



MASSACHUSETTS WATER RESOURCES AUTHORITY

Deer Island
33 Tafts Avenue
Boston, MA 02128

Frederick A. Laskey
Executive Director

Chair: R. Tepper
Vice-Chair: A. Pappastergion
Secretary: B. Peña
Board Members:
P. Flanagan
J. Foti
B. Swett
L. Taverna
H. Vitale
J. Walsh
P. Walsh
J. Wolowicz

BOARD OF DIRECTORS' MEETING

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

Date: Wednesday, September 11, 2024
Time: 1:00pm
Location: MWRA Administration Facility, Conference Rooms 2C and 2D
2 Griffin Way, Chelsea, MA 02150
A photo ID will be required for entry.

The meeting will also be available via Webex. The Webex meeting link, event number and password to attend virtually are below:

Webex meeting link (registration required):

<https://mwra.webex.com/weblink/register/r0e63a19b4dc6af23c5b4663bb3c1bbca>

Event number: 2347 691 4639 Password: 091124

REVISED AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

- A. Annual Meeting: Election and Appointment of MWRA Officers, and Committee Assignments

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. EXECUTIVE SESSION

- i. Approval of July 24, 2024 Executive Session Minutes

A. Real Estate

1. Watershed Land Acquisition Approval

B. Security

1. Security Update and Strategy

C. Litigation

1. To Discuss Strategy with Respect to Litigation (verbal)

V. WATER POLICY AND OVERSIGHT

A. Contract Awards

1. Metropolitan Water Tunnel Program, Final Design Engineer Services, WSP USA Inc., Contract 7556

V. WATER POLICY AND OVERSIGHT (Continued)**B. Contract Amendments/Change Orders**

1. Section 4 Walnut Street Bridge Pipe Restraint Replacement: R. Zoppo Corp., Contract 7483, Change Order 7

VI. WASTEWATER POLICY & OVERSIGHT**A. Contract Awards**

1. Somerville Marginal CSO Facility New Pipe Connection: RJV Construction Corp., Contract 7985

B. Contract Amendments/Change Orders

1. Braintree-Weymouth Intermediate Pump Station Transformer Replacement: Dagle Electrical Construction Corp., Contract 7995, Change Order 1
2. CSO Post-Construction Monitoring and Performance Assessment: AECOM Technical Services, Inc., Contract 7572, Amendment 5 (materials to follow)
3. Siphon and Junction Structure Rehabilitation - Design and Engineering Services During Construction: Kleinfelder Northeast, Inc., Contract 6224, Amendment 1

VII. ADMINISTRATION, FINANCE & AUDIT**A. Information**

1. Delegated Authority Report – July and August 2024
2. FY2024 Fourth Quarter Orange Notebook
3. FY2024 Year-End Financial Update and Summary
4. FY2024 Year-End Capital Improvement Program Spending Report

B. Approvals

1. Bond Defeasance of Future Debt Service

VIII. PERSONNEL & COMPENSATION**A. Approvals**

1. September 2024 PCR Amendments
2. Extension of Internship/Contract Employment, Internal Audit Division

IX. CORRESPONDENCE TO THE BOARD**X. OTHER BUSINESS****XI. ADJOURNMENT**

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

July 24, 2024

A meeting of the Massachusetts Water Resources Authority (“MWRA”) Board of Directors was held on July 24, 2024 at MWRA’s Administration Facility in Chelsea, and via remote participation.

Chair Tepper presided from the Chelsea Administration Facility. Board Members Flanagan, Foti, Pappastergion, Peña, and Taverna also participated from the Chelsea Administration Facility. Board Members Vitale, Patrick Walsh, and Wolowicz participated remotely. Board Members Jack Walsh and White-Hammond were absent.

MWRA Executive Director Frederick Laskey; General Counsel Carolyn Francisco Murphy; Chief Operating Officer David Coppes; Deputy Chief Operating Officer Rebecca Weidman; Director of Finance Thomas Durkin; Director of Administration Michele Gillen; MIS Director Paula Weadick; Deer Island Treatment Plant Director David Duest; Deer Island Engineering Services Manager Rick Adams; Chief Engineer Brian Kubaska; Wastewater Director Stephen Cullen; Deer Island Treatment Plant Deputy Director Chad Whiting; MWRA Deputy Director of Waterworks Lisa Bina; Director of Metropolitan Operations Mike McCarthy; Director of Planning and Sustainability Stephen Estes-Smargiassi; Human Resources Director Wendy Chu; Asset Management Analyst Michael Curtis; Chief of Staff Katie Ronan; Associate General Counsels Kristen Schuller-Scammon and Kimberley McMahon; and, Assistant Secretary Kristin MacDougall attended at MWRA’s Administration Facility in Chelsea. Associate General Counsels Michael Altieri and Angela Atchue attended remotely.

Vandana Rao, EEA, and Matt Romero, MWRA Advisory Board (“Advisory Board”), also attended at the Chelsea Administration Facility.

Chair Tepper called the meeting to order at 1:02pm.

ROLL CALL

MWRA General Counsel Francisco Murphy took roll call of Board Members in attendance and announced that Board Members Vitale and Patrick Walsh were participating remotely. The Chair announced that the meeting was being held at MWRA’s Chelsea Administration Facility and virtually, via a link posted on MWRA’s website. She added that the meeting would be recorded, and that the agenda and meeting materials were available on MWRA’s website.

APPROVAL OF JUNE 26, 2024 MINUTES

A motion was duly made and seconded to approve the minutes of the Board of Directors’ meeting of June 26, 2024.

Chair Tepper asked if there was any discussion or questions from the Board. Hearing none, she

requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
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Tepper		
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Flanagan		
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Foti		
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Pappastergion		
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Peña		
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Taverna		
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Vitale		
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P. Walsh

(ref. I)

REPORT OF THE EXECUTIVE DIRECTOR

MWRA Executive Director Fred Laskey announced that Governor Healey would conduct a swearing in ceremony for City of Boston Board appointee Brian Swett and for MWRA Advisory Board appointee Andrew Pappastergion on July 25.

He then reported that staff are monitoring a number of policy matters currently before the House and Senate, including legislation pertaining to drought, combined sewer overflow (CSO) control and rivers, PFAS, and non-flushable wipes labeling. He noted that the Housing Bond Bill, which could potentially include up to \$1 billion in funding for MWRA system expansion, may have significant impacts on MWRA operations, and that staff will update Board Members on any developments.

Finally, Mr. Laskey noted that a Board of Directors' meeting is usually not held in August, and invited Board Members to attend the MWRA Advisory Board's annual tour of the Pellet Plant and Nut Island on August 22, 2024. There was brief, general discussion, with no objections.

(Board Member Wolowicz joined the meeting during the Report.) (ref. III)

EXECUTIVE SESSION

Chair Tepper requested that the Board move into Executive Session to discuss Litigation and Collective Bargaining since discussing such in Open Session could have a detrimental effect on the litigating and negotiating positions of the Authority, and to discuss Security. She announced that the planned topics for Executive Session were Litigation Strategy; *City and County of San Francisco vs. EPA*, US Supreme Court Case No.23-753; U.S. District Court, South Carolina, MDL No. 2:18-mn-2873-RMG, PFAS Class Action Settlements with Tyco Fire Products and BASF; Collective bargaining, all Units; and Security Update and Strategy, and that the Board would return to Open Session after the conclusion of Executive Session.

A motion was duly made and seconded to enter Executive Session for these purposes, and to resume Open Session after Executive Session adjournment.

General Counsel Francisco Murphy reminded Board members that under the Open Meeting Law members who were participating remotely in Executive Session must state that no other person is present or able to hear the discussion at their remote location. A response of “yes” to the Roll Call to enter Executive Session when their name was called would also be deemed their statement that no other person was present or able to hear the Executive Session discussion.

Upon a motion duly made and seconded, a roll call vote was taken in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
P. Walsh		
(Wolowicz – no response)		

Voted: to enter Executive Session, and to resume Open Session after Executive Session adjournment.

*** EXECUTIVE SESSION ***

The meeting entered Executive Session at 1:09pm and adjourned at 2:18pm.

*** CONTINUATION OF OPEN SESSION ***

WASTEWATER POLICY AND OVERSIGHT

Contract Awards

Deer Island Treatment Plant Combined Heat and Power System: Design, Bidding and Engineering Services During Construction, Burns & McDonnell Engineering Co., Inc., Contract 6730

A motion was duly made and seconded to approve the recommendation of the Consultant Selection Committee to award Contract 6730, Deer Island Treatment Plant Combined Heat and Power System – Design, Bidding and Engineering Services During Construction, to Burns & McDonnell Engineering Co., Inc., and to authorize the Executive Director, on behalf of the

Authority, to execute said contract in an amount not to exceed \$18,377,091 for a contract term of 100 months from the Notice to Proceed.

David Duest, MWRA Deer Island Treatment Plant Director, presented an overview of a proposed contract for design, bidding and engineering services during construction contract for a new Deer Island Treatment Plant (“DITP”) combined heat and power (“CHP”) system. He summarized the project’s scope and benefits, including cost savings and improved use of digester gas for green energy. He noted that the planned CHP updates are expected to significantly improve system efficiency.

Mr. Duest then explained that the current CHP system is approximately 60% off the grid, and that the new facilities are expected to increase onsite energy output by approximately 15%.

Next, he presented a schematic of the new CHP system, and described its heat and power generation processes. He discussed some benefits of the new system, including a 78% reduction in fuel oil use, and a 12,800 metric ton reduction in greenhouse gasses.

Finally, Mr. Duest discussed the procurement process for the proposed contract. He reported that one bid was received from Burns & McDonnell Engineering Co., Inc., and that it came in at approximately 10% over the Engineer’s Estimate. He explained that the bid price is offset by a proposed level of effort that is approximately 9.5% higher than anticipated. He noted that Burns & McDonnell had proposed a strong team that offers extensive CHP design experience and strong familiarity with DITP operations.

Board Member Flanagan requested more information about where the new CHP facilities would be located. Mr. Duest explained that multiple sites are being considered, including a potential new building, or a split solution with the boilers placed to maximize heat use.

There was brief, general discussion about the contract’s duration, and Burns & McDonnell’s proposed work hours versus the Engineer’s Estimate. Board Member Foti requested the reason for the proposal’s 9.5% increase in work hours. Rick Adams, MWRA Deer Island Engineering Services Manager, explained that the difference is mainly attributable to an increased level of effort for project administration and preliminary design. There was general discussion about Burns & McDonnell’s project team, which includes CDM Smith, Green International and JK Muir, and the team’s past experience on comparable projects for organizations such as Harvard University and the Greater Lawrence Sanitary District.

In response to a question from Vice-Chair Pappastergion, there was general discussion about the preparation of the Engineer’s Estimate, the contract procurement process, and Burns & McDonnell’s full understanding of the project’s requirements. There was also discussion about the CHP project’s complexity, including permit requirements, and Burns & McDonnell’s

commitment to meeting MWRA's MBE/WBE participation goals.

Chair Tepper asked if the proposed contract includes legal permitting. Mr. Duest affirmed that the contract includes air permitting, and that some site permitting may be conducted in-house.

Board Member Taverna asked if the proposed design team is confident that they can commit resources for the duration of the contract. Mr. Duest explained that the team has committed to this project, and has demonstrated success and reliability on numerous long-term MWRA projects. Mr. Taverna requested more information about the proposed contract's terms. Mr. Duest explained that it is a not-to-exceed contract.

(Ms. Wolowicz temporarily left the meeting during the discussion)

Chair Tepper asked if there was further discussion or questions from the Board. Hearing none, she requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
P. Walsh		
(Wolowicz – no response)		

(ref. V A.1)

Design, Engineering Services During Construction and Resident Engineering Services for Cottage Farm CSO Facility PCB Abatement: Weston & Sampson Engineers, Inc., Contract 7392

A motion was duly made and seconded to approve the recommendation of the Consultant Selection Committee to select Weston & Sampson Engineers, Inc. to provide Design, Engineering Services During Construction and Resident Engineering Services for Cottage Farm CSO Facility PCB Abatement under Contract 7392, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount not to exceed \$3,757,000.41 for a contract term of 52 months from the Notice to Proceed.

Brian Kubaska, MWRA Chief Engineer, presented a summary of a proposed contract for design, engineering services during construction and resident engineering services for a PCB abatement project at the Cottage Farm Combined Sewer Overflow ("CSO") Facility. He provided an overview of the facility's location, structural layout, history, and functions for screening,

disinfecting, detaining and pumping flows before discharge into the Charles River. He noted that Cottage Farm is one of MWRA's four wet weather facilities and that it activates approximately twice a year on average.

Next, Mr. Kubaska discussed the scope of the proposed professional services contract. He explained that Phase 1, abatement of PCBs in all accessible areas of the facility's main building, is expected to achieve a PCB abatement level of 81-90%. He noted that no PCBs have been found in the facility's newer chemical building. He further explained that the remaining PCBs are expected to be captured during Phase 2, when abatement of non-accessible areas and facility rehabilitation work will take place. Mr. Kubaska noted that the Cottage Farm facility will need to remain online during the abatement efforts.

Mr. Kubaska then summarized the contract's procurement process. He reported that two proposals were received, and that staff recommend award to the lowest bidder, Weston & Sampson Engineers, Inc. He noted that Weston & Sampson's bid was 20.3 % higher than the Engineer's Estimate, attributable to salaries that were higher than anticipated, and that the proposed level of effort was in line with MWRA's estimate. Finally, Mr. Kubaska provided a brief overview of the project's 52-month schedule.

(Ms. Wolowicz returned to the meeting during the presentation.)

Board Member Peña asked how staff manage sodium hypochlorite storage. Mr. Kubaska explained that staff track the concentrations of on-site hypochlorite. Stephen Cullen, MWRA Wastewater Director, provided further details on staff's procedures for sampling, tracking and managing sodium hypochlorite and sodium bisulfite.

Hearing no further discussion or questions from the Board, Chair Tepper requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
P. Walsh		
Wolowicz		

(ref. V A.2)

Oxygen Generation Facility Services, Deer Island Treatment Plant: Solutionwerks Inc., Contract S619

A motion was duly made and seconded to approve the award of Contract S619, Oxygen Generation Facility Services, Deer Island Treatment Plant, to the lowest responsive and eligible bidder, Solutionwerks Inc., in the amount of \$3,512,500, for the contract term of 1095 calendar days from the Notice to Proceed.

Chad Whiting, MWRA Deer Island Treatment Plant Deputy Director, discussed a proposed contract for oxygen generation facility services at DITP. He described the functions of the DITP cryogenic oxygen generation (“cryo”) facility, noting that it is critical to NPDES permit compliance. He noted that maintaining and operating the cryo facility requires specialized expertise and instrumentation.

Mr. Whiting then presented an overview of the cryo facility and its process for generating up to 200-300 tons of gaseous oxygen per day, total. He noted that oxygen that is not needed for daily DITP operations is stored on site.

Next, Mr. Whiting provided background on the procurement of proposed Contract S619. He noted that in 2022, the incumbent contractor (Solutionwerks, Inc.) had informed MWRA that it would be unable to bid on future contracts due to the planned retirement of key staff. He explained that MWRA staff subsequently developed a new Chapter 149 contract that included capital repairs in addition cryo facility maintenance services; this contract was advertised February 2024, and resulted in a single bid that was 366% over the Engineer’s Estimate.

Mr. Whiting further explained that staff then re-examined and revised the project’s scope and transferred capital repair tasks to a separate contract for future procurement and re-advertised the maintenance tasks as non-professional services maintenance Contract S619. He reported one bid of \$3,512,500 from Solutionwerks was received, noting that staff considered this cost to be reasonable.

Finally, Mr. Whiting recommended the award of Contract S619 to Solutionwerks. He explained that since 2022 employees had taken over management of the company; that key personnel had not fully retired; and that new technicians capable of performing the work had been hired and successfully trained.

Mr. Taverna asked if staff were confident in Solutionwerks stability and capacity. Mr. Whiting responded in the affirmative, and explained that the original owner continues to work for the company as a consultant; that the new owner is a family member who has been working successfully onsite at DITP for a number of years; and, that the company is growing.

Hearing no further discussion or questions from the Board, Chair Tepper requested a roll call

vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
P. Walsh		
Wolowicz		

(ref. V A.3)

WATER POLICY AND OVERSIGHT

Information

Overview of Water Pipeline Maintenance Leak Repairs at MWRA

Staff presented a summary of how MWRA staff identify and repair leaks in MWRA's Metropolitan Water System. Lisa Bina, MWRA Deputy Director of Waterworks, provided a brief summary of the Metropolitan Water System's location and pressure zones, as well as the MWRA facilities that serve the system, including pipelines, valves, water storage facilities and pump stations. She noted that the system is operated and maintained by MWRA's in-house pipeline, valve and inspection crews, and described their job responsibilities.

Next, Ms. Bina discussed the MWRA Leak Detection Program. She explained that dedicated staff use specialized equipment to "walk the lines" at night, listening for potential underground leaks, noting that the crew walked approximately 140 miles and identified seven leaks in 2023. She described the crew's procedures for marking and reporting leaks.

Ms. Bina then presented examples of surface leaks, which typically present as puddles that are reported by service communities, or as geysers. She noted that surface leaks are usually reported directly to MWRA's Operations Control Center ("OCC") by constituents or community officials, and that that geyser leaks often set off the OCC's low-pressure alarms. She explained that surface leaks are not isolated immediately in order to avoid negative impacts to water system pressure.

Next, Ms. Bina described MWRA's response protocol for surface leaks. She also discussed the importance of operations plans, which are developed for MWRA's valve crews by engineers, and include such information as sequencing instructions; valve turn counts; and detailed records of facilities in the impacted area.

Documents used for this meeting and cited in these minutes, including meeting materials/staff summaries, presentations, and approved minutes, are posted on MWRA's website: <https://www.mwra.com/about-mwra/governance-management/board-directors/archive-agendas-and-minutes>

Mike McCarthy, MWRA Director of Metropolitan Operations, then outlined MWRA's response to a challenging leak on MWRA's Section 84 pipeline in Malden. The presentation highlighted the labor-intensive work performed by rotating crews over extended hours, including leak location; testing and conditions evaluation; pipe isolation; removal and installation of concrete encasements; the coordination of utility pole support; installation of new valves and a restraint; leak repair; pipeline disinfection and activation; and road restoration. Mr. McCarthy noted that crews performed this complex work, which took place from December 2022 through April, 2023, without disrupting water service to customers.

Chair Tepper thanked staff for their interesting presentation. There was brief, general discussion about work site flaggers.

Board Member Vitale asked if MWRA uses asset maintenance systems to track and prioritize when pipes may need to be replaced. Mr. Vitale also requested more information about MWRA's accounting procedures for leaks and unaccounted-for water. Stephen Estes-Smargiassi, MWRA Director of Planning and Sustainability, explained that staff monitor data and trends to determine which pipes may need replacement or inspection. Mr. Estes-Smargiassi then described how MWRA tracks metering data at multiple locations to determine water system use. He noted that approximately 1% of water is categorized as unaccounted-for annually, and that MWRA's customer communities are not billed for unaccounted-for water. Mr. Vitale asked how MWRA's unaccounted-for water metrics compare to those of other wholesale water utilities. Mr. Estes-Smargiassi explained that MWRA's metrics are comparable, and highlighted MWRA's aggressive leak detection program. There was brief, general discussion about challenges related to water systems with large diameter water tunnels.

Hearing no further discussion or questions from the Board, Committee Chair Vitale moved to Contract Amendments/Change Orders.

(Chair Tepper briefly left and returned to the meeting, and Mr. Taverna temporarily left the meeting during the discussion.) (ref. VI A.1)

Contract Amendments/Change Orders

Carroll Water Treatment Plant SCADA System Improvements: LeVangie Electric Company, Inc. Contract 7582, Change Order 14

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 14 to Contract 7582, Carroll Water Treatment Plant SCADA System Improvements, with LeVangie Electric Company, Inc., for an amount not-to-exceed \$120,000, increasing the contract amount from \$13,526,674.07 to \$13,646,674.07, and extending the contract term by 548 calendar days from October 2, 2024 to April 3, 2026.

Further, a motion was duly made and seconded to authorize the Executive Director to approve additional change orders as may be needed to Contract 7582 in an amount not-to-exceed the aggregate of \$1,000,000 and 180 days in accordance with the Management Policies and Procedures of the Board of Directors.

Martin McGowan, MWRA Construction Director, presented a summary of the reasons and scope of a proposed change order for the Carroll Water Treatment Plant SCADA System Improvements Project ("SCADA Project") with LeVangie Electric Company, Inc. He noted the complexity of the project, presented a schematic of the Plant's SCADA system, and highlighted the 17 control panels that are being replaced under the contract.

Mr. McGowan then presented a photo of a typical replacement control panel. He explained that the SCADA Project was significantly impacted by recent supply chain issues with some key panel components delayed by months, and in some cases over a year, which in turn delayed panel construction and cutover (transition from old to new facilities). Mr. McGowan then requested a 12-month time extension at no cost due to supply chain delays.

Next, Mr. McGowan discussed some prior compensable change orders to the SCADA Project contract, including cybersecurity improvements; and a project modification to reduce the risk of impacts to the Carroll Plant by installing backplane subpanels within existing panels. He briefly described the complexity of rewiring the panels.

