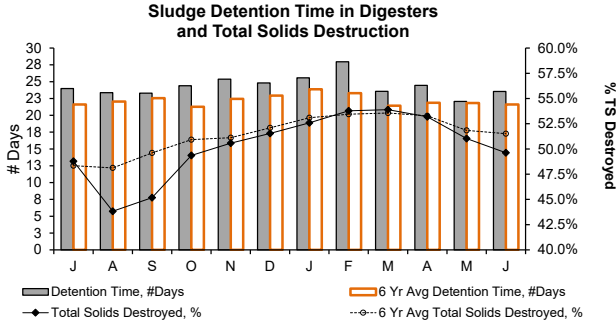
M&O's and the Facilities Specialist removed and installed a new motor for the aerated grit removal system. They worked on repairing grit screw conveyor #2. The Facilities Specialist and the Maintenance staff cleaned the mechanical bar rack and greased the upper and lower pin rack. They also replaced both springs on the mechanical bar rack.

Digester Building

The M&O's completed an overhaul of the #3 sludge recirculation pump. Maintenance staff checked all equipment for proper operation. They also greased the Ovivo mixer on the floating cover. Deer Island's B&G staff cleaned the old sludge off the top of the floating cover digester. The contractor adjusted the settings and performed a combustion analysis on the #1 sludge boiler. They also dismantled the valve on the #2 sludge boiler and did not find a cause for the temperature mixing problem.

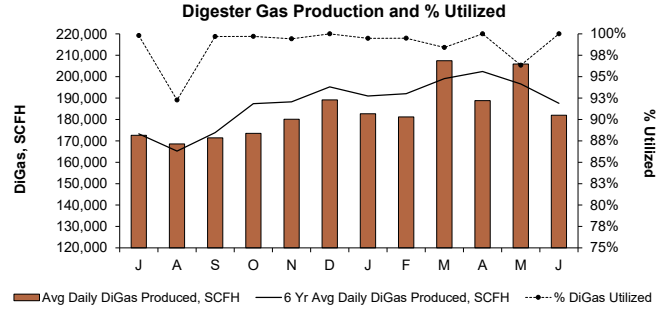
Deer Island Operations and Residuals

4th Quarter - FY24



Total solids (TS) destruction following anaerobic sludge digestion averaged 51.3% during the 4th Quarter, within 1.8% of target with the 6 year average. Sludge detention time in the digesters was 23.4 days, 7.3% above the 21.8 days, even though the number of digesters in operation was on target with budgetary estimates. **Overall for FY24, TS destruction averaged 50.3%, 2.2% lower than the 51.4% target.**

Total solids (TS) destruction is dependent on sludge detention time which is determined by primary and secondary solids production, plant flow, and the number of active digesters in operation. Solids destruction is also significantly impacted by changes in the number of digesters and the resulting shifting around of sludge.

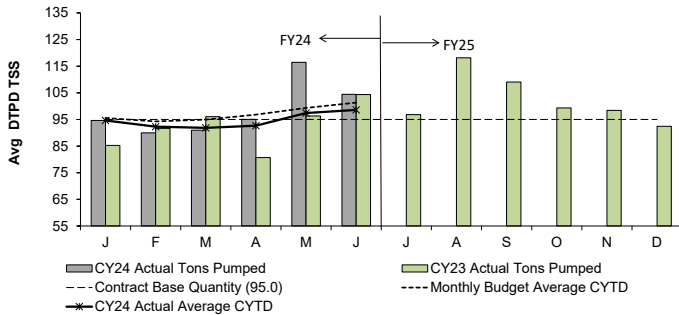


The Avg Daily DiGas Production in the 4th Quarter was 1.7% below target with the 6 Year Avg Daily DiGas Production as total sludge production was lower than target. 98.8% of the DiGas produced was utilized at the Thermal Power Plant (TPP). **Overall for FY24, DiGas Production was within 2.2% of target and 98.7% of the DiGas produced was utilized at the TPP.**

Residuals Pellet Plant

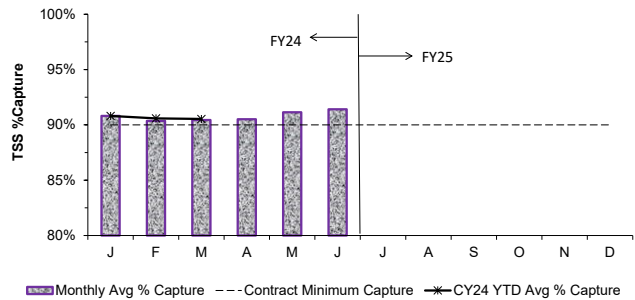
New England Fertilizer Company (NEFCO), a wholly-owned, indirect subsidiary of Synagro Technologies, Inc., operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 95.0 DTPD/TSS as an annual average (for the extended contract period of January 1, 2024 through December 31, 2034). The monthly invoice is based on 95.0 DTPD/TSS (Dry Tons Per Day/Total Suspended Solids) times 365 days divided by 12 months. At the end of the year, the actual totals are calculated and additional payments are made on any quantity above the base amount. On average, MWRA processes more than 95.0 DTPD/TSS each year (FY24's budget is 103.2 DTPD/TSS and the FY25 budget is 102.5 DTPD/TSS).

Sludge Pumped From Deer Island



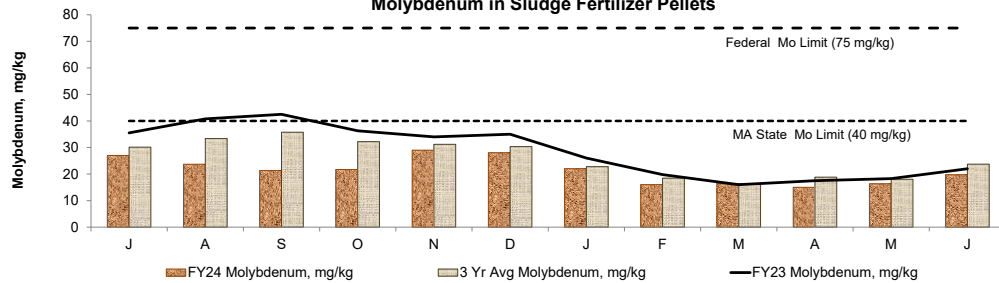
The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 4th Quarter was 105.3 TSS Dry Tons Per Day (DTPD), within 2.2% of target with the FY24 budget of 107.7 TSS DTPD for the same period. The overall CY24-to-date average quantity of sludge pumped is 98.64 DTPD, 4.5% below target compared to the CY24-to-date average budget of 103.2 DTPD.

Monthly Average % Capture of Processed Sludge



The contract requires NEFCO to capture at least 90.0% of the solids delivered to the Biosolids Processing Facility. The average capture for the 4th Quarter was 91.02% and the CY24-to-date average capture is 90.78%.

Molybdenum in Sludge Fertilizer Pellets



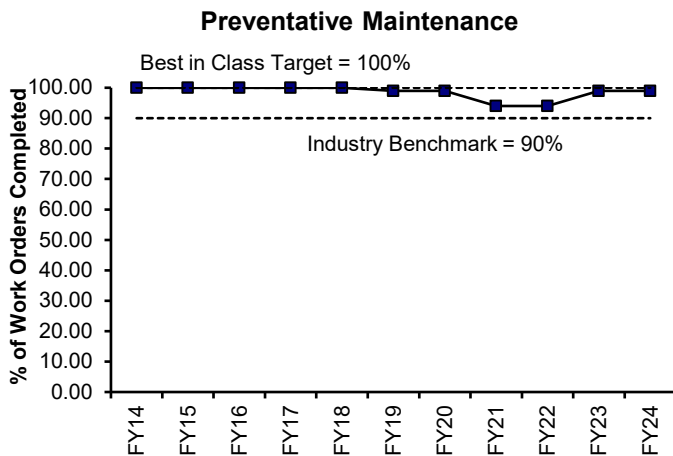
Copper, lead, and molybdenum (Mo) are metals of concern for MWRA as their concentrations in its biosolids have, at times, exceeded regulatory standards for unrestricted use as fertilizer. Molybdenum-based cooling tower water is a significant source of Mo in the sludge fertilizer pellets. The Federal standard for Mo is 75 mg/kg. The Massachusetts Type 1 biosolids standard for molybdenum was changed from 25 mg/kg to 40 mg/kg in 2016, allowing MWRA to sell its pellets in-state for land application whereas the previous limits forced several months' worth of pellets to be shipped out of state.

Overall, the levels have been below the DEP Type 1 limit for all three (3) metals. For Mo, the level in the MWRA sludge fertilizer pellets during the 4th Quarter averaged 17.0 mg/kg, 16% below the 3 year average, 47% below target with the MA State Limit, and 72% below the Federal Limit. **Overall for FY24, the Mo level in the pellets averaged 21.3 mg/kg, 47% below the MA State Limit, and 72% below the Federal Limit.**

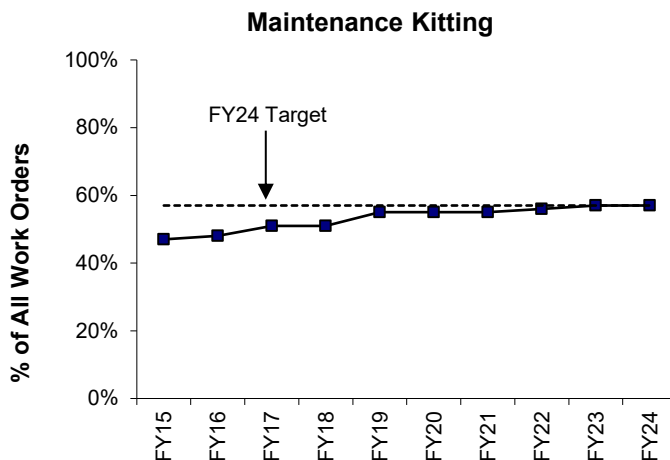
Deer Island Yearly Maintenance Metrics

FY24

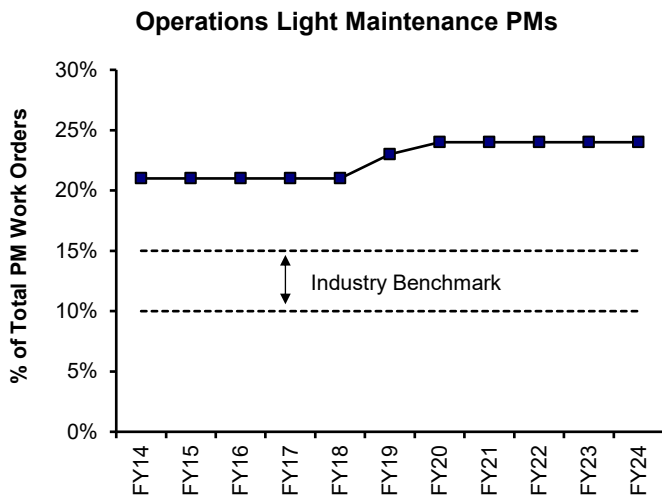
Proactive and Productivity Measures



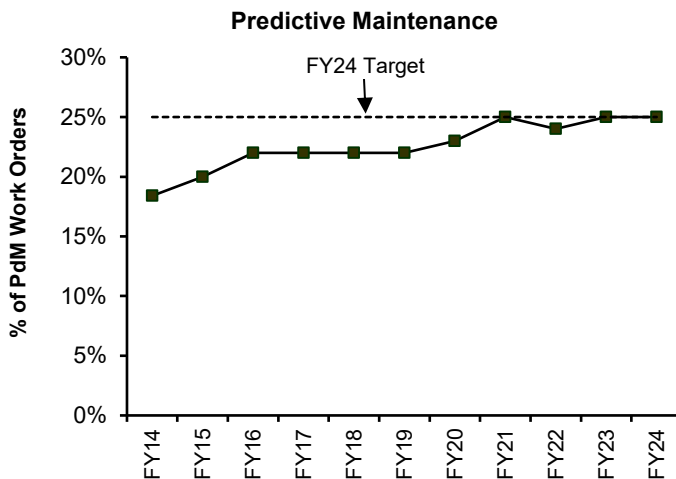
The industry benchmark is 90% for Preventative Maintenance (PM) completion. Upon reaching the 90% goal in FY05, the target goal was increased to the "Best in Class" Target of 100% PM completion. Reliability-Centered Maintenance (RCM) and PM optimization efforts have continued. PM completion rate was 99% in FY24.



Preventive Maintenance (PM) inventory items were loaded into Maximo to assign spare parts for equipment to PM work orders. DITP reached the PM kitting goal of 100%. In FY12 a new graph was developed to track kitting of all maintenance work orders in an effort to increase wrench time. Staff continues to fine-tune the process to "kit" all maintenance work orders. Kitting is considered a best practice by maintenance and reliability professionals. It entails staging parts necessary to complete maintenance work. Kitting allows maintenance staff to spend more time "turning the wrench" and less time waiting for parts at the stockroom window. Kitting for FY24 was 57%, meeting DITP's goal of 57%.



The percentage of preventive maintenance work orders completed by Operations staff (non maintenance staff) increased from less than 1% in January 2002 to the current level of 24% in FY24. DITP reached the industry benchmark range of 15% and has exceeded the goal through FY24.

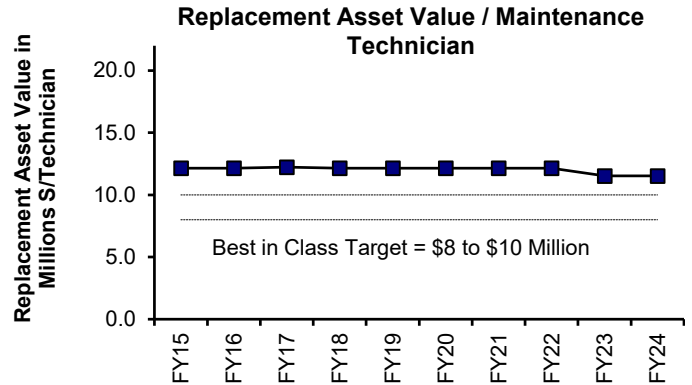
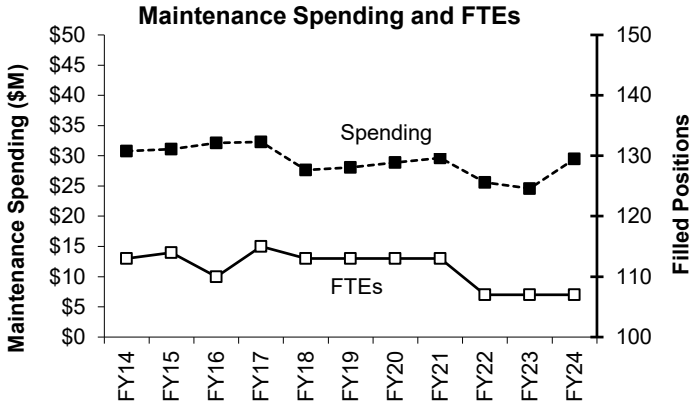


Predictive maintenance has steadily increased from 2% in FY03 to 25% in FY24, DITP met the FY24 goal of 25%. This percentage in predictive maintenance was achieved through the expanded use of lubrication, vibration, thermography, and acoustic ultrasonic testing techniques. The Condition Monitoring Group continually reviews and investigates new opportunities and initiatives to expand condition monitoring testing and analysis.

Deer Island Yearly Maintenance Metrics

FY24

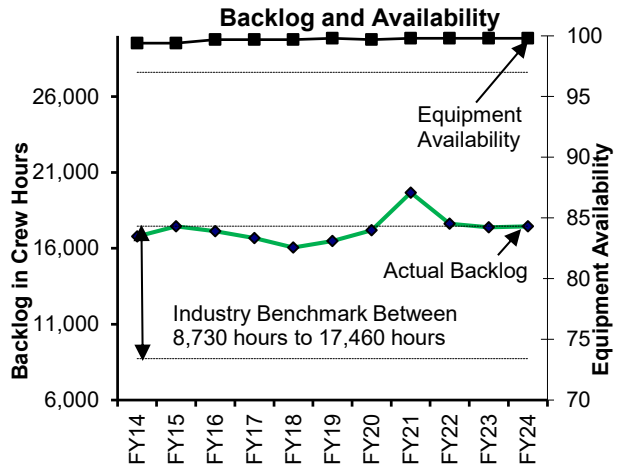
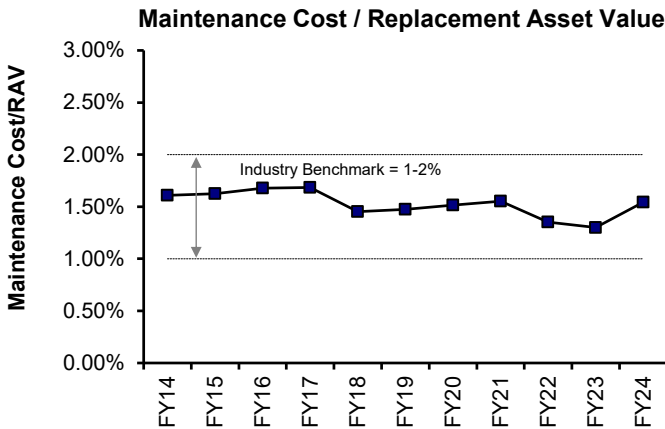
Overall Maintenance Program Measures



DITP's Maintenance staff is currently at 107 FTE's. Maintenance staff levels ended at 107 due to retirements and hiring challenges for trades personnel. Maintenance has worked to meet our goals through implementation of numerous maintenance efficiencies including: Operations performing light maintenance, cross-functional training and flexibility, and Reliability-Centered Maintenance. This year's overall Maintenance spending has increased.

DITP adopted a "best in class" target of \$8-\$10 Million/Technician for maintenance staffing. DITP remains above this Best in Class. However, as the plant ages and additional equipment replacements are expected, DITP management will reassess staffing as needed.

The Maintenance Spending graph shows actual annual maintenance spending and CIP asset replacements (equipment costs only). Maintenance staff continues to evaluate plant assets and requirements for replacement of obsolete equipment to ensure the plant operates at maximum efficiency. In FY24, overall spending increased from FY23 due to the CIP Clarifier Rehab Project Spending. Maintenance staff replaced several electrical conduits, lights, outlets, and eyewash units (EWU) in the sodium hypochlorite containment area. Plumbers removed and replaced all the EWU and associated piping. Plumbing staff utilized Stainless Steel pro-press piping and fittings. Electrical staff removed all old conduit and wiring replacing with new conduits, conductors, LED lights, and outlets. All EWU shower included heat trace wiring. Instrument staff replaced sump pits level indicators. This will allow sump pit alarms to ring through to Primary Operations. HVAC staff changed out one R-410a 70-ton chiller and one Chilled Water Pump for the Digester Gas Cooling system.



The industry benchmark for annual maintenance spending is between 1% to 2% of replacement asset value, currently DITP is at 1.54%. The plant's replacement asset value is calculated at approximately \$2.6 billion dollars. DITP's current maintenance spending is the industry benchmark. Overall maintenance spending has increased from last year. DITP Maintenance CEB spending is \$24.3 million. CIP spending was \$5.1 million (equipment costs only). CIP/CEB Spending totaled \$29.5 million in FY24.

Industry benchmark for Equipment Availability is 97%. Deer Island has exceeded this benchmark over for the last ten years. In FY23 the availability was 99%. The high percentage in Equipment Availability during FY24 is due to redundancy of equipment and effective/efficient maintenance practices.

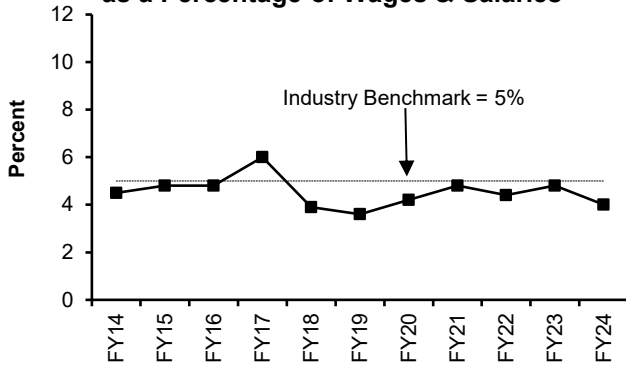
Industry Benchmark for Backlog is between 8,730 to 17,460 hours for maintenance based on current staffing, the total average backlog for FY24 was 17,411 hours, which is within the industry benchmark. DITP Maintenance has made significant progress to be within the Industry Benchmark.

Deer Island Yearly Maintenance Metrics

FY24

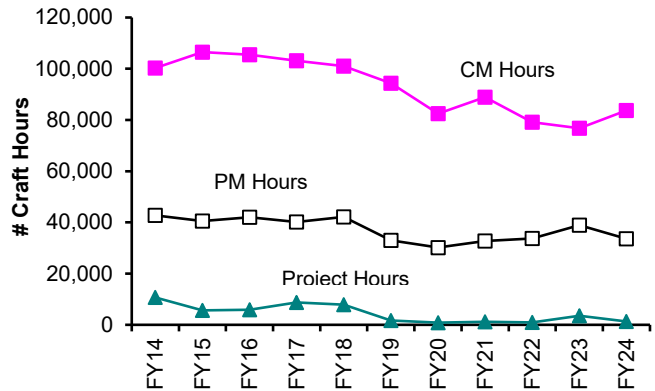
Overall Maintenance Program Measures (cont.)

Overtime (excluding Storm Coverage) as a Percentage of Wages & Salaries



Management continues its effort to keep overtime below the industry benchmark. DITP maintenance overtime was 4.0% for FY24. Management has taken steps to reduce overtime spending by limiting overtime to repair critical equipment and systems only. DITP has been under the Industry Benchmark every year except FY17, due to the increase in overtime for the Eversource Cable Outage.

Craft Hours



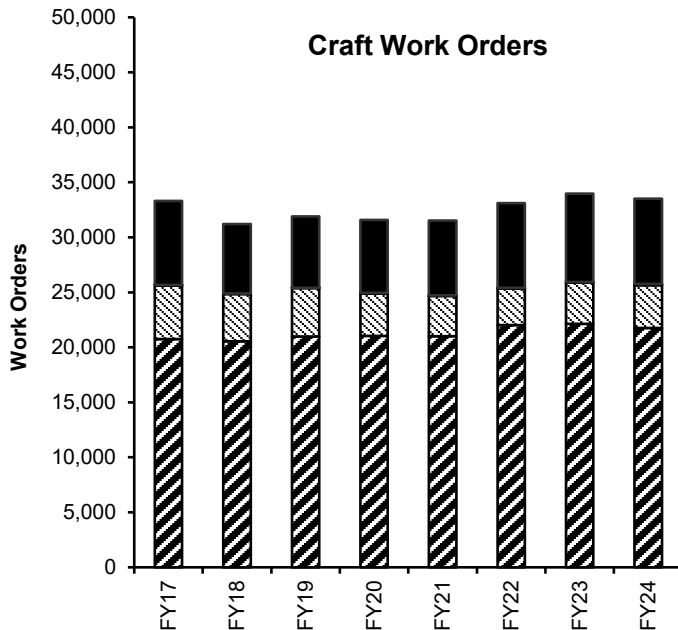
This year's increase in Corrective Maintenance (CM) hours was due to staff working on Clarifiers and unclogging pumps, grinders and piping due to rags.

This year's slight decrease in Preventive Maintenance (PM) was due to adjusting PM frequencies to meet plant needs. Staff continued to work on optimization of the Preventive Maintenance (PM) program

Maintenance did complete some significant maintenance work in FY24: Staff purchased fourteen low voltage Variable Frequency Drives (VFDs) for the Secondary return sludge system with a 50HP motor. The original VFDs were installed in the late 1990s and are failing, obsolete, and replacement parts are no longer available. DITP Medium Voltage staff installed all VFDs. Residuals staff removed and replaced two digester mixers. The mixers were recommended for refurbishment based upon impeller and bearing wear, which was identified by vibration analyses. Mixers are critical to plant performance. It provides the driving force for mixing the digester content and ensuring a uniform temperature within the sludge mass. Mechanical staff changed out numerous in-line grinders due to the additional clogging due to wipes in the system.

During FY24, the overall number of work orders slightly decreased from the previous year. The Work Coordination department is continuously modifying PM, PdM, and CM Job Plans to ensure maintenance is being performed efficiently and effectively, while ensuring reliability and availability of DITP's Assets.

Craft Work Orders



- Predictive Maintenance
- Emergency Maintenance
- ▨ Project
- ▩ Corrective Maintenance
- ▤ Preventive Maintenance

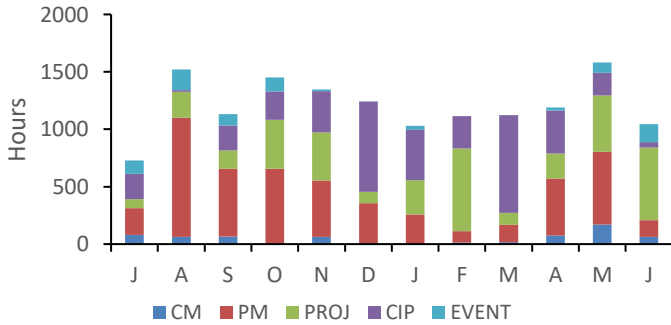
Water Distribution System Valves

4th Quarter 2024 - FY24

Background

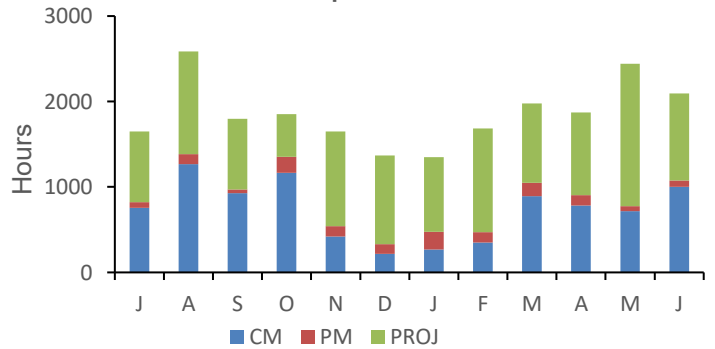
Valves are exercised, rehabilitated, or replaced in order to improve their operating condition. This work occurs year round. Valve replacements occur in roadway locations during the normal construction season, and in off-road locations during the winter season. Valve exercising can occur year round but is often displaced during the construction season. This is due to the fact that a large number of construction contracts involving rehabilitation, replacement, or new installation of water lines, requires valve staff to operate valves and assist with disinfection, dechlorination, pressure-testing, and final acceptance. Valve exercising can also be impacted due to limited redundancy in the water system; valve exercising cannot be performed in areas where there is only one source of water to the community meters or flow disruptions will occur.

Water Valve Labor Hours



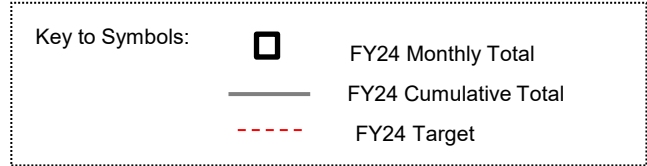
During the 4th quarter of FY24 there was a total of 3,819 hours worked. Percentage breakdown; Corrective Maintenance 3%, Preventative Maintenance 22%, Project 30%, Capital Improvement Project 44%, Event - Wtr Fountain 1%

Water Pipeline Labor Hours

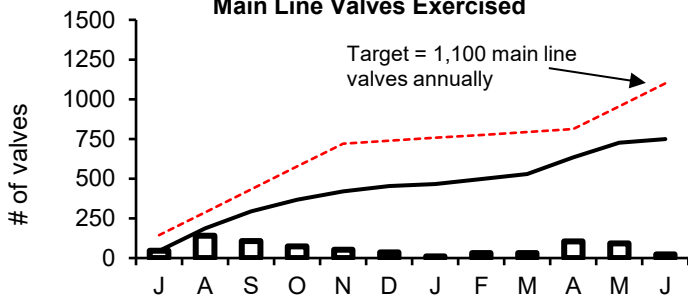


During 4th quarter of FY24 there was a total of 2,094 hours worked. Percentage breakdown; Corrective Maintenance 37%, Preventative Maintenance 7%, Project 56%

Type of Valve	Inventory #	Operable Percentage	
		FY24 to Date	FY24 Targets
Main Line Valves	2,254	97.2%	95%
Blow-Off Valves	1,746	98.9%	95%
Air Release Valves	1,545	96.6%	95%
Control Valves	49	100.0%	95%

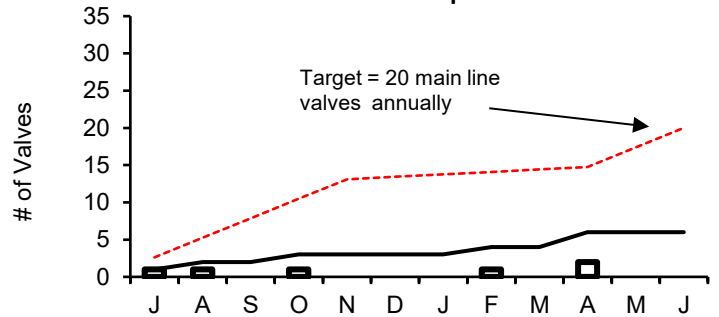


Main Line Valves Exercised



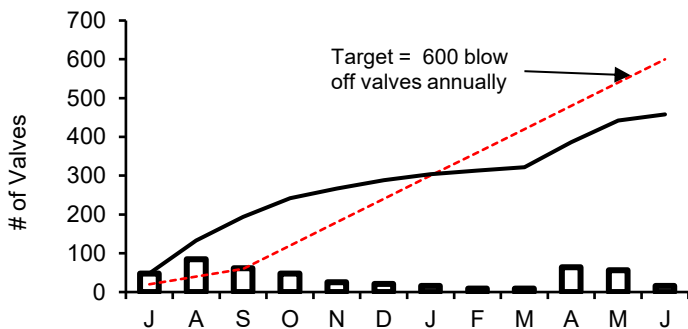
During 4th quarter of FY24, 220 main line valves were exercised. The total exercised for the fiscal year to date is 749.

Main Line Valves Replaced



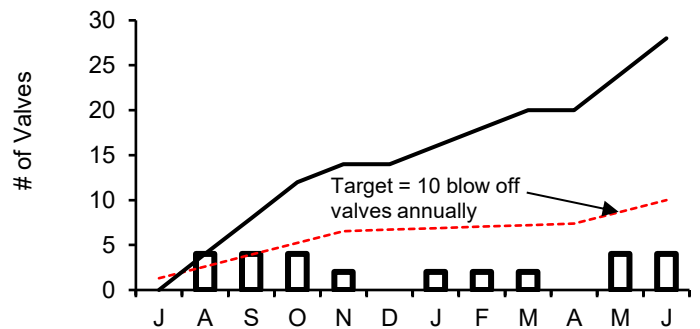
During 4th quarter of FY24, there were 2 main line valves replaced. The total replaced for the fiscal year to date is 6.

Blow-Off Valves Exercised



During 4th quarter of FY24, 136 blow off valves were exercised. The total exercised for the fiscal year to date is 458.

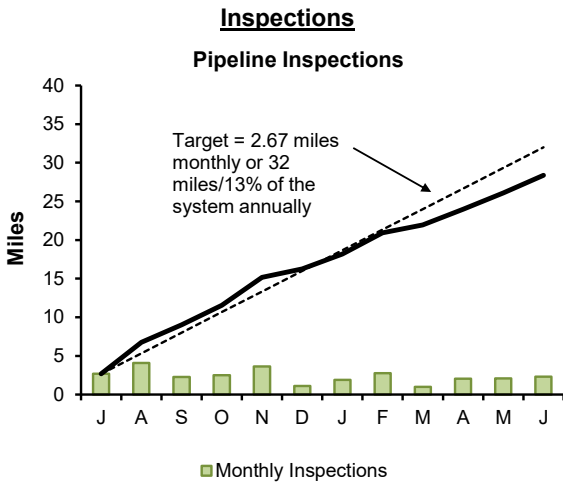
Blow-Off Valves Replaced



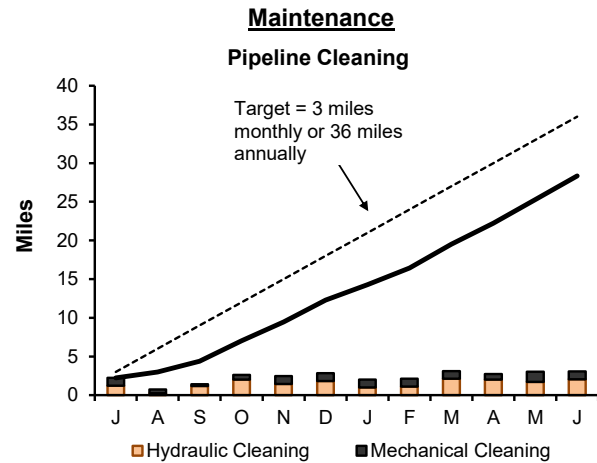
During 4th quarter of FY24, there were 8 blow off valves replaced. The total replaced for the fiscal year to date is 28.

Wastewater Pipeline and Structure Inspections and Maintenance

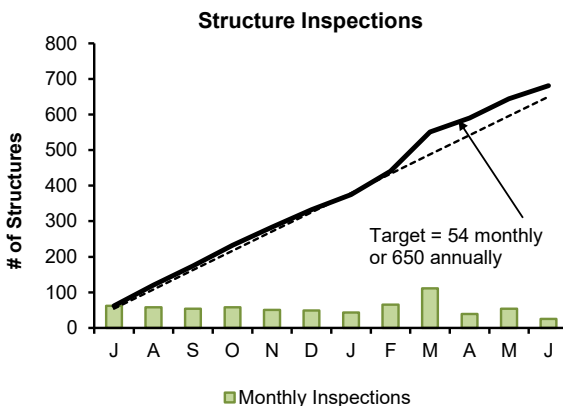
4th Quarter - FY24



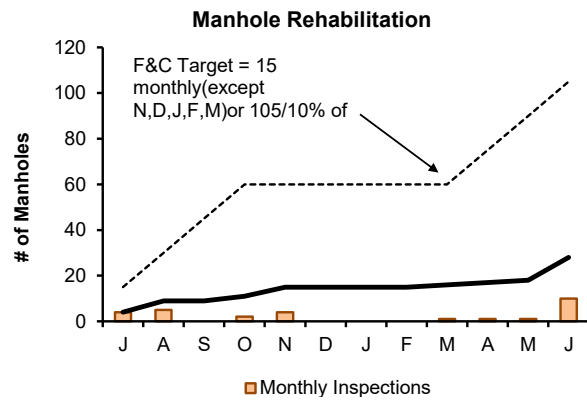
Staff internally inspected 6.44 miles of MWRA sewer pipe during this quarter. The year to date total is 28.38 miles. No Community Assistance was provided.



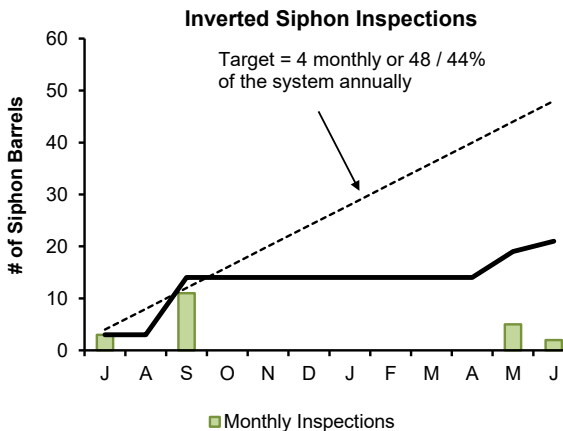
Staff cleaned 8.81 miles of MWRA sewer pipe, and removed 66 yards of grit. The year to date total is 28.34 miles. No Community Assistance was provided.



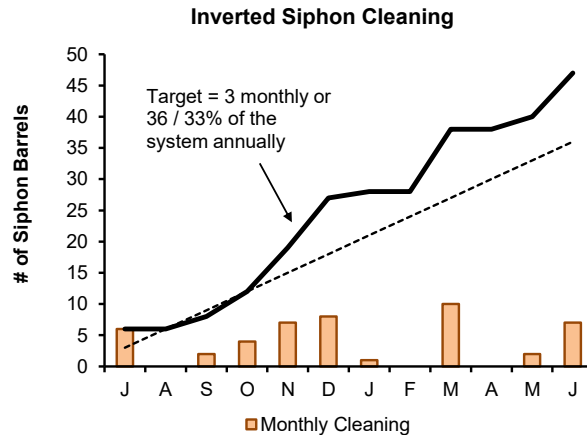
Staff inspected the 36 CSO structures and performed 94 other additional manhole/structure inspections during this quarter. The year to date total is 681 inspections.



Staff replaced 12 frame and cover replacement this quarter. The year to date total is 28.



Staff inspected 7 siphon barrels this quarter. The year total is 21 inspections.

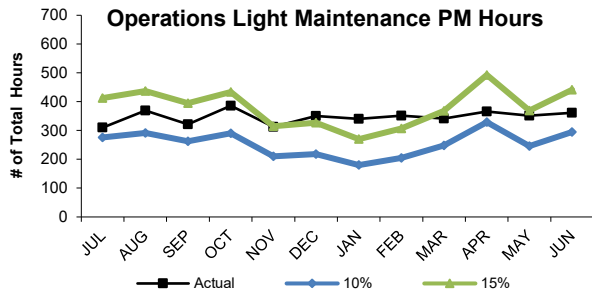


Staff cleaned 9 siphon barrels this quarter.

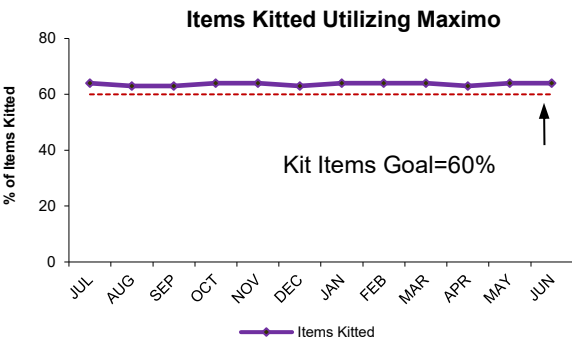
Field Operations' Metropolitan Equipment & Facility Maintenance

4th Quarter - FY24

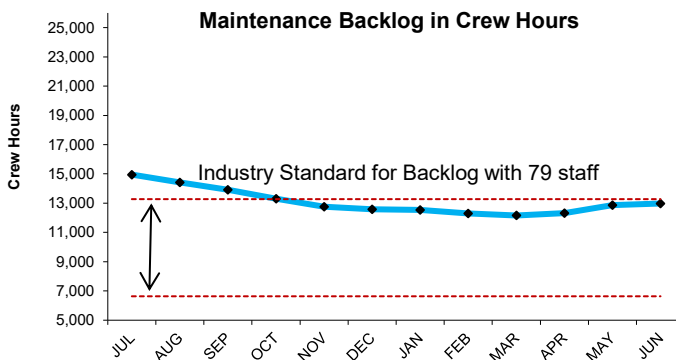
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion is 100%. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.



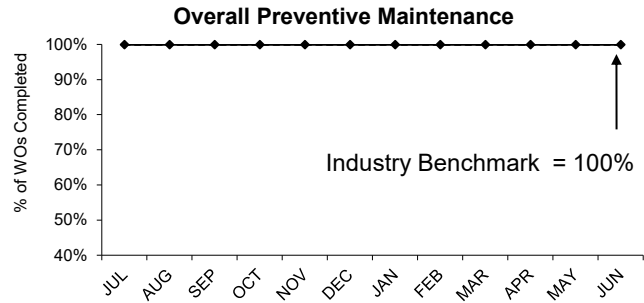
Operations staff averaged 360 hours per month of preventive maintenance during the 4th Quarter of FY24, an average of 12% of the total PM hours for the 4th Quarter, which is within the industry benchmark of 10% to 15%.



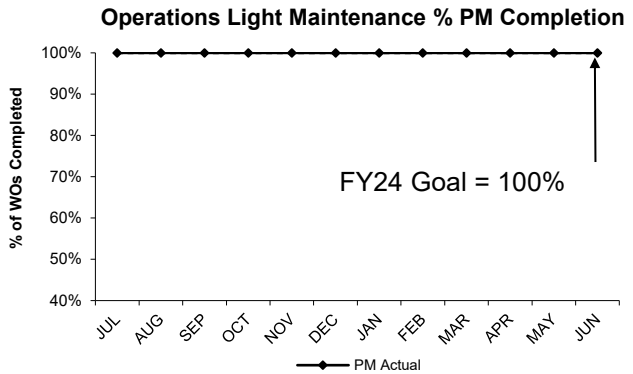
Operations' FY24 maintenance kitting goal has been set at 60% of all work orders to be kitted. Kitting is the staging of parts or material necessary to complete maintenance work. In the 4th Quarter of FY24, 63% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



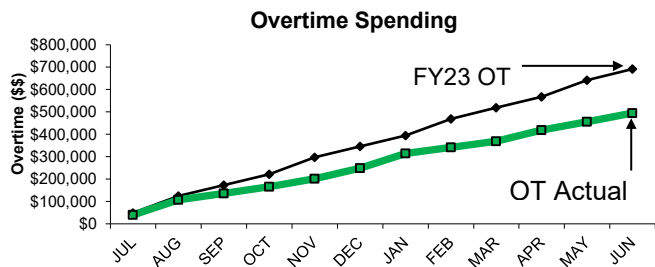
The 4th Quarter of FY24 backlog average is 12,721 hours. Which is within the industry benchmark of 6,636 to 13,275 hours. The current backlog is due to vacancies and several large maintenance projects.



The Field Operations Department (FOD) preventive maintenance goal for FY24 is 100% of all PM work orders. Staff completed 100% of all PM work orders in the 4th Quarter of FY24.



Wastewater Operations complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY24 PM goal is completion of 100% of all PM work orders assigned. Operations completed 100% of PM work orders in the 4th Quarter of FY24.

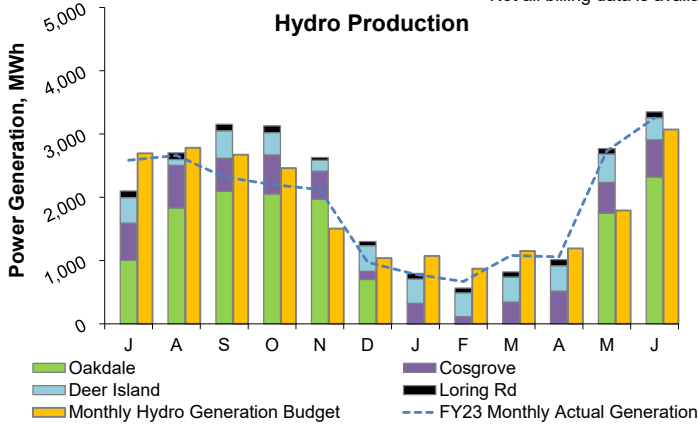


Maintenance overtime was \$16,133 under budget on average, per month, for the 4th Quarter of FY24. Overtime is used for critical maintenance repairs and wet weather events. The overtime budget through the 4th Quarter of FY24 is \$691,712. Overtime spending was \$495,001 which is \$196,711 under budget for the fiscal year.

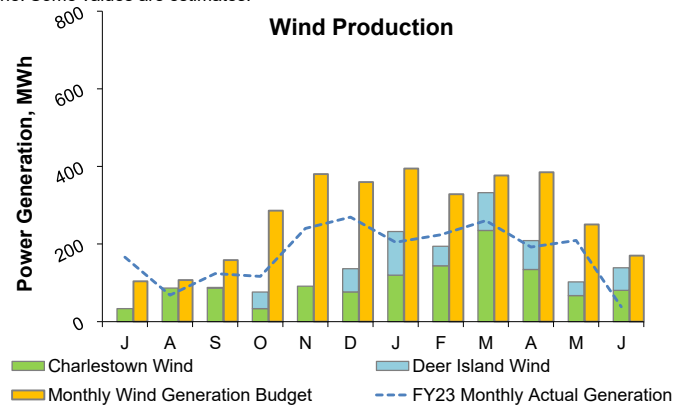
Renewable Electricity Generation: Savings and Revenue

4th Quarter - FY24

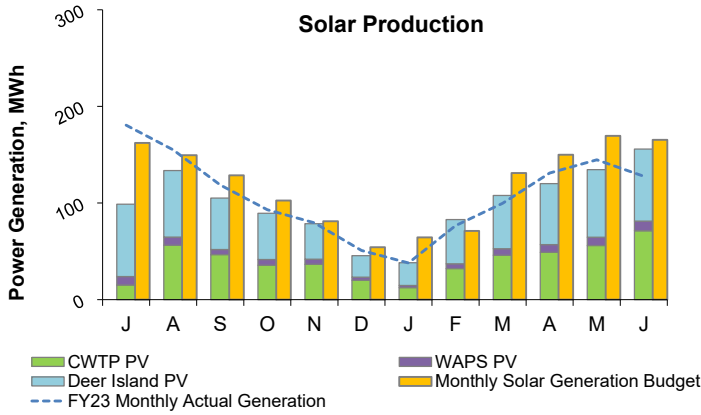
* Not all billing data is available for June. Some values are estimates.



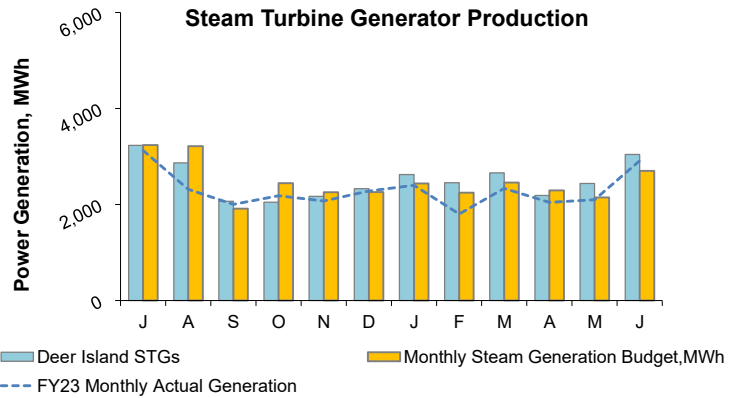
In the Quarter 4, the renewable energy produced from all hydro turbines totaled 7,239 MWh; 20% above budget¹. However, values for the Oakdale turbines are internal estimates and not based on utility billing data.



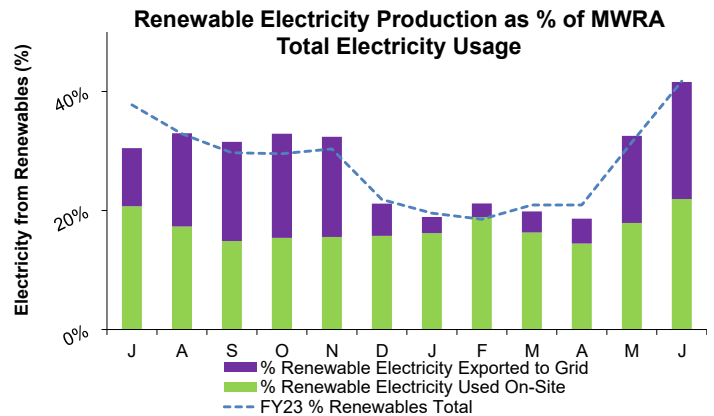
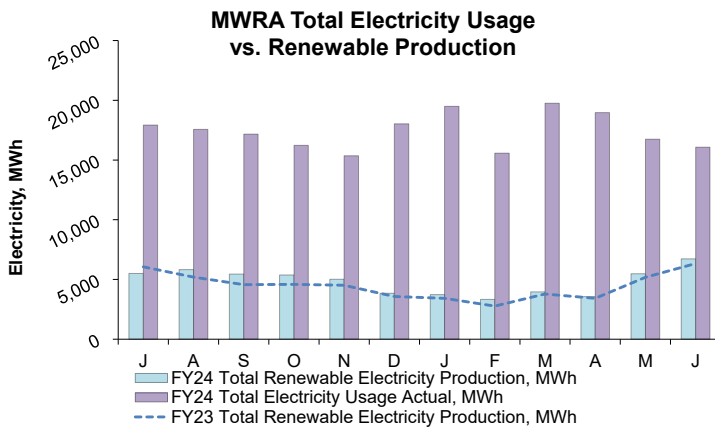
In Quarter 4, the renewable energy produced from all wind turbines totaled 139 MWh; 18% below budget¹. Deer Island Turbine #1 has been out of service since April 2022, and was heavily damaged following a braking failure on May 29, 2023.



In Quarter 4, the renewable energy produced from all solar PV systems totaled 411 MWh; 15% below budget¹. The Deer Island Residuals Odor Control roof mounted array has been offline since September 11, 2022 due to a failed inverter. An inverter was repaired at the CWTP array, restoring the system to full design capacity.



In Quarter 4, the renewable energy produced from all steam turbine generators totaled 7,671 MWh; 13% above budget¹.



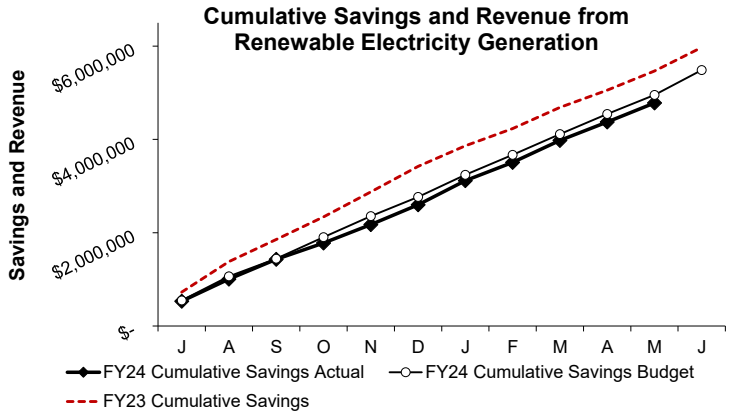
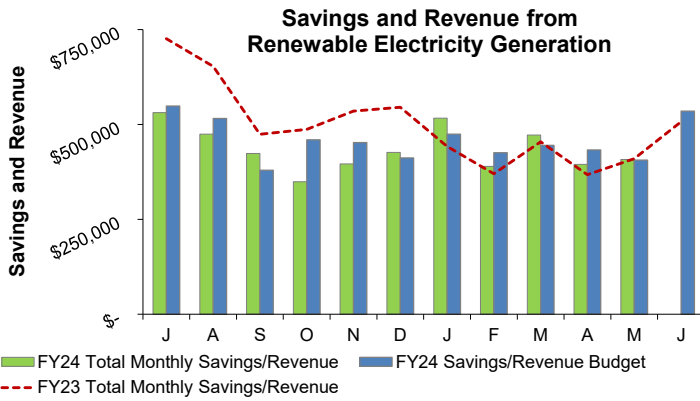
In Quarter 4, MWRA's electricity generation by renewable resources totaled 15,771 MWh, 9% above budget.* MWRA's total electricity usage was approximately 51,778* MWh. Renewable resources were 30.3% of total usage. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site at these facilities. Approximately 99% of FOD electrical accounts are accounted for by actual billing statements; minor accounts that are not tracked on a monthly basis such as meters and cathodic protection systems are estimated based on this year's budget. All renewable electricity generated on DI is used on-site (this accounts for more than 50% of MWRA renewable generation). Almost all renewable electricity generated off-DI is exported to the grid.

Notes: 1. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.

Renewable Electricity Generation: Savings and Revenue

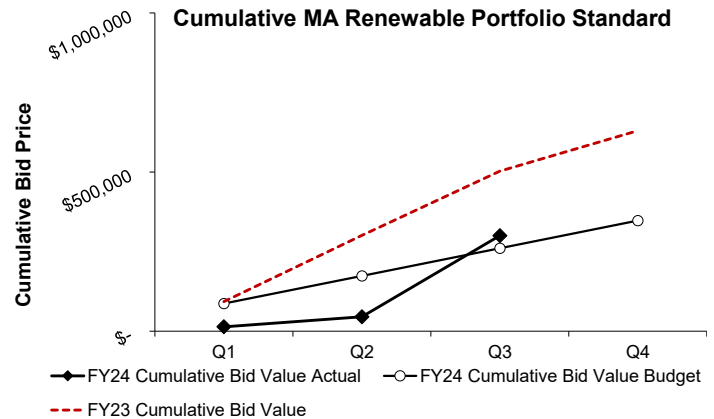
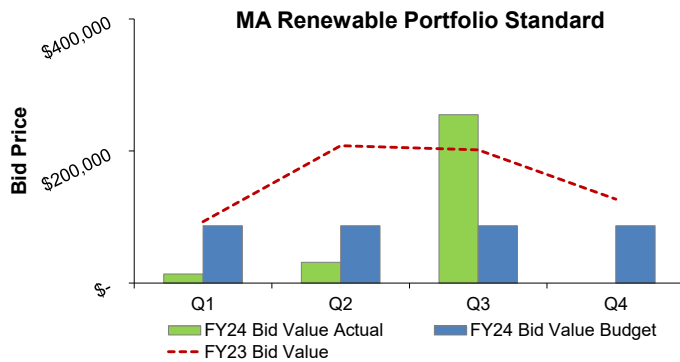
4th Quarter - FY24

* Not all billing data is available for June. Some values are estimates.



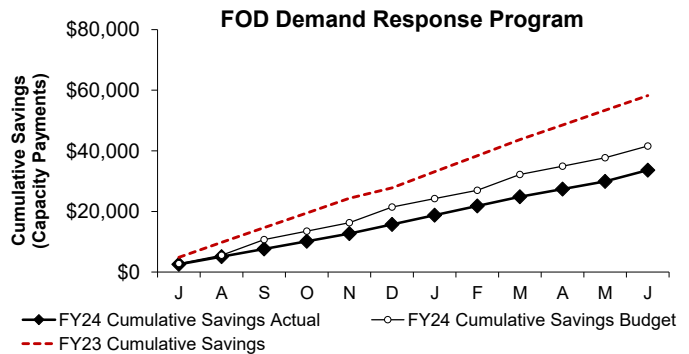
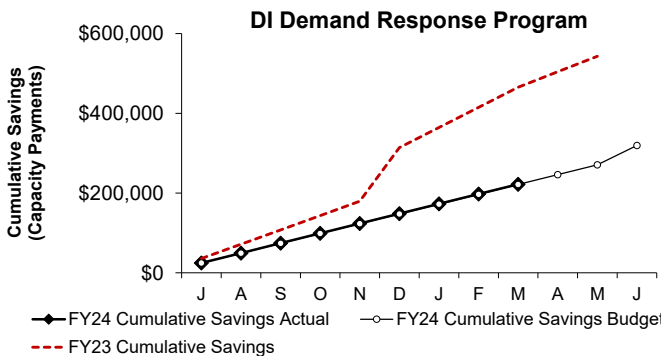
Savings and revenue from renewable energy sources totaled \$407,697 in May. Not all data savings and revenue data for June has been received. Cumulative Savings and Revenue is 3% below budget for the fiscal year as of May.

Savings and revenue¹ from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs). The use of DITP digester gas as a fuel source provides the benefit of both electricity generation from the steam turbine generators, and provides thermal value



Bids were awarded during the 3rd Quarter² from MWRA's renewable energy assets; 479 Q2 FY23 Class 1 Renewable Energy Certificates (RECs); and 8,541 Q1 and Q2 FY24 Class 2 RECs were sold for a total value of \$255,027 RPS revenue; which is 194% above budget³ for the Quarter. Class 2 RECs are usually sold in Q2 but no qualifying bids were received, and banked RECs were sold in Q3. REC values reflect the bid value on the date that bids are accepted. Cumulative bid values reflects the total value of bids received to date.

*MWRA's SRECs have transitioned to the Class 1 REC category starting in FY23.

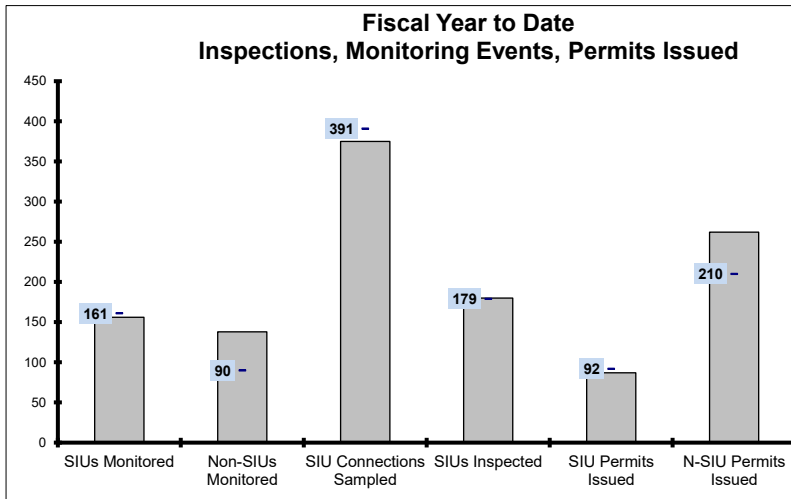


Currently Deer Island, Loring Rd, Brutsch Hydro, and JCWTP participate in the ISO-New England Demand Response Programs. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates the generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE. Capacity Payments for Deer Island total \$222,102 through March FY24, and payments for FOD total \$33,639 YTD through June.

- Notes:
1. Savings and Revenue: Savings refers to any/all renewable energy produced that is used on-site therefore saving the cost of purchasing that electricity, and revenue refers to any value of renewable energy produced that is sold to the grid.
 2. Only the actual energy prices are being reported. Therefore, some of the data lags up to 3 months due to timing of invoice receipt.
 3. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.

Toxic Reduction and Control

4th Quarter - FY24



EPA Required SIU Monitoring Events for FY24: 161
YTD : **156**

Required Non-SIU Monitoring Events for FY24: 90
YTD : **138**

SIU Connections to be Sampled For FY24: 391
YTD: **375**

EPA Required SIU Inspections for FY24: 179
YTD: **180**

SIU Permits due to Expire In FY24: 92
YTD: **87**

Non-SIU Permits due to Expire in FY24: 210
YTD: **262**

Significant Industrial Users (SIUs) are MWRA's highest priority industries due to their flow, type of industry, and/or their potential to violate limits. SIUs are defined by EPA and require a greater amount of oversight. EPA requires that all SIUs *with flow* be monitored at least once during the fiscal year.