Mr. McGowan then reported that panel installation is nearing completion, and that staff are preparing for the cutover process in fall 2022, with expected completion in spring 2026.

Mr. Vitale asked why Delegated Authority Report Item C-8: *John J. Carroll Water Treatment Plant SCADA System Improvements* (ref. VIII A.1) was procured under delegated authority rather than included in this proposed Change Order. Mr. McGowan explained that Item C-8 was awarded under delegated authority to expedite the implementation of necessary additional testing, in preparation for the upcoming cutover.

Mr. Pappastergion requested more information about staff's request for authorization of the Executive Director to approve additional change orders as needed in an amount not to exceed \$1 million. Mr. McGowan explained that staff are requesting the \$1 million delegation to cover any issues that may arise during the critical cutover phase, noting that the SCADA Project is 88% complete. Mr. Pappastergion questioned the \$1 million delegation for future changes orders and the Board not partaking in the change order approval process. Mr. McGowan noted that approximately \$100,000 in change orders are currently under negotiation.

General Counsel Francisco Murphy advised that the Policies of the MWRA Board of Directors permit the addition of further delegation at the Board's discretion. Mr. Coppes noted that the

Board had approved an increase to the Executive Director's delegation level for construction change orders to \$1 million in 2022 (ref. VII B.2, February 16, 2022). There was general discussion about the reasons for the delegated level increase, and MWRA's continued transparency with respect to delegated authority. There was further discussion about staff's delegated authority request to support the critical cutover phase in the SCADA Project. Mr. Pappastergion requested more information about how MWRA reports delegated authority expenditures for construction projects to Board members. Mr. Coppes explained that they are reported in MWRA's Delegated Authority Reports to the Board, and indicated with asterisks in Board Staff Summaries.

(Mr. Taverna returned to the meeting during the discussion.)

Hearing no further discussion or questions from the Board. Chair Tepper requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
P. Walsh		
Wolowicz		

(ref. VI B.1)

PERSONNEL AND COMPENSATION

Approvals

July 2024 PCR Amendments

A motion was duly made and seconded to approve amendments to the Position Control Register (PCR) as presented and filed with the records of this meeting.

Wendy Chu, MWRA Human Resources Director, invited Board members' questions on the July 2024 PCR Amendments.

Hearing no discussion or questions from the Board, Chair Tepper requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
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Flanagan		
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Foti		
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Pappastergion		
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Vitale		
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P. Walsh		
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Wolowicz		
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(ref. VII A.1)

ADMINISTRATION, FINANCE AND AUDIT

Delegated Authority Report –June 2024

Committee Chair Foti invited Board Members' questions on the Delegated Authority Report.

Mr. Vitale requested the average rate per hour for engineers under Item C-10: *Top of Shaft 5 Interim Improvements Resident Engineering Services*. Mr. Coppes explained that the average rate is \$172 per hour.

Hearing no further discussion or questions from the Board, Chair Tepper moved to adjournment. (ref. VIII A.1)

ADJOURNMENT

A motion was duly made and seconded to adjourn the meeting.

A roll call vote was taken in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
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Tepper		
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Flanagan		
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Vitale		
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P. Walsh		
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Wolowicz		
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(ref. IX)

The meeting adjourned at 3:17pm.

Approved: September 11, 2024

Attest:

Brian Peña, Secretary

LIST OF DOCUMENTS AND EXHIBITS USED

- Draft Minutes of the June 26, 2024 MWRA Board of Directors' Meeting (ref. I)
- July 24, 2024 Staff Summary and Presentation – Deer Island Treatment Plant Combined Heat and Power System Design, Bidding and Engineering Services During Construction: Burns & McDonnell Engineering Co., Inc., Contract 6730 (ref. V A.1)
- July 24, 2024 Staff Summary and Presentation – Design, Engineering Services During Construction and Resident Engineering Services for Cottage Farm CSO Facility PCB Abatement: Weston & Sampson Engineers, Inc., Contract 7392 (ref. V A.2)
- July 24, 2024 Staff Summary and Presentation – Oxygen Generation Facility Services, Deer Island Treatment Plant: Solutionwerks Inc., Contract S619 (ref. V A.3)
- July 24, 2024 Staff Summary and Presentation – Overview of Water Pipeline Maintenance Leak Repairs at MWRA (ref. VI A.1)
- July 24, 2024 Staff Summary and Presentation – Carroll Water Treatment Plant SCADA System Improvements: LeVangie Electric Company, Inc., Contract 7582, Change Order 14 (ref. VI B.1)
- July 24, 2024 Staff Summary – July 2024 PCR Amendments (ref. VII A.1)
- July 24, 2024 Staff Summary – Delegated Authority Report – April 2024 (ref. VIII A.1)

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

August 20, 2024

A meeting of the Massachusetts Water Resources Authority (“MWRA”) Board of Directors was held on August 20, 2024 via remote participation, on Webex.

Chair Tepper presided remotely. Board Members Flanagan, Foti, Peña, Swett, Vitale, Jack Walsh, and Wolowicz also participated remotely. Board Members Pappastergion, Taverna and Patrick Walsh were absent.

MWRA Executive Director Frederick Laskey; General Counsel Carolyn Francisco Murphy; Chief Operating Officer David Coppes; Deputy Chief Operating Officer Rebecca Weidman; Director of Finance Thomas Durkin; Acting Special Assistant for Affirmative Action Tomeka Cribb; Environmental Permitting Project Manager Hillary Monahan; Chief of Staff Katie Ronan; Associate General Counsel Angela Atchue; and, Assistant Secretary Kristin MacDougall attended remotely.

Chair Tepper called the meeting to order at 3:04pm.

ROLL CALL

MWRA General Counsel Francisco Murphy took roll call of Board Members in attendance and announced that Board Members Tepper, Flanagan, Foti, Peña, Swett, Vitale, Jack Walsh and Wolowicz were participating via remote participation. The Chair welcomed Board Member Brian Swett to the Board of Directors, and announced that the meeting was being held remotely on Webex. She added that the meeting would be recorded, and that the agenda and meeting materials were available on MWRA’s website.

WATER POLICY AND OVERSIGHT

Approvals

Emergency Water Supply Agreement-Period One with the Town of Wayland

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to execute an Emergency Water Supply Agreement-Period One with the Town of Wayland for a period of up to six months, substantially in the form attached to the August 20, 2024 staff summary presented and filed with the records of the meeting.

Rebecca Weidman, MWRA Deputy Chief Operating Officer, summarized the reasons for a proposed Emergency Water Supply Agreement-Period One (WSA) with the Town of Wayland. She discussed Wayland’s July 25, 2024 request for a short-term, emergency connection to MWRA’s water system due to a positive *E. coli* raw water result in the Town’s Chamberlain Well, and DEP’s subsequent issuance of an Emergency Declaration.

Ms. Weidman explained that MWRA had approved the Wayland’s emergency connection

request. She noted that the Town has been working to identify and resolve the source of *E. coli*, and is replacing the Chamberlain Well's pump. She summarized the expected timeline for flow testing, water quality sampling and well reactivation.

Ms. Weidman then noted that DEP's Emergency Declaration for Wayland also includes previously-planned maintenance work on the Town's PFAS system at a second well. She noted that the Town expects to complete work on both wells and to be fully supplied by its own water sources by the end of September, 2024.

Next, Ms. Weidman explained that the MWRA Executive Director or a designee has the authority to approve emergency water connections for up to a 30-day period, and that connections of longer duration require the Board of Directors' approval. She requested Board approval for the WSA with the Town of Wayland, for a period of up to six months, which would allow MWRA to continue providing emergency water supplies while the Town completes work on its wells.

Finally, Ms. Weidman advised that the proposed WSA would have no impact on MWRA's ability to provide water to its existing customers, and that the Town of Wayland is actively seeking admission to the MWRA water system and beginning the environmental review process.

Board Member Jack Walsh expressed support for the WSA, and noted that in his view, WSAs should include water cost minimums. Ms. Weidman explained that DEP Emergency Declarations are required for non-member communities to withdraw water from MWRA; that these declarations stipulate water withdrawal amounts; and, that MWRA charges a 10% surcharge for any water withdrawn under emergency WSAs.

Board Member Swett asked how many non-customer communities have standby infrastructure in place to connect to the MWRA water system. MWRA Chief Operating Officer David Coppes explained that a Fire Chief study had shown that many MWRA communities have their own infrastructure that connects with adjoining cities and towns. MWRA Executive Director Fred Laskey cited Cambridge as an example. Mr. Swett noted the value and costs of providing emergency water services to non-customer communities. Mr. Coppes explained that in cases of successive emergencies, MWRA adds asset values to water withdrawals that increase with each instance so that they are paying the equivalent of an entrance fee payment, and that the fees are credited back to communities if they join the MWRA system.

Mr. Laskey noted that staff could perform an inventory of non-customer community connections that are capable of taking water from the MWRA system. Chair Tepper expressed her agreement.

Chair Tepper asked if there was further discussion or questions from the Board. Hearing none,

she requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Peña		
Swett		
Vitale		
J. Walsh		
Wolowicz		

(ref. I A.1)

ADJOURNMENT

A motion was duly made and seconded to adjourn the meeting.

A roll call vote was taken in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Peña		
Swett		
Vitale		
J. Walsh		
Wolowicz		

(ref. IX)

The meeting adjourned at 3:16pm.

Approved: September 11, 2024

Attest:

Brian Peña, Secretary

LIST OF DOCUMENTS AND EXHIBITS USED

- August 20, 2024 Staff Summary – Emergency Water Supply Agreement-Period One with the Town of Wayland (ref. I A.1)

STAFF SUMMARY

TO: Board of Directors

FROM: Rebecca L. Tepper, Chair



DATE: September 11, 2024

SUBJECT: FY2025 Annual Meeting: Election and Appointment of MWRA Officers, and Committee Assignments

RECOMMENDATION:

That the Board of Directors (1) designate this September 11, 2024 meeting as the Annual Meeting which, as provided in the Authority's by-laws, will be deemed a special meeting of the Board for the purpose of election of officers; (2) elect a Vice-Chairman of the Board; and (3) appoint a Secretary of the Board, an MWRA Treasurer, and such Assistant Secretaries and Assistant Treasurers of the Board as the Board deems appropriate. New Committee Chairs will be appointed approximately every two years.

To ratify the following appointments of Board members to standing Committees:

Administration, Finance and Audit	Wastewater Policy and Oversight	Water Policy and Oversight	Personnel and Compensation
Chair: P. Flanagan Vice Chair: H. Vitale	Chair: P. Walsh Vice Chair: J. Foti	Chair: L. Taverna Vice Chair: B. Swett	Chair: J. Wolowicz Vice Chair: J. Walsh
A. Pappastergion L. Taverna J. Walsh P. Walsh B. Swett	A. Pappastergion B. Pena H. Vitale B. Swett J. Wolowicz	J. Foti P. Flanagan J. Walsh P. Walsh J. Wolowicz	B. Pena L. Taverna P. Flanagan J. Foti H. Vitale

DISCUSSION:

Article IV, Section 1, of the by-laws, which specifies the officers to be elected, provides that:

“The Board of Directors shall annually elect one of its members as Vice-Chairman and shall annually appoint a Secretary and a Treasurer, who need not be members of the Board of Directors.”

The by-laws also provide that:

“Upon the recommendation of the Executive Director, the Board of Directors may also elect one or more Assistant Secretaries and Assistant Treasurers.”

Retirement Board Appointments

The provisions of G.L. c. 32 § 20 (4 7/8 D) regarding the MWRA Retirement Board, provide that:

“ . . . the secretary of the Authority shall be a member *ex officio*. . . .”

That same section of that statute further provides that a second member of the Retirement Board “. . . shall be appointed by the board of directors of the authority for a term of 3 years” Matthew Horan was appointed as a member of the Retirement Board for a three-year term beginning on July 1, 2024.

Nomination of Officers

Currently, the following individuals serve as the MWRA’s officers:

Vice-Chairman:	Andrew M. Pappastergion
Secretary:	Brian Pena
Treasurer:	Matthew Horan
Assistant Secretaries:	Kristin MacDougall Katherine Ronan
Assistant Treasurers:	William Kibaja Michael Cole

The Chair wishes to request that a motion be made to nominate the following as officers, inclusive of appointments of certain MWRA staff as Treasurer, Assistant Secretaries and Assistant Treasurers, as follows:

Vice-Chairman:	Andrew M. Pappastergion
Secretary:	Brian Pena
Treasurer:	Matthew Horan
Assistant Secretaries:	Kristin MacDougall Katherine Ronan
Assistant Treasurers:	William Kibaja Michael Cole

There are no special procedures for election of officers, except as governed by Robert’s Rules of Order. Thus, any Board member may make a nomination to elect an officer, and the nomination will carry upon a majority vote of the quorum.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: Metropolitan Water Tunnel Program
Final Design Engineering Services
Contract 7556
WSP USA Inc.



COMMITTEE: Water Policy and Oversight


____ INFORMATION

X VOTE


Michele S. Gillen

Director of Administration

Paul V. Savard, P.E., Director Design and Construction
Preparer/Title


Kathleen M. Murtagh, P.E.
Director, Tunnel Redundancy

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract 7556, Metropolitan Water Tunnel Program Final Design Engineering Services, to WSP USA Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$93,605,158 for a contract term of 180 months from the Notice to Proceed.

DISCUSSION

In February 2017, the Board approved the preferred alternative that is construction of northern and southern deep rock water supply tunnels from the Hultman Aqueduct and MetroWest Water Supply Tunnel to the Weston Aqueduct Supply Main No. 3 (WASM 3) and to the Southern Spine water mains. These two tunnels and the related work of the Metropolitan Water Tunnel Program (Tunnel Program) will provide the needed redundancy for the existing Metropolitan Tunnel System (which consists of the City Tunnel, the City Tunnel Extension, and the Dorchester Tunnel). The Board also directed staff to proceed with preliminary design, geotechnical investigations, and Massachusetts Environmental Policy Act (MEPA) review of the project.

On May 27, 2020, the Board approved the award of the Tunnel Program Preliminary Design, Geotechnical Investigation and Environmental Impact Report contract (the Preliminary Design Contract). The Preliminary Design Contract, completed in January 2024, included an initial phase of geotechnical explorations, the Environmental Impact Report process and the preliminary design. The Final Environmental Impact Report for the Tunnel Program was submitted to MEPA and the Secretary's Certificate was received on April 1, 2024.

Staff provided the Board with a comprehensive update on the Tunnel Program in March 2024, including identification of several critical path activities. An update on the progress made on these activities is presented in Attachment A.

Final Design Engineering Services Contract

On March 13, 2024, the Board authorized that proposals for Contract 7556 be received (including labor rates, maximum overhead, fee and level of effort) for Final Design Engineering Services (FDES), including development of the Basis of Design reports, performance of geotechnical investigations, final design development of two tunnel construction packages and three enabling works construction projects, along with project controls, risk management, quality management, cost estimating, and construction scheduling. The expected duration of these initial final design phase services is five years.

In addition, the Board approved the contract structure for Contract 7556, FDES for the Tunnel Program, where the cost for Engineering Services During Construction (ESDC) for the tunnel construction packages will be added by amendment(s) to the FDES Contract 7556. Given the complexity and scope of the Tunnel Program, the performance of the design services may be critical to determine the duration of each tunnel construction package, and the schedule and level of effort required for ESDC. The detailed scope of ESDC for the tunnel construction work will be developed by staff after the completion of the final design for each tunnel construction package. Staff will thereafter negotiate the cost for tunnel construction ESDC and seek authorization for such services from the Board of Directors, which, if approved, will be implemented through contract amendment(s) of the FDES Contract 7556. Key financial parameters (i.e., maximum overhead rate and percent fee) utilized for ESDC will be those that are submitted by the successful proposer and evaluated as part of this initial contract award. The expected duration of ESDC services is approximately ten years.

The selected FDES firm requires a multi-discipline design team with expertise in deep pressurized water tunnel design and construction, rock engineering, geotechnical engineering, water systems and hydraulics, mechanical systems design, site-civil works, permitting, risk management, construction, cost estimating and scheduling. The team must be efficiently managed to ensure time critical design submittals are aligned with the targeted Tunnel Program construction schedule. The FDES engineer will serve as the Engineer of Record for all Tunnel Program designs. This team will also support the Authority in outreach, land acquisitions, and memoranda of understanding with stakeholders.

Procurement Process

A two-step procurement process for FDES was utilized for this project. A Request for Qualifications (RFQ) was publicly advertised followed by a Request for Proposals (RFP) issued to those firms that were shortlisted after the RFQ phase.

A Selection Committee consisting of five voting members with support from eight non-voting members was formed to evaluate, score, and rank the proposals. Recognizing the importance of this project, the appointed members of the Selection Committee consisted of numerous senior MWRA staff who understand the operational and critical needs of the water transmission system, the complexity of the design process and future construction, need for robust community outreach, importance of risk management, and overall fiscal responsibility.

The RFQ, which was issued on November 15, 2023, required firms to submit information on Qualifications/Key Personnel (35 points), Relevant Experience/Past Performance (35 points), and Capacity/ Organization and Management Approach (30 points). On December 15, 2023, four firms

submitted statements of qualifications (SOQs) in response to the RFQ. The Selection Committee reviewed the SOQs, and shortlisted the following three firms: Jacobs Associates d/b/a Delve Underground (Delve); Mott MacDonald, LLC (Mott); and WSP USA, Inc. (WSP). Each of these firms presented a multi-discipline design team with the expertise and experience to undertake a project of this size and complexity.

The RFP, including a detailed scope of work, was issued to Delve, Mott, and WSP on April 26, 2024 and included the following criteria: Cost (20 points), Qualifications/Key Personnel (20 points), Technical Approach (20 points), Capacity/Organization and Management Approach (20 points), Relevant Experience/Past Performance (15 points), and Minority and Women-Owned Business Enterprise Participation (5 points) for a total maximum score of 100 points. A pre-proposal meeting was held on April 29, 2024 with multiple representatives from each of the three shortlisted teams participating.

Given the size and complexity of the Tunnel Program, a large, highly skilled, and well managed team is needed. In order to assess each team's qualifications and capacity to support the Authority, a large number of key personnel, along with minimum and preferred qualifications, were identified in the RFQ and RFP, including:

- Project Director
- Project Manager
- Deputy Project Manager (optional role)
- Design Manager (optional role)
- Contract Package Manager (optional role)
- Rock Tunnel & Shaft Engineer
- Geotechnical Engineer
- Project Geologist
- Tunnel Liner Designer
- Water System Engineer
- Permit Specialist
- Environmental Engineer
- QA/QC Manager
- Risk Management Lead
- Cost Estimator/Scheduler

*Ten additional Key Personnel, not listed above, were also required in the RFP.

On June 28, 2024, the three shortlisted firms submitted proposals. The following is a summary of the costs and level of effort for each proposer, as well as the staff's estimate:

Proposer	Proposed Cost (Loaded Labor <u>and</u> Direct Costs)	Proposed Level of Effort (Total Hours)
WSP	\$93,605,158	307,348
Mott	\$88,606,894 ¹	311,148
Delve	\$80,342,423	259,579
<i>Staff Estimate</i>	<i>\$77,800,000</i>	<i>222,051</i>

¹ Two required cost items were not included in the original proposal response that would increase the Proposed Cost by approximately \$2 million.

The Selection Committee met to review the proposals and to determine which proposers would be selected for an interview.

Based on preliminary scoring and discussion, and upon receipt of further clarifications from all proposers, all three teams were selected for interviews.

The Selection Committee sent interview presentation topics and questions seeking additional information to each of the three teams to focus the interview discussion. Interviews were held on August 5, August 8, and August 13, 2024. After completion of the interviews, the Selection Committee reconvened to discuss and rank the proposals based on the interviews and additional information received, including references for key personnel. All of the scores from the Selection Committee members were totaled to determine the first-ranked team. The following is a summary of scores and rankings for each team:

Proposer	Total Final Score	Ranking
WSP	431.85	1
Mott	383.00	2
Delve	341.55	3

The Selection Committee unanimously voted to recommend award of the contract to the first ranked firm, WSP.

The WSP team includes significant participation from its primary subconsultant Black & Veatch as well as Haley & Aldrich, Brierley Associates and 19 other subconsultants and subcontractors. The Selection Committee members agreed that WSP's team provides well-qualified personnel with extensive relevant experience in pressure water tunnel design, water systems engineering, geotechnical investigations, and tunnel design and construction. The Selection Committee members noted the following:

- Overall, the WSP team demonstrated a deep knowledge of the current Tunnel Program status and developed a thorough and comprehensive approach for the completion of critical items needed to advance the designs to construction;
- WSP, as the prime, demonstrated a clear approach to oversee and be accountable for all work of its team including that of its subconsultants;
- Both WSP and Black & Veatch are multi-disciplined firms with experience leading the final design of large complex tunnel programs. WSP's experience in relevant water, transit, and transportation tunnels along with Black & Veatch's specialization in water tunnel projects, brings a deep bench and understanding of the tasks needed to successfully deliver this project;
- The team is well integrated, with a cohesive set of skills and services. Each team member firm was carefully selected and assigned a role where they have the capacity and are able to provide value to the project;
- Highly qualified, full time Project Manager, full time Deputy Project Manager, and three local Contract Package Managers provide the appropriate level of leadership and management for this large, complex project;
- Highest level of participation from experienced technical experts who will be essential for accurate and timely design decisions;
- Project Manager, Deputy Project Manager, Field Manager, and Contract Package Managers will embed with the MWRA staff in Needham;

- Black & Veatch best demonstrated its strong understanding of the MWRA water system and the team's approach to integrate MWRA Operation's requirements into the water systems engineering elements and the tunnel design;
- Best overall geotechnical team that is versed in the complex Boston geology, well organized, adequately resourced, and includes the best use of qualified drilling subcontractors; and
- Only team that provides a Chief Engineer who will be involved throughout the full design phase to manage risks and ensure technical consistency and uniformity in the final design and construction documents.