The "SIU Monitored" data above, reflects the number of industries monitored; however, many of these industries have more than one sampling point and the "SIU Connections Sampled" data reflect samples taken from multiple sampling locations at these industries.

EPA requires MWRA to issue or renew 90 percent of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10 percent of SIU permits to be issued within 180 days.

	Number of Days to Issue a Permit						Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	1	3	0	1	0	0	1	4
Aug	5	7	0	1	0	1	5	9
Sep	14	28	0	3	0	0	14	31
Oct	11	34	0	1	0	1	11	36
Nov	15	24	1	2	0	2	16	28
Dec	3	10	0	2	0	0	3	12
Jan	0	0	0	0	0	0	0	0
Feb	0	1	0	0	0	0	0	1
Mar	12	35	1	10	0	10	13	55
Apr	6	14	1	0	0	0	7	14
May	9	21	1	1	0	12	10	34
Jun	6	21	1	5	0	13	7	39
% YTD	94%	75%	6%	10%	0%	15%	87	263

TRAC's annual monitoring and inspection goals are set at the beginning of each fiscal year but they can fluctuate due to the actual number of SIUs.

In addition to the Annual SIU inspections required under TRAC's EPA approved Industrial Pretreatment Program, other inspections are usually undertaken, including for enforcement, permit renewal, follow up, temporary construction dewatering sites, group/combined permit audits, spot, sampling locations, visit only and out of business facility.

Monitoring of SIUs and Non-SIUs is dynamic for several reasons, including: newly permitted facilities; sample site changes requiring a permit change; changes in operations necessitating a change in SIU designation; non-discharging industries; a partial sample event is counted as an event even though not enough sample was taken due to the discharge rate at the time; and sometimes increased/decreased inspections lead to permit category changes requiring additional monitoring events

This is the fourth quarter of the MWRA fiscal year, FY24.

In this quarter, 111 permits issued.
There were 24 SIUs, of which 21 were issued on time.
There were 87 non-SIUs of which 56 were issued on time, with 25 late beyond 180 days.

All but 3 of the SIU permits were issued within the 120-day timeframe. The 3 SIUs were issued after 120 days due to outstanding permit fees holding up the issuance of the permits.

In FY24, there have been 41 completely new permits issued: 8-LFLP, 2-02 N-SIUs, 21-Dental, 2-One Time discharge, 1-06 Septage, 7-02 SIU

For the Clinton Sewer Service area, there was 0 SIU permits issued during the FY24 fiscal year.

Permit Categories, as defined in CMR 10.101(2):

DEW - Category 12 Temporary Construction Site Dewatering Permit

LFLP - Category 10 Non-Significant Industrial User with Low Flow and Low Pollutant

02 N-SIU - Category 2 Non-Significant Industrial User

Dental - Category D1 Dental Group Permit

G2 - Category G2 Group Permit for Food Processing

Field Operations Highlights

4th Quarter 2024 – FY24

METRO WATER OPERATIONS AND MAINTENANCE

Valve Program:

- Valve operations to support in-house work including providing isolations on: Blow off Replacements along Sections 73, 77, 94, 83A, and 70, as well as air valve replacement on section 87. CIP Contractors supported by isolation and dewatering of portions of Section 29 and 89 (Contract 7117), WASM 11 (Contract 6544), Section 23, 24 & 47 (Contract 6392) and WASM 4 and WASM 16 (Contract 7563). Other work included Meter 183 by-pass valve repair and Reservoir level management and mainline valve exercising of 17 water main sections.

Water Pipeline Program

- Staff completed Blow-Off replacements in Sections 70, 73, 77, 83A, and 94. Leak repairs were completed in Brookline on the Boylston Street Line. Leak detection was performed on over 46 miles of MWRA water main and assistance was provided to seven (7) customer communities.

SCADA

Water System Work

- Continued technical support for JCWTP PLC replacement project; continued work on network management improvements in the JCWTP water system; completed move into new control room at JCWTP; Supported soda ash improvements contractor at JCWTP; Continued support for the Wachusett Lower Gate House Project and Steel Tank Project; Rebuilt Sudbury Dam PLC; replaced processor and supported replacement of actuator at Reservoir 1; rebuilt water server in Chelsea OCC; replaced wireless routers at Newton St Pump Station and Gillis Pump Station. Successfully tested wireless backup at Nash Hill; replaced input module at Walnut Hill.

Wastewater System Work

- Configured and hardened SCADA Operating system; continued work on Ward/Columbus, Braintree/Weymouth Pump Station Improvements Project; improved alarming at

Prison Point; installed and tested network SIEM on the wastewater network; improved security files at Cottage Farm CSO. Installed wireless routers at Caruso and DeLauri pump stations. Merged Nut Island Odor Control system into main SCADA system.

ENVIRONMENTAL QUALITY-WATER

- Algae: MWRA's algae monitoring season began this quarter with MWRA and DCR staff collecting algae samples at both reservoirs. All nuisance algae were below levels of concern and there were no algae related taste and odor complaints. Sampling staff conducted visual inspections for cyanobacteria at active and standby reservoirs, and commenced seasonal algal toxin screening.
- Regulatory Sampling: Staff collected samples for all quarterly monitoring programs including EPA's Unregulated Contaminant Monitoring Rule 5, Disinfection Byproducts Rule, and Optimal Water Quality Parameters. Sampling occurred for the Wachusett Aqueduct Pump Station Geothermal NPDES permit and the Carroll treatment plant NPDES permit, both related to half plant remediation operations.
- Non-Regulatory: MWRA voluntarily sampled at locations near residences with lead results over the lead action level from samples collected in March. All samples met pH and alkalinity targets. Staff conducted monthly sample collection for nitrification monitoring. Managers met with the DLS and Planning departments to review a recent AWWA Water Sciences *Legionella pneumophila* response plan article, and discuss plans to develop a response plan.
- Community Support: Training & Guidance: Staff trained Lynnfield Water staff on use of water quality field equipment. This field unit is available on loan to Lynnfield to test water routinely. Staff performed coliform sampler training with 22 attendees from MWRA and member communities. Staff met with Wayland's consultant to discuss water quality-monitoring plan for their transition to MWRA water supply. Sampling: Staff assisted Boston and Norwood with water quality complaints, and assisted the town of Bedford in Total Coliform and E.coli sample collection. Sampling staff performed

Field Operations Highlights

4th Quarter 2024 – FY24

pipeline clearance sampling in Boston, Brookline, Newton, and Brighton.

- Projects: Staff performed routine sampling for the lead pipe-rig study at the Carroll Water Treatment Plant. Staff sampled for Legionella as part of collaborative research study with Georgia Tech and the University of Texas.
- Contaminant Monitoring System (CMS): This quarter, staff responded to seven CMS alarms and followed routine response protocols during each event. Staff relocated and tested the CMS mobile trailer. Staff assisted diving contractor with second quarterly dive inspection of the intake structure at the Wachusett Reservoir water quality monitoring shed. Staff also completed the installation and roll out of new CMS equipment at all sites in June.
- Wachusett & Quabbin Buoys: Staff successfully deployed three Wachusett buoys and one Quabbin buoy in April and May. All Buoys continue to conduct scheduled profiles on both reservoirs. A new fixed depth buoy was advertised for bidding by interested vendors.
- Data Management Group (<http://wqdmqdev.mwra.net/>): submitted monthly DEP and DPH reports on schedule and fulfilled 17 data requests. Staff reviewed draft guidance document and all other Consumer Confidence Report documents. All data from Chicopee's Total Coliform Rule program and MWRA's buoy water quality profiles are now stored in local databases and managed by the group.
- Environmental / Permitting/Environmental Compliance: Southborough Spill Prevention, Control and Countermeasure (SPCC) final draft comments were sent to vendor. Oakdale SPCC 5-year plan finalized.
- Environmental / Chemical Contract Management: prepared numerous chemical supply contracts for bidding, reviewed chemical bid documents from vendors.

Report production on 2023 monitoring data has begun.

- Harbor/CSO Receiving Water Monitoring: Biweekly harbor monitoring continues. Seasonal CSO receiving water sampling began in April.
- Permitting and Compliance Reporting: Submitted monthly and quarterly discharge monitoring reports, and as-needed notifications of CSOs, SSOs, and blending, and provided prior notice of essential maintenance. Submitted annual certifications of annual CSO structure inspections and of Best Management Practices at drinking water facilities. Submitted annual reports for: industrial stormwater permit at Deer Island, biosolids reports for DITP/Pellet Plant and for Clinton, Clinton collection system O&M report, and the pesticide general permit report. Also submitted annual report required by sewage notification regulation, and annual report on injuries at wastewater facilities. Submitted quality assurance plan for ambient phosphorus monitoring as required by Clinton NPDES permit. NPDES Steering Committee met in April and June.
- Coordination with other MWRA Departments: Assisted Engineering & Construction (E&C) by participating in community CSO coordination meetings, meetings with regulatory agencies, and by reviewing draft presentations and contributing to reports. Worked with MIS and consultants on Discoverer to SAP Webi migration.
- Cooperation with other agencies: Continued communication with metro Boston CSO permittees about new sewage notification regulation. Staff attended NERACOOS and NOAA Fisheries hosted workshop on plankton monitoring, and the spring meeting of the New England Estuarine Research Society. Staff attended the virtual meeting of the Stellwagen Bank National Marine Sanctuary Advisory Council, and met with the Northeastern Regional Association of Coastal and Ocean Observing Systems to discuss buoy-based scientific instrumentation. Staff attended training on the new Massachusetts Department of Public Health Beach Data Portal system.

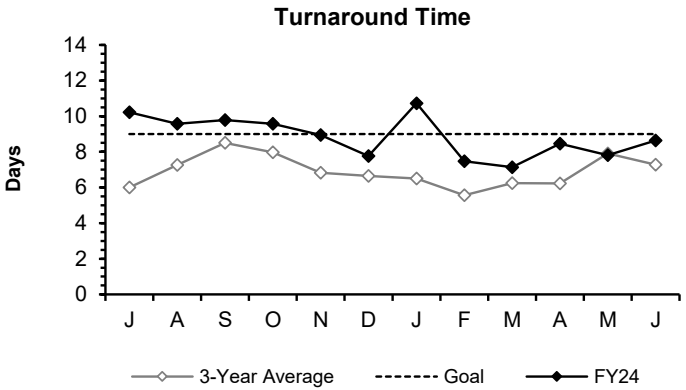
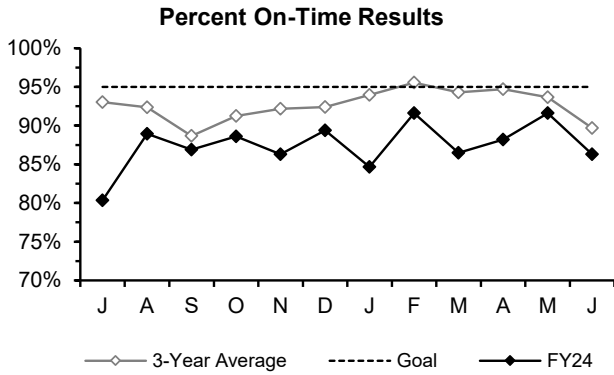
ENVIRONMENTAL QUALITY- WASTEWATER

- Ambient Monitoring: Three monthly water column surveys were successfully completed.

Laboratory Services

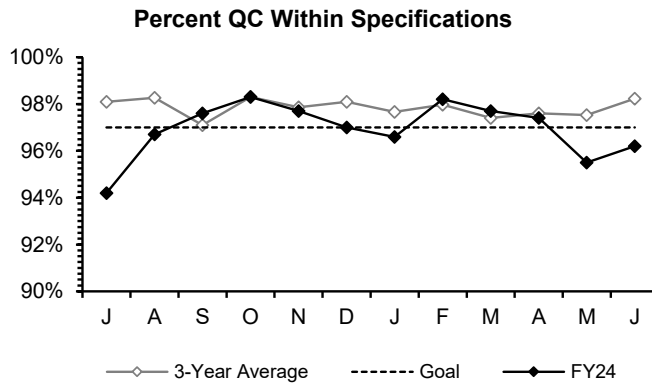
4th Quarter - FY24

Laboratory Services supports the laboratory sampling, testing, and consulting needs of various client groups primarily in the Operations Division. This includes drinking water transmission and treatment, wastewater collection and treatment, wastewater residuals management, industrial-pretreatment monitoring, and environmental quality.

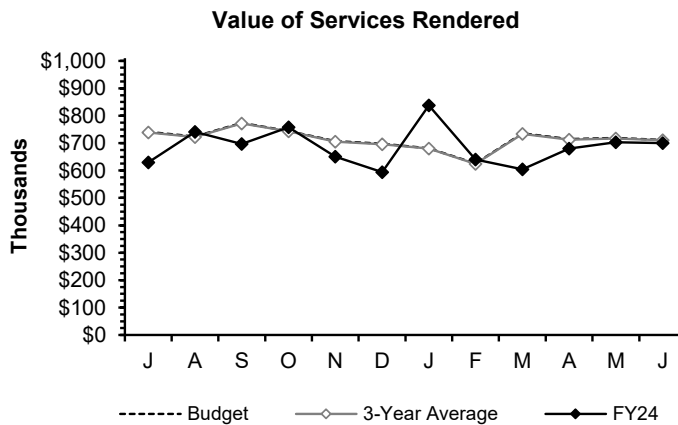


The Percent On-Time measurement assesses performance against internal client due dates. These due dates are shorter than the compliance reporting requirements to allow for internal review of the data.

Turnaround Time measures the average time from sample receipt to sample completion.



Percent QC Within Specifications measures the fraction of Quality Control tests that met required limits during the month.



Value of Services Rendered models the true cost of the lab work performed, including fringe benefits that are not a part of the Laboratory Services budget.

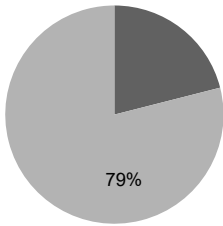
School Lead Program: During the 4th quarter of FY24, MWRA's lab completed 2518 tests from 59 schools and childcare facilities in 17 communities. Since 2016, MWRA's Laboratory has conducted over 44,000 tests from 647 schools and daycares in 45 communities. We have also completed 1007 home lead tests under the DPH sampling program since 2017.

CONSTRUCTION PROGRAMS

Engineering & Construction Projects In Construction

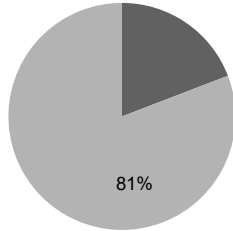
4th Quarter – FY24

Cost



■ Amount Remaining
■ Billed to Date

Time



■ Time Remaining
■ Time Expended

Carroll Water Treatment Plant SCADA Improvements

Project Summary: The current SCADA control equipment has reached the end of its useful life, and future vendor support for the installed PLC base is no longer guaranteed. This contract includes the supply and installation of replacement instrumentation panels, PLC's, UPS backup power, fiber-optic communication network, wiring between the existing panels, and new equipment and refurbishment of the operator control room. In addition, a new server room equipped with HVAC and fire suppression is being constructed to house redundant computer hardware supporting active and backup SCADA systems.

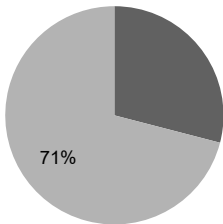
Contract Amount: \$13,526,674.07

Contract Duration: 1,127 Days

Notice to Proceed: 1-Sep-21

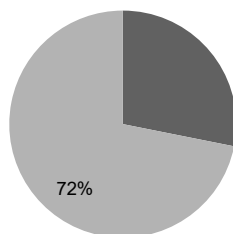
Contract Completion: 2-Oct-24

Cost



■ Amount Remaining
■ Billed to Date

Time



■ Time Remaining
■ Time Expended

Section 89 Replacement Pipeline

Project Summary: This project will include replacement of a 10,500-foot portion of PCCP with class IV reinforcing wire, line valves and appurtenances, and abandonment of the 118-year old, 24-inch diameter cast iron Section 29 pipeline.

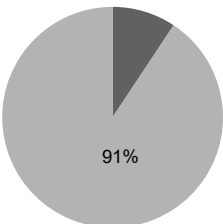
Contract Amount: \$35,275,662.11

Contract Duration: 1,475 Days

Notice to Proceed: 5-Aug-21

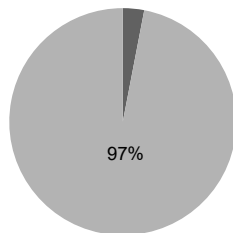
Contract Completion: 19-Aug-25

Cost



■ Amount Remaining
■ Billed to Date

Time



■ Time Remaining
■ Time Expended

Low Service PRV Improvements

Project Summary: This project will demolish the existing Nonantum Road and Mystic Valley Parkway PRV vault structures, including four 24-inch PRVs and appurtenances, and construct new, larger cast-in-place vaults. At Mystic Valley Parkway, two 42-inch PRVs and at Nonantum Road two 30-inch PRVs, isolation valves, piping, and other appurtenances will be installed. Additionally, a new master meter will be constructed at the Mystic Valley Parkway pressure reducing valves and the existing master meter located near the Nonantum Road pressure reducing valves will be upgraded to accommodate the increased flow.

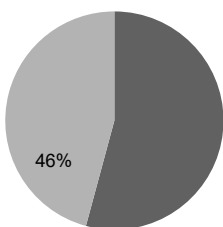
Contract Amount: \$12,205,837.64

Contract Duration: 990 Days

Notice to Proceed: 14-Jul-21

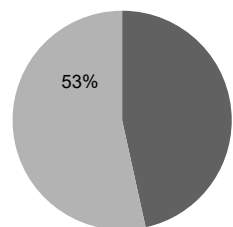
Contract Completion: 30-Mar-24

Cost



■ Amount Remaining
■ Billed to Date

Time



■ Time Remaining
■ Time Expended

Construction of Water Mains – Section 101

Project Summary: This construction contract consists of a new 36-inch diameter water main and appurtenances extending from MWRA's Meter 182 at the Waltham/Lexington town line down Lexington Street to Totten Pond Road, where it will connect to Waltham's water system. This new water main will provide sufficient capacity to maintain water service to Waltham during the anticipated shutdown of MWRA's WASM 3 pipeline and the Lexington Street Pumping Station for future rehabilitation.

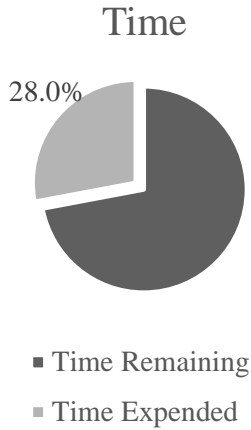
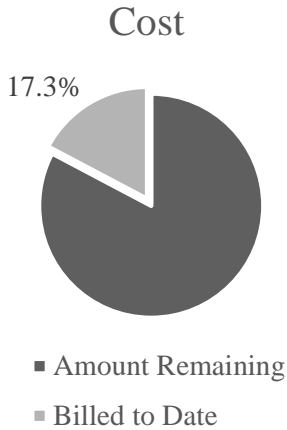
Contract Amount: \$33,235,976.89

Contract Duration: 1175 Days

Notice to Proceed: 12-Jul-22

Contract Completion: 29-Sep-25

Deer Island Wastewater Treatment Plant Projects In Construction 4th Quarter – FY24



7395 - Clarifier Rehabilitation Phase 2

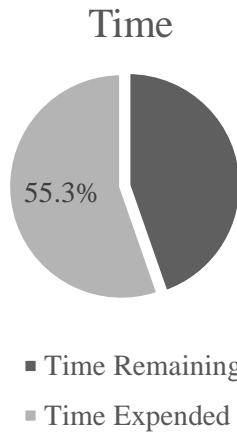
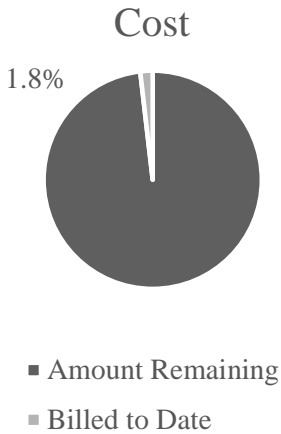
Project Summary: This project involves the replacement of the original remaining scum and sludge equipment, as follows: over 400 Primary Clarifier influent, effluent, and dewatering gates; 384 primary effluent cross channel gate actuators; approximately 450 secondary scum influent gates and actuators; wear strip rails, 768 head shaft and idler sprockets; over 3000 linear feet of influent channel aerations piping systems; 360 head shafts collector drives and chains; return sludge line vent piping; approximately 400 concrete and aluminum hatches and associated electrical and control systems.

Contract Amount: \$289,359,690

Contract Duration: 1710 Days

Notice to Proceed: 10-Mar-23

Contract Completion: 14-Nov-27



7734 - Deer Island Treatment Plant Roofing Replacement at Various Buildings

Project Summary: This project includes the removal and replacement of 86,500 square feet of roofing on the following buildings: Cryogenic Compressor; Gravity Thickener Complex; Thermal/Power Plant; Main Switchgear; and Digester Complex Modules 1, 2 and 3. Buildings to be reroofed in the Digester Complex include: Module 1- Digester Equipment Complex Roof, Elevator/Stair Lobby Roof and Elevator Penthouse Roof; Module 2 - Digester Equipment Complex Roof; and Module 3- Digester Equipment Complex Roof and Elevator Penthouse Roof.

Contract Amount: \$8,873,000

Contract Duration: 365 Days

Notice to Proceed: 28-Dec-2023

Contract Completion: 27-Dec-2024

CSO CONTROL PROGRAM

4th Quarter – FY24

Overview

In compliance with milestones in the Federal District Court Order, all 35 projects in the CSO Long-Term Control Plan (LTCP) were complete as of December 2015. Subsequently, MWRA completed a multi-year CSO post-construction monitoring program and performance assessment, filing the Final CSO Post Construction Monitoring Program and Performance Assessment Report with the Court and submitted copies to EPA and DEP in December 2021. April 2024 Annual report shows an 88% reduction in CSO in a typical year, from 3.3 billion gallons to 397 million gallons, with 73 of 86 outfalls meeting or materially meeting the LTCP goals for CSO activation frequency and volume. MWRA and its member CSO communities are moving forward with plans to bring 7 of the 13 (formerly 16) CSOs in line with the LTCP goals. With respect to the remaining 6 challenging CSO outfalls, MWRA and its CSO Consultant (AECOM) continue to investigate alternative to move closer to LTCP goals.

MWRA CSO Performance Assessment

- In November 2017, MWRA signed a contract for CSO Post-Construction Monitoring and Performance Assessment with AECOM Technical Services, Inc. The contract includes CSO inspections, overflow metering, hydraulic modeling, system performance assessments and water quality impact assessments, culminating in the submission of a report to EPA and MassDEP in December 2021 verifying whether the LTCP goals are attained.
- AECOM continues to support efforts to advance project identified to meet performance goals at 7 of the 13 CSOs that don't meet LTCP goals, evaluate alternatives for the remaining 6 challenging sites, and predict and report on annual CSO discharges.
- Submit in December 2024 a Supplement to the Post-Construction Monitoring and Performance Assessment report with the MWRA's final results and conclusions as to the 16 outfalls that have not met their respective LTCP goals.

Court Ordered Levels of CSO Control

Progress on the work to comply with the court ordered levels of CSO control is discussed with the EPA/MassDEP at progress meetings held quarterly. The last meeting was held on 3/28/2024 and the next meeting will held 9/26/2024.

Ongoing Projects as of June 30, 2024

- *East Boston CSO Control*: As part of the East Boston CSO a FAA/MOU was executed in June 2021 for \$2.1M, BWSC design and construction. East Boston Contract 3 is complete and BOS003 and BOS009 are anticipated to meet the LTCP goals. Plans for Phase 4 sewer separation with five new contracts starting summer 2024 (through 2030) will result in most of East Boston being separated. *Somerville Marginal New Pipe Connection* came out of the variance optimization study that recommended adding a new pipe from the facility's CSO influent conduit to the interceptor with an added control gate. The \$6.7 (est.) construction project is expected to be completed by December 2025.

- *Fort Point Channel and Mystic Confluence* – BOS013, BOS062, BOS065, BOS070 DBC and BOS017: The FAA/MOU was amended on December 13, 2023 to include BOS013. The FAA/MOU was amended again on 1/29/2024 to increase the amount to \$11.9 million to accommodate the greater than anticipated construction cost.
- *CAM005 weir raising and lengthening* for reducing CSO activation and frequency volume. The contract for the design was executed 7/17/2024. Cost estimate \$1,000,000. Anticipated completion of construction in 2025.

CSO variances

MassDEP has issued a series of multi-year CSO variances that allow MWRA, Cambridge, and Somerville to continue to have limited CSO discharges to Alewife Brook and the Upper Mystic River, as well as the Charles River lower basin. The most recent variances, issued in 2019, require the development of Updated LTCP. The Updated LTCPs must include a description of the existing level of CSO control, an evaluation of the costs and the performance and water quality improvements achieved by additional CSO control alternatives, a public participation plan, and an affordability analysis. Draft Updated Control Plan due December 2025 and the Final Plan due December 2027.

- o MassDEP and EPA conditionally approved MWRA's Updated CSO Control Plan Scope of Work on 5/11/2022.
- o Schedule Extension Request for Deliverables Associated with Updated CSO Control Plan was submitted 9/22/22. In May 2023 EPA/MassDEP advised that MWRA, Cambridge and Somerville proceed according to our revised schedule.
 - As identified in the variance the progress is reported at monthly meetings with EPA/MassDEP. The next meeting is scheduled for 8/14/2024. Key elements of the Updated CSO Control Plan are discussed including the development of Alternatives to be evaluated using the Unified Hydraulic Model.
- o The 3rd of 8 planned meetings was held on 11/15/2023. The next Public Meeting is scheduled for late autumn of 2024.
- o Development and Submittal of Studies as required under variance included the following:
 - Alewife PS Optimization Evaluation was submitted on 4/27/2021
 - Somerville Marginal CSO Reduction, Study and Preliminary Design was submitted on 12/27/2021
 - Alewife Brook and Charles River System Optimization Evaluation was submitted on 12/28/2022
 - MWRA CSO Variances Additional System Optimization Measures Report was submitted on 1/31/2023.
- o Bi-annual meeting with CLF/Watershed groups held on 6/21/2023. Next meeting November.

CIP Expenditures

4th Quarter – FY24

FY24 Capital Improvement Program Expenditure Variances through June by Program - (\$ in thousands)				
Program	FY24 Budget Through June	FY24 Actual Through June	Variance Amount	Variance Percent
Wastewater	\$137,647	\$94,000	(\$43,647)	-31%
Waterworks	\$141,742	\$104,956	(\$36,786)	-25%
Business and Operations Support	\$22,812	\$9,281	(\$13,531)	-59%
Total	\$302,201	\$208,237	(\$93,964)	-31%

Wastewater:

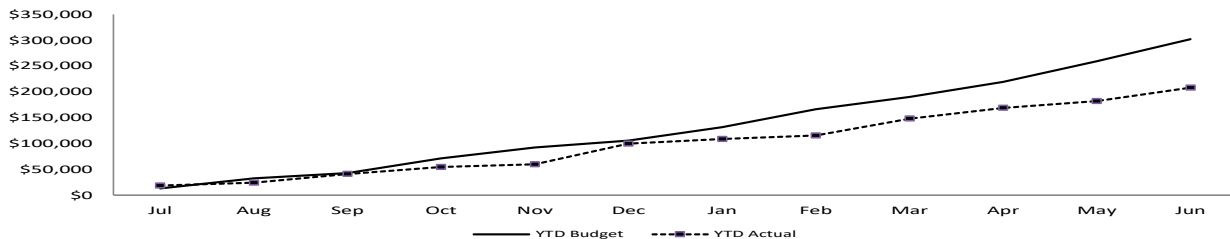
- Spending was less than planned in Wastewater due to timing of community grants and loans for the I/I Local Financial Assistance program, later than anticipated contract award for DITP Roofing Replacement, schedule changes for Motor Control Center Switchgear Replacement, Siphon Structure Rehabilitation Construction, Hayes Pump Station Rehabilitation Construction, DiStor Membrane Replacements, DI Fire Alarm Construction, and Clinton WWTP Digester Cover Replacement, delay in performing shaft inspections and issuing NTP for Final Design for Ward Street & Columbus Park Headworks Upgrades Design/CA, changes to the structural steel design leading to later than anticipated date for its fabrication and installation for Braintree/Weymouth Improvements and lower than projected task order work for Deer Island As-Needed Design.
- This less than planned spending was partially offset by equipment received ahead of schedule for Clarifier Rehabilitation Phase 2 Construction, earlier than anticipated Fort Point Channel and Mystic community work, contract award being greater than planned for Prison Point Discharge Piping Rehab, and Chelsea Creek Headworks Upgrade claim settlements.