The Mott team includes significant participation from its primary subconsultant Stantec as well as Haley & Aldrich, Brierley Associates, Green International Associates, and 12 subconsultants and subcontractors. The Selection Committee members agreed that Mott's team provides very well-qualified personnel, extensive relevant experience in pressure tunnel design, water systems engineering, geotechnical investigations, and tunnel design and construction. The Selection Committee members noted the following:

- Both Mott and Stantec are multi-disciplined firms with experience leading large complex tunnel programs and ability to provide required staff resources within the team;
- Highly qualified, full time and local Project Manager, full time Deputy Project Manager/Design Manager, and two Contract Package Managers are proposed, who would provide the appropriate level of leadership, controls, and management for the project;
- Stantec, the largest subconsultant on the team, has a long history with the MWRA water system;
- The geotechnical team was not perceived to be as well-resourced or experienced as the first ranked proposer and there was a concern that this could manifest at a critical stage of the project;
- There appeared to be duplication of effort provided by Mott and Stantec to address some scope items where one firm could address more efficiently; and
- The information in the proposal and presented in the interview conveyed the team did not have as clear an understanding of the project as compared to WSP.

The Delve team included GEI, Inc., TetraTech, Hazen & Sawyer, and Nitsch Engineering, and 12 additional subconsultants and subcontractors. The Delve team provided a set of qualified staff that demonstrated good experience with design of cast in place concrete lined pressure water tunnels. Several Delve team members are currently providing services for the Tunnel Program under the Geotechnical Support Services (GSS) Contract and are more familiar with the Tunnel Program. However, the team's Project Manager was only 50% committed to the project, no Deputy Project Manager was identified for support, the Design Manager was only 65% committed (primarily located on the west coast), and only one Contract Package Manager was provided at a 20% commitment. The level of participation of each of these key roles compared to the other proposers is not adequate for the work expected. In addition, the team confirmed the Project Geologist would be retiring in about two years, ahead of the completion of tunnel designs, and the proposed replacement is located on the west coast with no experience in complex Boston geology.

The WSP team provides the best value to the MWRA in that it provides overall the most competitive commercial terms for both the design phase and future ESDC phase services. Specifically, the WSP team provides:

- Lowest design phase indirect cost rate (ICR);
- Highest use of and lowest field ICR (for staff ~100% committed to the project for extended periods); and
- Lowest proposed ESDC phase ICRs

The WSP team proposed the highest percentage fee (11%), however, when combined with the low proposed ICR's, the resulting loaded labor rates are quite competitive. Additionally, WSP provided significantly fewer assumptions tied to its cost proposal providing the Authority with a higher level of cost certainty.

The Mott team provided competitive commercial terms including the use of field ICR for several staff; however, the design phase ICR and ESDC phase ICR were higher than those proposed by WSP. In addition, two required cost items were missing in the original proposal response that were included in the WSP and Delve proposals, and valued at approximately \$2 million.

The Delve team provided the highest design phase and ESDC phase ICR's and no field ICR resulting in the least competitive commercial terms.

The average cost proposal of the three teams is \$87,518,158. The Staff Estimate was 11.5% below the average. This difference is attributed to staff having more detailed knowledge of the work completed to develop the preliminary design and having included opportunities for efficiency that the three proposers did not account for in their cost proposal. In addition, WSP's cost proposal included added effort for project management, land acquisition support, geotechnical investigation management and construction cost estimating as compared to the Staff Estimate, which the Selection Committee considered an asset given the complexity of the project and identified critical path activities.

Staff met with representatives of WSP to confirm that they fully understood the scope of work, confirmed proposed Key Personnel availability, and that they can complete the services for the proposed cost and schedule. Based on those discussions and for the reasons stated above, staff recommends that Contract 7556 be awarded to WSP USA Inc.

BUDGET/FISCAL IMPACT:

The FY25 CIP includes \$117,841,612 for Contract 7556, which includes ESDC. The recommended contract award amount is \$93,605,158, which does not include ESDC as discussed above. ESDC may be added by amendment in the future.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.18% and 5.44%, respectively. WSP has committed to 9% MBE and 7.2% WBE participation during the initial five year design phase services.

ATTACHMENT:

Attachment A - Update on the Metropolitan Water Tunnel Program

Attachment A - Update on the Metropolitan Water Tunnel Program

Since March 13, 2024, at which time a comprehensive update on the Tunnel Program was provided to the Board of Directors, several critical path activities have been advanced.

Geotechnical Investigations: Completion of deep rock test borings throughout the tunnel alignments remains on the critical path. However, leveraging the Geotechnical Support Services (GSS) contract to prioritize geotechnical data collection in areas that could have a material impact on the tunnel alignment, construction methods, construction duration, or costs has continued. Forty deep rock test borings were originally planned. Currently, 43 deep rock test borings have been completed with three more expected in early 2025, for a total of 46, all completed within the current GSS contract. The six additional borings were located in areas of data gaps and/or regions of complex geology, providing valuable information for early final design efforts. In addition, staff have advanced site access and permitting coordination for over 20 additional deep rock test boring locations to be drilled during the final design phase. With this initial coordination now essentially done, these locations can be drilled sooner than if the final designer were starting site access/permitting from scratch, which should help mitigate this portion of the critical path and potential weather related delays associated with this type of work.

Land Acquisition: Much of the land on which the Tunnel Program will be constructed is not currently owned by MWRA. Land associated with three launching shaft sites, three receiving shaft sites, one large connection shaft site, and three of the six connection shaft sites must be acquired. All three launching shaft sites, one receiving shaft site, and the large connection shaft site are under the care and control of Massachusetts Department of Transportation (MassDOT) with the right-of-way for the Hultman Aqueduct under the care and control of MWRA. In August 2024, staff completed and submitted MassDOT Access Permit applications for both the north and south tunnels. These permit applications follow numerous meetings and canvassing submittals so that MassDOT's Office of Real Estate and Asset Development (OREAD) could verify that there are no conflicting interests for the land considered based on input from other MassDOT departments and offices. The canvassing review was completed in 2022 when OREAD notified MWRA that further land canvass/disposition steps were not required, and that the next step would be for MWRA to submit Access Permit applications, including a request for exception to applicable elements of the MassDOT Utility Accommodation Policy (UAP). OREAD recommended the inclusion of an exception request due to the unusual nature and critical importance of completing the Tunnel Program.

The Access Permit applications formally request permission for MWRA to construct and maintain surface and underground utility facility installations within the MassDOT highway right-of-way. Each application includes the locations, description of work, anticipated schedule, site access, and future operations of the Tunnel Program within MassDOT right-of-way. Each application also presents preliminary design drawings showing the planned work, provides for future permit submissions to MassDOT as the final design for the Tunnel Program advances, and confirms that work will meet MassDOT design guidelines where required. The submittal of these Access Permit applications is an important and critical step in coordinating the land acquisition processes of the MWRA and MassDOT.

Community/Stakeholder Agreements: Memoranda of Understanding (MOUs) will be needed with each of the seven communities in which the tunnel alignment crosses. As indicated in March, staff are coordinating with local fire and emergency management entities from multiple communities to support the Tunnel Program with emergency response to the Tunnel Program sites.

This coordination will advance later this month with an in-person meeting between staff and several community fire and emergency response personnel to begin the detailed process of identifying what specialized training, necessary equipment, and coordination efforts by the various communities will be required to support the Tunnel Program.

In addition, staff have met with representatives from several communities to coordinate details associated with future connection pipeline construction and easements, which will be located in a limited number of community roadways. These pipelines include the drain line from the South Tunnel launching shaft sites to the Charles River in Needham, which is planned for construction as part of an early enabling contract.

Once the final design consultant is engaged, discussions on permitting and local regulations, water supply contingency, work hours, hauling hours and routes, traffic management, dust and noise control, blasting and vibration control, connections to community water systems, mitigations, and final site conditions (fencing, lighting, landscaping, etc.) will ramp up.

Tunnel Boring Machine Power Supply: High voltage power for the Tunnel Boring Machines (TBMs) is not readily available at the three launching shaft sites. Power supply is often a long lead work activity for tunnel projects and staff have been working with Eversource since 2021 to develop a plan to have high voltage power brought to each launching shaft site prior to the start of construction (targeted for 2028 and 2029). Eversource has completed a power supply assessment, routing study, and design of the new duct banks to the three launching shaft sites for both the north and south tunnel. This work will involve installation of approximately 1.7 miles of new and existing duct bank through Needham for the two South Tunnel launching shaft sites at Highland Avenue in Needham. Approximately 3.2 miles of new duct bank through Waltham, Newton, and Weston will be required for the North Tunnel launching shaft site at the Tandem Trailer site in Weston. It is anticipated that, subject to Board approval, MWRA and Eversource will enter into an agreement which will address the required schedule and compensation for this work.

Since March, staff have continued meeting with Eversource regularly to coordinate this work. Eversource has also been coordinating with MassDOT staff to install a portion of duct bank along Route 30 in Newton that is within the limits of an ongoing MassDOT project. Eversource has advanced the engineering, survey, and permitting work needed for the power supply for the South Tunnel to the Needham launching shaft sites. Eversource has also provided the cost estimate for them to design and construct this work. Eversource has indicated that they will be presenting the Needham Select Board a request for grant of location where new duct banks will be constructed in Needham roadways in September. The cost estimate from Eversource to supply power to the South Tunnel at the Needham launching shafts is approximately \$8M. Eversource provided a prorated estimate for providing power supply to the North Tunnel at the launching shaft in Weston (MassDOT Tandem Trailer lot area) of approximately \$12M. The current total estimate of approximately \$20M is approximately 45% lower than the \$36M estimated established during the preliminary design phase. The reduction in cost (as compared to the preliminary design estimate) is attributed, in part, to Eversource's ability to reuse some existing duct bank for Tunnel Program use, which reduces the amount of duct bank to be installed from the nearest substation. In addition, where duct bank is needed, Eversource plans to construct sufficient duct bank to accommodate the cable needed for the Tunnel Program as well as some additional cabling that could be used to improve the local power grid. Accordingly, the cost estimates provided to MWRA for TBM power supply take into account that some of the design and construction costs for this work are prorated between MWRA and Eversource and not fully attributed to the MWRA. Staff are currently working with Eversource to draft an agreement for this work for Board review and authorization.

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: Section 4 Walnut Street Bridge Pipe Restraint Replacement
R. Zoppo Corp.
Contract 7483, Change Order 7



COMMITTEE: Water Policy & Oversight

 INFORMATION
 X VOTE

Martin E. McGowan, Director, Construction
Jeffrey J. Bina, P.E., Construction Coordinator
Preparer/Title



David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 7 to Contract 7483, Section 4 Walnut Street Bridge Pipe Restraint Replacement, for an amount not-to-exceed \$200,000, increasing the contract from \$478,900 to \$678,900, and extending the contract term by 540 calendar days from August 9, 2023 to January 30, 2025.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7483 in an amount not to exceed the aggregate of \$78,725 and 180 days in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

The existing pipe bridge at Walnut Street in Somerville spans the Lowell line of the MBTA commuter rail system and the Medford branch of the Green Line Extension. This pipe bridge supports MWRA's Section 4 pipe, a 48-inch diameter water transmission pipeline, which supplies water to MWRA's Northern Low Service pressure zone communities including Somerville, Medford, Malden, Everett, Revere, and Chelsea, as well as the Spot Pond Storage Facility. The pipe bridge was built in 1939 and has an approximate span between bridge abutments of 90 feet. An inspection of the pipe restraints showed significant corrosion of the steel rods to less than half of original diameter and one rod is missing. These rods restrain the full thrust load of the operating pipe.

Contract 7483 provides for the removal and replacement of the pipe restraining rods and support brackets for the full span of the pipe, and removal and replacement of loose and degraded grout along the bottom chord of the truss structure. The contract also provides a structural condition assessment of the bridge truss by a qualified structural engineer. Removal and replacement of the restraining rods require Section 4 to be isolated and depressurized, which cannot take place during the high demand period from May 15 to September 15, and is restricted to a four-week isolation. In addition, work along and over the commuter rail tracks requires coordination and flaggers from Keolis and MBTA.

The existing restraint system only includes three sets of rods, but should have four sets to restrain the potential thrust loads on the pipe. After commencement of the contract, staff identified an obstruction with the structural steel of the bridge that prevented the fourth restraint rod from being installed as designed. This conflict was concealed by vegetation and limited access to the bridge during design. To address this unforeseen condition, the Contractor was required to fabricate custom steel collars to rotate the thrust rods around this obstruction. Change Order 3 was approved by the Board of Directors in October 2022 to provide these collars.

While the new custom thrust collars were being fabricated, the new Green Line Extension was placed into service in December 2022. The Green Line trolleys are electrified by overhead catenary lines installed directly beneath the Walnut Street pipe bridge. These electrified catenary lines created a new safety concern that did not exist when this contract was bid. At the time of bid, the Contractor was instructed to perform all work during daytime hours with close coordination with the diesel powered MBTA commuter rail trains. MBTA flaggers would be provided to alert trains and workers whenever these commuter rail trains passed the construction work zone, up to twice an hour.



Walnut Street Pipe Bridge over MBTA's Commuter Rail (left)
and Green Line Extension (right)

During this same period, the MBTA also implemented new contractor safety requirements in accordance with the Federal Transit Administration for all work within the MBTA's Right of Way (ROW). This includes specialty personal protection equipment, new ROW training sessions for all contractor employees and new requirements for contractor work plans and safety plans that need MBTA review and approval before work can be scheduled.

Once the new custom steel thrust collars were delivered, the Contractor submitted their revised safety plan to the MBTA for review in March 2023. Following this review, the MBTA informed the Contractor and MWRA that no work could be performed on the Walnut Street pipe bridge while the overhead catenary lines were energized. The proximity of the live wires to the planned construction work was deemed an unnecessary safety risk that could not be mitigated with additional engineering controls, such as a demo shield or flaggers. To complete the contract scope, the Contractor would need to work while the lines were de-energized. Staff worked with the MBTA to find available windows to complete the work. Change Orders 4, 5 and 6 were executed to extend the contract by an additional 180 calendar days to provide more time to coordinate the

work over the active Green Line tracks. Options included working during non-revenue hours, from approximately 1:00 am to 5:00 am each day or shutting down the Green Line Extension and using bus diversions. Despite active negotiations between all parties, the MBTA was unable to support either option. MBTA staff at that time cited a commitment to other accelerated track improvements projects. The contract expired on August 9, 2023, but MWRA, MBTA and the Contractor have continued to explore options for completing the work.



Overhead Catenary Lines under the Walnut Street Pipe Bridge



Corroded Thrust Restraint Rod

This Change Order

Change Order 7 consists of the following item:

Extend the Contract Time by 540 Calendar Days

Not-to-exceed \$200,000

In June 2024, the MBTA notified the Authority of a planned track improvement project that will shut down the entire length of the Green Line Extension for two weeks in December 2024. As the MBTA will be shutting down all Green Line service along this branch, the overhead catenary lines will be de-energized and bus diversions will be in place at MBTA's cost. The MBTA agreed to allow the Contractor to complete the work at the Walnut Street pipe bridge during the December shutdown, so long as it committed to working around the clock and confirmed the work can be completed within the two week window. The Contractor confirmed it could complete the work under these new constraints. The MBTA relayed the need for additional flaggers and inspectors to be present at the job site to comply with its new safety requirements.

As a result of this new opportunity to complete the replacement of the pipe restraints for this critical pipeline, the Contractor must revise its work hours, provide additional personal protection equipment, attend the new MBTA Right of Way training and provide additional MBTA flaggers and inspectors as required. The Contractor will need to pay all its workers the current prevailing wage rates, which have increased since the time of bid, including premium time and shift differential for those who will need to work the off-shifts during the shutdown. The contract also includes an allowance, which covers safety-related services required and provided by the MBTA. An increase to the allowance is needed to cover the new MBTA requirements. In addition, the contract must be extended by 540 calendar days, from August 9, 2023 to January 30, 2025 to complete the remaining work.

This item was identified by MWRA staff as an unforeseen condition and overrun in quantities. MWRA staff and the Contractor have agreed to extend the contract term by 540 calendar days from August 9, 2023 to January 30, 2025 for an amount not-to-exceed \$200,000.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$314,900.00	180 Days	02/15/22
Change Orders:			
Change Order 1*	\$14,000.00	0 Days	04/11/22
Change Order 2*	\$60,000.00	180 Days	07/28/22
Change Order 3	\$90,000.00	0 Days	11/01/22
Change Order 4*	\$0.00	60 Days	02/28/23
Change Order 5*	\$0.00	60 Days	04/12/23
Change Order 6*	\$0.00	60 Days	07/07/23
Change Order 7	<u>\$200,000.00</u>	<u>540 Days</u>	Pending
Total Change Orders:	\$364,000.00	900 Days	
Adjusted Contract:	\$678,900.00	1,080 Days	

*Approved under delegated authority

If Change Order 7 is approved, the cumulative total value of all change orders to this contract will be \$364,000 or 116% of the original contract amount. Work on this project is approximately 37% complete.

BUDGET/FISCAL IMPACT:

The FY25 Capital Improvement Program includes \$988,900 for Contract 7483. Including this change order for \$200,000, the adjusted subphase total is \$678,900.

MBE/WBE PARTICIPATION:

There were no MBE/WBE participation requirements established for this contract due to limited opportunities for subcontracting.

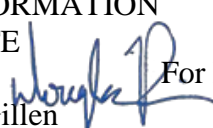

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: Somerville Marginal CSO Facility New Pipe Connection
RJV Construction Corp.
Contract 7985



COMMITTEE: Wastewater Policy & Oversight

Brian L. Kubaska, P.E., Chief Engineer
Paul T. Rullo, P.E., Sr. Program Manager
Preparer/Title

 INFORMATION
 X VOTE  For MG
 Michele S. Gillen
 Director of Administration

 David W. Coppes, P.E.
 Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract 7985, Somerville Marginal CSO Facility New Pipe Connection to the lowest responsible and eligible bidder, RJV Construction Corp., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$4,436,384 with a contract term of 625 calendar days from the Notice to Proceed.

DISCUSSION:

On December 30, 2021, the Authority filed its Final Combined Sewer Overflow Post Construction Monitoring Program and Performance Assessment Report with the federal court in the Boston Harbor case, *United States v. Metropolitan District Commission, et al.*, USDC No. 85-0489-RGS. The Authority reported that, as of the end of 2021, the Combined Sewer Overflow Long-Term Control Plan (LTCP) goals were met or materially met at 70 of 86 CSO outfalls. MWRA also reported on the plans it developed to improve the performance at certain outfalls that did not meet their LTCP goals as of December 2021. Ultimately, the Court approved a three-year extension of the Boston Harbor case that included, among other things, additional time for the Authority to perform certain system improvements at six CSO outfalls.

This project, associated with outfalls MWR205 and SOM007A/MWR205A (located near the Somerville Marginal CSO Facility shown on Figure 1), is for the construction of a pipe connection with a remotely actuated control valve between the City of Somerville's 85-inch x 90-inch brick Somerville Marginal Interceptor and MWRA's Somerville Medford Branch Sewer (Section 35). This new relief connection takes advantage of excess capacity under some storm conditions in the downstream system and is expected to reduce typical year activations at the Somerville Marginal CSO facility (MWR205) from 30 as of December 2023 to 17, and reduce typical year discharge volume from 100.41 million gallons (MG) as of December 2023 to 62.43 MG; meeting the LTCP activation goal of 39 and materially meeting the volume goal of 60.58 MG. The new relief

connection will also reduce CSO discharges from SOM007A/MWR205, which discharges treated CSO to the Upper Mystic river when flows are not able to discharge to MWR205 due to high tidal conditions. Reductions from five activations in the typical year as of December 2023 to three and reduced typical year discharge volume from 4.5 MG in December 2023 to 3.63 MG are expected; meeting the activation goal of three and materially meeting the volume goal of 3.48 MG. while treated CSO discharge volume downstream, at MWRA's Prison Point facility is expected to increase as a result of this work, the net effect is expected to be a significant decrease in the total annual CSO discharge and therefore an overall environmental benefit.

Figure 1 – Project Location



Procurement Process:

Contract 7985 was advertised in the Boston Herald, El Mundo, Banner Publications, the Central Register, the Dorchester Reporter, COMMBUYS and on the MWRA Supplier Portal, and bid in accordance with Massachusetts General Laws, Chapter 149. The contract was bid, and advertised, with sub-bids for Electrical work. General bids were received on July 26, 2024 with the following results:

<u>Bidder</u>	<u>Bid Amount</u>
RJV Construction Corp.	\$4,436,384
R. Zoppo Corp.	\$4,857,000
<i>Engineer's Estimate</i>	<i>\$5,080,000</i>
Albanese D&S, Inc.	\$5,485,000

RJV's bid is the lowest at \$4,436,384, which is \$643,616 lower than, or 12.7% below the Engineer's Estimate.