Water:

- Spending was less than planned in Waterworks due to updated schedules for Section 75 Extension, CP3 Shafts 7, 7B, 7C & 7D, Steel Tank Improvements, Maintenance Garage/Wash Bay/Storage Building and Shaft 5 Improvements Construction, less than anticipated contractor progress for Section 89/29 Replacement, lower than anticipated spending for the completion of Metropolitan Tunnel Redundancy Preliminary Design & Massachusetts Environmental Policy Act Review, timing of final contractor work including paving for CP-1 NEH Improvements, lower than projected spending for Wachusett LGH Pipe and Boiler Replacement, timing of Quinapoxet Dam Removal work, lower than projected task order work for CWTP Technical Assistance, and work scheduled for FY24 performed in FY23 for WASM 3 Rehabilitation CP-1.
- This less than planned spending was partially offset by timing of community distributions for the Water Loan program, contractor progress on CP-2, Sections 25 & 24 Construction, and work scheduled for FY23 that was completed in FY24 for CWTP Chemical Feed System.

Budget vs. Actual CIP Expenditures (\$ in thousands)

Total FY24 CIP Budget of \$302,200



Construction Fund Management

All payments to support the capital program are made from the Construction Fund. Sources of fund in-flows include bond proceeds, commercial paper, SRF reimbursements, loan repayments by municipalities, and current revenue. Accurate estimates of cash withdrawals and grant payments (both of which are derived from CIP spending projections) facilitate planning for future borrowings and maintaining an appropriate construction fund balance.

Cash Balance as of 6/30/24	\$157.3 million
Unused capacity under the debt cap:	\$2.25 billion
Estimated date for exhausting construction fund without new borrowing:	Oct 2024
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding:	\$80 million
Commercial paper capacity / Revolving Loan	249 \$170 million
Budgeted FY24 Cash Flow Expectancy*:	22 \$246 million

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

4th Quarter – FY24

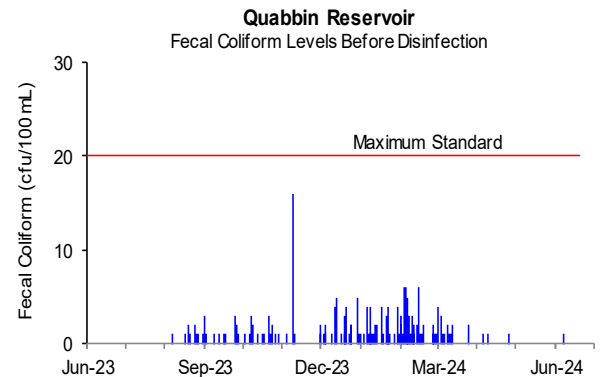
Source Water – Microbial Results

Total coliform bacteria are monitored in both source and treated water to provide an indication of overall bacteriological activity. Most coliforms are harmless. However, fecal coliforms, a subclass of the coliform group, are identified by their growth at temperatures comparable to those in the intestinal tract of mammals. They act as indicators of possible fecal contamination. The Surface Water Treatment Rule for unfiltered water supplies allows for no more than 10% of source water samples prior to disinfection over any six-month period to have more than 20 fecal coliforms per 100mL.

Sample Site: Quabbin Reservoir

Quabbin Reservoir water is sampled at the William A. Brutsch Water Treatment Facility raw water tap before being treated and entering the CVA system.

All samples collected during the quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples have exceeded a count of 20 cfu/100mL.**

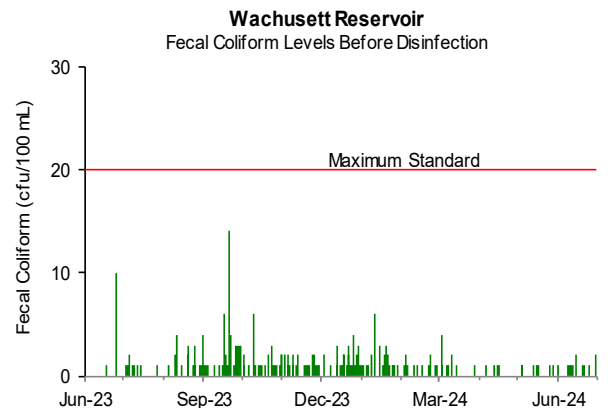


Sample Site: Wachusett Reservoir

Wachusett Reservoir water is sampled at the CWTP raw water tap in Marlborough before being treated and entering the MetroWest/Metropolitan Boston systems.

In the wintertime when smaller water bodies near Wachusett Reservoir freeze up, many waterfowl will roost in the main body of the reservoir - which freezes later. This increased bird activity tends to increase fecal coliform counts. DCR has an active bird harassment program to move the birds away from the intake area.

All samples collected during the 4th Quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

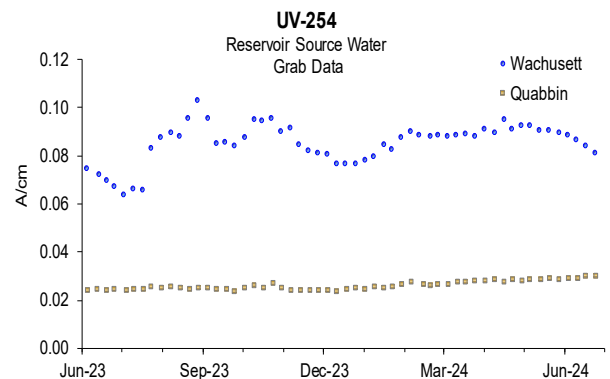


Source Water – UV Absorbance

UV Absorbance at 254nm wavelength (UV-254), is a measure of the amount and reactivity of natural organic material in source water. Higher UV-254 levels cause increased ozone and chlorine demand resulting in the need for higher ozone and chlorine doses, and can increase the level of disinfection by-products. UV-254 is impacted by tributary flows, water age, sunlight and other factors.

Quabbin Reservoir UV-254 levels averaged 0.029 A/cm for the quarter.

Wachusett Reservoir UV-254 levels averaged 0.089 A/cm for the quarter.



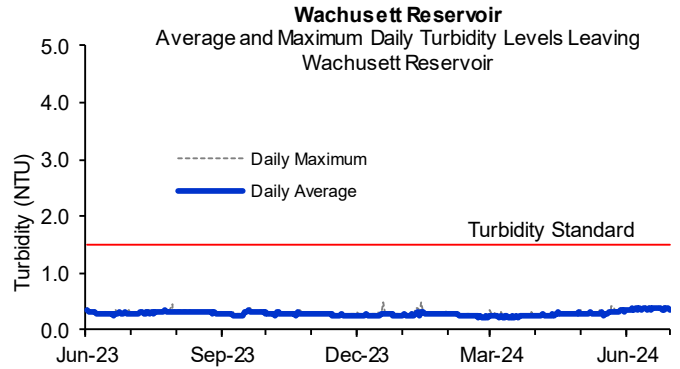
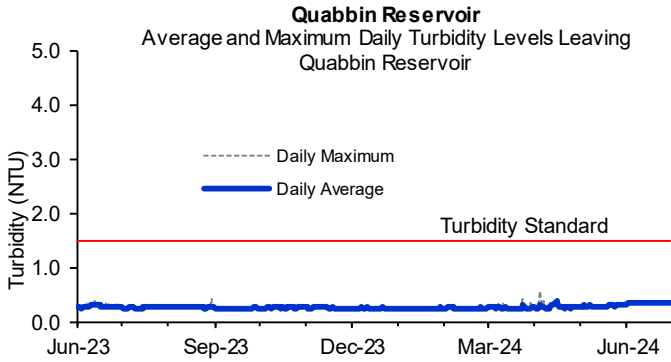
Source Water – Turbidity

4th Quarter – FY24

Turbidity is a measure of suspended and colloidal particles including clay, silt, organic and inorganic matter, algae and microorganisms. The effects of turbidity depend on the nature of the matter that causes the turbidity. High levels of particulate matter may have a higher disinfectant demand or may protect bacteria from disinfection effects, thereby interfering with the disinfectant residual throughout the distribution system.

There are two standards for turbidity: all water must be below five NTU (Nephelometric Turbidity Units), and water only can be above one NTU if it does not interfere with effective disinfection.

Turbidity of Quabbin Reservoir water is monitored continuously at the Brutsch Water Treatment Facility (BWTF) before UV and chlorine disinfection. Turbidity of Wachusett Reservoir is monitored continuously at the Carroll Water Treatment Plant (CWTP) before ozonation and UV disinfection. Maximum turbidity results at Quabbin and Wachusett were within DEP standards for the quarter.

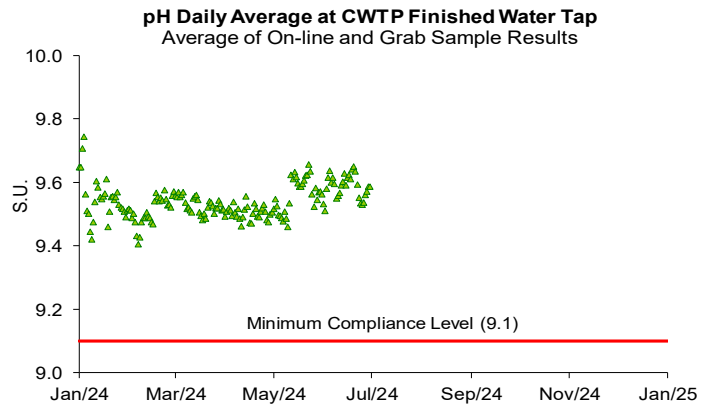
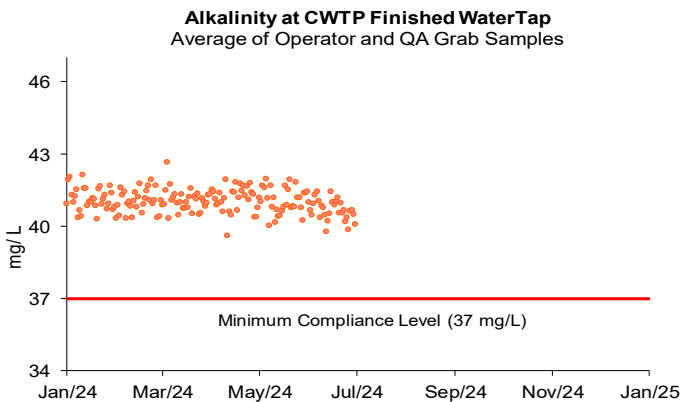


Treated Water – pH and Alkalinity Compliance

MWRA adjusts the alkalinity and pH of Wachusett water at CWTP to reduce its corrosivity, which minimizes the leaching of lead and copper from service lines and home plumbing systems into the water. MWRA tests finished water pH and alkalinity daily at the CWTP's Fin B sampling tap. MWRA's target for distribution system pH is 9.3; the target for alkalinity is 40 mg/l. Per DEP requirements, CWTP finished water samples have a minimum compliance level of 9.1 for pH and 37 mg/L for alkalinity. Samples from 27 distribution system locations have a minimum compliance level of 9.0 for pH and 37 mg/L for alkalinity. Results must not be below these levels for more than nine days in a six month period. Distribution system samples are collected in March, June, September, and December.

Each CVA community provides its own corrosion control treatment. See the CVA report: <https://www.mwra.com/annual/waterreport/2023results/PDFS/CVA.pdf>.

Quarterly distribution system samples were collected over a course of two weeks in June. Distribution system sample pH ranged from 9.3 to 9.7 and alkalinity ranged from 40 to 43 mg/L. No sample results were below DEP limits for this quarter.



Treated Water – Disinfection Effectiveness

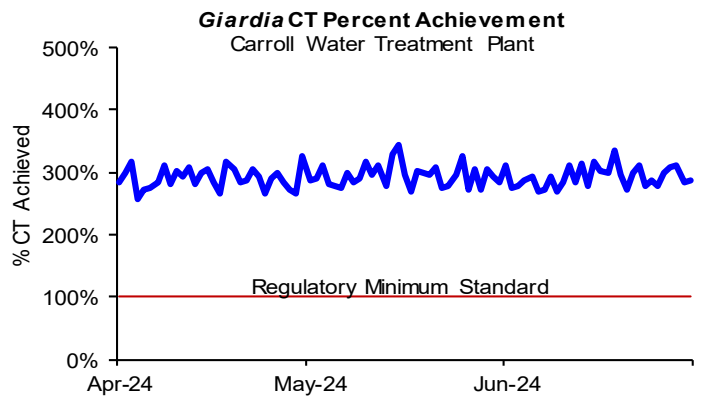
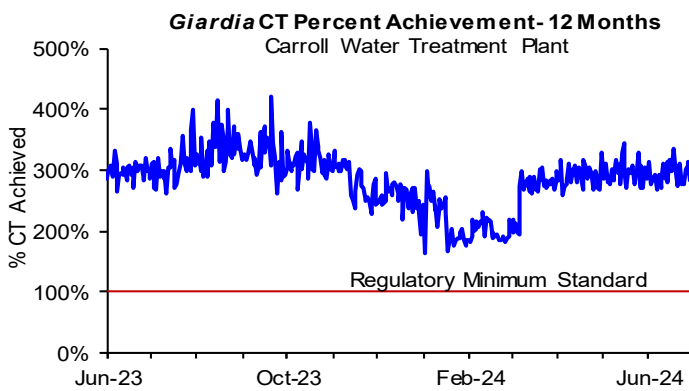
4th Quarter – FY24

At the Carroll Water Treatment Plant (CWTP), MWRA meets the required 99.9% (3-log) inactivation of *Giardia* using ozone (reported as CT: concentration of disinfectant x contact time) and the required 99% (2-log) inactivation of *Cryptosporidium* using UV (reported as IT: intensity of UV x time). MWRA calculates inactivation rates hourly and reports *Giardia* inactivation at maximum flow and *Cryptosporidium* inactivation at minimum UV dose. MWRA must meet 100% of required CT and IT.

CT achievement for *Giardia* assures CT achievement for viruses, which have a lower CT requirement. For *Cryptosporidium*, there is also an “off-spec” requirement. Off-spec water is water that has not reached the full required UV dose or if the UV reactor is operated outside its validated ranges. No more than 5% off-spec water is allowed in a month.

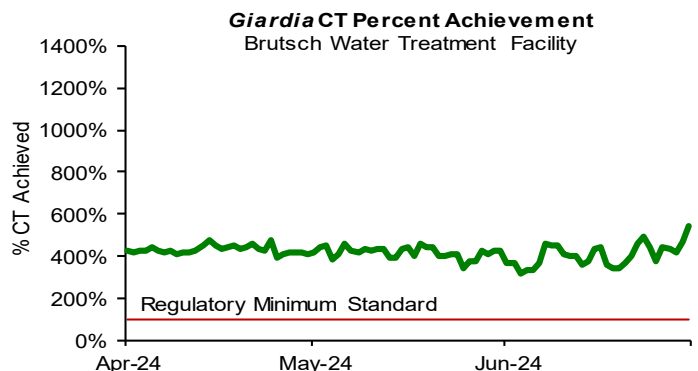
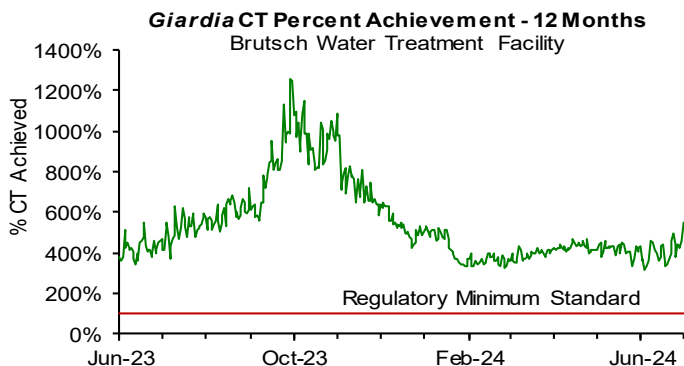
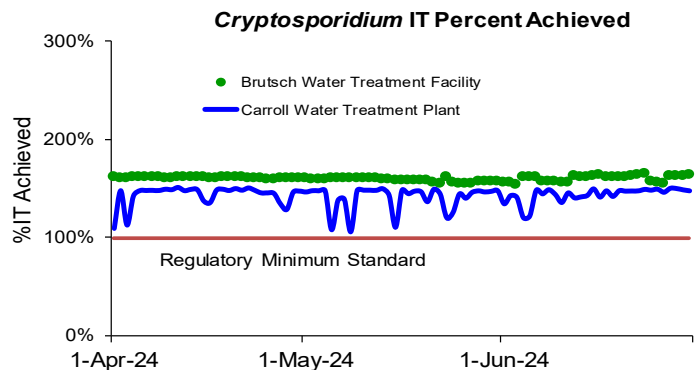
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- The chlorine dose at the CWTP varied between 3.45 and 3.95 mg/L for the quarter.
- Ozone dose at the CWTP varied between 2.3 to 3.2 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.



Quabbin Reservoir (CVA Supply) at: Brutsch Water Treatment Facility

- The chlorine dose at BWTF is adjusted in order to achieve MWRA's seasonal target of 0.75 - 0.85 mg/L (November 1 – May 31) and 0.85 - 1.05 mg/L (June 1 – October 31) at Ludlow Monitoring Station.
- The chlorine dose at BWTF varied between 1.40 to 1.55 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.

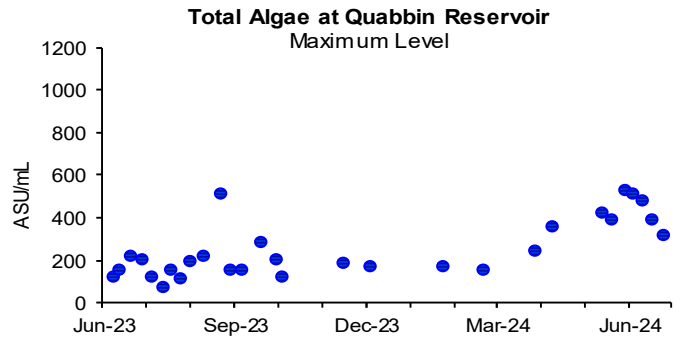
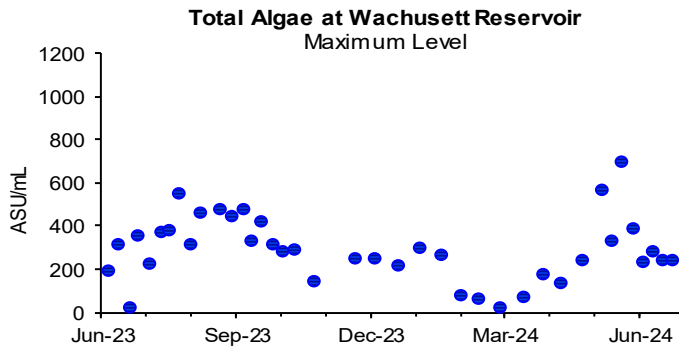


Source Water - Algae 4th Quarter – FY24

Algae levels in the Wachusett and Quabbin Reservoir are monitored by DCR and MWRA. These results, along with taste and odor complaints, are used to make decisions on source water treatment for algae control.

Taste and odor complaints at the tap may be due to algae, which originate in source reservoirs, typically in trace amounts. Occasionally, a particular species grows rapidly, increasing its concentration in water. When *Synura*, *Anabaena*, or other nuisance algae bloom, MWRA may treat the reservoirs with copper sulfate, an algacide. During the winter and spring, diatom numbers may increase. While not a taste and odor concern, consumers that use filters may notice a more frequent need to change their filters.

In the 4th quarter, there were no complaints believed to be algae related reported from local water departments.



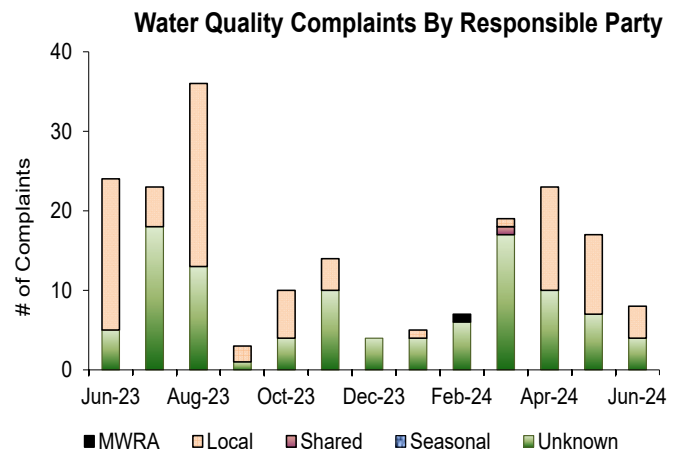
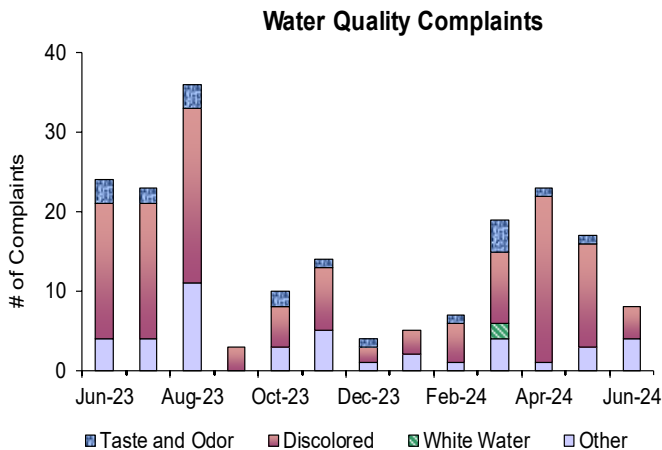
Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

MWRA collects information on water quality complaints that typically fall into four categories: 1) discoloration due to MWRA or local pipeline work; 2) taste and odor due to algae blooms in reservoirs or chlorine in the water; 3) white water caused by changes in pressure or temperature that traps air bubbles in the water; or 4) "other" complaints including no water, clogged filters or other issues.

MWRA routinely contacts communities to classify and tabulate water complaints from customers. This count, reflecting only telephone calls to towns, probably captures only a fraction of the total number of customer complaints. Field Operations staff have improved data collection and reporting by keeping track of more kinds of complaints, tracking complaints to street addresses and circulating results internally on a daily basis.

Communities reported 48 complaints during the quarter compared to 47 complaints from 4th Quarter of FY23. Of these complaints, 38 were for "discolored water", 2 were for "taste and odor", and 8 were for "other". Of these complaints, 27 were local community issues and 21 were unknown in origin.

Communities with discolored water (DW) complaints due to hydrant flushing performed (DW) during the quarter: (April – Arlington (6); May – Somerville (9); June – Somerville (4).



Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

4th Quarter – FY24

While all communities collect bacteria samples and chlorine residual data for the Total Coliform Rule (TCR), data from the 44 systems that use MWRA's Laboratory are reported below.

The MWRA TCR program has 144 sampling locations. These locations include sites along MWRA's transmission system, water storage tanks and pumping stations, as well as a subset of the community TCR locations.

Samples are tested for total coliform and *Escherichia coli* (*E.coli*). *E.coli* is a specific coliform species whose presence likely indicates potential contamination of fecal origin.

If *E.coli* are detected in a drinking water sample, this is considered evidence of a potential public health concern. Public notification is required if repeat tests confirm the presence of *E.coli* or total coliform.

Total coliform provide a general indication of the sanitary condition of a water supply. If total coliform are detected in more than 5% of samples in a month (or if more than one sample is positive when less than 40 samples are collected), the water system is required to investigate the possible source/cause with a Level 1 or 2 Assessment, and fix any identified problems.

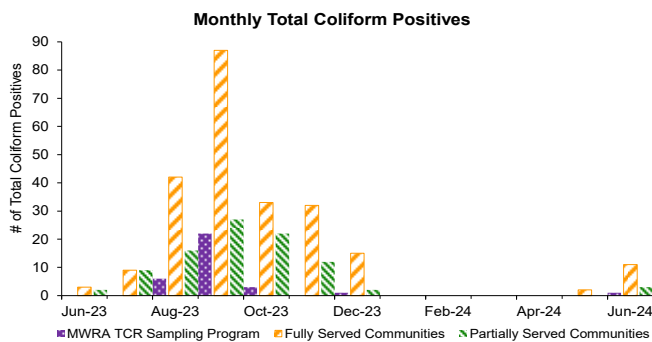
A disinfectant residual is intended to maintain the sanitary integrity of the water; MWRA considers a residual of 0.2 mg/L a minimum target level at all points in the distribution system.

Highlights

In the fourth quarter, sixteen of the 6,423 fully and partially served samples (0.25%) tested positive for total coliform. None of the 1899 Shared Community/MWRA samples tested positive for total coliform. None of the 400 CVA/MWRA community samples tested positive for total coliform. Bedford and Winthrop are required to conduct Level Assessments for June. One June sample in Bedford tested positive for *E.coli*. Repeat samples did not confirm for total coliform or *E.coli*. 0.1% of the Fully Served community quarterly samples had chlorine residuals lower than 0.2 mg/L

NOTES:

- MWRA total coliform and chlorine residual results include data from community locations. In most cases these community results are indicative of MWRA water as it enters the community system; however, some are strongly influenced by local pipe conditions. Residuals in the MWRA system are typically between 1.0 and 2.8 mg/L.
- The number of samples collected depends on the population served and the number of repeat samples required.
- These communities are partially supplied, and may mix their chlorinated supply with MWRA chloraminated supply.
- Part of the Chicopee Valley Aqueduct System. Free chlorine system.



	Total Coliform		E.coli Positive	# Assessment Required
	# Samples (b)	# (%) Positive		
MWRA a	MWRA Locations	398	0 (0%)	0
	Shared Community/MWRA sites	1501	0 (0%)	0
	Total: MWRA	1899	0 (0.0%)	0
Fully Served	ARLINGTON	169	0 (0%)	0
	BELMONT	104	0 (0%)	0
	BOSTON	783	1 (0.1%)	0
	BROOKLINE	237	0 (0%)	0
	CHELSEA	172	1 (0.6%)	0
	DEER ISLAND	52	0 (0%)	0
	EVERETT	169	0 (0%)	0
	FRAMINGHAM	276	1 (0.4%)	0
	LEXINGTON	119	0 (0%)	0
	LYNNFIELD	21	1 (4.8%)	0
	MALDEN	234	0 (0%)	0
	MARBLEHEAD	72	0 (0%)	0
	MARLBOROUGH	153	0 (0%)	0
	MEDFORD	234	0 (0%)	0
	MELROSE	117	0 (0%)	0
	MILTON	102	0 (0%)	0
	NAHANT	30	0 (0%)	0
	NEWTON	279	0 (0%)	0
	NORTHBOROUGH	48	0 (0%)	0
	NORWOOD	99	0 (0%)	0
	QUINCY	331	0 (0%)	0
	READING	143	0 (0%)	0
	REVERE	219	0 (0%)	0
	SAUGUS	104	0 (0%)	0
SOMERVILLE	252	0 (0%)	0	
SOUTHBOROUGH	30	0 (0%)	0	
STONEHAM	94	1 (1.1%)	0	
SWAMPSCOTT	57	0 (0%)	0	
WALTHAM	225	3 (1.3%)	0	
WATERTOWN	143	0 (0%)	0	
WESTON	45	0 (0%)	0	
WINTHROP	72	5 (6.9%)	0	
	Total: Fully Served	5185	13 (0.25%)	
Partially Served c	BEDFORD	63	2 (3.2%)	1
	BURLINGTON	126	0 (0%)	0
	CANTON	90	0 (0%)	0
	NEEDHAM	123	0 (0%)	0
	PEABODY	223	1 (0.45%)	0
	WAKEFIELD	123	0 (0%)	0
	WELLESLEY	114	0 (0%)	0
	WILMINGTON	87	0 (0%)	0
	WINCHESTER	94	0 (0%)	0
	WOBURN	195	0 (0%)	0
	Total: Partially Served	1238	3 (0.24%)	
	Total: Community Samples No CVA	6423	16 (0.25%)	
CVA d	MWRA CVA Locations	104	0 (0%)	0
	CHICOPEE	186	0 (0%)	0
	SOUTH HADLEY FD1	60	0 (0%)	0
	WILBRAHAM	50	0 (0%)	0
	Total: CVA	400	0 (0.0%)	

Chlorine Residuals in Fully Served Communities

	2023							2024					
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
% <0.1	0.0	0.0	0.0	0.4	0.2	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.1
% <0.2	0.0	0.1	0.3	1.8	1.0	1.2	1.0	0.5	0.4	0.1	0.1	0.1	0.2
% <0.5	1.0	1.2	3.1	6.2	5.2	5.7	3.2	2.4	1.9	0.6	1.0	0.8	1.2
% <1.0	3.4	4.8	12.5	16.0	13.2	14.4	8.4	5.8	3.7	2.6	2.9	3.1	5.2
% >1.0	96.6	95.2	87.5	84.0	86.8	85.6	91.6	94.2	96.3	97.4	97.1	96.6	94.5

Treated Water Quality: Disinfection By-Product (DBP) Levels in Communities

4th Quarter – FY24

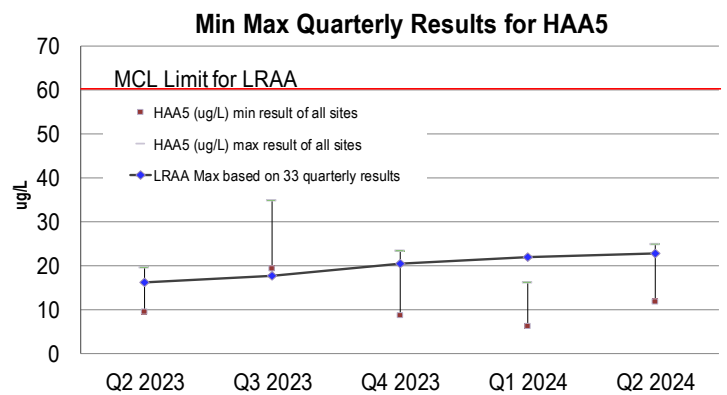
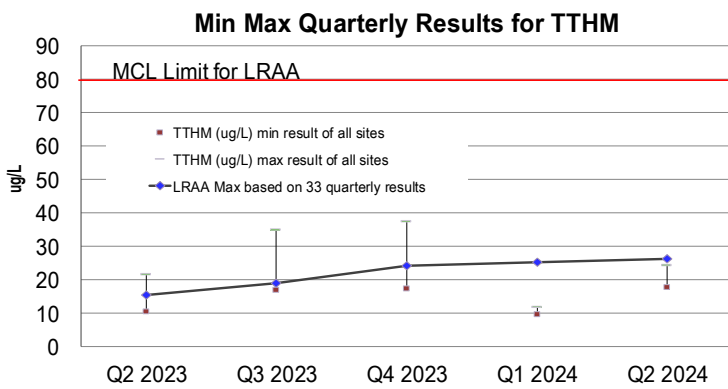
Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. They are of concern due to their potential adverse health effects at high levels. EPA’s locational running annual average (LRAA) standard, using the most recent four quarterly results, is 80 µg/L for TTHMs and 60 µg/L for HAA5s. The locational running annual average at each individual sampling location must be below the standard.