MWRA staff reviewed RJV's bid in detail and conducted a formal bid review interview on July 31, 2024 discussing the major bid items with the company. RJV stated it was able to lower its bid price as the firm is currently completing a similar project nearby. The close proximity between projects will reduce materials costs as RJV will reuse construction support materials that are common to both projects. Lastly, RJV relayed that due to increased competition for work (among buried infrastructure contractors), the firm priced this project accordingly.

Based on the bid review and subsequent discussions with representatives from the company, MWRA staff are satisfied that RJV understands the full scope of work and can perform the work

for the bid price, which includes the payment of prevailing wages. RJV has successfully completed contracts as general contractor of similar size and complexity. Also, RJV has been in business for over 40 years, performing utility contracts with a specialization in water and wastewater projects.

Occupational Safety and Health Administration (OSHA) records for RJV were reviewed for the last five years. The review indicated one incident that occurred in 2020 in which two citations were issued. OSHA found the incident was not a willful violation and such has not affected RJV's DCAMM certification status.

RJV has a history of successful MWRA projects, including Contract 7563 - Low Service Pressure Reducing Valves Improvements; Contract 7505- Southern Extra High Section 111 Pipe Installation (7,000 feet of new 36-inch pipe, with large diameter valves);and Contract 7448 - Construction of Water Mains - Sections 36, W11 C & S9-A (replacement of 6,000 feet of 24-inch and 36-inch pipe). External reference checks were made for work completed on water and sewer replacement projects for Boston Water and Sewer Commission and a roadway reconstruction project with MassDOT. RJV received excellent reviews.

Staff are of the opinion that RJV possesses the skill, ability, and integrity necessary to perform the work under this contract and is qualified to do so. Therefore, staff recommend the award of this contract to RJV Construction Corp. as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY25 CIP includes a budget of \$4,578,000 for Contract 7985. The contract award amount is \$4,436,384.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.24% and 3.6%, respectively. The Affirmative Action and Compliance Unit has reviewed the bid and has determined that it meets these requirements.

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: Braintree-Weymouth Intermediate Pump Station Transformer Replacement
Dagle Electrical Construction Corporation
Contract 7995, Change Order 1



COMMITTEE: Wastewater Policy & Oversight

 INFORMATION
 X VOTE

Martin E. McGowan, Director, Construction
Jeffrey Bina, P.E., Construction Coordinator
Preparer/Title



David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 1 to Contract 7995, Braintree-Weymouth Intermediate Pump Station Transformer Replacement, with Dagle Electrical Construction Corporation, extending the contract term by 270 calendar days from November 2, 2024 to July 30, 2025, with no increase in contract amount.

DISCUSSION:

The Braintree-Weymouth Intermediate Pump Station Transformer Replacement project will furnish, install, connect, and test a new 13.8kV to 480/277V pad-mounted electrical service transformer in the same location as the existing rental transformer, which will be removed as part of the project. The last permanent transformer servicing the facility was provided as an emergency replacement in 2013 when the prior transformer failed. The 2013 transformer was recently found to have significant corrosion and was no longer considered reliable and was therefore replaced with an emergency rental transformer. The transformer to be installed under Contract 7995 will be stainless steel and rated for coastal environments, thus increasing the useful life by limiting the impact of corrosion. Also as a part of this project, the transformer containment area liner and gravel will be replaced.

This Change Order

Change Order 1 consists of the following item:

<u>Extend Contract Time by 270 Calendar Days</u>	\$0.00
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The new replacement transformer, constructed of stainless steel, is a custom feature that comes with much longer lead-time as compared to typical galvanized steel construction. During the design phase, staff contacted the specified manufacturers to determine approximate fabrication and delivery durations. Based on this information, the contract term was set at 600 days to provide adequate time to procure and install the specified transformer.

After commencement of the contract, the Contractor notified the Authority that the lead-time for the specified and approved transformer was significantly longer than originally quoted. The manufacturer reported that market volatility and global supply chain problems related to electrical equipment caused delays at the factory and pushed the delivery date by nine months. Delivery of the new transformer is scheduled for May 27, 2025. Based on the latest delivery date, the installation and testing will be complete by the end of July 2025. As the supply chain problems were unforeseen and beyond the Contractor's reasonable control, a time extension of 270 calendar days from November 2, 2024 to July 30, 2025 is appropriate at no additional cost to the Authority.



Corroded Cooling Fins on Transformer

This item was identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to extend the contract term by 270 calendar days from November 2, 2024 to July 30, 2025, with no increase in contract amount.

CONTRACT SUMMARY:

	Amount	Time	Date
Original Contract:	\$293,392.00	600 Days	03/13/23

CHANGE ORDERS

Change Order 1	<u>\$0.00</u>	<u>270 Days</u>	Pending
Total Change Orders	\$0.00	270 Days	
Adjusted Contract:	\$293,392.00	870 Days	

*Approved under delegated authority

If Change Order 1 is approved, the cumulative value of all change orders will be \$0.00 or 0% of the original contract. Work on this contract is 0% complete.

BUDGET/FISCAL IMPACT:

Change Order 1 is for a time extension only and will have no budgetary impact.

MBE/WBE PARTICIPATION:

Due to limited opportunities for subcontracting, no MBE/WBE participation requirements were established for this contract. However, Dagle Electrical Construction Corporation is a Woman Business Enterprise (WBE).

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: CSO Post-Construction Monitoring and Performance Assessment
AECOM Technical Services, Inc.
Contract 7572, Amendment 5



COMMITTEE: Wastewater Policy & Oversight

 INFORMATION
 X VOTE

Brian L. Kubaska, P.E., Chief Engineer
Jeremy R. Hall, Program Manager, E&C
Preparer/Title



David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 5 to Contract 7572, CSO Post-Construction Monitoring and Performance Assessment, with AECOM Technical Services, Inc., increasing the contract amount by \$3,095,000, from \$7,142,705 to \$10,237,705 and extending the contract term by 1,608 calendar days, from April 8, 2025 to August 31, 2029.

DISCUSSION:

A key milestone in the Boston Harbor Federal District Court case required MWRA to submit the results of a performance assessment of its Long-Term Combined Sewer Overflow Control Plan (LTCP) to determine whether the levels of CSO control included in the LTCP had been achieved. On December 30, 2021, MWRA complied with this milestone in submitting its Performance Assessment Report.

CSO outfalls that discharge to the Lower Charles River/Charles River Basin and the Alewife Brook/Upper Mystic River (the Variance Waters) currently operate under regulatory variances to the Massachusetts Surface Water Quality Standards. These CSO outfalls are also included within the LTCP. The variances (newly issued in August 2024 through August 2029) include requirements that overlap with, or are in addition to, certain requirements of the performance assessment.

AECOM has worked for over six years as MWRA's CSO consultant on the performance assessment and variance requirements, performing complex work to support the CSO program. The AECOM team has extensive CSO experience and their performance has been excellent. AECOM has proven to be resilient; overcoming challenges and adapting to changes. The work performed so far has included installing and analyzing meters at 57 CSO regulators, conducting inspections to document CSO closures and regulator configurations, and expanding and updating MWRA's collection system model to assess CSO performance against LTCP goals. Additionally, alternatives have been evaluated to improve CSO performance and assess current control levels

and water quality models have been developed and calibrated to assess impacts from remaining CSOs and other pollutant sources. Work has also included evaluating system optimization alternatives, assisting with the development of multiple reports, conducting further investigations at locations not meeting LTCP goals, and beginning the development of an Updated CSO Control Plan for the MWRA CSO outfalls that discharge to the Variance Waters, including public outreach and analysis of new control and elimination alternatives.

AECOM is well qualified to continue this important work given its in-depth knowledge of the MWRA wastewater system and CSO communities combined systems as obtained through inspections, metering, model calibration and development and analysis of alternatives to improve system operation. AECOM can leverage its knowledge and experience to assist MWRA in addressing remaining challenges in the program.

Amendment 1 increased the contract amount by \$931,490, and extended the term by one year. The scope of services was modified to: develop a receiving water quality model for the Variance Waters at the request of EPA and MassDEP; extend temporary metering at certain CSO outfalls; and to purchase the CSO outfall meter equipment that had been installed for temporary measurement so MWRA could permanently monitor and implement near real-time CSO outfall reporting.

Amendment 2 increased the contract amount by \$1,431,700, with no increase in contract term. This amendment included additional modeling and analysis necessary to support requirements of the August 2019 to August 2024 variances. Amendment 2 also included additional hydraulic model calibration, modeling and analysis to evaluate system improvements due to activation frequencies or volumes above the LTCP goals after model recalibration.

Amendment 3 increased the contract amount by \$1,559,000 and extended the term by three years. This amendment included investigations, hydraulic modeling, and report preparation to address 16 CSOs that had not met LTCP goals. It also included tasks related to developing an Updated CSO control plan for MWRA outfalls discharging to the Variance Waters, providing project management services, and preparing annual CSO reports. This amendment also included allowances for additional services that may be required beyond the specified tasks including analysis of a revision to the Typical Year rainfall, additional model calibration, additional public outreach, additional site investigations, and additional receiving water model runs. As authorized by MWRA, the allowance funding provided in Amendment 3 was used to develop an updated Typical Year that incorporated future rainfall projections accounting for climate change, and developing a Unified Hydraulic Model for use by MWRA, Cambridge and Somerville in the development and evaluation of CSO control alternatives for the Variance Waters.

Amendment 4 increased the contract amount by \$299,300, with no increase in the contract term. This amendment included development and implementation of a flow-metering program at CSO regulator CAM401A and use of this data for recalibration of the MWRA's hydraulic model. The amendment also allowed the continued development of the Unified Model, including the additional engineering effort by AECOM as required to import system data, confirm the model is providing consistent results as predicted with those recently submitted to the court, troubleshoot model discrepancies among the three entities, standardize programming and documentation procedures, and coordinate with the communities.

This Amendment:

Proposed Amendment 5 seeks to increase the contract amount by \$3,095,000, and extend the contract term by 1,608 calendar days. MWRA and its CSO community partners of Cambridge and Somerville have been issued new variances for the Upper Mystic River/Alewife Brook and the Charles River, which extend to August 31, 2029. These new variances include the agreed upon deliverable dates for the draft and final Updated CSO Control Plans for the Variance Waters being developed, and have also added new requirements for MWRA and its CSO community partners to implement over the 5-year variance periods. This amendment provides additional scope and level of effort to meet these new variance requirements as well as additional level of effort to meet the complex coordination and public engagement requirements in developing the Updated CSO Control Plan and project management and administrative services. The contract extension duration is proposed to coincide with the end of the new variance period (August 31, 2029); however, level of effort on this contract, and therefore the proposed level of effort in this amendment, is expected to diminish after the Updated CSO Control Plan is finalized in 2027.

This amendment includes additional project management time associated with the contract extension, additional meetings with CSO communities, the CSO Management Team, public



Watershed Group Meeting, June 24, 2024

meetings, and meetings with EPA/DEP. The amendment also includes the preparation of four additional Annual CSO Discharge Reports, coordination with Cambridge and Somerville on the Updated CSO Control Plan, and development of additional alternatives beyond those included in the previous amendments. The amendment also addresses new variance requirements for Use Attainability Analyses, feasibility studies, and financial capability analysis using the latest EPA guidance.

Continuation of Existing Tasks

\$1,546,600

System Optimization Evaluation

(\$20,200)

System optimization evaluation activities were completed under budget by \$20,200. This sum is being reallocated as part of this amendment to offset the cost of other scoped work including efforts associated with the CSO outfalls forecast to attain LTCP goals after 2021. Also, a portion of this money will be reallocated to offset the additional budget needs for new contract work and help reduce the overall cost of this proposed amendment.

Additional Annual Reports

\$367,200

The newly issued variances require that MWRA submit annual reports documenting progress towards further CSO control during the next five-year variance period. This amendment will allow for the development of four additional annual reports for submittal to the regulatory agencies. The

requested budget of \$367,200 includes approximately \$4,200 to account for exceedance of the original budget (\$243,000) to develop annual reports through 2023.

Updated CSO Control Plan Development

\$1,095,000

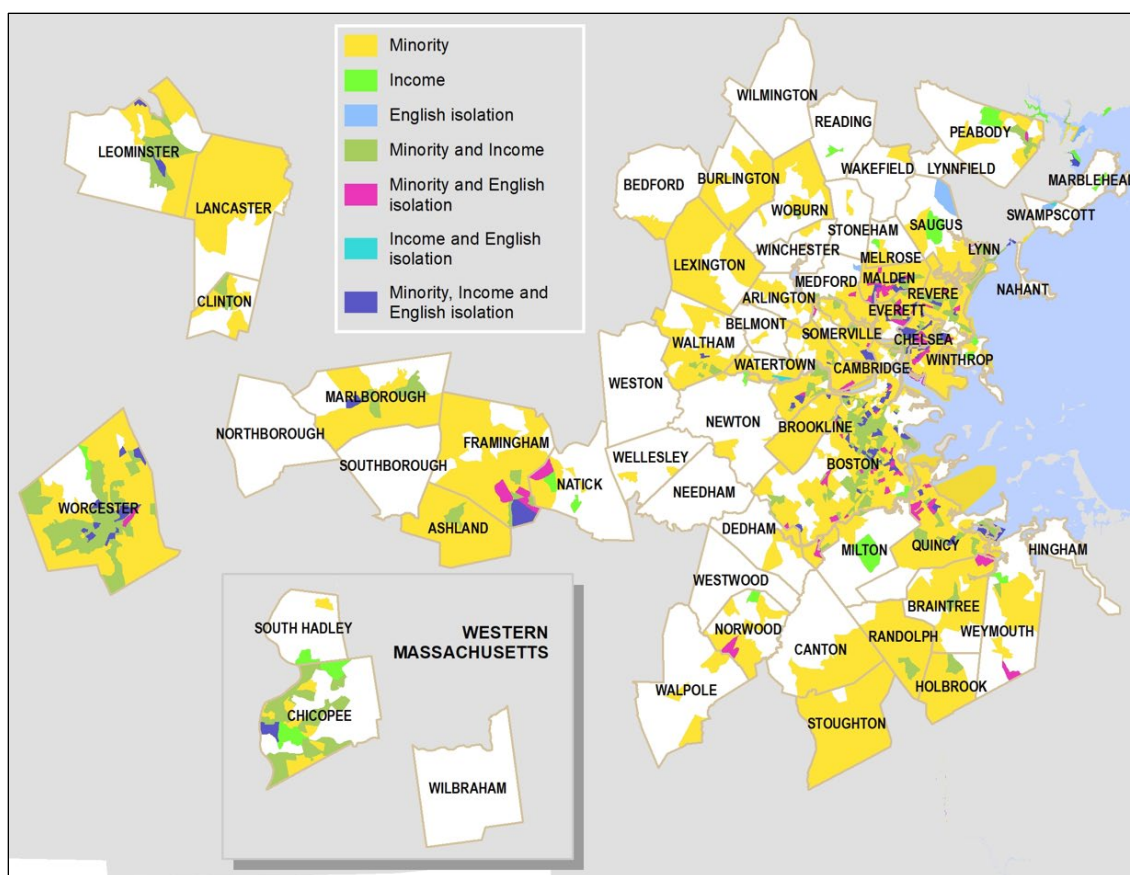
As part of the Updated CSO Control Plan development, DEP required the submittal and approval of a scope and schedule. Additional effort was needed due to greater than anticipated coordination with Cambridge, Somerville and EPA/DEP, resulting in multiple versions of the scope and schedule being submitted. An additional \$9,200 was required.

The development of an Updated CSO Control Plan for the Variance Waters was added by Amendment 3. Per the original schedule, the final plan was due April 1, 2022 but later extended to January 2027. The development of the Updated CSO Control Plan required various tasks, some of which have been partially defined under prior amendments and some requiring additional services as required in the new 2024-2029 variances. Although Amendment 3 provided budget to develop an Updated CSO Control Plan this effort was significantly underestimated.

The number of alternatives for CSO control within the Variance Waters has multiplied and analysis is not only required for the developed 2050 typical year, but also large design storms (e.g. 5-year, 25-year) projected out to the year 2050 to account for climate impacts. Multiple iterations of alternatives are being evaluated to account for the impacts from Cambridge and Somerville local projects, input from the public, as well as to consider flooding in larger storm events. An additional \$555,800 is needed to complete the hydraulic modeling analysis of the alternatives, define CSO benefits and develop alternative costs, which can then be compared. In addition, the project team determined that additional analysis (referred to as “bookending analysis”) to demonstrate certain technologies, such as sewer separation, conveyance enhancements, and green infrastructure, would provide a good foundation of understanding for the public participants that have commented on the process to date. The results of this additional analysis were presented to DEP/EPA, watershed associations, and during a public meeting.

Key requirements of the prior and new 2024-2029 variances are to provide meaningful public engagements, including translation services, and consideration of impacts on Environmental Justice Communities. Prior amendments accounted for the preparation and support of four public meetings. However, three public meetings and two watershed association meetings have already been prepared for and occurred, and an additional three public meetings are required and two additional watershed association meetings are anticipated. The MEPA review process for the Final Updated CSO Control Plan has now also been established and will require an additional public meeting. An additional \$102,900 is to prepare for and support these meetings.

An affordability analysis is required under the Updated CSO Control Plan. This analysis will also support the assessment of a change in water quality standard status, which requires additional analysis and evaluation of economic information. EPA recently released new guidelines in 2023 that must be followed. The original budget was based on EPA’s 2014 guidance documents. An additional \$90,500 will be required to complete the analysis following the new guidelines.



The Updated CSO Control Plan has been rescheduled such that a draft is due December 1, 2025 and the final is due January 31, 2027. Significant additional review and coordination among MWRA, Cambridge and Somerville will be required on the content of the report. This will require consultant input and response. It is estimated to cost an additional \$77,000.

Additional scope will be included for the Updated CSO Control Plan as required within the new 2024-2029 variances. An additional \$259,600 is required to do the following work: prepare Use Attainability Analyses for the Charles River, Upper Mystic River, and Alewife Brook; prepare responses to MEPA comments; develop presentations and attend meetings to educate stakeholders on the Updated CSO Control Plan; and provide technical assistance to support cost sharing discussions with Cambridge and Somerville.

Supplement to Post Construction Monitoring Plan

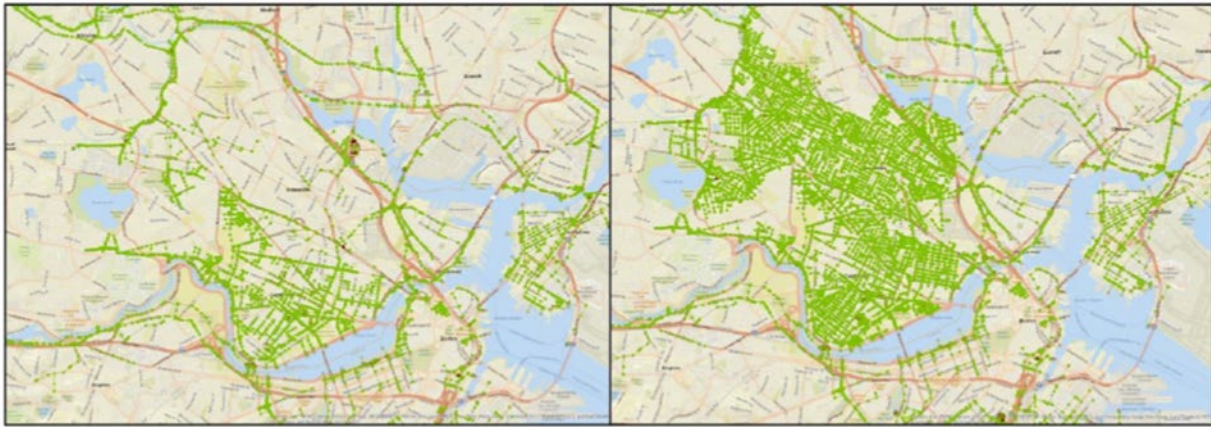
\$23,900

In December 2024, MWRA will be issuing a Supplement to the Final CSO Post Construction Monitoring and Performance Assessment Report, originally submitted in December 2021, as required under Court Order. This supplemental document will report on MWRA's progress made to further address CSO improvement in order to meet the LTCP goals at certain CSO outfalls projected to meet LTCP goals after December 2021 and further alternative investigations at six challenging CSO outfalls. Additional effort is required to update the Q4-2023 system conditions model to include projects now expected to be completed by the end of 2024 as well as to incorporate within the supplemental report ongoing investigations that had not been identified at the time of the last amendment.

Unified Model Development

\$64,000

Additional effort is necessary, totaling \$64,000, associated with the Unified Model (discussed below) including the documentation of the Unified Model development, coordination with Cambridge and Somerville on model changes, and developing post processing tools.