Bromate is tested monthly as required for water systems, like CWTP, that treat with ozone. EPA’s RAA Maximum Contaminant Level (MCL) standard for bromate is 10 µg/L. The current RAA for Bromate at the CWTP finished water tap is 0.0 µg/L.

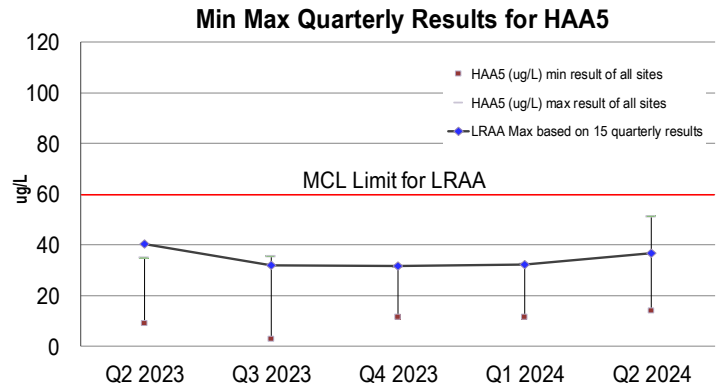
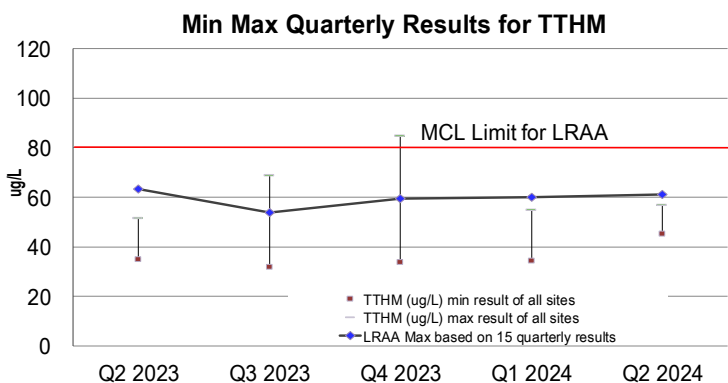
MWRA’s TTHM and HAA5 sampling program includes sampling at 33 MetroWest and Metro Boston communities sites. Partially served and CVA communities are responsible for their own compliance monitoring and are regulated individually.

The LRAA for TTHMs and HAA5s for MWRA’s Compliance Program (represented as the line in the top two graphs below) remains below current standards. The Max LRAA in the quarter for TTHMs = 26.3 µg/L; HAA5s = 22.9 µg/L. No LRAA exceedances or violations occurred this quarter for MetroBoston and for any of the CVA communities.

MetroBoston Disinfection By-Products



CVA Disinfection By-Products (Combined Results Chicopee, Wilbraham, & South Hadley FD1)



Water Supply and Source Water Management

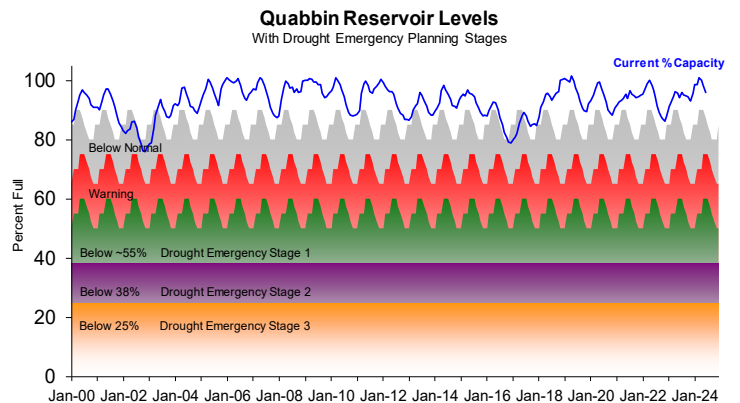
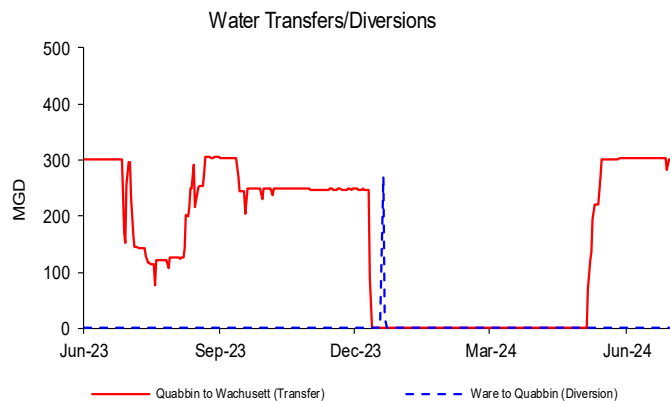
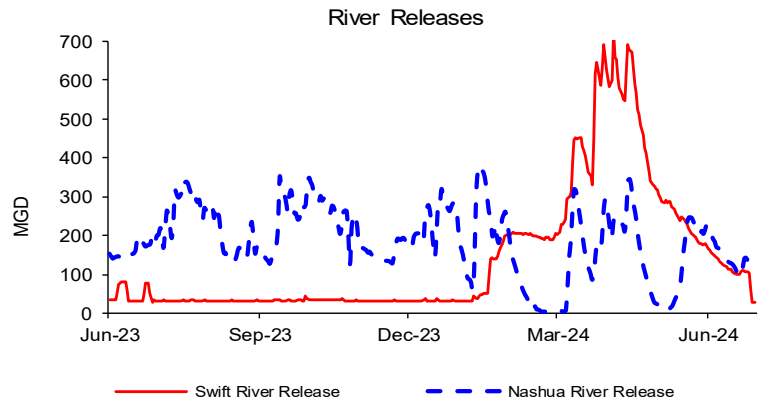
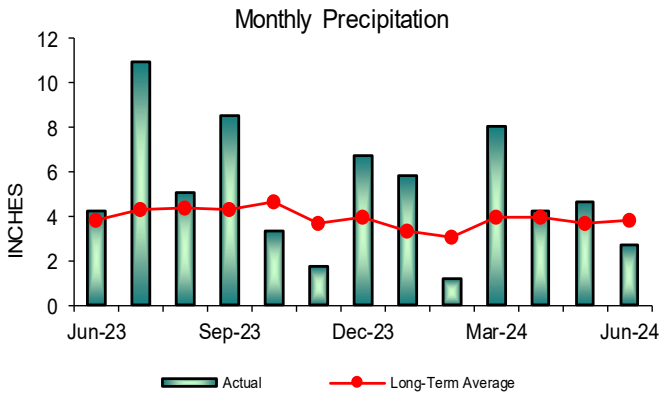
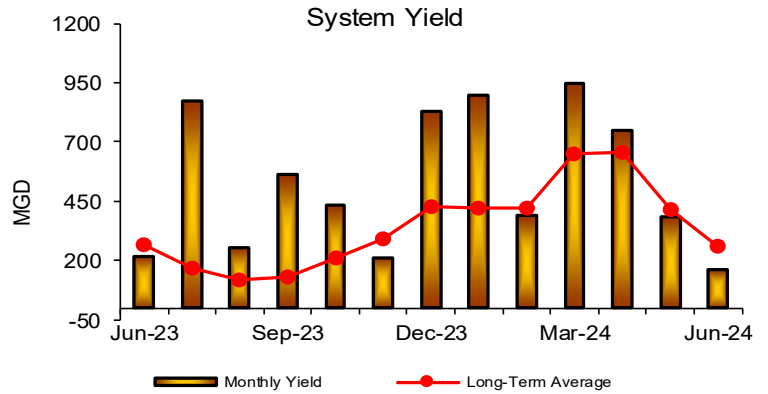
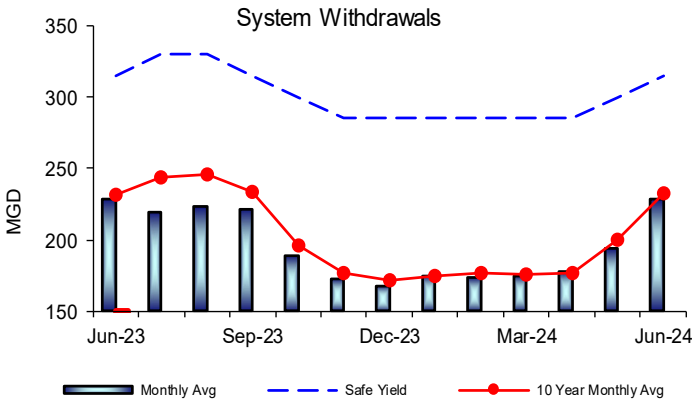
4th Quarter – FY24

Background

A reliable supply of water in MWRA's reservoirs depends on adequate precipitation during the year and seasonal hydrologic inputs from watersheds that surround the reservoirs. Demand for water typically increases with higher summer temperatures and then decreases as temperatures decline. Quabbin Reservoir was designed to effectively supply water to the service areas under a range of climatic conditions and has the ability to endure a range of fluctuations. Wachusett Reservoir serves as a terminal reservoir to meet the daily demands of the Greater Boston area. A key component to this reservoir's operation is the seasonal transfer of Quabbin Reservoir water to enhance water quality during high demand periods. On an annual basis, Quabbin Reservoir accounts for nearly 50% of the water supplied to Greater Boston. The water quality of both reservoirs (as well as the Ware River, which is also part of the System Safe Yield) depend upon implementation of DCR's DEP-approved Watershed Protection Plans. System Yield is defined as the water produced by its sources, and is reported as the net change in water available for water supply and operating requirements.

Outcome

The volume of the Quabbin Reservoir was at 95.9% as of June 30, 2024; a 5.0 % decrease for the quarter, which represents a loss of more than 20.9 billion gallons of storage and a decrease in elevation of 2.65'. System withdrawal was below its long term quarterly average. Precipitation was above and Yield slightly below their respective quarterly long term averages. Quabbin is in Normal Operating Range for this time of year.



WASTEWATER QUALITY

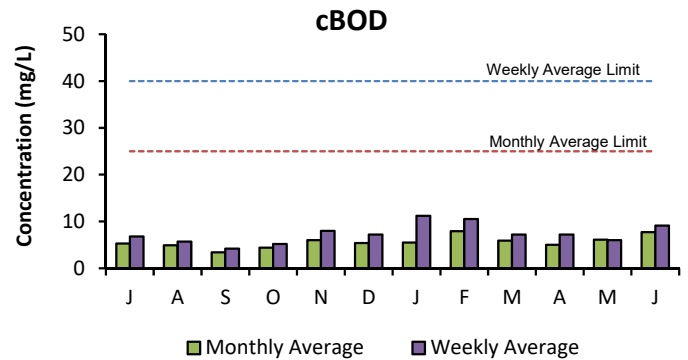
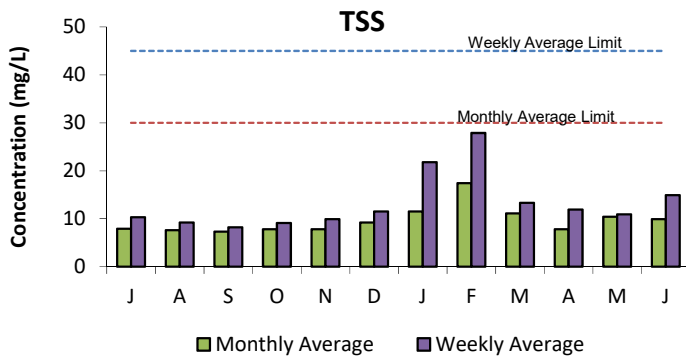
NPDES Permit Compliance: Deer Island Treatment Plant

4th Quarter - FY24

NPDES Permit Limits

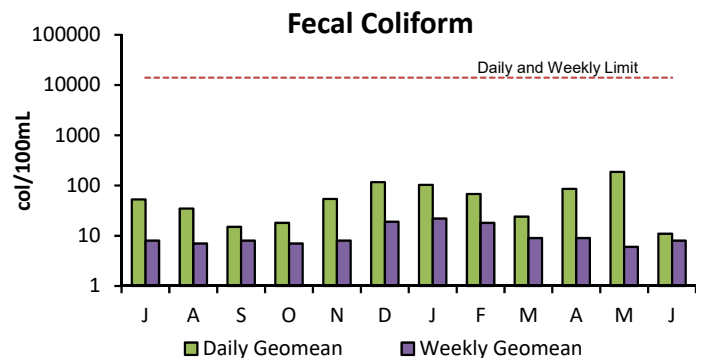
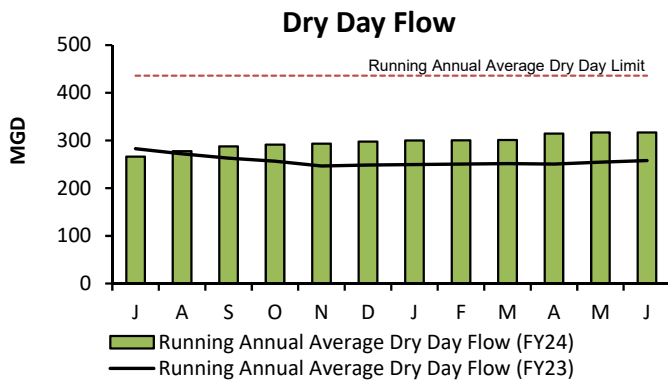
Effluent Characteristics	Units	Limits	April	May	June	4th Quarter Violations	FY24 YTD Violations	
Dry Day Flow (365 Day Average):	mgd	436	314.5	316.7	316.8	0	0	
cBOD:	Monthly Average	mg/L	5.0	6.1	7.7	0	0	
	Weekly Average	mg/L	7.2	6.0	9.1	0	0	
TSS:	Monthly Average	mg/L	30	7.8	10.4	9.9	0	0
	Weekly Average	mg/L	45	11.9	10.9	14.9	0	0
TCR:	Monthly Average	ug/L	456	0.0	0.0	0.0	0	0
	Daily Maximum	ug/L	631	0.0	0.0	0.0	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	86	187	11	0	0
	Weekly Geometric Mean	col/100mL	14000	9	6	8	0	0
	% of Samples >14000	%	10	0	1	0	0	0
	Consecutive Samples >14000	#	3	0	1	0	0	0
pH:	SU	6.0-9.0	6.4-6.9	6.4-6.9	6.5-6.9	0	0	
PCB, Aroclors:	Monthly Average	ug/L	UNDETECTED			0	0	
Acute Toxicity:	Inland Silverside	%	≥50	>100	80.7	>100	0	0
	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Inland Silverside	%	≥1.5	100	25	100	0	0
	Sea Urchin	%	≥1.5	100	100	100	0	0

There have been no permit violations in FY24 to date at the Deer Island Treatment Plant (DITP).



Total Suspended Solids (TSS) in the effluent is a measure of the amount of solids that remain suspended after treatment. All TSS measurements for the 4th Quarter were within permit limits.

Carbonaceous Biochemical Oxygen Demand (cBOD) is a measure of the amount of dissolved oxygen required for the decomposition of organic materials in the environment. All cBOD measurements for the 4th Quarter were within permit limits.



Running Annual Average Dry Day Flow is the average of all dry weather influent flows over the previous 365 days. The Dry Day Flow for the 4th Quarter was well below the permit limit of 436 MGD.

Fecal Coliform is an indicator for the possible presence of pathogens. The levels of these bacteria after disinfection show how effectively the plant is inactivating many forms of disease-causing microorganisms. In the 4th Quarter, all permit conditions for fecal coliform were met.

NPDES Permit Compliance: Clinton Wastewater Treatment Plant

4th Quarter - FY24

NPDES Permit Limits

Effluent Characteristics		Units	Limits	April	May	June	4th Quarter Violations	FY24 YTD Violations
Flow:	12-month Rolling Average:	mgd	3.01	3.74	3.74	3.75	3	9
BOD:	Monthly Average:	mg/L	20	0.4	1.1	1.5	0	0
	Weekly Average:	mg/L	20	2.2	1.5	1.8	0	0
TSS:	Monthly Average:	mg/L	20	3.1	2.9	2.4	0	0
	Weekly Average:	mg/L	20	4.8	3.4	3.2	0	0
pH:		SU	6.5-8.3	7.1-7.7	7.3-7.7	7.2-7.7	0	0
Dissolved Oxygen:	Daily Average Minimum:	mg/L	6	10.0	9.3	7.8	0	0
E. Coli:	Monthly Geometric Mean:	cfu/100mL	126	6	7	5	0	0
	Daily Geometric Mean:	cfu/100mL	409	11	25	10	0	0
TCR:	Monthly Average:	ug/L	20	0.27	<20	<20	0	0
	Daily Maximum:	ug/L	30.4	4.00	<20	<20	0	0
Copper:	Monthly Average:	ug/L	11.6	5.59	7.34	6.99	0	0
	Daily Maximum:	ug/L	14.0	5.79	7.34	6.99	0	0
Total Ammonia Nitrogen: June 1st - October 31st	Monthly Average:	mg/L	2.0	0.06	<0.1	0.04	0	0
	Daily Maximum:	mg/L	3.0	0.17	<0.1	0.14	0	0
Total Phosphorus: April 1st - October 31st	Monthly Average:	mg/L	0.15	0.04	0.03	0.06	0	0
	Daily Maximum:	mg/L	RPT	0.06	0.05	0.08	0	0
Acute Toxicity ⁺ :	Daily Minimum:	%	≥100	54.1	N/A	N/A	1	1
Chronic Toxicity ⁺ :	Daily Minimum:	%	≥62.5	12.5	N/A	N/A	1	1

There have been eleven permit violations in FY24 at the Clinton Treatment Plant.

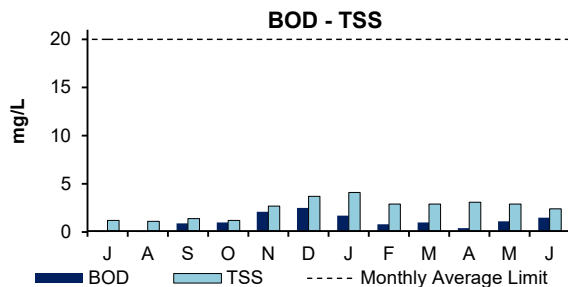
1st Quarter: There were no permit violations in the first quarter.

2nd Quarter: There were three permit violations in the second quarter, each for 12 month rolling-average flow.

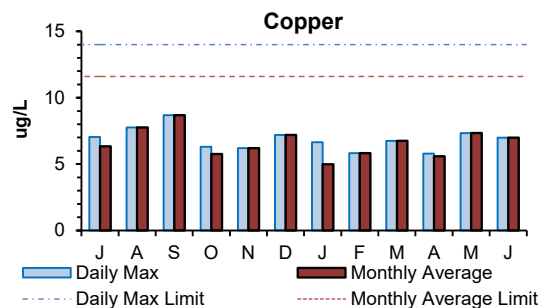
3rd Quarter: There were three permit violations in the third quarter, each for 12 month rolling-average flow.

4th Quarter: There were five permit violations in the fourth quarter, three for 12 month rolling-average flow, one for acute toxicity and one for chronic toxicity.

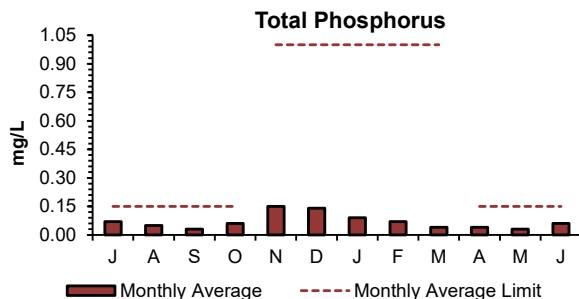
+ Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



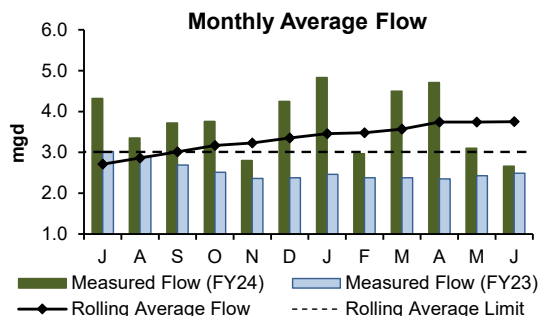
Monthly average concentrations of BOD and TSS were below permit limits in the 4th Quarter. The permit monthly limit for both parameters is 20 mg/L.



Daily maximum and monthly average concentrations of copper were below permit limits in the 4th Quarter. Permit daily and monthly limits are 14.0 ug/L and 11.6 ug/L respectively.



Total phosphorus limits are most stringent during the growing season from April to October. The 4th Quarter's monthly average concentrations for total phosphorus were below permit limits.

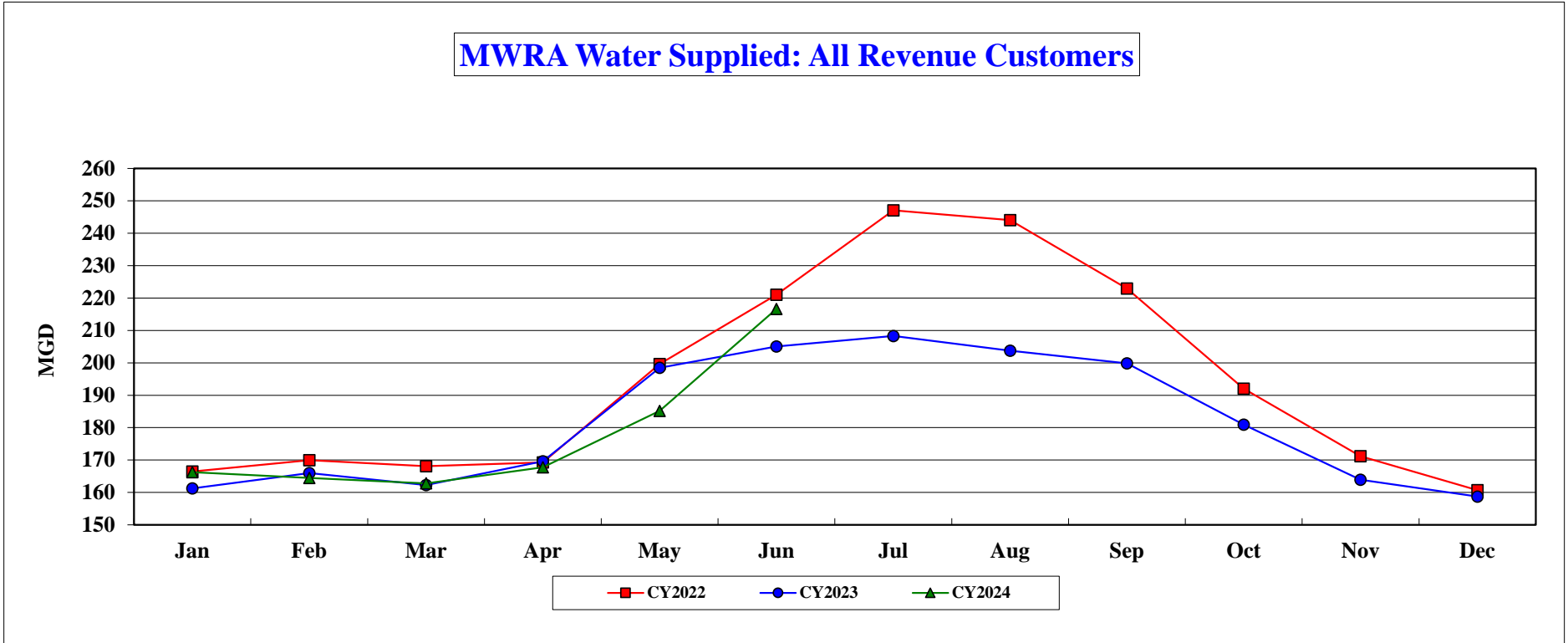


The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant. The 12-month rolling average flows during the 4th Quarter were above the permit limit.

COMMUNITY FLOWS AND PROGRAMS

Customer Water Use

4th Quarter - FY24



Water Use (million gallons per day)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2022	166.445	169.923	168.101	169.253	199.626	221.002	247.075	244.069	222.906	192.000	171.170	160.697	182.457	194.537
CY2023	161.272	165.989	162.292	169.594	198.499	205.042	208.304	203.762	199.844	180.948	163.937	158.736	177.186	181.612
CY2024	166.238	164.451	162.794	167.778	185.139	216.659	0.000	0.000	0.000	0.000	0.000	0.000	177.151	1,040.048

The June 2024 Community Water Use Report was recently distributed to communities and customers served by the MWRA's Metropolitan and Chicopee Valley waterworks systems. Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement to MWRA water communities. Calendar year 2023 water use will be used to allocate the FY2025 water utility rate revenue requirement.

MWRA customers used an average of 189.8 mgd in the 4th quarter (Apr-Jun 2024) of FY2024. This is a decrease of 1.3 mgd or 0.7% compared to the 4th quarter of FY2023.

How CY2022-24 Community Wastewater Flows Could Effect FY2026 Sewer Assessments ^{1,2,3}

The flow components of FY2026 sewer assessments will be calculated using a 3-year average of CY2022 to CY2024 wastewater flows compared to FY2025 assessments that will use a 3-year average of CY2021 to CY2023 wastewater flows.

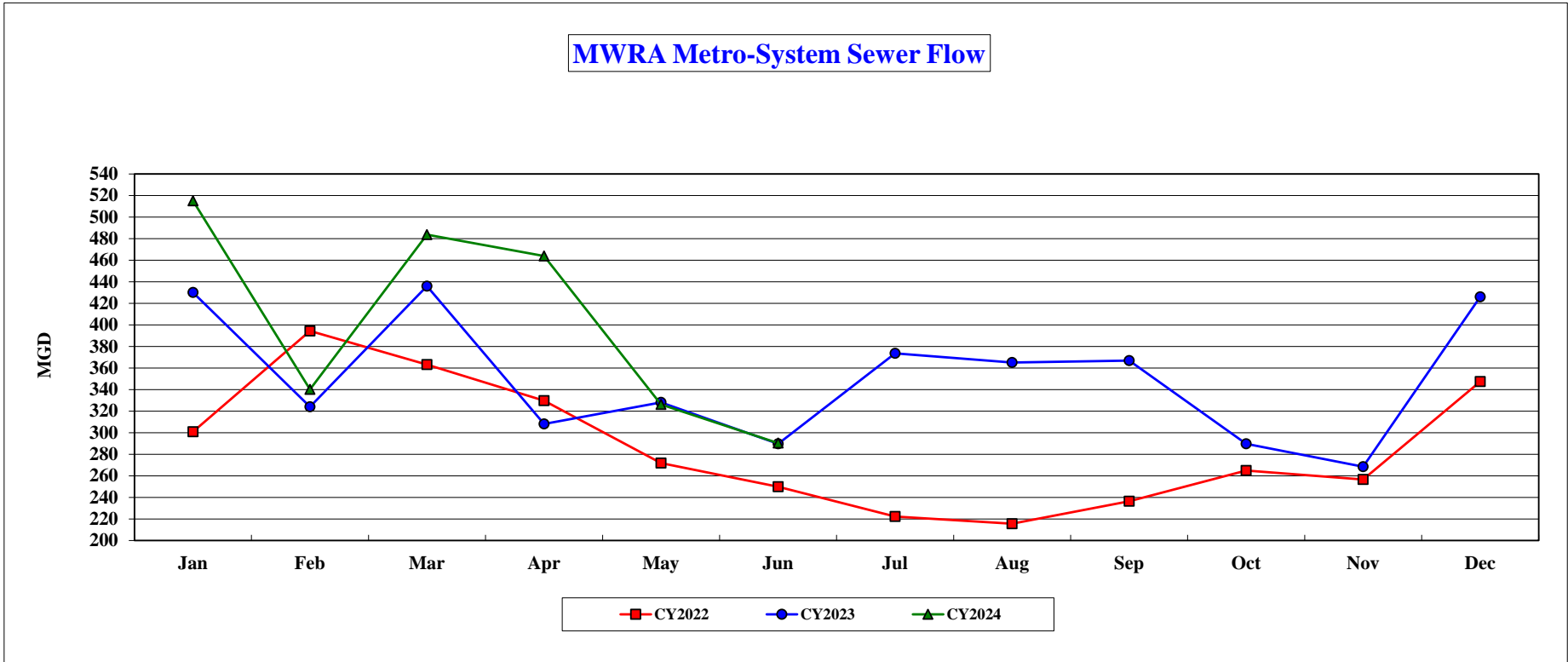
But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2022 to CY2024 flow share compared to CY2021 to CY2023 flow share, compared to all other communities in the system.

The chart below illustrates the change in the TOTAL BASE assessment due to FLOW SHARE CHANGES. ⁴



¹ MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smooths the impact of year-to-year changes in community flow share, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.
² Based on actual flows for 2022 through June 2024.
³ Flow data is preliminary and subject to change pending additional MWRA and community review.
⁴ Represents ONLY the impact on the total BASE assessment resulting from the changes in average and maximum wastewater FLOW SHARES.

Community Sewer Flow YTD - FY24



Sewer Flow (million gallons per day)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2022	300.930	394.400	363.110	329.710	271.890	249.840	222.280	215.600	236.380	264.960	256.590	347.420	317.368	287.098
CY2023	430.060	323.980	435.990	308.110	328.160	289.710	373.540	365.130	366.840	289.680	268.470	426.070	353.738	351.159
CY2024	515.140	340.120	483.660	463.870	326.210	290.340							404.204	

The 2024 6-Month Community Sewer Flow Report was recently distributed to the 43 communities served by the MWRA's Metropolitan sewer system. Each community's share of sewer flow relative to the system as a whole is used to allocate the annual sewer rate revenue requirement to MWRA sewer communities. The average of calendar year 2022-2024 sewer flow will be used to allocate the FY2026 sewer utility rate revenue requirement.

MWRA customer sewer flow averaged 404.2 mgd in the first six months of CY2024. This is an increase of 50.5 mgd or 14.3% compared to the first six months of CY2023.

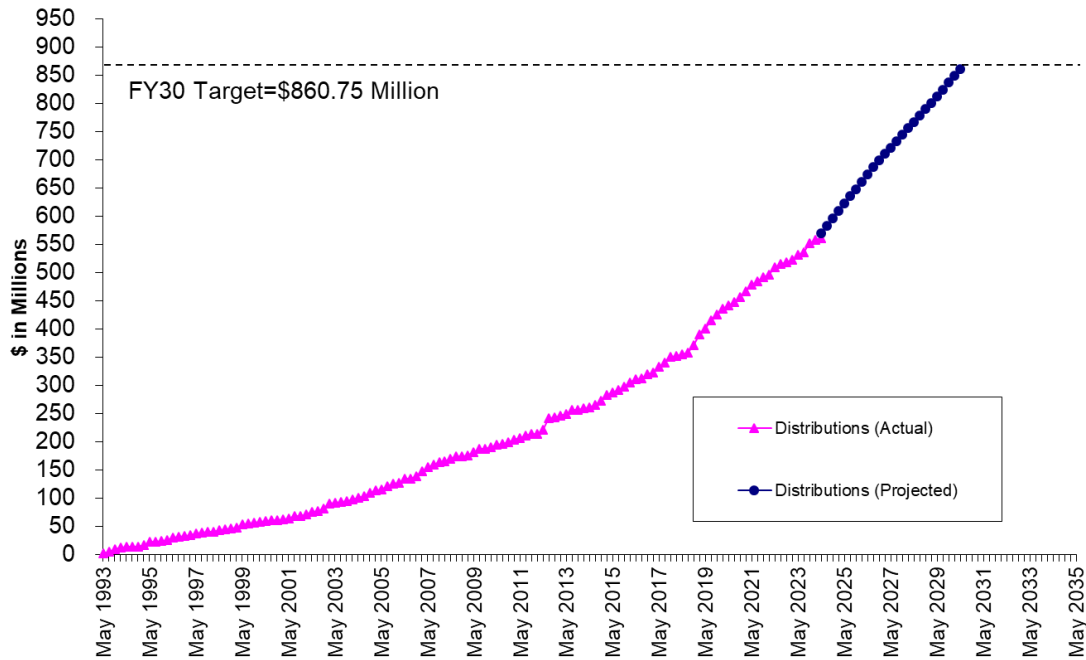
Community Support Programs

4th Quarter – FY24

Infiltration/Inflow Local Financial Assistance Program

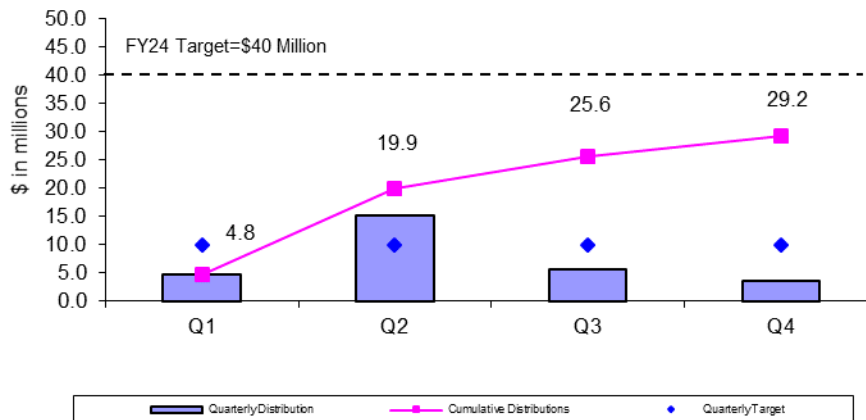
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$860.75 million in grants and interest-free loans (average of about \$22 million per year from FY93 through FY30) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Eligible project costs include: sewer rehabilitation construction, pipeline replacement, removal of public and private inflow sources, I/I reduction planning, engineering design, engineering services during construction, etc. I/I Local Financial Assistance Program funds are allocated to member sewer communities based on their percent share of MWRA's wholesale sewer charge. Phase 1-8 funds (total \$300.75 million) were distributed as 45% grants and 55% loans with interest-free loans repaid to MWRA over a five-year period. Phase 9 through 12 funds (total \$360 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period. Phase 13 provides an additional \$100 million in ten-year loan-only funds. Phase 14 funds (total \$100 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period.

I/I Local Financial Assistance Program Distribution FY93-FY30



During the 4th Quarter of FY24, \$3.6 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Ashland, Hingham, Walpole and Wellesley. Total grant/loan distribution to date for FY24 is \$29.2 million. From FY93 through the 4th Quarter of FY24, all 43 member sewer communities have participated in the program and \$560 million has been distributed to fund 685 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

FY24 Quarterly Distributions of Sewer Grant/Loans



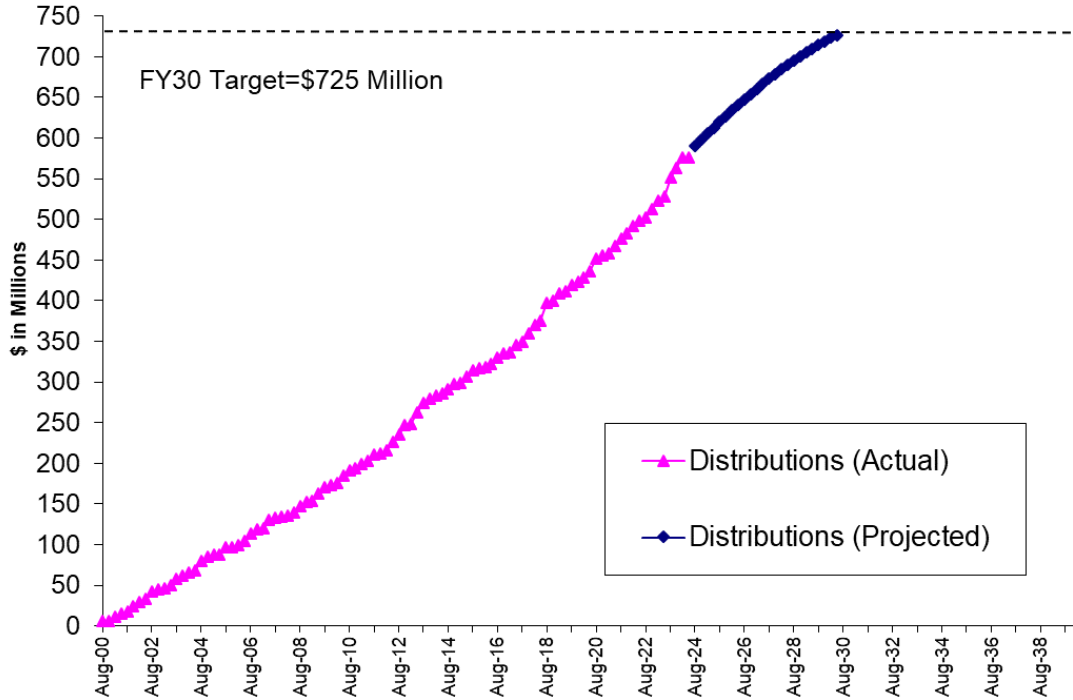
Community Support Programs

4th Quarter – FY24

Local Water System Assistance Program

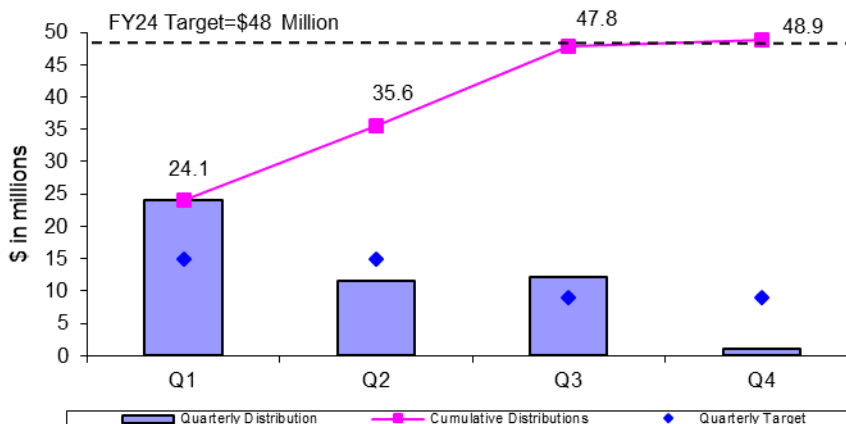
MWRA's Local Water System Assistance Programs (LWSAP) provides \$725 million in interest-free loans (an average of about \$24 million per year from FY01 through FY30) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There have been three (3) funding phases: Phase 1 at \$222 Million, Phase 2 at \$210 Million, and Phase 3 at \$293 Million. Eligible project costs include: water main cleaning/lining, replacement of unlined water mains, lead service replacements, valve, hydrant, water meter, tank work, engineering design, engineering services during construction, etc. MWRA partially-supplied communities receive pro-rated funding allocations based on their percentage use of MWRA water. Interest-free loans are repaid to MWRA over a ten-year period beginning one year after distribution of the funds. The Phase 1 water loan program concluded in FY13 with \$222 million in loan distributions. The Phase 2 - LWSAP continues distributions through FY25. The Phase 3 Water Loan Program is authorized for distributions from FY18 through FY30.

Local Water System Assistance Program Distribution FY01-FY30



During the 4th Quarter of FY24, \$1.1 million in interest-free loans was distributed to fund local water projects in Melrose and Weston. Total loan distribution to date for FY24 is \$48.9 million. From FY01 through the 4th Quarter of FY24, \$576 million has been distributed to fund 536 local water system rehabilitation projects in 43 MWRA member water communities. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

FY24 Quarterly Distributions of Water Loans



Community Support Programs

4th Quarter – FY24

Lead Service Line Replacement Loan Program

By its vote on March 16, 2016, the Board approved an enhancement to the Local Water System Assistance Program to provide up to \$100 million in 10-year zero-interest loans to communities solely for efforts to fully replace lead service lines. The Lead Service Line Replacement Loan Program is also referenced as the Lead Loan Program or LLP. Each community can develop its own program, tailored to their local circumstances. MWRA's goal in providing financial assistance to member communities is to improve local water systems so that the high quality water MWRA delivers can make it all the way to the consumer's tap. The presence of a lead service line connecting a home to the main in the street can lead to elevated lead levels in tap water, especially if that water sits stagnant for an extended period. MWRA's stable water quality and effective corrosion control treatment reduce the risk that a lead service line will cause elevated lead levels, and measured lead levels in high risk homes have decreased by 90 percent since corrosion control was brought on-line in 1996. However, the risk of elevated levels remains as long as lead service lines are in use. To date, \$43.8 million dollars has been distributed to 17 communities.

FY17 was the first year of the Lead Service Line Replacement Loan Program - MWRA made three Lead Loans.

FY18 was the second year of the Lead Loan Program - MWRA made five Lead Loans.

FY19 was the third year of the Lead Loan Program - MWRA made four Lead Loans.

FY20 was the fourth year of the Lead Loan Program - MWRA made eight Lead Loans.

FY21 was the fifth year of the Lead Loan Program - MWRA made seven Lead Loans.

FY22 was the sixth year of the Lead Loan Program - MWRA made six Lead Loans.

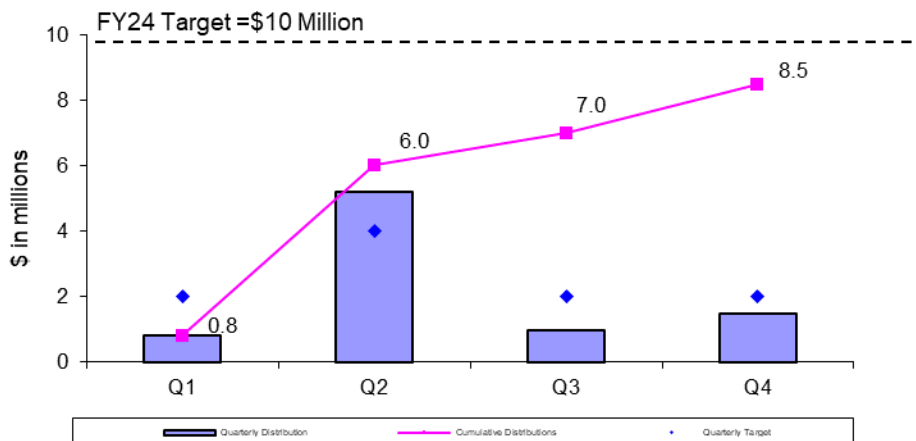
FY23 was the seventh year of the Lead Loan Program - MWRA made six Lead Loans.

FY24 was the eighth year of the Lead Loan Program - MWRA made seven Lead Loans.

Summary of Lead Loans:

Quincy in FY24	\$1.50 Million	Somerville in FY22	\$1.60 Million	Everett in FY20	\$1.0 Million
Winthrop in FY24	\$0.98 Million	Revere in FY22	\$1.30 Million	Somerville in FY20	\$0.90 Million
Chelsea in FY24	\$0.30 Million	Chelsea in FY22	\$0.30 Million	Chelsea in FY20	\$0.30 Million
Melrose in FY24	\$1.04 Million	Watertown in FY21	\$0.60 Million	Marlborough in FY19	\$1.0 Million
Lexington in FY24	\$3.88 Million	Marlborough in FY21	\$2.0 Million	Winthrop in FY19	\$0.50 Million
Watertown in FY24	\$0.30 Million	Everett in FY21	\$1.50 Million	Chelsea in FY19	\$0.10 Million
Malden in FY24	\$0.50 Million	Boston in FY21	\$2.60 Million	Everett in FY19	\$1.0 Million
Chelsea in FY23	\$0.50 Million	Winthrop in FY21	\$0.80 Million	Needham in FY18	\$1.0 Million
Watertown in FY23	\$0.30 Million	Chelsea in FY21	\$0.30 Million	Winchester in FY18	\$0.50 Million
Winthrop in FY23	\$0.70 Million	Winchester in FY21	\$0.60 Million	Revere in FY18	\$0.20 Million
Reading in FY23	\$1.50 Million	Everett in FY20	\$0.50 Million	Winthrop in FY18	\$0.30 Million
Watertown in FY23	\$0.30 Million	Marlborough in FY20	\$1.0 Million	Marlborough in FY18	\$1.0 Million
Winchester in FY23	\$0.60 Million	Winchester in FY20	\$0.60 Million	Newton in FY17	\$4.0 Million
Everett in FY22	\$1.5 Million	Winthrop in FY20	\$0.70 Million	Quincy in FY17	\$1.5 Million
Boston in FY22	\$0.90 Million	Weston in FY20	\$0.20 Million	Winchester in FY17	\$0.50 Million
Winthrop in FY22	\$0.80 Million			TOTAL	\$43.80 Million

FY24 Quarterly Distributions of Lead Service Line Replacement Loans

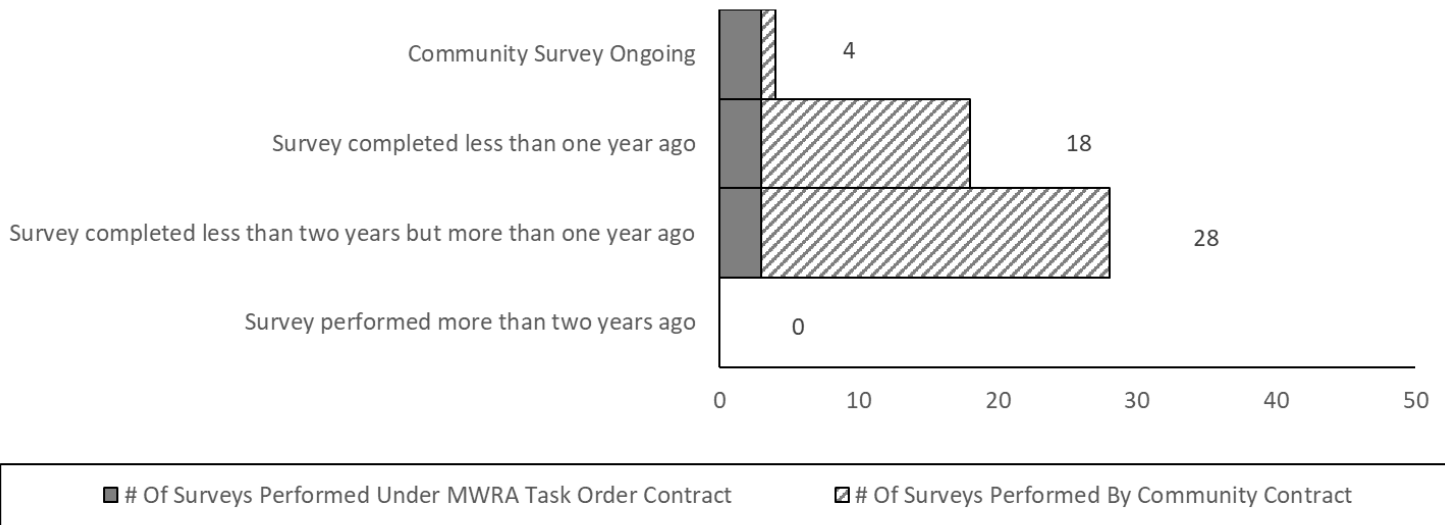


Community Support Programs

4th Quarter – FY24

Community Water System Leak Detection

To ensure member water communities identify and repair leaks in locally-owned distribution systems, MWRA developed leak detection regulations that went into effect in July 1991. Communities purchasing water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey using their own contractors or municipal crews, or alternatively, using MWRA’s task order leak detection contract. MWRA’s task order contract provides leak detection services at a reasonable cost that has been competitively procured (3-year, low-bid contract) taking advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid for by MWRA and the costs are billed to the community the following year. During the 4th Quarter of FY24, all member water communities were in compliance with MWRA’s Leak Detection Regulation.



Community Water Conservation Outreach

MWRA’s Community Water Conservation Program helps to maintain average water demand below the regional water system’s safe yield of 300 mgd. Current 5-year average water demand is less than 200 mgd. The local Water Conservation Program includes distribution of water conservation education brochures (indoor - outdoor bill-stuffers) and low-flow water fixtures and related materials (shower heads, faucet aerators, and toilet leak detection dye tabs), all at no cost to member communities or individual customers. The Program’s annual budget is \$25,000 for printing and purchase of materials. Annual distribution targets and totals are provided in the table below. Distributions of water conservation materials are made based on requests from member communities and individual customers.

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	357	8,330	350	8,105	<u>17,142</u>
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	1,175	796	812	423	<u>3,206</u>
Toilet Leak Detection Dye Tablets	-----	1,065	193	1,354	770	<u>3,382</u>

BUSINESS SERVICES

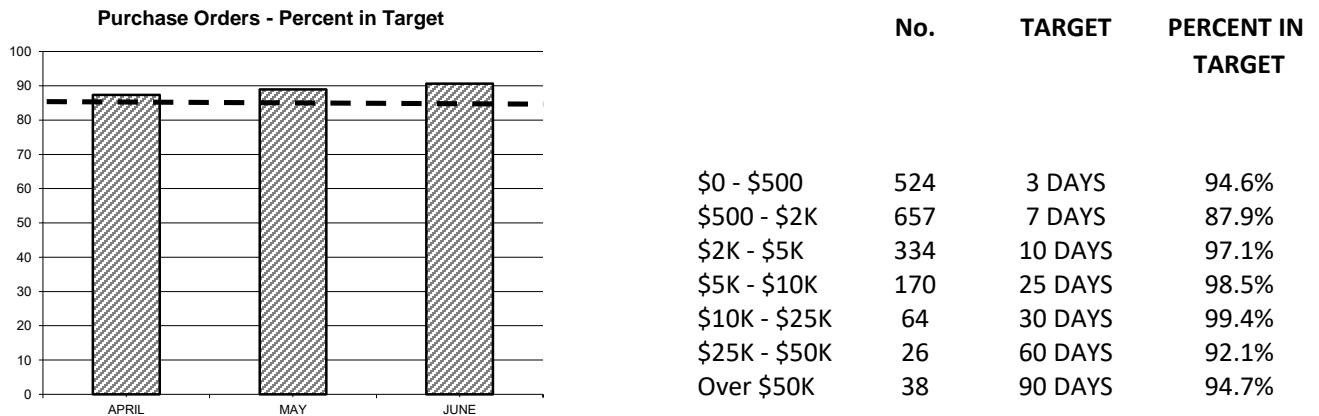
Procurement: Purchasing and Contracts

4th Quarter - FY24

Background: Goal is to process 85% of Purchase Orders and 80% of Contracts within Target timeframes.

Highlights: Processed 95% of purchase orders within target; Average Processing Time was 4.61 days vs. 5.23 days in Qtr 4 of FY24. Processed 75% (6 of 8) of contracts within target timeframes; Average Processing Time was 100 days vs. 98 days in Qtr 4 of FY24.

Purchasing



The Purchasing Unit processed 1,813 purchase orders, 89 more than the 1,724 processed in Qtr 4 of FY23 for a total value of \$15,432,700 versus a dollar value of \$14,927,509 in Qtr 4 of FY23.

The purchase order processing target was met for all categories.

Contracts, Change Orders and Amendments

Procurement executed eight contracts with a value of \$3,052,114 and eighteen amendments with a value of \$9,753,349. Two contracts were not executed within the target timeframes. One contract's (Uniform Apparel Services) RFQP was intentionally delayed and subsequently the Notice to Proceed in order to align the contract with the start of the fiscal year when uniform allowances reset. Another contract was delayed due to an extensive vetting process as the vendor (Ardent Group) is a new vendor to the MWRA. Additionally, the vendor was slow to respond to required MWRA administration information requests.

Staff reviewed 51 proposed change orders and 28 draft change orders.

Thirty two change orders were executed during the period. The dollar value of all non-credit change orders during Q4 FY24 was \$2,437,947 and the value of credit change orders was (\$667,789).

Note: A credit change order is a change order that results in a decrease in contract value.

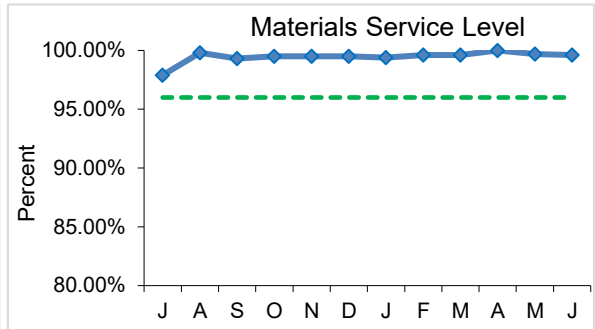
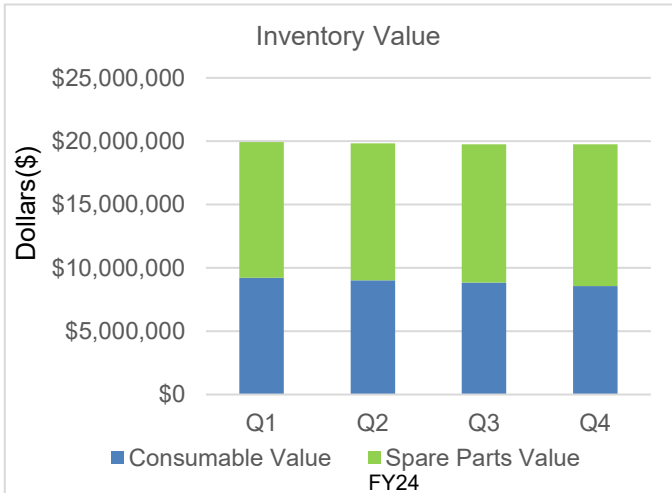
Materials Management

4th Quarter - FY24

The Materials Management department manages the three regional warehouses (Chelsea, Deer Island and Southboro). This includes the replenishment and receipt of both consumable and spare parts items to meet the needs of the MWRA. Additionally, MWRA tools and equipment are safeguarded through the Property Pass unit within the Materials Management department.

Inventory goals focus on:

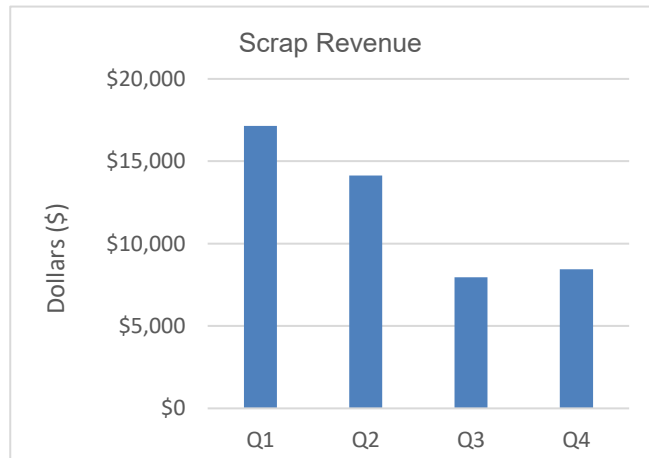
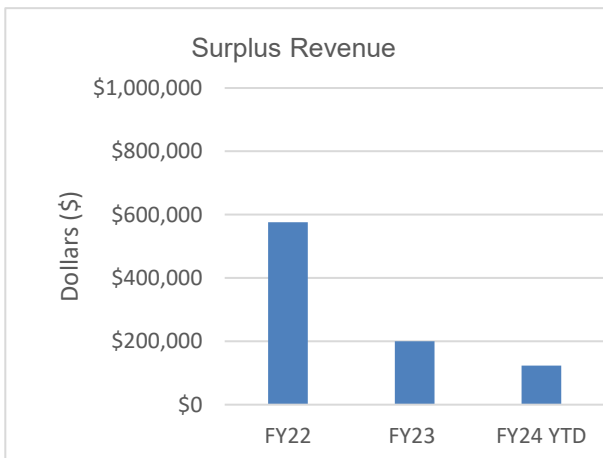
- Maintaining optimum levels of consumables inventory (office supplies, electrical, safety, etc.) and spare parts inventory (critical items such as actuators, motors, muffin monsters, etc.) necessary to support MWRA Operations and Maintenance. Typically spare parts carry longer lead times.
- Adding new items to inventory to meet changing business needs.
- Reviewing consumables and spare parts for obsolescence.
- Managing and controlling valuable equipment and tools via the Property Pass Program.



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 7,667 (99.7%) of the 7,687 items requested in Q4 from the inventory locations for a total dollar value of \$1,940,804.

Property Pass Program:

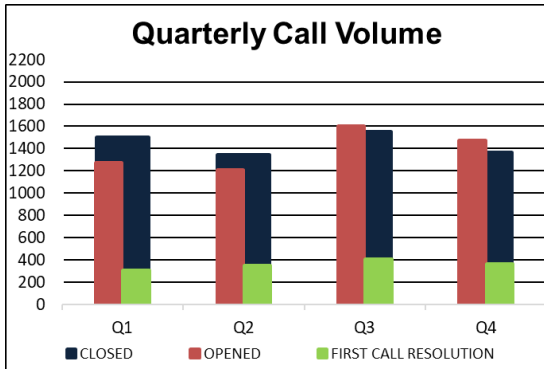
- Conducts audits of tools and equipment to ensure the safeguarding of MWRA assets.
- Manages the disposition and sale of surplus tools and equipment through GovDeals, an online auction site.
- Manages the surplusing of scrap metals and materials generating revenue to the MWRA staff.