MWRA Model

Unified Model (MWRA Model with Cambridge and Somerville Models)

Cambridge System Metering Investigations

\$16,700

Under the previous amendment an allowance item was included to conduct a flow metering program to support a re-calibration of the CAM401A CSO system. The program included the installation of ten temporary meters and depth gauges for a period of eight weeks, traffic control, field monitoring, hydraulic model effort, and preparation of reports/presentation. The metering effort was extended by four weeks after the initial eight-week program was determined to be insufficient based on the rainfall data collected. The additional four weeks was needed to capture enough storm events of the magnitude and intensity to support the calibration.

Additional Project Management Services

\$842,000

An additional \$384,400 is requested for extra effort to provide project administration and management services through June 2028, at which point project work is expected to be substantially complete. An additional \$101,000 is requested for additional effort associated with the preparation for and attendance at project coordination meetings. An additional \$356,600 is requested for additional level of effort to meet with the four CSO communities, MWRA's CSO Management Team and project team, as well as periodic meetings with the watershed groups. The complexity of this effort, including the level of coordination required between MWRA, Somerville and Cambridge during the ongoing development of the Updated CSO Control Plan, has resulted in a greater than anticipated level of effort to manage this project.

Allowances

\$450,000

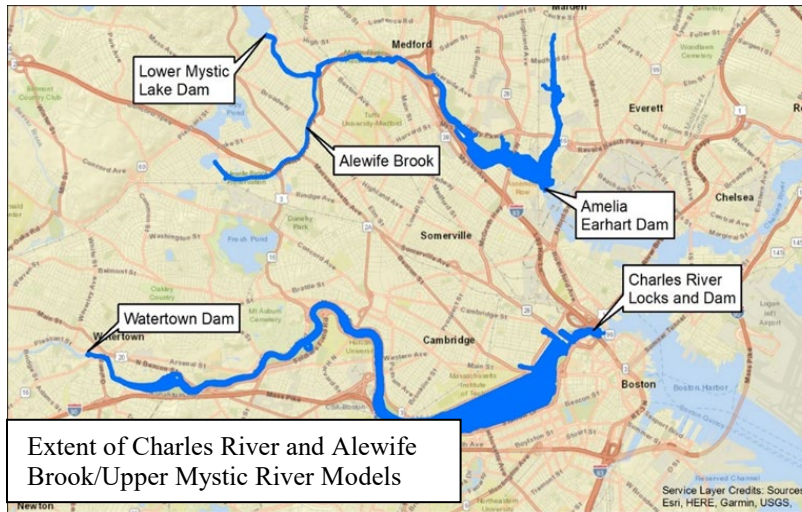
The new 2024 – 2029 variances require MWRA to complete three feasibility studies: evaluation of improvements to floatables control at MWRA's untreated CSO outfalls to the Variance Waters; evaluation of odors, which may be the result of CSO discharges and if odors are identified

remediation recommendation at MWRA's CSO outfalls to the Variance Waters; and a feasibility study for the use of illuminated beacons to notify the public of a CSO discharge at locations along rivers and brooks within the Variance Waters. Also included in this line item is additional allowance budget for unforeseen additional future model runs, public meetings, model recalibration efforts, and developing additional deliverables and applications in support of the CSO program goals as may be needed. Work assignments under the allowance shall undergo an internal review and approval process and be issued as a task order in order to begin the additional work.

Receiving Water Modeling for 2050 Typical Year

\$193,000

Per prior variance requirements, MWRA was required to develop a Receiving Water Model for the Charles River, Alewife Brook and Upper Mystic River. With the Updated CSO Control Plan



being developed to account for climate change (2050 Typical Year), the Water Quality model must now be updated to allow assessment of the impact of CSOs on water quality in the Variance Waters for 2050 Typical Year conditions. Under this amendment, the consultant will develop the future projected CSO, stormwater, and boundary condition flows and bacterial loads for use in the receiving water models and rerun the

receiving water models to prepare predications of the impact of CSO alternatives on water quality for the 2050 Typical Year.

Unified Model Maintenance/Updates

\$63,000

In order to be able to evaluate alternatives for the Updated CSO Control Plan, MWRA, Cambridge and Somerville developed the Unified Model, which includes a much greater level of detail to represent the sanitary, combined and storm systems within Cambridge, Somerville and Boston's system. Maintenance and updates to this complex model network are periodically necessary to account for system changes (e.g. sewer separation, new development flows, etc.) as they occur that can impact MWRA's ability to accurately represent CSO performance. These updates are expected on a bi-annual basis. Given this model is shared between MWRA, Cambridge and Somerville further coordination is expected to ensure version control and confirm adjustments made by Cambridge and Somerville are appropriate.

CONTRACT SUMMARY:

	Amount	Time	Dated
Original Contract	\$2,921,215	42 Months	10/18/2017
Amendment 1	\$931,490	12 Months	4/17/2019
Amendment 2	\$1,431,700	0 Months	3/18/2020
Amendment 3	\$1,559,000	36 Months	2/16/2022
Amendment 4 *	\$299,300	0 Months	10/12/2023

Proposed Amendment 5	<u>\$3,095,000</u>	<u>52 Months</u>	Pending
	\$10,237,705	142 Months	

* Approved under delegated authority

BUDGET/FISCAL IMPACTS:

The FY25 CIP includes a budget of \$9,142,705 for Contract 7572. Including this amendment for \$3,095,000, the adjusted contract amount will be \$10,237,705 or \$1,095,000 over the CIP amount. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The contractual MBE and WBE participation requirements of 0% and 4.0%, respectively, remain unchanged by this amendment.

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: Siphon and Junction Structure Rehabilitation
Design and Engineering Services During Construction
Contract 6224, Amendment 1
Kleinfelder Northeast, Inc.



COMMITTEE: Wastewater Policy and Oversight

 INFORMATION
 X VOTE

Brian L. Kubaska, P.E., Chief Engineer
Milan A. Horbaczewski, P.E., Senior Program Manager
Preparer/Title



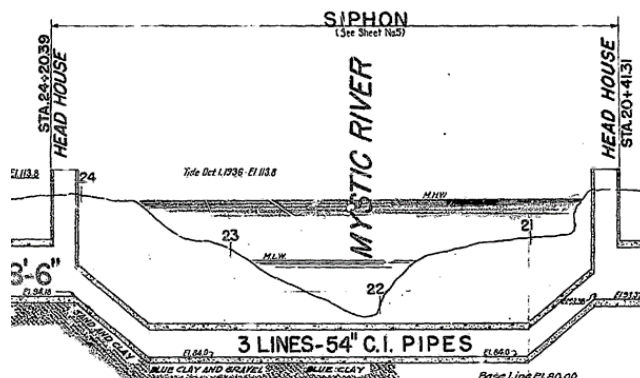
David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 6224, Siphon and Junction Structure Rehabilitation Design and Engineering Services During Construction, with Kleinfelder Northeast, Inc., increasing the contract amount by \$145,690.43, from \$2,854,552.34 to \$3,000,242.77, and extending the contract term by 36 months from October 1, 2024 to October 1, 2027.

DISCUSSION:

Siphon chambers are located at the upstream and downstream ends of depressed sewers that are constructed to avoid obstructions in sewer alignments such as rivers and subsurface utilities. Upstream siphon chambers allow attainment of proper wastewater elevation so that the depressed sewer flows under pressure. Downstream chambers provide transitions between depressed sewers and downstream gravity sewers. Junction structures are facilities at which flows from sewers are redirected to converge with or receive flows from other sewers. Within the MWRA system there are 171 siphon and junction structures. Most of these structures are located in or adjacent to wetland areas that present constraints on design, permitting and construction to mitigate environmental impacts. MWRA has prioritized the rehabilitation of 40 siphon chambers and junction structures for inclusion in this contract based on the structures' risk of flooding, structural condition, and need for improved access. These modifications will limit the inflow into the MWRA system during flood conditions.





Current means of access



Siphon chambers subject to flooding

On February 19, 2020, the Board approved Contract 6224 to Kleinfelder Northeast, Inc., for a 54 month contract.

Contract 6224 includes design and engineering services during construction for Siphon and Junction Structure Rehabilitation of 40 structures located in 17 different communities. Preliminary design activities included wetland flagging, surveying and mapping at each structure site and along easements, internal and external inspection of each structure and evaluations to address structural condition, flood protection, odor, safety issues, and preparation of recommendations. The contract included inspection of each siphon structure site to assess if there is adequate access for both construction and maintenance activities, and preparation of easements plans for both construction and permanent use. Final design included preparation of construction contract plans, specifications, cost estimates and bidding assistance as well as preparation of draft and final permit applications and additional information as required by the permitting agencies.

Engineering Services During Construction (ESDC) will be provided after award of Construction Contract 6225, anticipated in December 2024. Resident Engineering/Inspection (RE/I) services are not included in this contract, but will be procured separately, at a later date.

The anticipated construction work includes improved access to sites (modify and/or repair existing surface easement conditions or acquire new surface easement), improved ingress to the structures (hatches, manholes, safety), protection from the 100 year +2.5 feet flood, structural repairs to the interior and exterior of structures, and in some locations odor control additions to the structure. Repair needs vary considerably among the 40 structures.

This Amendment

Amendment No. 1 is requested to provide:

- additional project management and administration funds;
- additional design services funds for pipe loading analysis and mitigation; and
- an additional 36 month time extension for design, permitting, and acquisition of easements.

The number of distinct structure locations throughout a large geographic area, multiple communities, and time to obtain the required permits and construction easements results in a longer design phase and included the need for a longer construction phase than originally anticipated. The design, permitting, and easement acquisition tasks of this project are interrelated. Many of the steps were sequential; while some could be completed concurrently. The cumulative impact of individual delays in these tasks resulted in significant overall project delay.

Each of the seventeen local conservation commissions required coordination, correspondence, and meetings to review the proposed work of the project. Many also required site visits and supplemental investigations and analyses. The process of working closely with these seventeen communities and obtaining approval was extensive and deemed critical in achieving project objectives. The required environmental permits were needed to advance the design based on the potential impact of permit conditions or requirements. Because most of the sites were within environmental resource areas, the conditions and requirements of the permitting authorities dictated access routes, clearing and grading limits, staging area locations, and other restrictions at each project siphon structure. The local environmental permitting needed to occur first to understand the relevant conditions or restrictions to the design followed by state agency permits. The design was updated to incorporate conditions or requirements of the permits as they were obtained.

A number of analyses were required to confirm that other related environmental reviews were not necessary such as Natural Heritage and Endangered Species Program, Chapter 91 Waterways License, Massachusetts Environmental Policy Act, Coastal Zone Management, and Article 97 applicability. The state agency access permits from the Department of Conservation and Recreation (DCR) and the Massachusetts Department of Transportation (MassDOT), and a license from the Massachusetts Bay Transportation Authority (MBTA) were required. This permitting process took longer to complete than anticipated in the original project schedule. The MassDOT permit process took fifteen months. The MBTA permit process took twelve months. In addition, Massachusetts Historical Commission (MHC) review was required for the U.S. Army Corps of Engineers (USACE) permitting to proceed. The MHC review identified the need for an unanticipated archaeological assessment, which required a specialty subconsultant to perform research and field work to screen for archaeological resources at several sites resulting in an additional eight months to complete the permit effort. Once this review was complete, the USACE's permitting could then proceed; however, the USACE Massachusetts general permit had expired during the MHC review and the project team needed to wait for a new general permit to be issued before proceeding with the USACE's permit submissions. This added four months of time to the process. Due to the numerous siphon structure sites and habitat, the USACE's permitting process required two types of permits to be prepared and submitted. As a result of the USACE's limited resources, the staff review and approval process took several months longer than anticipated.

The easement acquisition process began once the permitting was substantially complete, or at least far enough along to understand impacts to access routes. The required temporary and permanent easement areas were then delineated on plans enabling the project team to acquire easements and licenses from various property owners. The process required site meetings with property owners, and in some cases multiple meetings to discuss concerns, impacts timing restrictions, access limits, and restoration. The easement negotiation process was not accounted for in the original project

schedule. MWRA recorded the easements with the applicable registries of deeds, and three easements were acquired by eminent domain following approval from the Board of Directors at their December 13, 2023 meeting. The remaining additional time needed for design of this project is related to evaluating and determining methods to mitigate increased loads exerted on the MWRA sewer pipes beneath the access routes from construction vehicles and equipment accessing the siphon structures.

The overall delay, as a result of the above-described processes and tasks, was 33 months. In addition, the construction schedule was extended three additional months, from 18 months to 21 months, to account for the complexities in executing the work on the 40 structures located in 17 communities. Accordingly, the proposed time extension to Contract 6224 is 36 months.

Administration and Management \$94,193.88

Additional budget is needed to provide administration and management services during the thirty six month extension to Contract 6224. The requested funds are anticipated to provide budget for the remainder of design, during construction, and during the construction warranty period.

Final Design \$51,496.55

Additional funds are needed to evaluate and determine methods to mitigate increased loads exerted on the MWRA sewer pipes beneath the access routes from construction vehicles and equipment accessing the siphon structures. For most sites, the only viable access routes to the structures are the MWRA sewer easements. This is due to the wetlands and other environmental resources surrounding these structures limiting access options from the public way. This evaluation and design of load mitigation were not included in the scope of services. After the design was developed sufficiently for MWRA review, staff identified these concerns and discussed the need for analyses and mitigation with the project team which evaluated pipe depths and estimated increased loads from vehicles and equipment. MWRA reviewed the results and established a maximum allowable load increase on the sewer pipelines to be incorporated into the design documents as a contract requirement with submittal requirements by the contractor to demonstrate compliance.

CONTRACT SUMMARY:	<u>AMOUNT</u>	<u>TIME</u>	<u>NTP</u>
Original Contract:	\$2,854,552.34	54 Months	4/1/2020
Amendment 1:	<u>145,690.43</u>	<u>36 Months</u>	Pending
Amended Contract Amount:	\$3,000,242.77	90 Months	

BUDGET/FISCAL IMPACTS:

The FY25 CIP includes \$2,854,552 for Contract 6224. Including this amendment for \$145,690.43, the adjusted subphase total will be \$3,000,242.77, or \$145,690.77 over the CIP amount. This amount will be absorbed in the five-year CIP Spending Cap.

MBE/WBE PARTICIPATION:

The minimum MBE and WBE participation requirements for this project were established at 7.18% and 5.77%, respectively. Kleinfelder has committed to 16.63% MBE and 11.99% WBE participation.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: Delegated Authority Report – July & August 2024



COMMITTEE: Administration, Finance & Audit

X INFORMATION
 VOTE


Michele S. Gillen
Director, Administration

For MG

Barbara Aylward, Administrator A & F
Karen Smith, Administrative Systems Coor.
Preparer/Title

Douglas J. Rice
Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period July 1 – August 31, 2024.

This report is broken down into three sections:

- Awards of Construction, non-professional and professional services contracts and change orders and amendments in excess of \$25,000, including credit change orders and amendments in excess of \$25,000;
- Awards of purchase orders in excess of \$90,000; and
- Amendments to the Position Control Register, if applicable.

DISCUSSION:

The Board of Directors' Management Policies and Procedures, as amended by the Board's vote on February 16, 2022, delegate authority to the Executive Director to approve the following:

Construction Contract Awards:

Up to \$3.5 million if the award is to the lowest bidder.

Change Orders:

Up to 25% of the original contract amount or \$1,000,000.00, whichever is less, where the change increases the contract amount, and for a term not exceeding an aggregate of six months; and for any amount and for any term, where the change decreases the contract amount. The delegations for cost increases and time can be restored by Board vote.

Professional Service Contract Awards:

Up to \$1,000,000 and three years with a firm; or up to \$200,000 and two years with an individual.

Non-Professional Service Contract Awards:

Up to \$1,000,000 if a competitive procurement process has been conducted, or up to \$100,000 if a procurement process other than a competitive process has been conducted.

Purchase or Lease of Equipment, Materials or Supplies:

Up to \$3.5 million if the award is to the lowest bidder.

Amendments:

Up to 25% of the original contract amount or \$500,000, whichever is less, and for a term not exceeding an aggregate of six months.

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

Recommendations for delegated authority approval include information on the budget/fiscal impact related to the action. For items funded through the capital budget, dollars are measured against the approved capital budget. If the dollars are in excess of the amount authorized in the budget, the amount will be covered within the five-year CIP spending cap. For items funded through the Current Expense Budget, variances are reported monthly and year-end projections are prepared at least twice per year. Staff review all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA budget.

Construction & Professional Services Delegated Authority Items July 1 – 31, 2024

No.	Date of Award	Title and Explanation	Contract	Amend/CO	Company	Value
C-1	07/02/24	Real Estate Appraisal Services Technical Assistance Award of a contract to the highest ranked proposer to provide real estate appraisal services technical assistance for a term of three years.	623TA	Award	Foster Appraisal & Consulting Co., Inc.	\$150,000.00
C-2	07/02/24	Real Estate Appraisal Services Technical Assistance Award of a contract to the highest ranked proposer to provide real estate appraisal services technical assistance for a term of three years.	624TA	Award	BBG Real Estate Services	\$150,000.00
C-3	07/11/24	Norumbega Covered Storage Tank Cell No. 1 Cleaning Award of a contract to the lowest responsive bidder for the Norumbega Covered Storage Tank Cell No. 1 cleaning in Weston, Massachusetts for a term of 365 calendar days.	OP-474	Award	R. Zoppo Corp.	\$3,086,200.00
C-4	07/15/24	Renewable and Alternative Energy Portfolio Standards and Services Award of a contract under State Contract ENE-57 to sell and purchase energy credit certificates as needed for the time period of July 15, 2024 through March 31, 2026.	OP-476	Award	Next Grid Markets, LLC	\$50,000.00
C-5	07/15/24	Deer Island Treatment Plant Feasibility Study for Large-Scale Battery Deployment Award of a contract to the highest ranked proposer to perform a study to examine the feasibility of a large-scale battery energy storage system at Deer Island for a term of ten months.	S622	Award	Sustainable Energy Advantage, LLC	\$274,473.00
C-6	07/16/24	Elevator Maintenance and Repair Service Deer Island Treatment Plant Final balancing change order to decrease the following bid items: Non-emergency and emergency repair services, replacement parts.	S585	2	United Elevator Company, Inc,	(\$138,979.86)
C-7	07/16/24	Intermediate High Pipeline Improvements CP2 Materials Pre-Purchase, Watertown MA Final balancing change order to decrease the following bid items: Various sized ductile iron piping, factory restraining systems, exterior zinc coating.	6956A	2	Ferguson Waterworks	(\$40,342.40)
C-8	07/19/24	Wachusett Dam Lower Gatehouse Piping and Boiler Replacement Delete heating system replacement and all associated work.	7380	2	J. F. White Contracting Company	(\$464,968.17)
C-9	07/30/24	Combustion Turbine Generator Maintenance Deer Island Treatment Plant One-site non-emergency and emergency repair services, replacement parts, factory service representative services and fire department services.	S593	4	O'Connor Corporation	(\$246,181.56)

C-10	07/30/24	Drug and Alcohol Testing and Compliance Services Award of a contract to the highest ranked proposer for the provision of drug and alcohol testing and compliance services for a term of 35 months.	A640	Award	OHS Training & Consulting, Inc.	\$38,100.00
C-11	07/30/24	John J. Carroll Water Treatment Plant Parapet Wall Repairs Perform additional tuck pointing joint repairs.	7755	1	G.V.W, Inc.	\$70,000.00
C-12	07/30/24	Phase 13 Sewer Manhole Rehabilitation Award of a contract to the lowest responsive bidder for phase 13 sewer manhole rehabilitation for a term of 210 calendar days.	OP-475	Award	National Water Main Cleaning Company	\$195,400.00

Purchasing Delegated Authority Items July 1-31, 2024

No.	Date of Award	Title and Explanation	Company	Value
P-1	7/2/24	One Year Purchase Order Contract to Provide Commercial Driver’s License Training for MWRA Employees Commercial Driver’s License (CDL) training is critical for MWRA staff working in positions such as Operations Maintenance Construction (OMC), Laborer, or positions in the Heavy Equipment Operator series. This contract includes up to ten CDL Class A training sessions and up to ten CDL Class B training sessions.	CMSC Trucking, LLC	\$138,000.00
P-2	7/2/24	One-Year Purchase Order Contract for the Supply and Delivery of Hydrofluorosilicic Acid Hydrofluorosilicic acid is a source of fluoride that is commonly added to public drinking water supplies to help prevent tooth decay as recommended by the Centers for Disease Control and Prevention. Compared to the existing contract, the cost per dry ton increased by 10%.	Univar Solutions USA, Inc.	\$568,860.00
P-3	7/2/24	One-Year Purchase Order Contract for the Supply and Delivery of Carbon Dioxide Carbon dioxide is added to the water supply to maintain a pH level of 9.5 which helps reduce corrosion of lead and copper in the plumbing systems of older homes. This year’s price has remained the same.	Linde Inc.	\$680,000.00
P-4	7/11/24	One Year Purchase Order Contract for Hewlett Packard Equipment Maintenance and Support—<i>State Contract ITC73</i> This annual agreement includes maintenance and support of forty-nine servers, two storage area network (SAN) devices, and three tape libraries and their associated software.	CDW Government, LLC	\$90,606.31
P-5	7/11/24	Purchase Order for 100 Hewlett Packard Probook Laptops—<i>State Contract ITC73</i> Many laptops purchased in 2019 and 2020 have reached their end of life and are in need of replacement. This procurement will allow staff to begin the replacement process.	GLI Capital Group, Inc.	\$100,900.00
P-6	7/11/24	One-Year Purchase Order Contract for Renewal and Support of 1,500 Okta Subscriptions—<i>State Contract ITS60</i> Okta Single Sign-On (SSO) provides a secure mechanism for identity and access management authentication. Renewal of these subscriptions will maintain the secure identity and access management solutions consolidated with Okta.	Carahsoft Technology Corporation	\$186,598.16

No.	Date of Award	Title and Explanation	Company	Value
P-7	7/11/24	Sole Source Purchase Order for One Year of SCADA Software Maintenance MWRA's SCADA system is controlled using interface software developed by GE Digital called Proficy iFIX. This recurring annual maintenance agreement will provide software upgrades and technical support. GE Digital is the sole manufacturer of the Proficy iFIX software and all previous software agreements with GE Digital Platforms have been approved on a sole source basis.	GE Digital, LLC	\$243,278.63
P-8	7/22/24	Purchase Order for One Segmented Flow Injection Analyzer The Department of Laboratory Services uses a Skalar San++ analyzer to test drinking water, ground water, surface water, wastewater, sludge and fertilizer pellets. Due to its age, the automated parts of the system are no longer supported and not eligible for repair. This purchase will replace the equipment with a newer, more reliable system.	Skalar, Inc.	\$107,880.00

Construction & Professional Services Delegated Authority Items August 1 – 31, 2024

No.	Date of Award	Title and Explanation	Contract	Amend/CO	Company	Value
C-1	08/15/24	Eastern Avenue/Griffin Way Traffic Signalization Final balancing change order to decrease the following bid items: Eversource energy, police detail and price adjustment allowances.	OP-339	2	Dagle Electric Construction Corp.	(\$52,950.80)
C-2	08/15/24	Norumbega Covered Storage Tank Cell No. 3 Cleaning Final balancing change order to decrease the following bid items: Sediment disposal, price adjustment allowance.	OP-459	2	R. Zoppo Corp.	(\$52,922.50)
C-3	08/15/24	Installation of Energy Efficient LED Interior and Exterior Lighting at the DeLauri Pump Station Award of energy efficient contract to Eversource prequalified vendor for the installation of energy efficient LED interior and exterior lighting at the DeLauri Pump Station for a term of 120 calendar days.	OP-481	Award	Guardian Energy Management Solutions, LLC	\$30,808.00
C-4	08/15/24	Hayes Pump Station Rehabilitation Design and ESDC Services Increase level of effort to provide additional project management for design phase; extend contract term by 12 months from September 22, 2027 to September 22, 2028.	7162	3	Hazen and Sawyer, P.C.	\$86,967.00
C-5	08/15/24	Installation of Air Source Heat Pumps at Norumbega Headquarters Award of energy efficient contract to Eversource prequalified vendor for the installation of an air source heat pump at the Norumbega Headquarters for a term of 240 calendar days,	OP-482	Award	Guardian Energy Management Solutions, LLC	\$165,461.00
C-6	0/15/24	Dam Safety Compliance and Consulting Services Award of a contract to the highest ranked proposer for dam safety compliance and consulting services for a term of 1,095 calendar days,	W349	Award	GZA GeoEnvironmental, Inc,	\$266,174.86
C-7	08/15/24	Rehabilitation of Sections 23, 24 and 47 Water Mains – Boston and Newton Additional paving requirements in the City of Newton; Drain and sewer replacement for the City of Newton; Horizontal gate valve and precast concrete manhole at St. James Circle in Newton; High Voltage MBTA duct bank at meter 120 on Lake Street.	6392	7	Albanese D&S, Inc.	\$328,105.21
C-8	08/15/24	Northern Intermediate High Section 89 Replacement Pipeline Provide additional paving in the City of Woburn; Increase police and fire details allowance; Extend the length of the receiving access pit at the Aberjona River and excavate and remove 48-inch pipe with obstruction to complete installation of the 36-inch pipeline; Furnish and install a temporary connection from Section 29 to the existing Section 89 pipeline, connection will remain in	7117	6	P. Gioioso & Sons, Inc.	\$840,501.48

		place until the existing Section 89 is abandoned and the new Section 89 pipeline with permanent connection to Meter 138 is installed.				
C-9	08/15/24	Intermediate High Pipeline Improvements (CP2) Leak repair at Charles River Crossing in Watertown; Remove 1,625 linear feet of existing 18-inch VCP drain pipe and replace with new 18-inch PVC pipe and perform temporary trench paving on Russell Avenue in Watertown; Re-excavate and remove 20 linear feet of previously installed 20-inch ductile iron main, relocate proposed 20-inch gate valve and chambers and furnish and install 22.5-degree mechanical joint bends to allow proposed 20-inch ductile iron main to cross under 36-inch RCP drain pipe on Russell Avenue in Watertown.	6956	3	Albanese D&S, Inc.	\$879,438.26
C-10	08/16/24	Fire Alarm Systems Services Central and Western Facilities Award of a contract to the lowest responsive bidder for fire alarm system services at central and western facilities for a term of 1,095 calendar days.	OP-477	Award	Encore Holding LLC d/b/a Encore Fire Protection	\$292,400.00
C-11	08/20/24	Centrifuge Services Deer Island Treatment Plant Award of a contract to the lowest responsive bidder to provide centrifuge services at the Deer Island Treatment for a term of 1,095 calendar days,	S620	Award	Franzenburg LLC	\$706,700.00
C12.	08/20/24	Section 101 Waltham Pipeline Extension Soil overrun for MWRA work; Rock and boulder overrun for the City of Waltham Utilities; Modify air valve vaults structures.	7457	5	Baltazar Contractors, Inc.	\$995,759.46
C-13.	08/26/24	Hydraulic Equipment Service Increase on-call maintenance hours and replacement parts bid item allowances.	OP-445	1	R. Zoppo Corp.	\$82,750.00

Purchasing Delegated Authority Items August 1-31, 2024

No.	Date of Award	Title and Explanation	Company	Value
P-1	8/15/24	Three-Year Purchase Order Contract for Preventive and Corrective Maintenance on Three PFAS Instrument The Department of Laboratory Services uses three instruments to test for PFAS in drinking water and wastewater. This agreement consolidates all parts of PFAS instrument maintenance previously covered under separate, one-year agreements.	The Remi Group, LLC	\$96,450.74
P-2	8/15/24	Purchase Order for Two Spare Circuit Breakers This procurement will purchase spare circuit breakers for the Winthrop Terminal Facilities and South System Pump Station, for preventive maintenance or replacement.	Circuit Breaker Sales NE, Inc.	\$109,800.00
P-3	8/22/24	One-Year Purchase Order Contract for Microsoft Unified Enterprise Support—<i>State Contract ITS75</i> Microsoft Unified Enterprise Support provides critical, as-needed, 24/7 technical support and expert guidance on Microsoft Software Products including Windows operating systems, Exchange, Office Suite, SQL Server, and other Microsoft products that may be used by MWRA staff in the future.	Dell Marketing LP	\$91,830.22
P-4	8/22/24	One-Year Purchase Order Contract for the Supply and Delivery of Ferric Chloride Ferric chloride is used by the Clinton Wastewater Treatment Plant to remove phosphorus from its effluent discharge to meet the lower levels allowed by permit. Compared to the existing contract, the cost has increased by 3%.	Kemira Water Solutions, Inc.	\$217,120.00
P-5	8/22/24	One-Year Purchase Order Contract for the Supply and Delivery of Hydrogen Peroxide Hydrogen peroxide is used by Deer Island to control hydrogen sulfide levels in its influent, reducing the need for additional odor control chemicals and equipment in other areas of the plant. Compared to the existing contract, the cost has decreased by 1%.	Evonik Corporation	\$1,185,000.00
P-6	8/22/24	Purchase Order for Three New Service Trucks The Water Pipeline Program uses service trucks to store and transport a variety of tools and parts required to complete its prime mission of water system maintenance. This purchase will replace three of its current service trucks with newer models due to age and lack of parts.	Kenworth of SE New England, Inc.	\$1,446,201.00

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: FY2024 Fourth Quarter Orange Notebook



COMMITTEE: Administration, Finance & Audit

X INFORMATION
 VOTE

Stephen Estes-Smargiassi, Director Planning & Sustainability
Malcolm Ragan, Senior Planner
Michael O'Keefe, Senior Program Manager, Planning
Preparer/Title



David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

For information only. The Quarterly Report on Key Indicators of MWRA Performance (the Orange Notebook) is prepared at the close of each quarter of the fiscal year.

DISCUSSION:

The Orange Notebook presents performance indicators for operational, financial, workforce, and customer service parameters tracked by MWRA management each month. This staff summary includes highlights from the fourth quarter of fiscal year 2024.

Staffing Levels

External hiring in FY24 continued to maintain the improvements seen in FY23, reflecting marked increases compared to the slow down during the pandemic. MWRA completed 93 external hires in FY24, similar to the 91 hires in FY23, but substantially greater than the 65, 64, and 58 hires in FY22, FY21, and FY20 respectively. While there were 87 separations during FY24, MWRA had a net increase of six FTEs during the fiscal year. At the end of June, staffing stood at 1,062.2, roughly 90 positions below the budget of 1,152 FTEs. (See page 52.)

However, staffing remained lower than pre-pandemic levels, which continued to have impacts on operations in the Fourth Quarter:

- Several water distribution and wastewater pipeline performance measures were under target due to staff vacancies and a focus on supporting more critical Capital Improvement Projects and in-house construction work (see pages 9 & 10);
- Several lab services metrics missed internal goals during the fourth quarter (see page 17), but all regulatory deadlines were met;
- The maintenance backlog at Deer Island is within industry standards but at the high end of the desired range and overtime at Deer Island was 52% over budget in FY24. However, this is not affecting critical operations or regulatory compliance. (See pages 6 & 52.)

Continued to Prioritize Valve Replacements that Protect Water Quality

In FY24, staff focused on replacing blow-off valves over mainline valves with 28 replaced compared to the annual target of 10. Staff made a concerted effort to replace valves that have not been upgraded since their original installation, improving the sanitary condition of the system. Mainline valve replacement was under target with only 6 replaced compared to an annual target of 20. Most main line valves have been replaced in previous years and are functioning properly, as evidenced by over 97% operability, the ones remaining are isolated and more difficult to replace. (See page 9.) In order to bring valve replacement goals in line with system needs, targets for blow-off valves and main line valves were changed to 20 and 15 respectively for FY25.

Higher than Average Precipitation Continued

While not as historic as earlier in the fiscal year, precipitation was 12% above the four-year average for the fourth quarter, resulting in FY24 experiencing 30% more precipitation than usual. Higher precipitation led to higher flows at Deer Island in the fourth quarter – 9% above target – affecting operations in several ways, including (See page 1):

- Total power usage, which was 10% above target in the fourth quarter, mainly driven by pumping and secondary treatment. (See page 1.)
- Total electricity purchased was 11% above target. (See page 1.)
- Power generation from the combustion turbine generators (CTGs) was 68% above target mostly due to 48 hours of continuous operation from April 4 to April 6 during a Nor'easter that brought over 1.5 inches of rain to the metro area. The CTGs are used during very high plant flows resulting from significant rainstorms. This reduces the risk of a total plant power outage requiring plant restart and potential untreated overflow situations. Since the CTGs run on fuel oil, significant use of the CTGs has a major impact on MWRA's carbon emissions. (See page 1.)

Violations at Clinton Wastewater Treatment Plant

High precipitation also affected flows at the Clinton Wastewater Treatment Plant. The 12-month rolling average increased to 3.75 MGD, marking nine consecutive months of exceeding the plant's National Pollutant Discharge Elimination System (NPDES) permit limit of 3.01 MGD. Influent flow from the Town of Clinton and the Lancaster Sewer District have exceeded five-year averages for the entirety of FY24.

The Clinton Wastewater Treatment Plant was also over the regulatory limit in May for acute and chronic effluent toxicity. Staff found no reason for the toxicity and there is no evidence of any problem with treatment nor any change in the effluent quality that explains the results. Since the next set of quarterly toxicity tests, in July 2024, showed no toxicity, corrective action is not needed. (See page 33.)

Transfers from Quabbin Reservoir to Wachusett Reservoir Re-Commenced

Although precipitation in the watersheds was above normal, the abatement of the significant rainfall seen earlier in the year enabled MWRA to transfer water from Quabbin to Wachusett for the first time since the second quarter. (See page 30.) These transfers resulted in an increase in the water quality benefits from Quabbin at Carroll Water Treatment Plant in June, as reflected in

lower levels of UV-254, a measure of the reactive natural organic matter in the water, in Wachusett. (See page 24.)

Internal Audit Cost Savings Highest Since FY20

MWRA's Internal Audit Department evaluates the effectiveness of internal controls and procedures and ensures that only reasonable, allowable and allocable costs are paid to vendors. In FY24, cost savings totaled nearly \$3 million, the highest in four years. Of this total, \$2.7 million came from auditing contracts, including operating expenses for the cross-harbor electric cable and the Fore River Railroad 2023 tax return, while \$240 thousand was from internal reviews. (See page 50.)

Renewable Energy Continues to Provide Substantial Power to Deer Island

Renewable energy generated on-site accounted for 24% of Deer Island's total electrical power use for the fourth quarter, similar to the rest of the fiscal year. (See page 3). This includes generation from solar, hydro, wind, and, by far the largest source, the steam turbine generators (STGs), which combust digester gas. Renewable energy produced from the STGs was 13% above budget for the quarter (see page 10), and, as usual, close to 100% of the digester gas produced at Deer Island was utilized to create electricity and heat at the facility. (See page 4).

MWRA Eliminated Water Main Leak Backlog

In FY24, MWRA staff inspected 143 miles of the water distribution system, detected seven leaks, and repaired all of them by the end of the fourth quarter, leaving no backlog. In addition to leak detection and repair in our system, MWRA also assists service communities with identifying leak locations and conducting surveys. Staff assisted Medford, Chelsea, Everett, Winthrop, Stoneham, Revere, Winchester, and Boston in the fourth quarter. (See page 8.)

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

Table of Contents

OPERATIONS AND MAINTENANCE	Page	WASTEWATER QUALITY	Page
DITP Operations-	1	NPDES Permit Compliance	
Total Power Use/Self-Generation		Deer Island Treatment Plant	32
Plant Flow & Precipitation		Clinton Treatment Plant	33
Total Cost of Electricity/Pricing			
DITP Operations-	2		
DI Sodium Hypochlorite Use		COMMUNITY FLOWS AND PROGRAMS	
Disinfection Dosage		Total Water Use Core Communities	35
Secondary Blending Events		Community Wastewater Flows	36
DITP Operations & Maintenance Report	2	Community Sewer Flow	37
Residuals Processing	4	Community Support Programs	
DITP Yearly Maintenance Metrics	5	Infiltration/Inflow Local Financial Assist.	38
Proactive and Productivity Measures		Water-Local Pipeline & System Assist.	39
Overall Maintenance Progr. Measures		Lead Service Line Replacement Loan Progr.	40
Overall Maintenance Progr. Measures (cont.)		Community Water System Leak Detection	
Operations Division – Metering & Reliability	8	and Conservation Outreach	41
Water Distribution System – Valves	9		
Wastewater Pipeline/Structures	10	BUSINESS SERVICES	
FOD Metro Facility & Equipment Maintenance	11		
Renewable Electricity Generation – 1	12	Procurement	43
Renewable Electricity Generation – 2	13	Materials Management	44
Toxic Reduction and Control	14	MIS Program	45
Field Operations – Narrative Topics	15	Legal Matters	46
Laboratory Services	17	Internal and Contract Audits	50
CONSTRUCTION PROGRAMS		OTHER MANAGEMENT	
Projects in Construction	19		
CSO Control Update	21	Workforce Management	52
CIP Expenditures	22	Workplace Safety Program	53
		Job Group Representation	54
DRINKING WATER QUALITY AND SUPPLY		MBE/WBE Expenditures	55
Source Water – Microbial Results	24	CEB Expenses	56
Source Water – Turbidity, pH and Alkalinity	25	Cost of Debt	57
Treated Water – Disinfection Effectiveness	26	Investment Income	58
Source Water – Algae, Complaints	27		
Bacteria & Chlorine Residual Results	28		
Disinfection By-Products, UV 254	29		
Water Supply/Source Water Management	30		

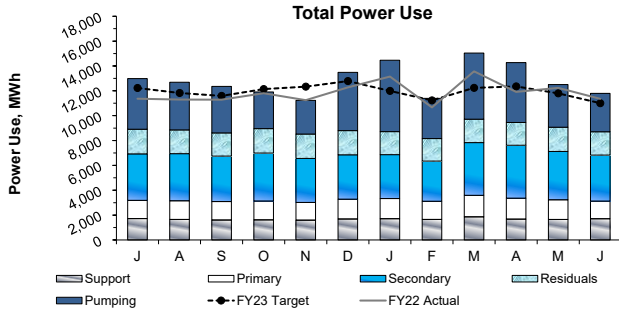
This quarterly report is prepared by MWRA staff to track a variety of performance measures for routine review by the Board of Directors. The content and format of this report is expected to develop as time passes. Information is reported on a preliminary basis as appropriate and available for internal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

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

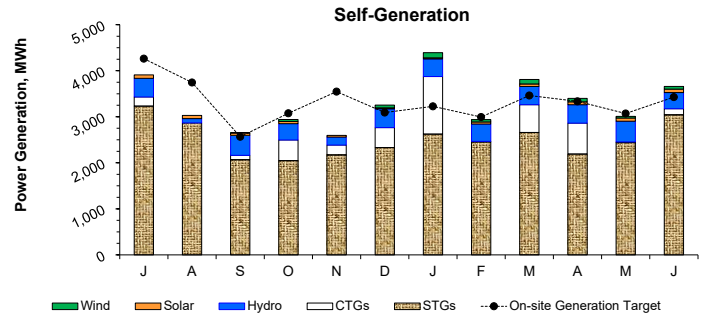
OPERATIONS AND MAINTENANCE

Deer Island Operations

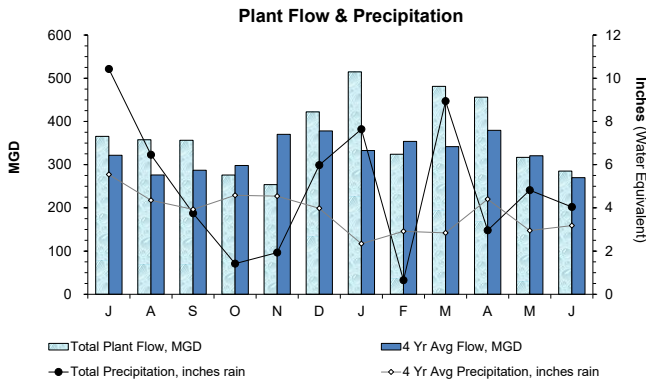
4th Quarter - FY24



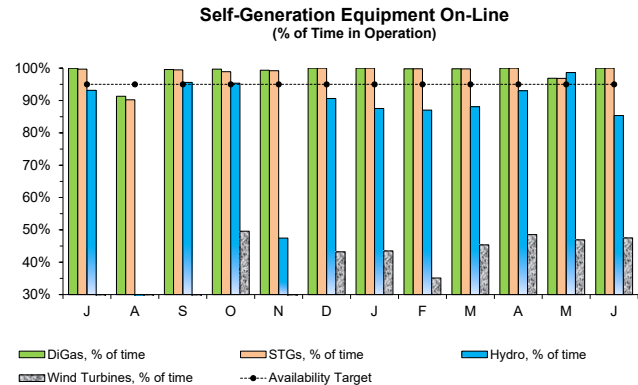
Total power usage in the 4th Quarter was 9.7% above target as plant flow for this period was 9.1% above target with historical (4 year average) data used to generate the electricity model. Power used in most areas and major treatment processes was within 5% of target, except for power used for raw wastewater 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.**



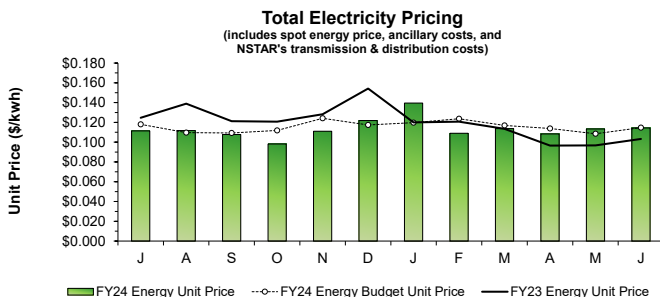
Power generated on-site during the 4th Quarter was 2.4% above the target due to 68% above target CTGs generation resulting from 48.2 hours of continuous operation from April 4 to April 6 as a source of backup power during a Nor'easter storm with damaging winds and an extended period of very high plant 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.**