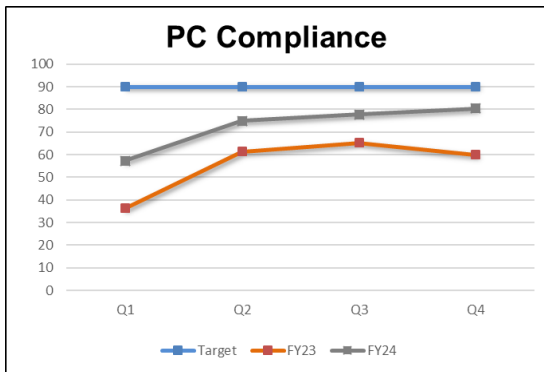
MIS Program

Fourth Quarter – FY24

Numbers & Statistics



Summary of calls managed by the Helpline.



Percentage of user endpoints that are in compliance with system updates. These numbers are a direct reflection of accessibility to these systems. Daytime patching began in January for mobile devices.

Project Updates

Infrastructure & Security

SD-WAN: Implementation completed at seven of the original eight planned locations. Deer Island is pending second ISP. Needham facility added and pending ISP and hardware.

VOIP: Call Detail Reporting software was purchased, working with vendor to plan implementation. Permanent IP address and server name were determined.

Switch Upgrades: All Edge Switches replaced except for portions of Deer Island. Chelsea Core switches upgrade.

VMWare WorkspaceONE: 1148 devices migrated to WorkspaceONE for device management. Staff working with vendor to optimize deployment process and training.

Oracle Database Appliance Hardware Refresh: Migration of Dev databased completed. Production databases started. Anticipated completion in mid August

Server/Database Version Upgrades: Staff continue to meet monthly to review and identify migration paths of infrastructure to maintain support.

Live Stream Webcams: New hardware selected, developing scope of work for installation.

AWIA: DMZ server logging implemented.

Distributed Antenna System: Vendor scheduled to begin repairs Chelsea facility system in July. Services being procured to repair Deer Island system

Library, Record Center, & Training

Library: completed 14 research requests, supplied books and reports for circulation, and provided access to five new books/reports and two new standards (aside from subscription). The MWRA Library Portal supported 409 end-user searches.

Record Center (RC): Added 34 new boxes to the RC and handled 337 total boxes. The RC performed database / physical box searches for various departments. Research included: Engineering documents, public record requests, staff summaries, personnel files, various construction contracts.

MIS Training: In Q4, 2 online IT lessons were taken (11 YTD), by 15 employees (152 YTD).

Applications

ECM/Electronic Document Management: Build for the first Staff Summary workflow (Purchasing Staff Summary) to begin in July, with the goal of completing and rolling it out in the fall. Continued to gather requirements in Q4 for building the remaining Staff Summary, Requisition, and Policy processes in ECM. Work continued towards migrating the remaining InfoStar data into ECM in the hopes of formally retiring InfoStar at the end of that project.

MWRA Website Refresh: Vendor continued to work on building out more robust search functionality within the website, per the recently approved Task Order. Website go-live date scheduled for August. Continue to populate the new website with up-to-date content so it will be ready for go-live.

Infor Upgrade/Migration: MIS Development staff continued to attend weekly technical touchpoint sessions and CloudSuite training sessions with the vendor (RPI). They participated in the first round of Unit Testing and continued to perform the analysis related to integrating the MWRA Custom applications with the cloud version of Infor Lawson. The Development staff is currently working on the 2nd of 4 development sprints in preparation for the 2nd round of Unit Testing scheduled for late July.

Maximo/Lawson Interface: MIS completed the Maximo-Lawson Interfaces project in late April. The project involved streamlining process flows, enhancing functionality, and adding data validation for optimal performance and transaction integrity. The project is in the Warranty period and MIS is currently working with the vendor (Starboard) to resolve issues related to the implementation of the Maximo interfaces with the Lawson ERP application.

Library Portal Upgrade (GeniePlus): MIS completed the upgrade and migration of the Library Portal to a SaaS environment and the application is ready to implement into production in July. MIS is also currently working with the vendor (Lucidea) to deploy an update of the library portal containing a Logout feature.

Maximo Version Upgrade: MIS completed the Maximo Upgrade project in late April. The application and underlying infrastructure were upgraded to current versions of the hardware and software. In mid June the Maximo application started experiencing stability and performance issues that impacted the usability of the system. MIS has engaged the vendor (IBM) to troubleshoot and resolve.

Legal Matters

4th Quarter – FY24

PROJECT ASSISTANCE

Real Estate, Contract, Energy, Environmental, and Other Support:

- **8(m) Permits and License Agreements:** Reviewed thirty-four (83) 8(m) permits, including any related MEPA Section 61 Findings. Drafted 8(m) permit for the Town of Weston to allow for installation of an antenna array on MWRA's microwave tower at its Norumbega facility. Drafted and finalized license agreement for short-term use of MWRA/FRRRC's property at Fore River Shipyard in Quincy. Finalized amendment to the Town of Northborough's Public Access 8(m) permit.
- **Real Property:** Completed review of Quabbin Watershed Fee Acquisition W-001257 package for parcel of land in Wendell, MA and Wachusett Watershed Fee Acquisition W-001259 package for parcel of land in Boylston, MA. Reviewed Quabbin Watershed Preservation Restriction Acquisition W-001254 package for parcel of land in Barre, MA. Further reviewed property records and trust documents verifying ownership of land in Wendell, MA concerning acquisition of a Quabbin Watershed Preservation Restriction W-001247. Reviewed use of state funds for acquisition of property interests for W-001254, W-001257, W-001259 by DCR. Finalized water easement rights on one property in Winchester for MWRA Contract 7117 - Northern Intermediate High Section 89 Pipeline. Drafted summary related to request for DCR construction access permit and reviewed property records for various parcels in Lynn and Revere for Section 56 Water Pipeline Replacement Project. Drafted notices of offer for property interests in Lynn and Revere needed for Contract 7454 - Section 56 Replacement of Saugus River Crossing. Drafted license for Point of Pines Yacht Club, and drafted grant of easements from City of Lynn needed for Contract 7454. Reviewed, revised and finalized sewer easement language and plan related to MWRA's Hingham Pump Station. Drafted water easement language and reviewed easement plan related to proposed water easement on a parcel of land in Saugus. Drafted high-level summary and updated property maps related to request for DCR construction access permit for Section 56 Water Pipeline Replacement Project. Reviewed grant of location for DCR construction access permit for Section 56 Water Pipeline Replacement Project. Revised proposed grant of water easement from MBTA in Lexington along Minuteman Bikeway needed for MWRA Contract 7725 - Northern Extra High Pressure Zone Improvements CP2. Reviewed boring license agreement and insurance coverages for Tunnel Redundancy Program. Site visits for Southern Tunnel alignment and review of various property interests, disposition and acquisition processes for Tunnel Redundancy Program. Reviewed Walpole Records Center lease for notice requirements to landlord for discontinuation of use of additional storage space.
- **Environmental:** Prepared draft Water Supply Continuation Agreement with the Town of Wilmington. Assisted with preparation of the Annual Report for Calendar Year 2023 for the Boston Harbor Case. Assisted with preparation of comment letters regarding Department of Environmental Protection proposed rulemakings. Assisted with MEPA filing for Section 56 Water Pipeline Replacement Project. Assisted with preparation of filing for closeout of Deer Island landfill. Assisted with preparation of comments regarding MassDEP reissuance of Fact Sheet for Deer Island draft Surface Waters Discharge Permit. Reviewed and revised draft Program Guidelines for Lead Service Line Replacement Program Projects.
- **Energy:** Reviewed draft letter of intent regarding a potential solar canopy project on Deer Island. Prepared draft legislation regarding solar-PV installation for the MWRA Norumbega covered water storage facility. Assisted energy team with preparation of a draft non-binding Letter of Intent for Solar PV Installation and/or Power Purchase Agreement.
- **Miscellaneous:** Participated in Contract Selection Committee for Disclosure Counsel. Reviewed updates to Fleet Services Management and Maintenance Policy. Finalized Employee Use of Electric Vehicle Chargers at MWRA Facilities for Personal Vehicles Policy. Reviewed documents for submission to Records Conservation Board for disposition. Further reviewed and edited draft of final design and engineering services agreement for Tunnel Redundancy Program. Reviewed terms of MOA with Ludlow and bonds for work at Nash Hill concerning the installation of a retaining wall. Researched Uniform State

Plumbing Code (248 CMR 10.00) and regulation changes for purposes of compliance with lavatory signage. Reviewed terms for Contract OP-421 concerning change order request.

- **Public Records Requests:** During the months of April, May and June 2024, MWRA received and responded to **one hundred fifty seven (157)** public records requests.

LITIGATION /TRAC – 4th Quarter FY24

New Lawsuits:

There is one new lawsuit and one new bankruptcy matter in 4th Quarter FY 2024.

- MWRA v. Baldwin Energy, LLC and Hanover Insurance Company, Suffolk Superior Court C.A. No.2484CV01019-BLS2: MWRA filed suit on April 16, 2024 alleging breaches by Baldwin Energy, LLC of MWRA Contract No. S605 for maintenance of wind turbine generators at MWRA facilities. MWRA also alleged contractual indemnity and negligence. On May 30, 2024, MWRA amended its complaint to add the surety, Hanover Insurance Company. MWRA seeks damages in the action for the catastrophic failure of WTG-1. On June 17, 2024, Baldwin Energy, LLC and Hanover Insurance Company filed their answer to MWRA's complaint and Baldwin Energy, LLC filed counterclaims against MWRA alleging breach of contract, breach of the implied covenant of good faith and fair dealing, violation of G.L. c. 93A, sec. 11 and defamation and seeking damages. A Litigation Control Conference is scheduled for August 22, 2024.
- In re: Steward Health Care System, LLC et al., TXSB (Southern District of Texas), Case No. 24-90213; (Chapter 11): On or about May 22, 2024, MWRA received notice of a Chapter 11 bankruptcy. MWRA currently has a claim for sewer use permitting fees in the approximate amount of \$15,000 and this amount is subject to increase.

New Claims:

- There are no new claims in 4th Quarter FY 2024.

Significant Developments:

- Thomas Ryan et al v. The Newark Group, Inc. et al., U.S.D.C. (Mass), 4:22-cv-40089-MRG: On May 13, 2024, The Newark Group, Inc., Seaman Paper Co. of Massachusetts, Inc., and Otter Farm, Inc. filed a Motion for Leave to Amend Their Answers to Join Massachusetts Water Resource Authority as Crossclaim Defendant Pursuant to Rule 20(A)(2), or in the Alternative, for Leave to File Third-Party Complaint to assert claims of contribution and indemnification and under G.L. c. 21E against the Authority. On June 10, 2024, the Authority filed the Opposition of Massachusetts Water Resources Authority to Motion for Leave to Assert Crossclaims and/or Third-Party Claims Against the Authority.
- In re Aqueous Film-Forming Foam Products Liability Litigation, MDL No. 2:18-mn-02873-RMG: On June 14, 2024, the Court preliminarily approved a \$750 million class action settlement with Tyco Fire Products LP.

Closed Cases:

There are two closed cases during 4th Quarter 2024:

- Massachusetts Water Resources Authority v. National Association of Government Employees (NAGE), Local R1-168, Suffolk Superior Court C. A. No. 2284CV02453: On April 1, 2024 the court issued a Memorandum and Order on Motion for Judgment on the Pleadings confirming the Arbitrator’s Award in favor of NAGE Local R1-168, which MWRA challenged in Suffolk Superior Court.
- (Former employee) v. MWRA, et al., Suffolk Superior Court C.A. No. 284CV01434: On April 3, 2024, the court enforced the settlement agreement between the parties and entered Judgment of Dismissal dismissing plaintiff’s case with prejudice.

Closed Claims:

- There are no Closed Claims to report in 4th Quarter FY 2024.

Subpoenas:

- During the 4th Quarter FY 2024, no new subpoenas were received and one subpoena is pending.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of June 2024
Construction/Contract/Bid Protest	2
Tort/Labor/Employment	1
Environmental/Regulatory/Other	2
Eminent Domain/Real Estate	0
TOTAL	5
Other Litigation matters (restraining orders, etc.) - Class Action suits	4
TOTAL – all pending lawsuits	9
Claims not in suit	0
Bankruptcy	5
Wage Garnishment	1
TRAC/Adjudicatory Appeals	3
Subpoenas	1
TOTAL – ALL LITIGATION MATTERS	19

TRAC/MISC. ADMIN. APPEALS

Appeals Pending:

- There are three pending TRAC appeals in 4th Quarter 2024:
1058 Beacon Street, Newton, MA; MWRA Docket No. 22-01
Tri-Town Regional Water District; MWRA Docket No. 23-03
Courtyard Marriott Boston Downtown; MWRA Docket No. 23-04

LABOR AND EMPLOYMENT – 4th Quarter FY24

New Matters

- A union filed a request for arbitration of a grievance alleging that MWRA violated the collective bargaining agreement because an employee has been working out of title.
- A union filed a request for arbitration of a grievance asserting that MWRA violated the collective bargaining agreement when it appointed an employee to an acting position after the interview process.
- A union filed a request for arbitration of a grievance asserting that MWRA promoted an employee based upon gender in violation of the collective bargaining agreement.
- A union filed a request for arbitration of a grievance asserting that MWRA violated the collective bargaining agreement by failing to conduct the shift bid process before promoting an employee.
- A union filed a request for arbitration of a grievance asserting that MWRA failed to complete the lateral transfer process to fill an open position in violation of the collective bargaining agreement.
- A former employee filed an appeal of the Department of Unemployment Assistance's determination that the former employee is disqualified for unemployment benefits due to a knowing violation of uniformly enforced policies.

Significant Developments

- None to report.

Matters Concluded

- The MCAD dismissed an employee's complaint of disability discrimination and retaliation.
- A union withdrew a demand for arbitration in a grievance challenging a promotional bypass.
- The MCAD dismissed an employee's complaint of disability discrimination and retaliation.
- A union withdrew a demand for arbitration in a grievance challenging a suspension.
- A union withdrew a demand for arbitration after settlement of a grievance challenging a suspension.
- The Department of Unemployment Assistance reversed its prior determination that a terminated employee is indefinitely ineligible for benefits, thereby ruling against the MWRA and awarding the former employee benefits.
- A union and MWRA settled remaining wage claims after an arbitrator awarded employees one hour of overtime pay.

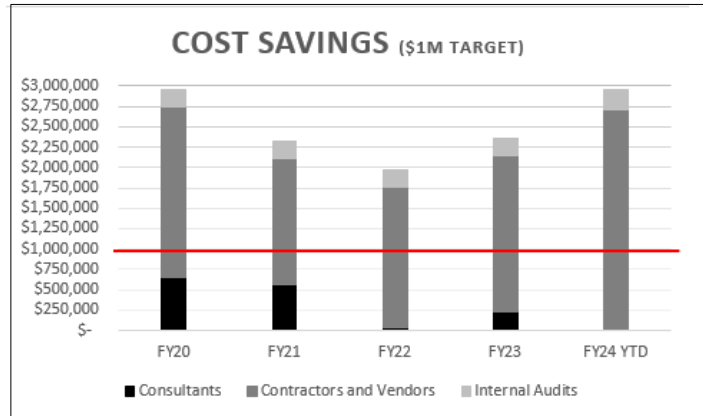
INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES

4th Quarter - FY24

Purpose

Internal Audit evaluates the effectiveness of internal controls and procedures and monitors the quality, efficiency and integrity of the Authority's operating and capital programs. Through our audits and reviews, we assess whether internal controls are functioning as intended and that only reasonable, allowable and allocable costs are paid to consultants, contractors and vendors.

Cost Savings	FY24 YTD
Consultants	\$8,302
Contractors and Vendors	\$2,702,469
Internal Audits	\$240,082
Total	\$2,950,853



Highlights

During the 4th quarter FY24, an audit of MIS Asset Management was completed. Recommendations included enhancing documented policies and procedures, reconciling deployed, returned, and department managed MIS assets to the Maximo database. Controls and procedures related to visitor logs for employee restricted areas was re-established. Secondly, a review of Travel Expense (Mileage) Reimbursement was completed. An enhanced Travel Expense Form was recommended to enhance processing efficiency and reduce the risk of error, fraud and/or abuse.

In addition, IA completed a true-up of 2023 operating expenses for the HEEC cable, reviewed the Fore River Railroad 2023 tax return, and completed 2 labor burden reviews. There are 4 incurred cost audits, 2 labor burden reviews, and 1 consultant review in process. IA also issued 57 indirect cost rate letters to consultants following a review of their consultant disclosure statements. Management advisory services included a final review of the Navy Yard lease.

Status of Recommendations

During FY24, 7 recommendations were closed.

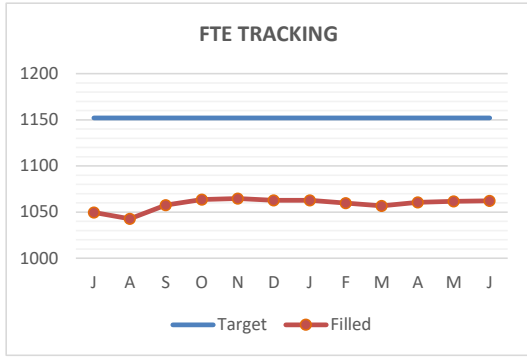
IA follows-up on open recommendations on a continuous basis. All open recommendations have target dates for implementation and are generally targeted to be closed within 12 months of the audit report issue date.

Report Title (issue date)	Audit Recommendations		
	Open	Closed	Total
Accounts Payable Process (3/14/2024)	2	4	6
MWRA Payroll (3/19/2024)	2	1	3
Travel Expense (Mileage) Reimbursement (5/14/2024)	0	1	1
MIS Asset Management (6/28/2024)	7	0	7
Total Recommendations	11	6	17

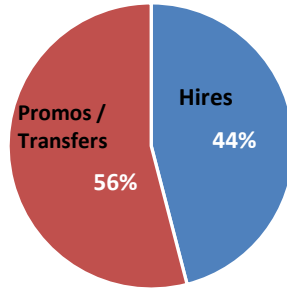
OTHER MANAGEMENT

Workforce Management

4th Quarter - FY24



Position Filled by Hires/Promos & Transfer for YTD



	Pr/Trns	Hires	Total
FY22	138 (68%)	65 (32%)	203
FY23	133 (59%)	91(41%)	224
FY24	117 (56%)	93 (44%)	210

FY24 Budget for FTE's = 1152

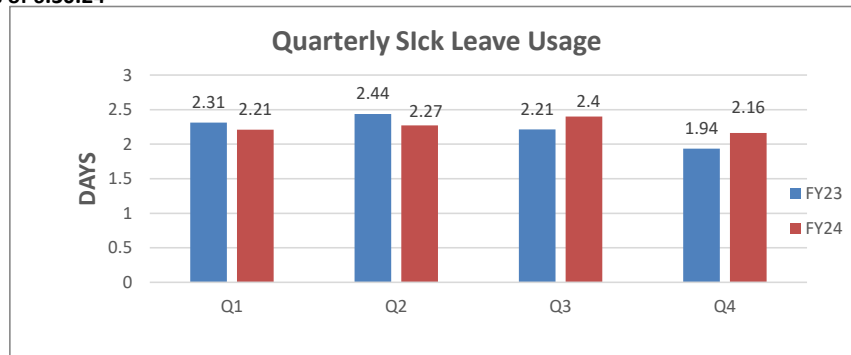
FTE's as of June = 1062.2

Tunnel Redundancy as of June 2024 = 10

POSITION CHANGE by FY

FY	HIRES	PROMOS	TRANSFER	RETIRE	RESIGN	DISMISS	DECEASED
FY20	58	70	14	38	23	2	1
FY21	64	66	15	58	15	2	2
FY22	65	108	30	82	45	2	3
FY23	91	118	15	46	31	5	5
FY24*	93	97	20	48	30	5	4

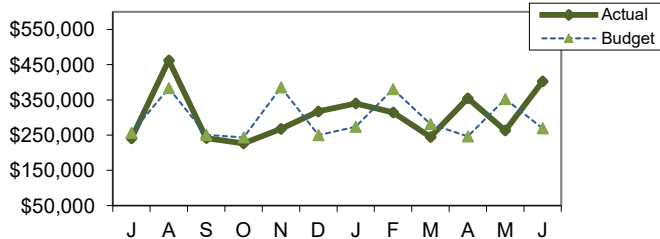
* as of 6.30.24



Average quarterly sick leave for the 4th Quarter of FY24 has increased as compared to the 4th Quarter of FY23. (2.16 to 1.94)

Field Operations

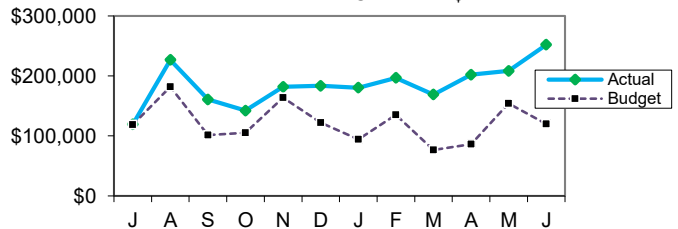
YTD Overtime \$



Total Overtime for Field Operations for June was \$402k which is \$129k or 47.2% over budget. Rain events totaled \$115k and Total Emergency Maintenance was \$150k, \$25k or 20% over budget for the month due to multiple rain events. Planned overtime was \$131k, which is \$64k, or 96% over budget. June had \$77k for Operator Coverage, which is on budget for the month due to previous vacancies becoming filled. Work Completion OT worked was \$11k; Community Assistance Work (Water Fountain) was at \$17k for the month, indicative of summer events being supported by Authority.

Deer Island Treatment Plant

YTD Overtime \$

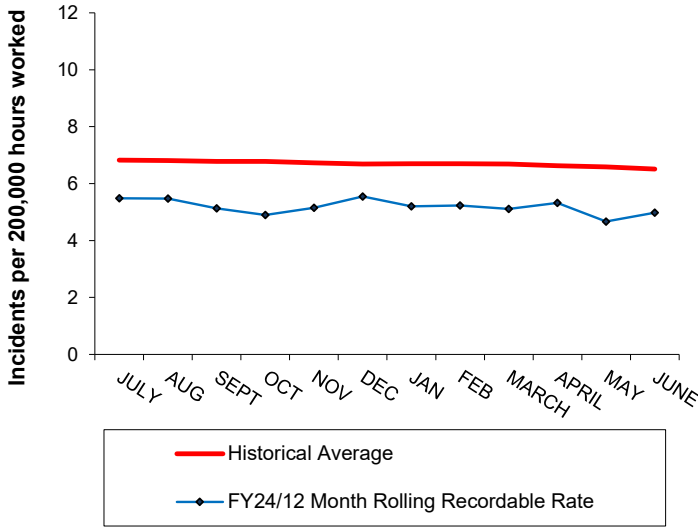


Deer Island's total overtime expenditure in June 2024 was \$252K, which was \$132K or 110.2% over budget. In June 2024, Deer Island experienced higher than anticipated shift coverage of \$79K - driven by Wastewater Ops \$69K & Thermal \$10K. Storm coverage of (\$2K) was under budget, and Planned/Unplanned overtime was \$55k over budget. YTD Deer Island's overtime spending is \$2.2M, which is \$764K or 52.4% over budget due to higher than anticipated shift coverage of \$660K - driven by Wastewater Ops \$629K due to significant vacancies in the Operator position (8 vacancies out of 24 PCRs) within the dept that have been difficult to fill due to license requirements. Storm Coverage is (\$21K). Planned/Unplanned is at \$125K YTD.

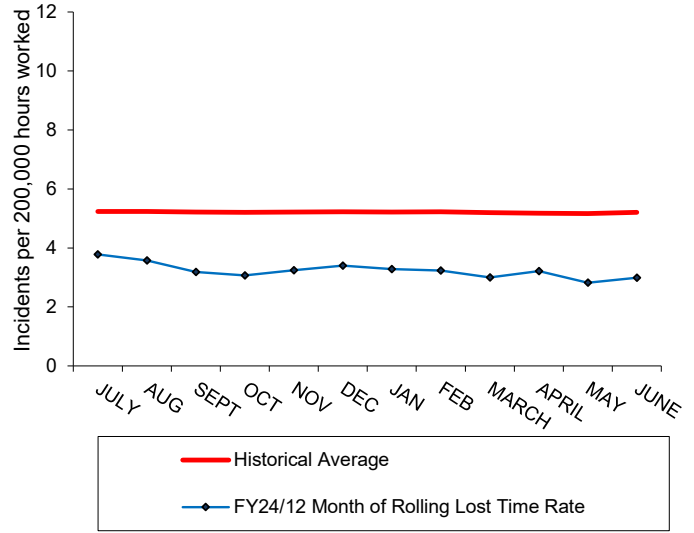
Workplace Safety

4th Quarter - FY24

Recordable Injury & Illness Rates



Lost Time Injury & Illness Rates

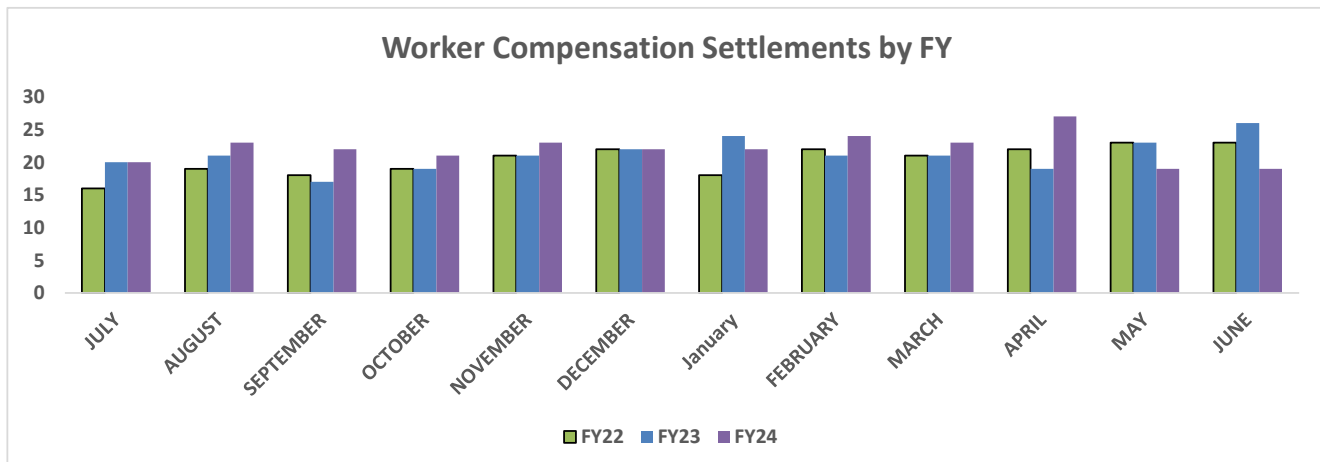


- 1 "Recordable" incidents are all work-related injuries and illnesses which result in death, loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid. Each month this rate is calculated using the previous 12 months of injury data.
- 2 "Lost-time" incidents, a subset of the recordable incidents, are only those incidents resulting in any days away from work, days of restricted work activity or both - beyond the first day of injury or onset of illness. Each month this rate is calculated using the previous 12 months of injury data.
- 3 The "Historical Average" is computed using the actual MWRA monthly incident rates for FY03 through FY24

WORKERS COMPENSATION HIGHLIGHTS

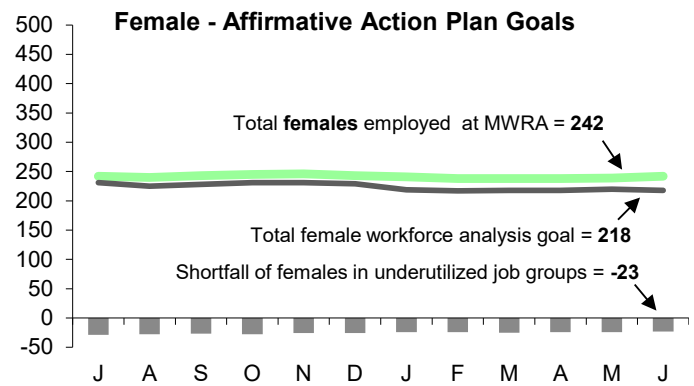
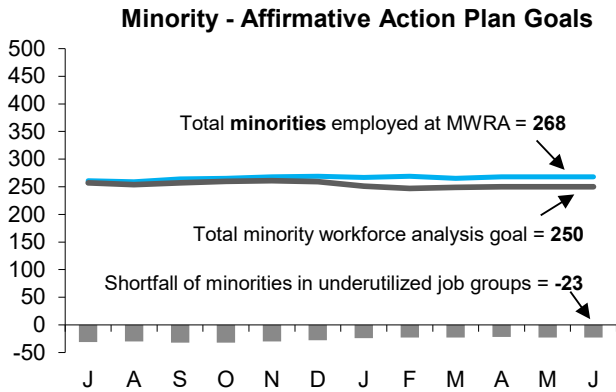
	4th Quarter Information		Open Claims
	New	Closed	
Lost Time	3	3	31
Medical Only	5	2	110
Report Only	4	4	
	QYTD		FYTD
Regular Duty Returns	6		18
Light Duty Returns	0		1
Indemnity payments as of June 2024 included in open claims listed			19

Worker Compensation Settlements by FY



MWRA Job Group Representation

4th Quarter - FY24



Highlights:

At the end of Q4 FY24, 5 job groups or a total of 23 positions are underutilized by minorities as compared to 6 job groups for a total of 29 positions at the end of Q4 FY23; for females 7 job groups or a total of 23 positions are underutilized by females as compared to 8 job groups or a total of 31 positions at the end of Q4 FY23. During Q4, 6 minorities and 8 females were hired. During this same period 2 minorities and 1 female were terminated.

Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 6/30/2024	Minorities as of 6/30/2024	Achievement Level	Minority Over or Underutilized	Females As of 6/30/2024	Achievement Level	Female Over or Underutilized
Administrator A	24	5	4	1	10	6	4
Administrator B	26	5	6	-1	9	10	-1
Clerical A	24	9	5	4	19	17	2
Clerical B	21	6	3	3	3	5	-2
Engineer A	82	18	21	-3	19	23	-4
Engineer B	62	21	15	6	18	12	6
Craft A	116	19	24	-5	0	4	-4
Craft B	123	24	24	0	0	5	-5
Laborer	58	15	15	0	6	2	4
Management A	87	18	19	-1	33	25	8
Management B	37	11	7	4	5	9	-4
Operator A	62	3	16	-13	4	7	-3
Operator B	60	19	10	9	3	2	1
Professional A	29	8	8	0	15	13	2
Professional B	168	52	50	2	72	58	14
Para Professional	42	14	10	4	18	12	6
Technical A	51	18	12	6	7	7	0
Technical B	5	3	1	2	1	1	0
Total	1077	268	250	41/-23	242	218	42/-23

AACU Candidate Referrals for Underutilized Positions

Job Group	Job Title	# of Vacancies	Requisition Internal/ External	Promotions/ Transfers	AACU Referral External	Position Status = New Hire/Promotion
Administrative B	Director, Water Quality	1	Int./Ext.	1	1	PROMO= WF
Administrative B	Director, Environmental Quality	1	Int./Ext.	1	1	PROMO= AM
Engineer A	Project Manager	1	Ext.	0	0	NH= WM
Engineer A	Sr Monitor & Control Eng	1	Ext.	0	0	NH= HF
Engineer A	Sr Prog Manager PICS	1	Int.	1	0	PROMO= BM
Engineer A	Sr Program Mgr, Quality Assurance	1	Int./Ext.	1	1	PROMO= BF
Engineer A	Sr Prog Mgr Ops Engineering	1	Int./Ext.	1	0	PROMO= WM
Engineer A	Prog Mgr, Monitor & Control	1	Int./Ext.	1	0	PROMO= WM
Craft A	M & O Specialist	2	Int./Ext.	2	0	PROMO= 2WM
Craft B	Instrument Technician	1	Int./Ext.	1	0	PROMO= HM
Management A	Manager, Training and Development	1	Int./Ext.	0	0	NH= WF
Management A	Manager, Operations	1	Int./Ext.	0	0	NH= WM
Management A	Sr Prog Mgr Engineer & Construction	1	Int.	1	0	PROMO = WF
Operator A	Sr Trans/Treatment Operator	1	Int.	1	0	PROMO = WM
Operator A	Area Supervisor-Transport	28	Int./Ext.	1	0	PROMO = WM

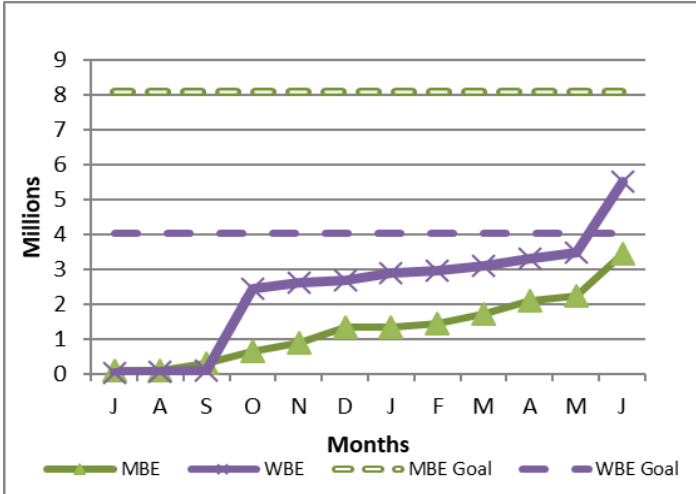
MBE/WBE Expenditures

4th Quarter - FY24

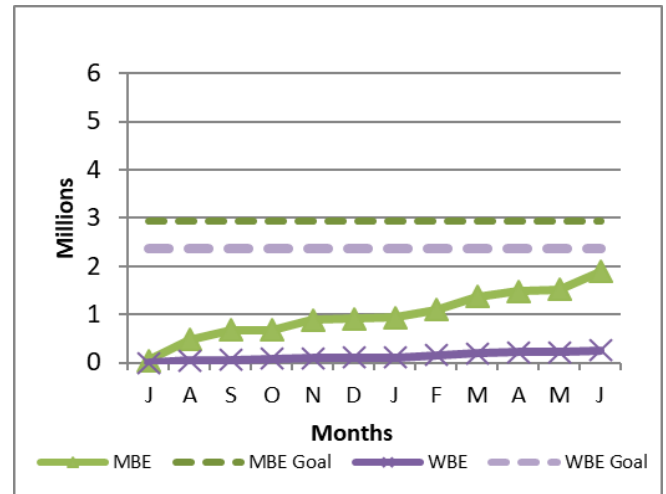
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The spending goals for FY24 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects that do not meet the established monetary thresholds and/or have limited opportunities for subcontracting have been excluded from the goals as they have no MBE/WBE spending goals. The spending goals for FY24 for Goods and Services are based on the average spending of MBE/WBE dollars for the previous 5 years.

MBE/WBE percentages are the results from a 2002 Availability Analysis, and MassDEP's Availability Analysis. As a result of the Availability Analyses, the category of Non-Professional Services is included in Goods/Services. Consistent with contractor reporting requirements, MBE/WBE expenditure data is available through June.

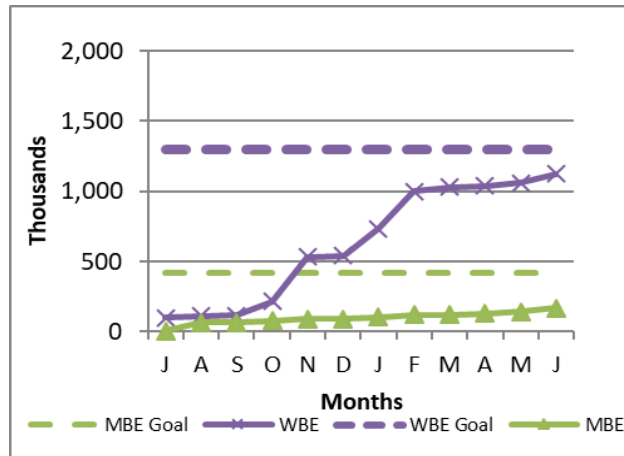
Construction



Professional Services



Goods/Services



FY24 spending and percentage of goals achieved, as well as FY23 performance are as follows:

MBE			
FY24 YTD		FY23	
Amount	Percent	Amount	Percent
3,439,415	44.6%	2,808,124	34.7%
1,891,966	41.1%	2,794,126	95.3%
167,497	41.0%	69,250	16.6%
5,498,878	43.2%	5,671,500	49.6%

WBE			
FY24 YTD		FY23	
Amount	Percent	Amount	Percent
5,152,090	134.4%	4,927,964	95.3%
255,204	6.9%	1,220,172	51.8%
1,122,653	82.4%	174,521	13.4%
6,529,947	73.4%	6,322,657	82.3%

Construction
Prof Svcs
Goods/Svcs
Totals

FY24 MBE/WBE dollar totals do not include MBE and WBE payments to prime contractors and consultants.

MWRA FY24 CEB Expenses

4th Quarter – FY24

As of June 2024, total expenses are \$854.2 million, \$20.0 million or 2.3% lower than budget, and total revenue is \$885.0 million, \$10.8 million or 1.2% over the estimate, for a net variance of \$30.8 million.

Expenses –

Direct Expenses are \$285.3 million, \$30.7 million or 9.7% under budget.

- **Wages & Salaries** were \$13.9 million under budget or 10.9%. Regular pay is \$14.3 million under budget, due to lower head count, and timing of backfilling positions. YTD through June, the average Full Time Equivalent (FTE) positions were 1,068 or 100 below the 1,168 FTE's budgeted.
- **Other Services** were lower than budget by \$7.8 million or 20.4% driven lower Sludge Pelletization spending of \$6.2 million primarily due to lower potential landfill costs due to anticipated PFAS regulations that were budgeted in the second half of FY24, Telecommunications of \$992k due to updated and less than anticipated costs, and Grit & Screenings Removal of \$355k due to lower quantities.
- **Chemicals** were lower than budget by \$7.1 million or 25.3%. Lower than budgeted spending on Sodium Hypochlorite of \$3.8 million was driven by Water Operations of \$2.1 million and Wastewater Operations of \$206k primarily due to contract pricing, and DITP of \$1.5 million due to lower pricing for the new contract, which is offset by additional usage for disinfection due to higher flows. Lower Ferric Chloride of \$1.5 million was due to lower pricing. Lower Carbon Dioxide of \$709k was primarily due to lower volume, lower contract price, and lower dose required to meet target residual levels in finished water. Lower Aqua Ammonia of \$409k was due to lower price and lower flows. Lower Sodium Bisulfite of \$261k was primarily driven by due to lower dose and volume due to lower flows, lower price and volume at Water Operations of \$143k, Clinton Wastewater Treatment Plant of \$66k, and lower volume at DITP of \$40k due to lower quantities to dechlorinate the effluent. DITP flows are 13.8% greater than the budget and the CWTP flows are 2.8% less than the budget through June. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.
- **Utilities expenses** were over budget by \$1.9 million or 6.1%, reflecting higher electricity spending \$2.2 million over budget. This overspending primarily at DITP of \$1.6 million was driven by higher demand usage charges due to the many rain events and new pass through cost associated with the Mystic Power Station and winter reliability pass through costs. Electricity in Field Operations was greater than budget by \$660k due to pumping for the many rain events. Diesel Fuel spending is \$415k under budget due to favorable pricing.
- **Professional Services** expenses were \$2.2 million under budget or 21.2%, primarily due to lower than anticipated spending on Other Professional Services of \$913k, Legal Services of \$452k, Lab Testing & Analysis of \$298k, and lower Engineering expense of \$178k.
- **Fringe Benefits** expenses were \$1.2 million under budget or 4.7%, primarily due to under spending for Health Insurance of \$1.3 million, reflecting the lower than budget head count. As of June, FTEs were 100 below budget.

Indirect Expenses are \$69.7 million, \$725k or 1.0% under budget due to lower Watershed Reimbursement of \$1.4 million, partially offset by higher spending on HEEC of \$429k and Insurance of \$215k.

Capital Finance Expenses totaled \$499.2 million, \$11.5 million over budget or 2.4%. Higher Senior Debt of \$24.3 million, as a result of defeasance expenditures of \$20.2 million, and a cash tender of bonds totaling \$12.0 million. This was partially offset by lower SRF issues of \$7.4 million due to timing and lower than budget interest expense of \$5.0 million as a result of lower interest rates and the swap termination savings.

Revenue and Income –

Total Revenue and Income is \$885.0 million, \$10.8 million or 1.2% over the estimate. The favorable variance was driven by Investment Income of \$33.0 million, \$9.6 million or 41.3% over the budget due to higher than budget interest rates and higher average balances.

	Jun 2024 Year-to-Date			
	Period 12 YTD Budget	Period 12 YTD Actual	Period 12 YTD Variance	%
EXPENSES				
WAGES AND SALARIES	\$ 127,828,242	\$ 113,940,177	\$ (13,888,065)	-10.9%
OVERTIME	5,727,593	6,410,242	682,649	11.9%
FRINGE BENEFITS	25,823,383	24,605,503	(1,217,880)	-4.7%
WORKERS' COMPENSATION	2,144,395	2,606,979	462,584	21.6%
CHEMICALS	28,269,124	21,125,295	(7,143,829)	-25.3%
ENERGY AND UTILITIES	31,064,890	32,968,038	1,903,148	6.1%
MAINTENANCE	38,574,256	37,677,377	(896,879)	-2.3%
TRAINING AND MEETINGS	498,597	324,788	(173,809)	-34.9%
PROFESSIONAL SERVICES	10,410,484	8,204,808	(2,205,676)	-21.2%
OTHER MATERIALS	7,167,400	6,753,950	(413,450)	-5.8%
OTHER SERVICES	38,494,660	30,649,141	(7,845,519)	-20.4%
TOTAL DIRECT EXPENSES	\$ 316,003,024	\$ 285,266,298	\$ (30,736,726)	-9.7%
INSURANCE	\$ 4,065,380	\$ 4,280,811	\$ 215,431	5.3%
WATERSHED/PILOT	30,358,187	28,989,024	(1,369,163)	-4.5%
HEEC PAYMENT	7,500,650	7,929,639	428,989	5.7%
MITIGATION	1,779,086	1,779,086	-	0.0%
ADDITIONS TO RESERVES	7,861,035	7,861,035	-	0.0%
RETIREMENT FUND	15,972,804	15,972,804	-	0.0%
POST EMPLOYEE BENEFITS	2,849,365	2,849,365	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 70,386,507	\$ 69,661,763	\$ (724,744)	-1.0%
STATE REVOLVING FUND	\$ 90,798,263	\$ 83,358,104	\$ (7,440,159)	-8.2%
SENIOR DEBT	294,055,644	318,360,317	24,304,673	8.3%
DEBT SERVICE ASSISTANCE	(1,187,297)	(1,187,297)	-	0.0%
CURRENT REVENUE/CAPITAL	19,200,000	19,200,000	-	0.0%
SUBORDINATE MWRA DEBT	69,931,072	69,931,072	-	0.0%
LOCAL WATER PIPELINE CP	7,744,625	7,347,129	(397,496)	-5.1%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
VARIABLE DEBT	-	(5,003,706)	(5,003,706)	---
DEFEASANCE ACCOUNT	-	-	-	---
DEBT PREPAYMENT	4,000,000	4,000,000	-	0.0%
TOTAL CAPITAL FINANCE EXPENSE	\$ 487,759,367	\$ 499,222,679	\$ 11,463,312	2.4%
TOTAL EXPENSES	\$ 874,148,898	\$ 854,150,740	\$ (19,998,158)	-2.3%
REVENUE & INCOME				
RATE REVENUE	\$ 834,268,000	\$ 834,268,000	\$ -	0.0%
OTHER USER CHARGES	10,390,434	10,679,161	288,727	2.8%
OTHER REVENUE	5,838,903	6,730,761	891,858	15.3%
RATE STABILIZATION	305,482	305,482	-	0.0%
INVESTMENT INCOME	23,346,079	32,980,995	9,634,916	41.3%
TOTAL REVENUE & INCOME	\$ 874,148,898	\$ 884,964,399	\$ 10,815,501	1.2%

Cost of Debt

4th Quarter – FY24

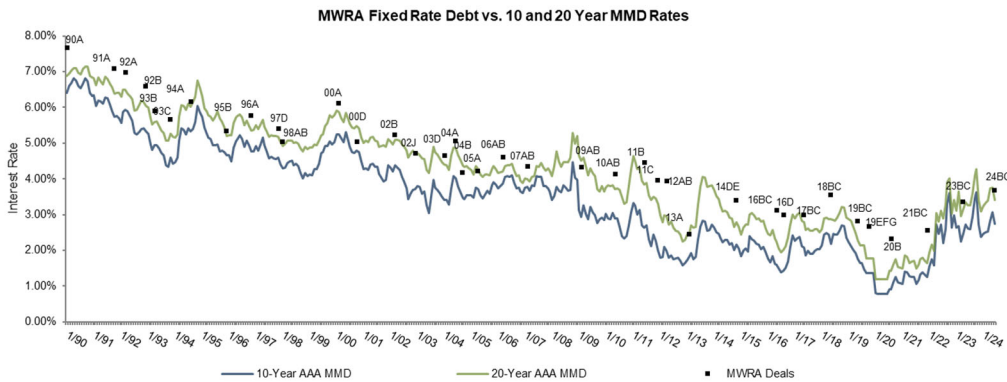
MWRA borrowing costs are a function of the fixed and variable tax exempt interest rate environment, the level of MWRA's variable interest rate exposure and the perceived creditworthiness of MWRA. Each of these factors has contributed to decreased MWRA borrowing costs since 1990.

Average Cost of MWRA Debt FYTD

Fixed Debt (\$3.30 billion)	3.19%
Variable Debt (\$382.4 million)	4.08%
SRF Debt (\$731.62 million)	1.74%
Weighted Average Debt Cost (\$4.02 billion)	2.96%

Most Recent Senior Fixed Debt Issue April 2024

2024 Series B and C (\$445.5 million)	3.49%
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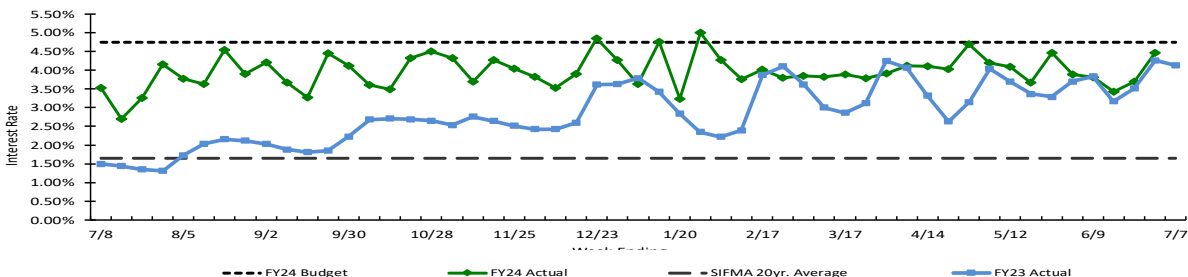


Bond Deal	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B	2005A	2006AB	2007AB	2009AB	2010AB	2011B
Rate	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%	5.05%	4.17%	4.22%	4.61%	4.34%	4.32%	4.14%	4.45%
Avg Life	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs	19.6 yrs	13.5 yrs	18.4 yrs	25.9 yrs	24.4 yrs	15.4 yrs	16.4 yrs	18.8 yrs

Bond Deal	2011C	2012AB	2013A	2014D-F	2016BC	2016D	2017BC	2018BC	2019BC	2019EFG	2020B	2021BC	2023BC	2024BC
Rate	3.95%	3.93%	2.45%	3.41%	3.12%	2.99%	2.98%	3.56%	2.82%	2.66%	2.33%	2.56%	3.35%	3.68%
Avg Life	16.5 yrs	17.9 yrs	9.9 yrs	15.1 yrs	17.4 yrs	18.8 yrs	11.2 yrs	11.7 yrs	11.9 yrs	9.73 yrs	15.6 yrs	12.2 yrs	10.45 yrs	11.77 yrs

Weekly Average Variable Interest Rates vs. Budget

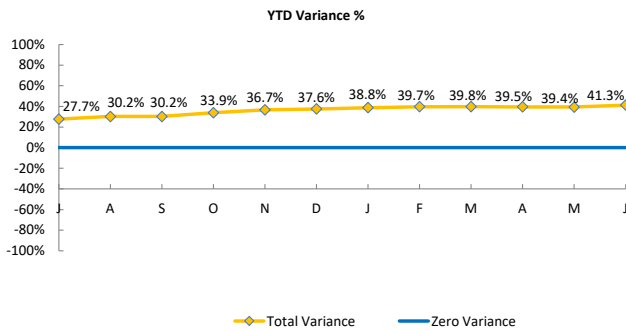
MWRA currently has eight variable rate debt issues with \$382.4 million outstanding, excluding commercial paper. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In June, the Securities Industry and Financial Markets Association rate ranged from a high of 4.090% to a low of 2.890% for the month. MWRA's issuance of variable rate debt, although consistently less expensive in recent years, results in exposure to additional interest rate rise as compared to fixed rate debt.



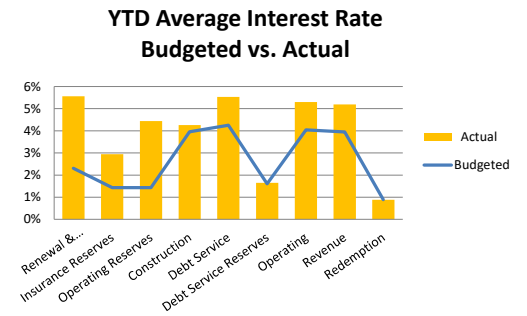
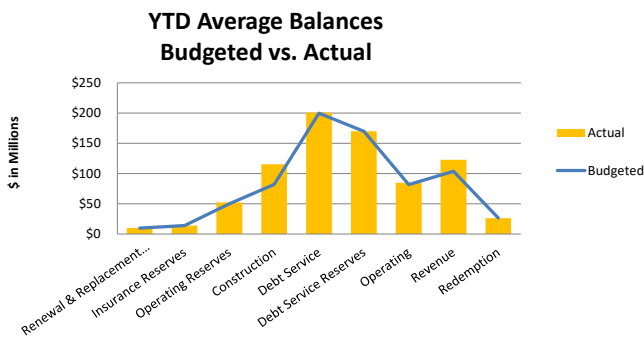
Investment Income

4th Quarter – FY24

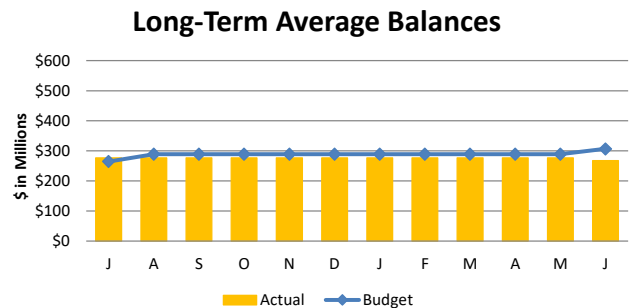
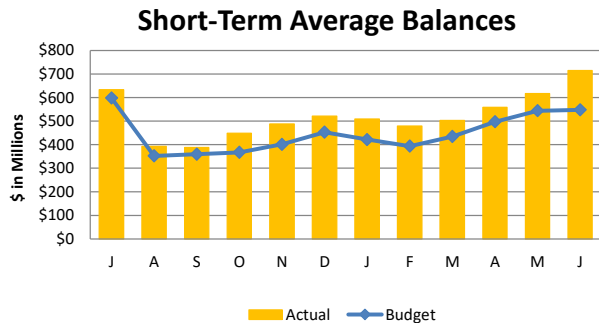
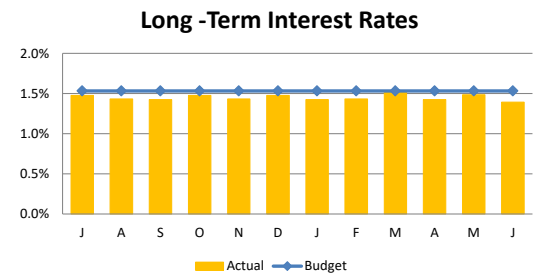
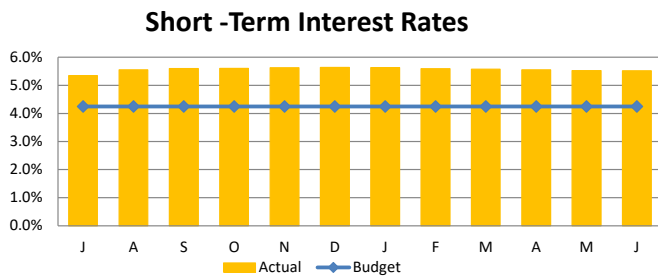
➤ YTD variance is 41.3%, \$9.6 million, over budget due higher than budgeted interest rates and average balance.



	YTD BUDGET VARIANCE			
	(\$000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Renewal & Replacement Reserves	\$0	\$326	\$326	141.2%
Insurance Reserves	\$0	\$211	\$212	105.4%
Operating Reserves	\$35	\$1,574	\$1,609	224.9%
Construction	\$1,540	-\$229	\$1,311	39.0%
Debt Service	\$56	\$2,570	\$2,626	31.0%
Debt Service Reserves	\$2	\$76	\$79	2.9%
Operating	\$130	\$1,054	\$1,185	35.9%
Revenue	\$761	\$1,526	\$2,288	55.9%
Redemption	\$0	\$1	\$1	0.3%
Total Variance	\$2,525	\$7,110	\$9,635	41.3%



Monthly



APPENDIX J

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 yet 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.

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

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.

Audit: An independent examination of the financial books and records of the organization. Typically, audit refers to the year-end examination and preparation of audited financial statements performed by an outside accounting firm hired under contract.

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: A general debt obligation. Typically, bonds are issued as a series of bonds of different amounts and interest rates maturing in different years.

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.

BWTF: William A. Brutsch Water Treatment Facility – Water treatment plant for the Chicopee Valley Aqueduct communities of Chicopee, South Hadley Fire District #1, and Wilbraham. The facility has a capacity of 24 mgd, and disinfects the water using a combination of UV light and chlorine.

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.

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 and UV as a secondary disinfectant beginning in February 2014.

CCR: Consumer Confidence Report – The 1996 Amendments to the Safe Drinking Water Act required public water suppliers to provide all consumers with an annual Consumer Confidence Report by July 1, 2005. The report includes water quality information and education for the consumer about their publicly supplied drinking water.

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.

Co-Digestion Process: Introduction of non-wastewater derived organic waste material into the wastewater anaerobic digestion process. Co-digestion could potentially increase digester gas production which would be utilized for heating and electricity generation at Deer Island.

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*.

Combined Sewer and Combined Sewer Overflow: While modern systems transport rainwater and sewage from homes and businesses through separate pipes, some older systems like Boston's have "combined" sewers that carry both flows together. During normal conditions flows are delivered to treatment plants. During very heavy rains, these systems become overloaded. Built-in overflows (called combined sewer overflows or "CSOs") must then act as relief points by releasing excess flows into the nearest body of water. This prevents sewage backups into homes and onto area streets, but the discharges can impact water quality.

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 46 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.

Defeasance: The setting aside of cash or securities sufficient to make debt service payments allowing the reduction of the debt amount to the liabilities of a balance sheet and the reduction of the debt service amount to the Current Expense Budget.

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.

EOEEA: Executive Office of Energy and Environmental Affairs - The Massachusetts cabinet office that oversees state environmental agencies.

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, was 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.

Enterprise Fund: A governmental accounting and budgeting Fund that is designed to be self-supporting with revenues equal to expenditures.

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.

Eversource: Formerly NStar, formerly Boston Edison Company, is a publicly traded, Fortune 500 energy company headquartered in Hartford, Connecticut and Boston, Massachusetts, with several regulated subsidiaries offering retail electricity and natural gas service to more than 3.6 million customers in Connecticut, Massachusetts and New Hampshire.

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.

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.

FTE (Full Time Equivalent): An FTE is the hours worked by one employee on a full-time basis. The concept is used to convert the hours worked by several part-time employees into the hours worked by full-time employees.

Fund: A separate accounting entity for a particular purpose facilitating the accounting of assets, liabilities, and net assets.

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.

Geographic Information System (GIS) -- A geographic information system is a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.

Green Energy: Energy that comes from natural sources such as sunlight, wind, rain, tides, plants, algae and geothermal heat. These energy resources are renewable, meaning they're naturally replenished.

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 and 2 Rules at 60 ppb.

Harbor Electric Energy Company (HEEC): A subsidiary of Eversource which installed a cross harbor power cable and built a sub-station to provide power for construction and operation of the Deer Island Wastewater 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, Carroll Water Treatment Plant, and the four Remote Headworks remove themselves from the grid. All six facilities 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.

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.).

PILOT (Payment in Lieu of Taxes): The Watershed PILOT program is the method that DCR compensates communities which contain the state owned land bought to protect one of the nation's largest unfiltered water supply systems. The law that defines this PILOT program, MGL c. 59 s.5G, guarantees regular and stable payment to 29 Massachusetts communities.

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.

Renewable Energy: Energy from a source that is not depleted when used, such as wind or solar power

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. Now referred to as Wastewater GIS.

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).

Ultraviolet (UV) Treatment: Ultraviolet light is an effective method of disinfection in drinking and wastewater applications. UV light damages the DNA of microbes, and is particularly effective against cryptosporidium. Federal regulations require two primary disinfectants for unfiltered water systems. The Carroll Water Treatment Plant added UV as a second disinfectant (in addition to ozonation) in February 2014 and the Quabbin Disinfection Facility (now named the William A. Brusch Water Treatment Facility) in Ware added UV (as a second disinfection in addition to chlorine) in October 2014.

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

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

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

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.

Water Supply Trust: The legislature further enhanced the ability of the Department of Conservation and Recreation (DCR) Office of Watershed Management to protect the source waters of the MWRA drinking water supply by establishing a Water Supply Protection Trust in 2004. The

trust provides a more efficient mechanism for MWRA's direct funding of the Office of Watershed Management. The Water Supply Protection Trust has a five person board of trustees responsible for approving the Annual Work Plan and Budget each spring for the following fiscal year.

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.