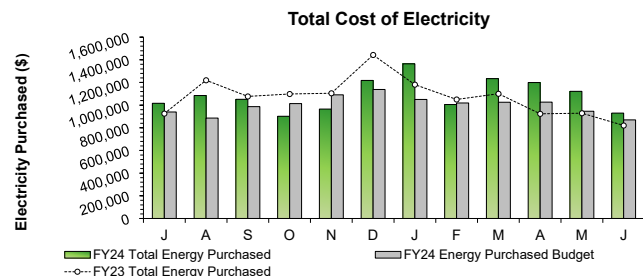
Total Plant Flow for the 4th Quarter was 9.1% above target with the budgeted 4 year average plant flow (352.7 MGD actual vs 323.3 MGD expected) as precipitation was 12.3% higher than target this quarter (11.82 inches actual vs. 10.53 inches expected). **Total Plant Flow for FY24 was 12.2% above target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



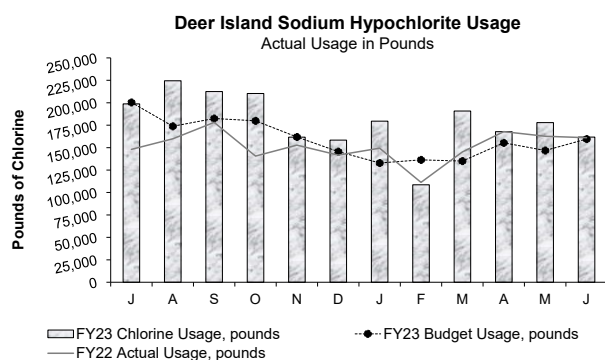
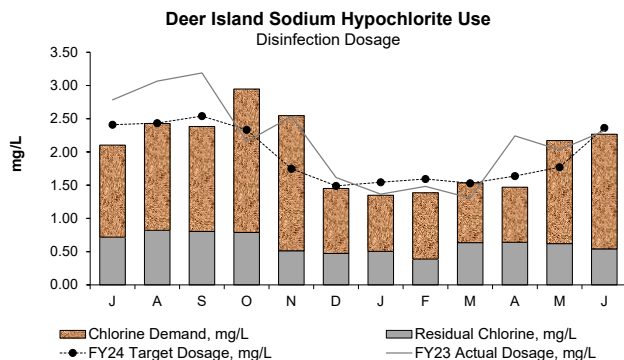
Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The actual Total Energy Unit Price is depicted for July through April (months with the latest available unit prices), while the May and June unit prices 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

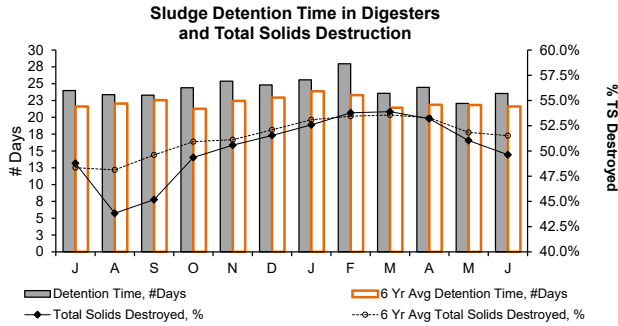
M&O's and the Facilities Specialist removed and installed a new motor for the aerated grit removal system. They worked on repairing grit screw conveyor #2. The Facilities Specialist and the Maintenance staff cleaned the mechanical bar rack and greased the upper and lower pin rack. They also replaced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

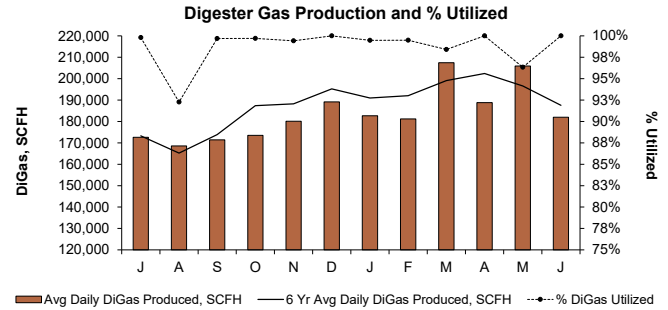
Deer Island Operations and Residuals

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.

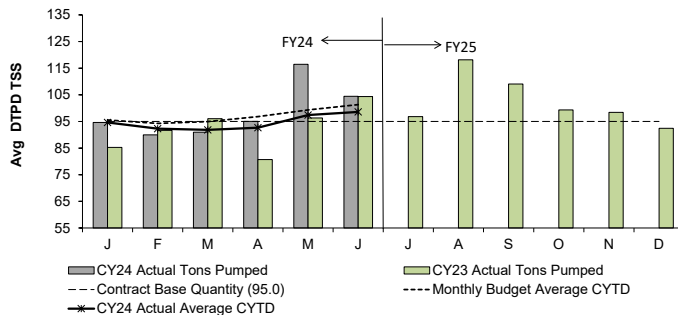


The Avg Daily DiGas Production in the 4th Quarter was 1.7% below target with the 6 Year Avg Daily DiGas Production as total sludge production was lower than target. 98.8% of the DiGas produced was utilized at the Thermal Power Plant (TPP). **Overall for FY24, DiGas Production was within 2.2% of target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

Residuals Pellet Plant

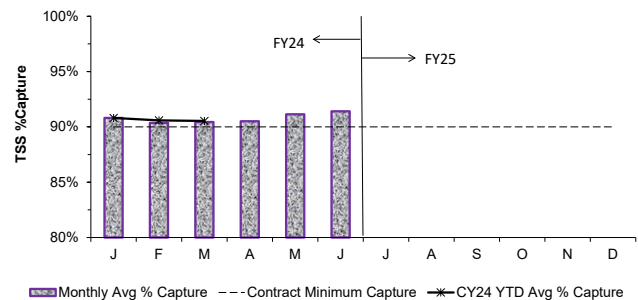
New England Fertilizer Company (NEFCO), a wholly-owned, indirect subsidiary of Synagro Technologies, Inc., operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 95.0 DTPD/TSS as an annual average (for the 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

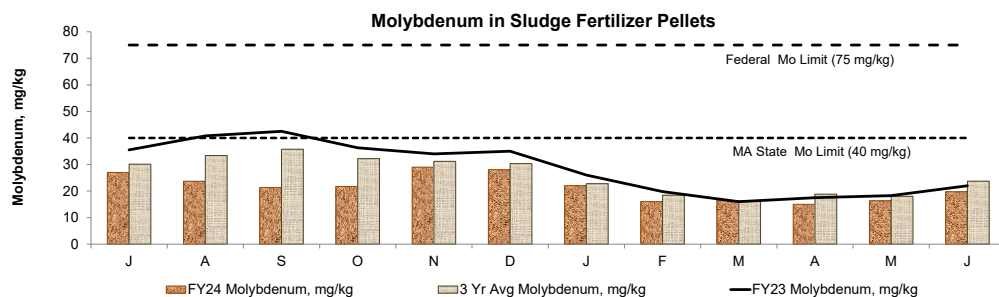


The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 4th Quarter was 105.3 TSS Dry Tons Per Day (DTPD), within 2.2% of target with the FY24 budget of 107.7 TSS DTPD for the same period. The overall CY24-to-date average quantity of sludge pumped is 98.64 DTPD, 4.5% below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



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 I 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.

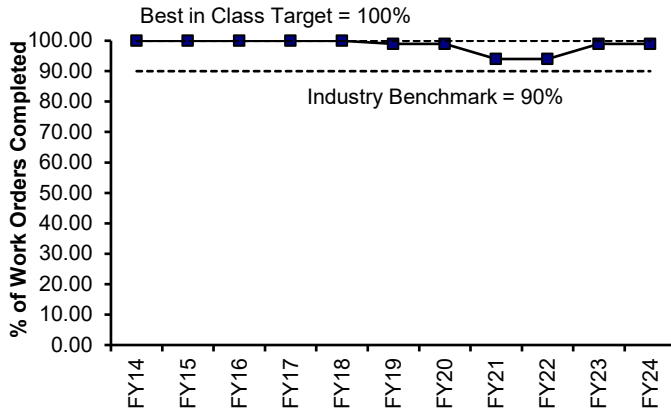
Overall, the levels have been below the DEP Type 1 limit for all three (3) metals. For Mo, the level in the MWRA sludge fertilizer pellets during the 4th Quarter averaged 17.0 mg/kg, 16% below the 3 year average, 47% below target with the MA State Limit, and 72% below the Federal Limit. **Overall for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

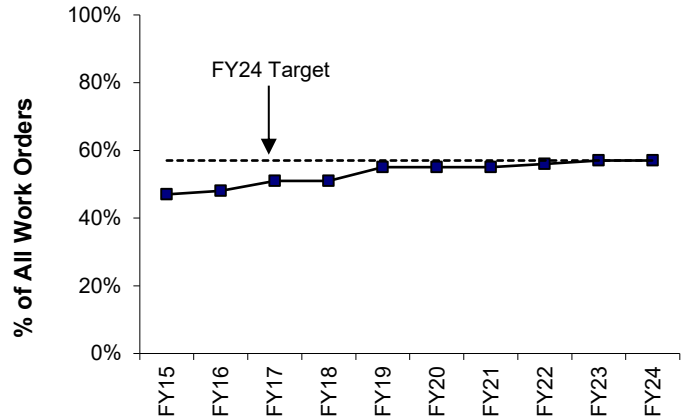
Proactive and Productivity Measures

Preventative Maintenance



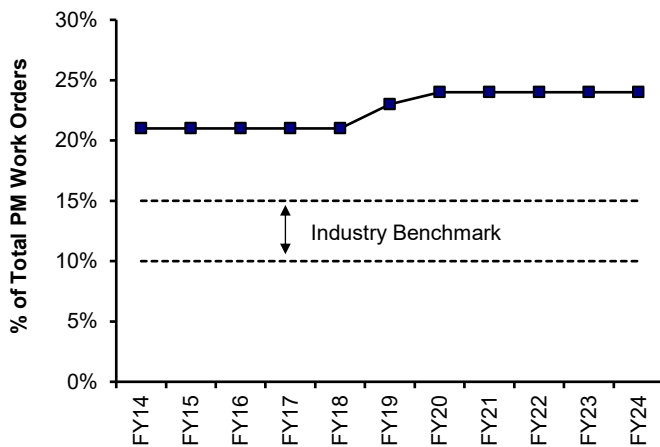
The industry benchmark is 90% for Preventative Maintenance (PM) completion. Upon reaching the 90% goal in FY05, the target goal was increased to the "Best in Class" Target of 100% PM completion. Reliability-Centered Maintenance (RCM) and PM optimization efforts have continued. PM completion rate was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

Maintenance Kitting



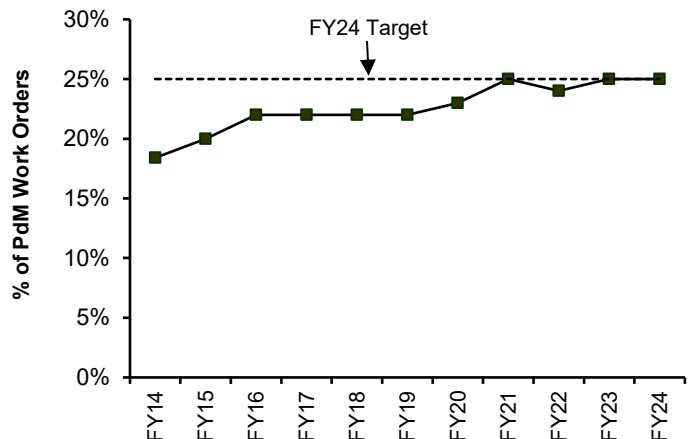
Preventive Maintenance (PM) inventory items were loaded into Maximo to assign spare parts for equipment to PM work orders. DITP reached the PM kitting goal of 100%. In FY12 a new graph was developed to track kitting of all maintenance work orders in an effort to increase wrench time. Staff continues 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%.

Operations Light Maintenance PMs



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

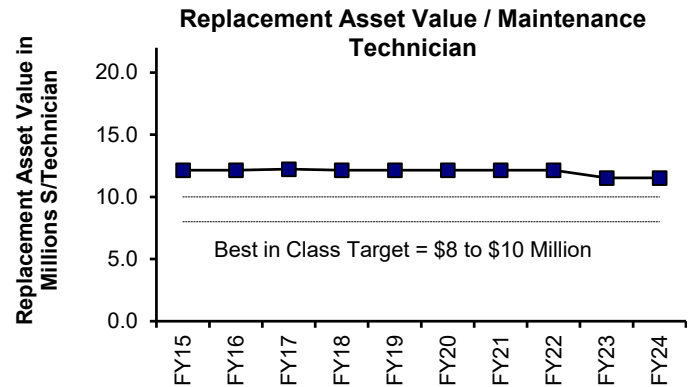
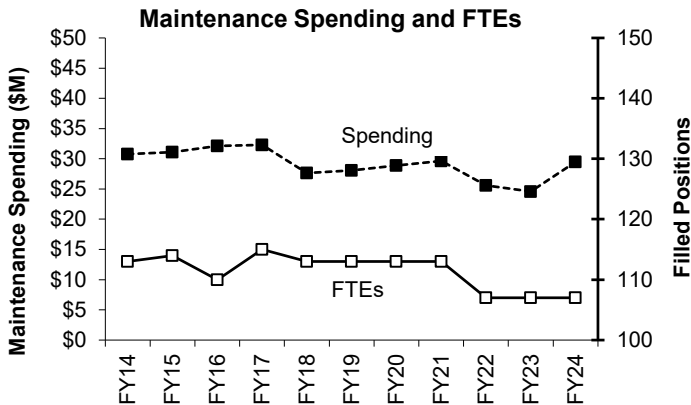


Predictive maintenance has steadily increased from 2% in FY03 to 25% in FY24, DITP met the FY24 goal of 25%. This percentage in predictive maintenance was achieved through the expanded use of lubrication, vibration, thermography, and acoustic ultrasonic testing techniques. The Condition Monitoring Group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

Deer Island Yearly Maintenance Metrics

FY24

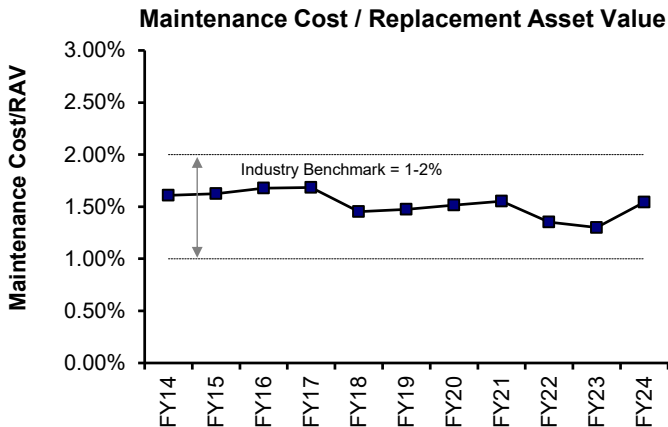
Overall Maintenance Program Measures



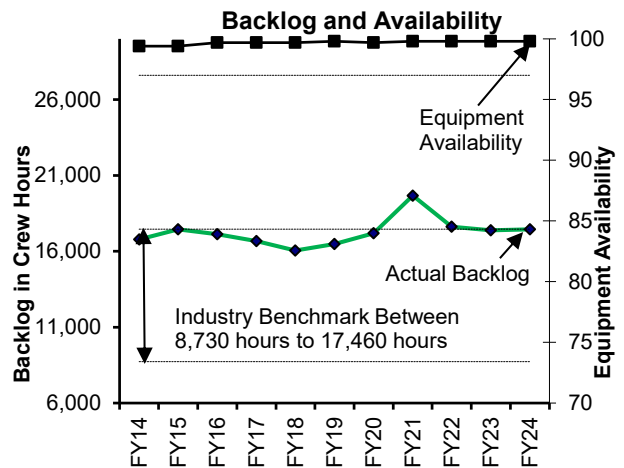
DITP's Maintenance staff is currently at 107 FTE's. Maintenance staff levels ended at 107 due to retirements and hiring challenges for trades personnel. Maintenance has worked to meet our goals through implementation of numerous maintenance efficiencies including: Operations performing light maintenance, 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.

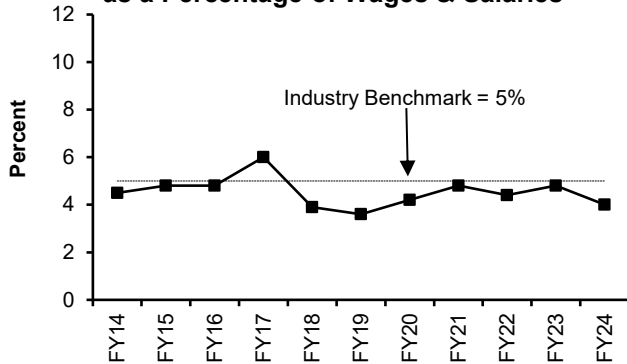
Industry Benchmark for Backlog is between 8,730 to 17,460 hours for maintenance based on current staffing, the total average backlog for FY24 was 17,411 hours, which is within the industry benchmark. DITP Maintenance has made significant progress to be within the Industry Benchmark.

Deer Island Yearly Maintenance Metrics

FY24

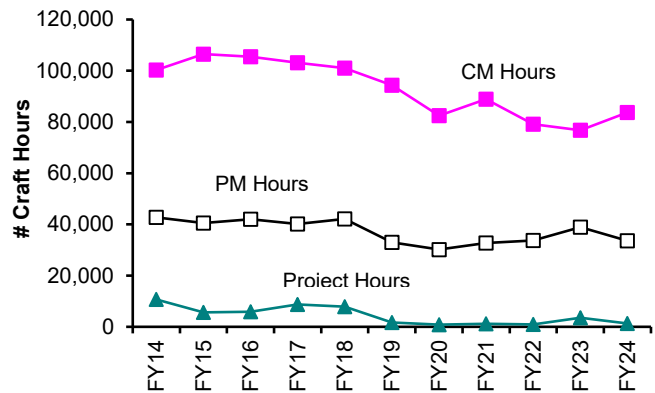
Overall Maintenance Program Measures (cont.)

**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

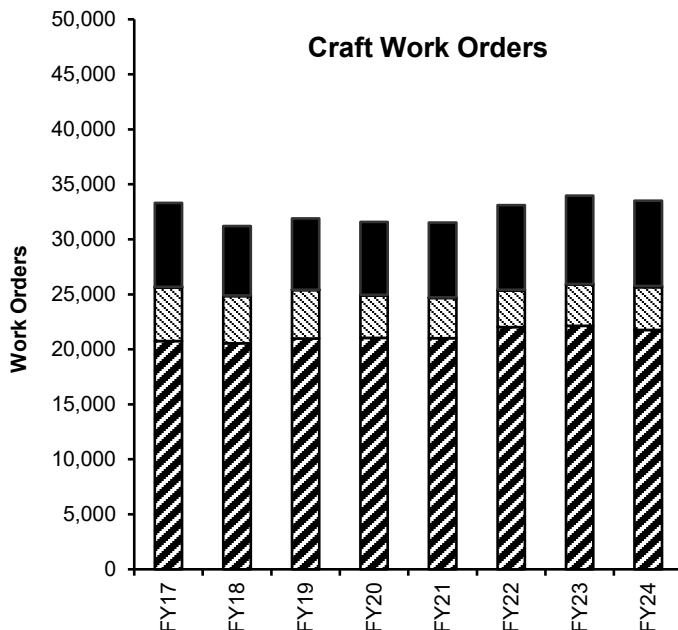


This year's increase in Corrective Maintenance (CM) hours was due to staff working on Clarifiers and unclogging pumps, grinders and piping due to rags.

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.

Craft Work Orders



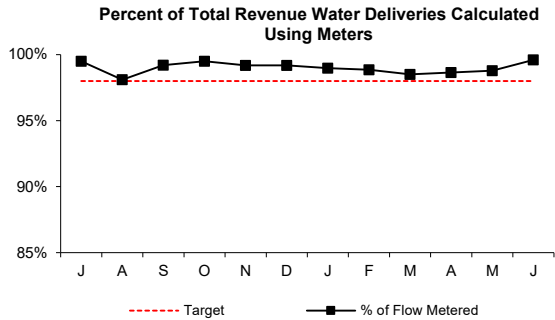
- Predictive Maintenance
- Emergency Maintenance
- ▨ Project
- ▩ Corrective Maintenance
- ▤ Preventive Maintenance

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.

Operations Division Metering & Reliability

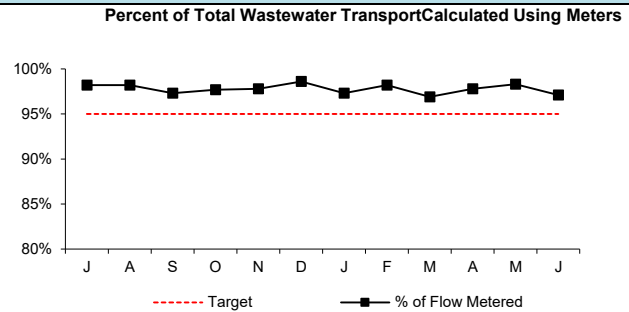
4th Quarter - FY24

WATER METERS



The target for revenue water deliveries calculated using meters is 98%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During Q2 CY2024 (Q4 FY24), 99.1% of the water billed was metered flow.

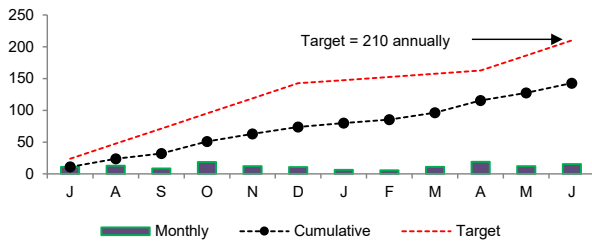
WASTEWATER METERS



The wastewater metering system is now operating in a typical mode following closeout of the replacement project. The target for revenue collection meters is a 95% capture rate which has been achieved consistently since the new meters have been online. In Q2 CY2024 (Q4 FY24), 2.1% of the data required estimates, while 97.9% was metered.

WATER DISTRIBUTION SYSTEM PIPELINES

Miles Surveyed for Leaks



During 4th Quarter - FY24, 46.4 miles of water mains were inspected. The total inspected for the fiscal year to date is 142.8 miles.

Leak Backlog Summary

[illegible]

During the 4th Quarter - FY24 no leaks were detected, and one leak was repaired. Refer to FY24 Leak Report below for details. Also, community service ranging from individual leak location to surveys were conducted for Medford, Chelsea, Everett, Winthrop, Stoneham, Revere, Winchester and Boston.

4th Quarter - FY24

[illegible][illegible]

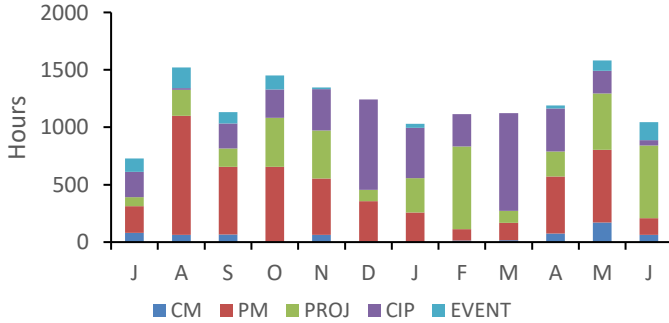
Water Distribution System Valves

4th Quarter 2024 - FY24

Background

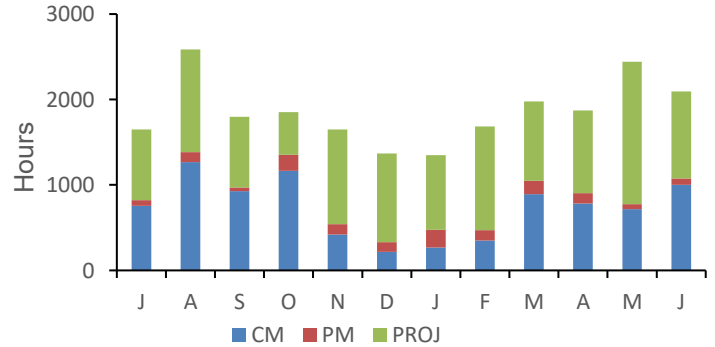
Valves are exercised, rehabilitated, or replaced in order to improve their operating condition. This work occurs year round. Valve replacements occur in roadway locations during the normal construction season, and in off-road locations during the winter season. Valve exercising can occur year round but 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%

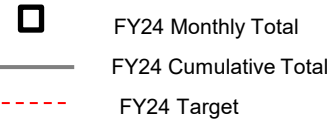
Water Pipeline Labor Hours



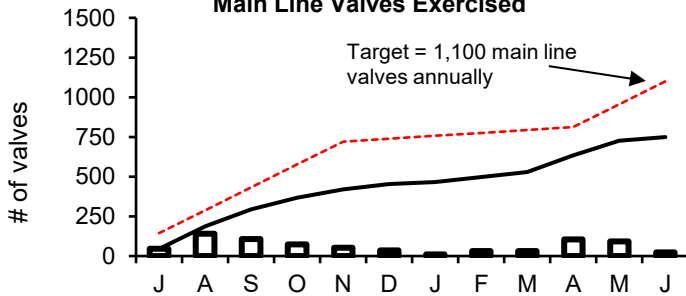
During 4th quarter of FY24 there was a total of 2,094 hours worked. Percentage breakdown; Corrective Maintenance 37%, Preventative Maintenance 7%, Project 56%

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%

Key to Symbols:

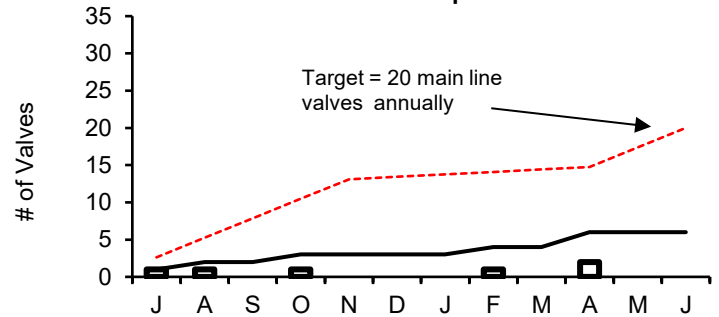


Main Line Valves Exercised



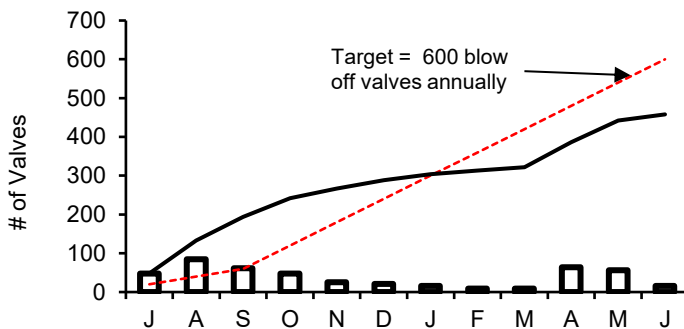
During 4th quarter of FY24, 220 main line valves were exercised. The total exercised for the fiscal year to date is 749.

Main Line Valves Replaced



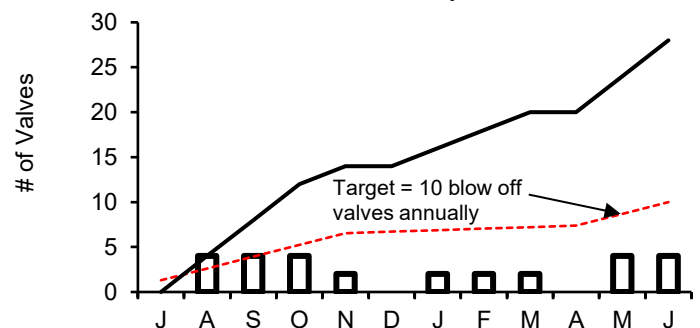
During 4th quarter of FY24, there were 2 main line valves replaced. The total replaced for the fiscal year to date is 6.

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



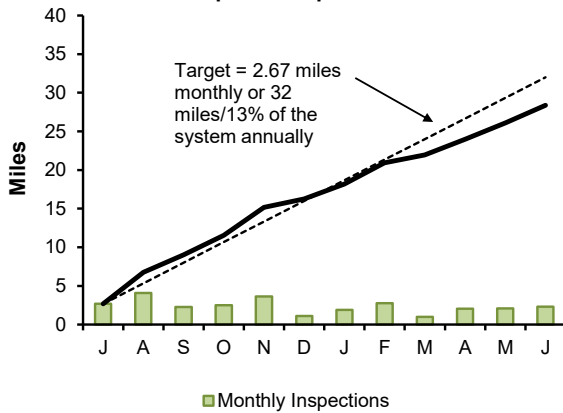
During 4th quarter of FY24, there were 8 blow off valves replaced. The total replaced for the fiscal year to date is 28.

Wastewater Pipeline and Structure Inspections and Maintenance

4th Quarter - FY24

Inspections

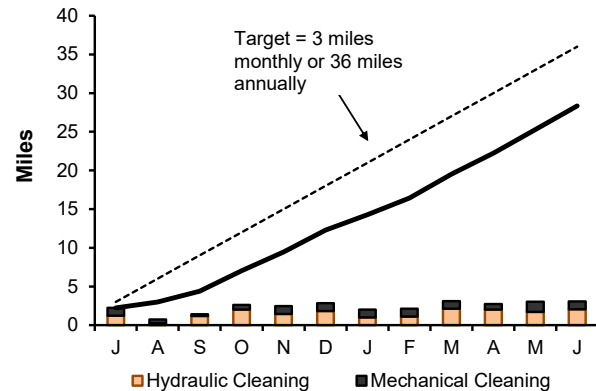
Pipeline Inspections



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.

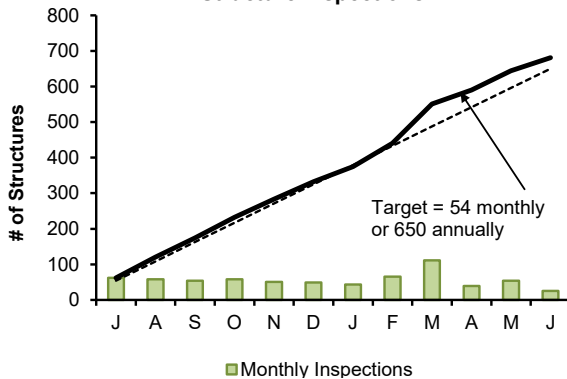
Maintenance

Pipeline Cleaning



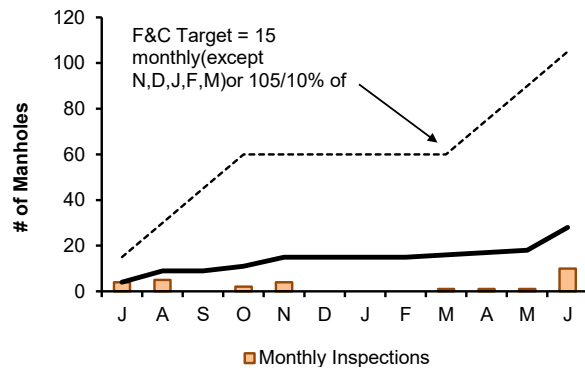
Staff cleaned 8.81 miles of MWRA sewer pipe, and removed 66 yards of grit. The year to date total is 28.34 miles. No Community Assistance was provided.

Structure Inspections



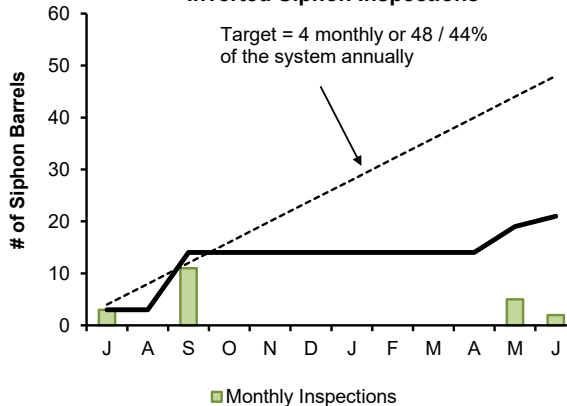
Staff inspected the 36 CSO structures and performed 94 other additional manhole/structure inspections during this quarter. The year to date total is 681 inspections.

Manhole Rehabilitation



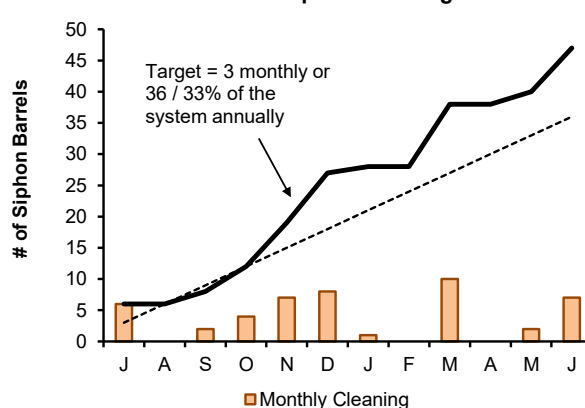
Staff replaced 12 frame and cover replacement this quarter. The year to date total is 28.

Inverted Siphon Inspections



Staff inspected 7 siphon barrels this quarter. The year total is 21 inspections.

Inverted Siphon Cleaning

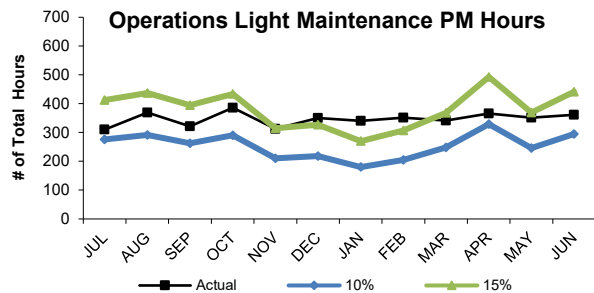


Staff cleaned 9 siphon barrels this quarter.

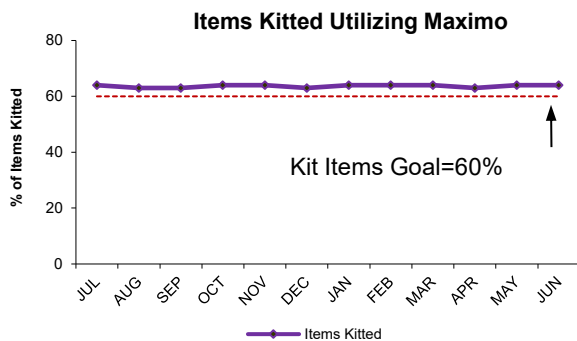
Field Operations' Metropolitan Equipment & Facility Maintenance

4th Quarter - FY24

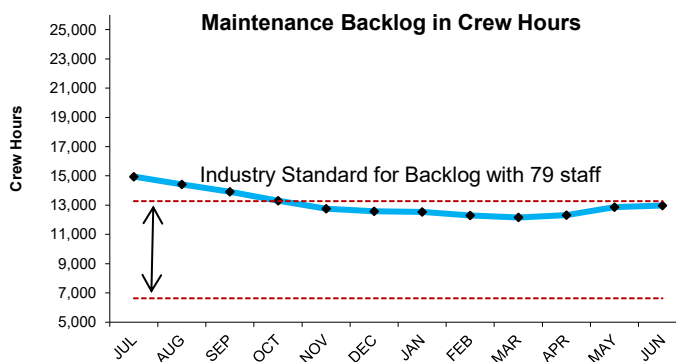
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion is 100%. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.



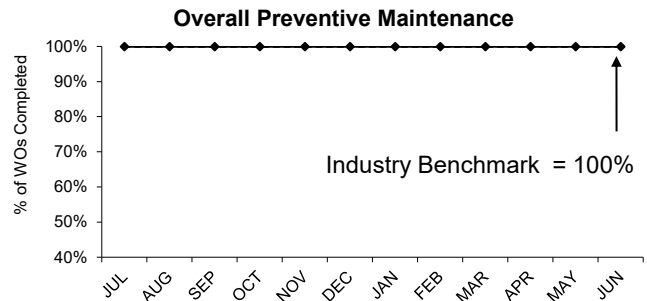
Operations staff averaged 360 hours per month of preventive maintenance during the 4th Quarter of FY24, an average of 12% of the total PM hours for the 4th Quarter, which is within the industry benchmark of 10% to 15%.



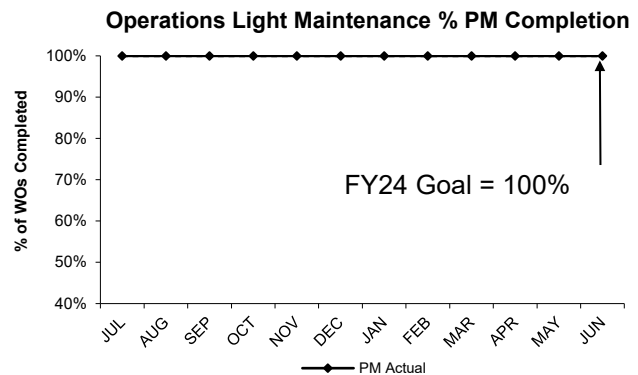
Operations' FY24 maintenance kitting goal has been set at 60% of all work orders to be kitted. Kitting is the staging of parts or material necessary to complete maintenance work. In the 4th Quarter of FY24, 63% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



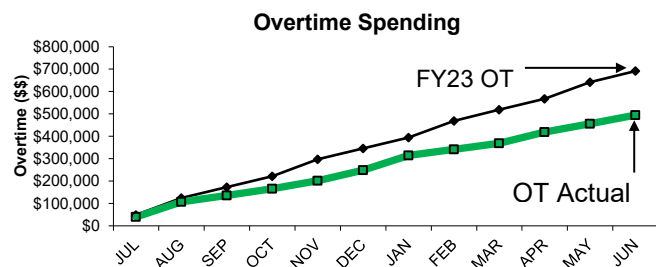
The 4th Quarter of FY24 backlog average is 12,721 hours. Which is within the industry benchmark of 6,636 to 13,275 hours. The current backlog is due to vacancies and several large maintenance projects.



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.

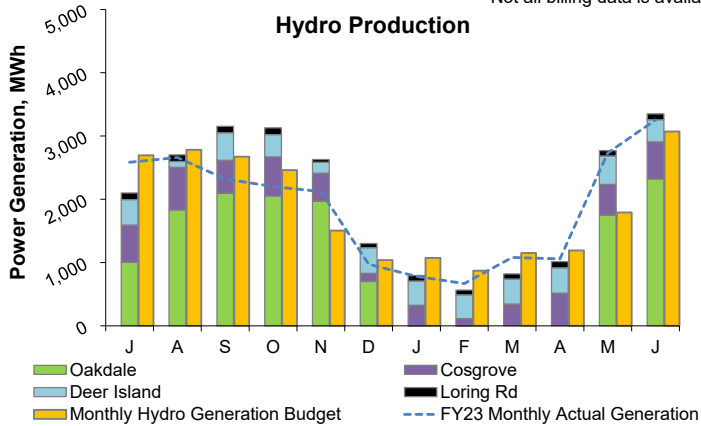


Maintenance overtime was \$16,133 under budget on average, per month, for the 4th Quarter of FY24. Overtime is used for critical maintenance repairs and wet weather events. The overtime budget through the 4th Quarter of FY24 is \$691,712. Overtime spending was \$495,001 which is \$196,711 under budget for the fiscal year.

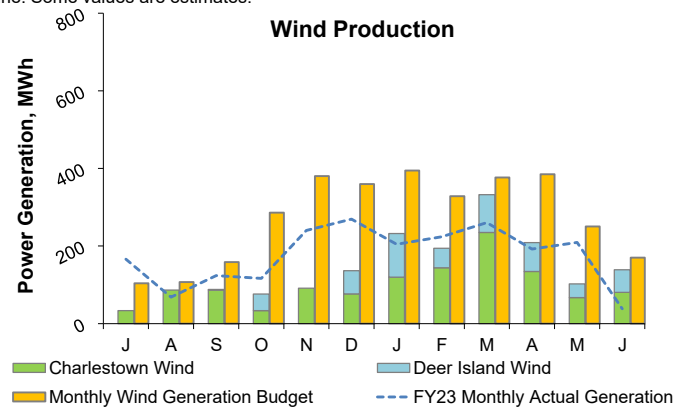
Renewable Electricity Generation: Savings and Revenue

4th Quarter - FY24

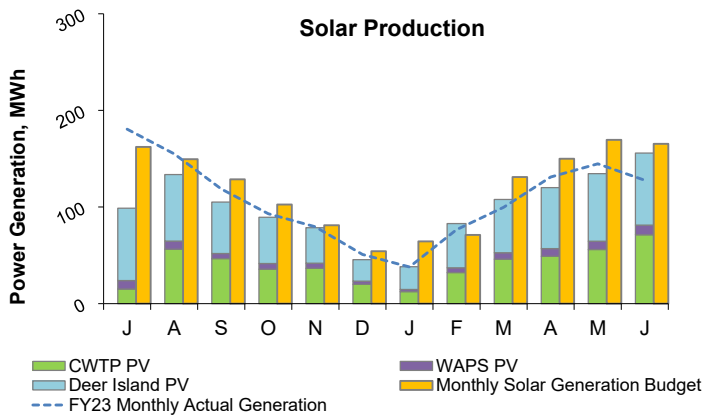
* Not all billing data is available for June. Some values are estimates.



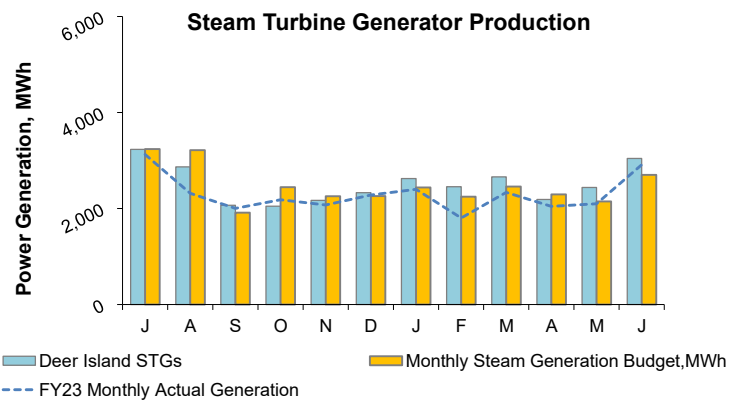
In the Quarter 4, the renewable energy produced from all hydro turbines totaled 7,239 MWh; 20% above budget¹. However, values for the Oakdale turbines are internal estimates and not based on utility billing data.



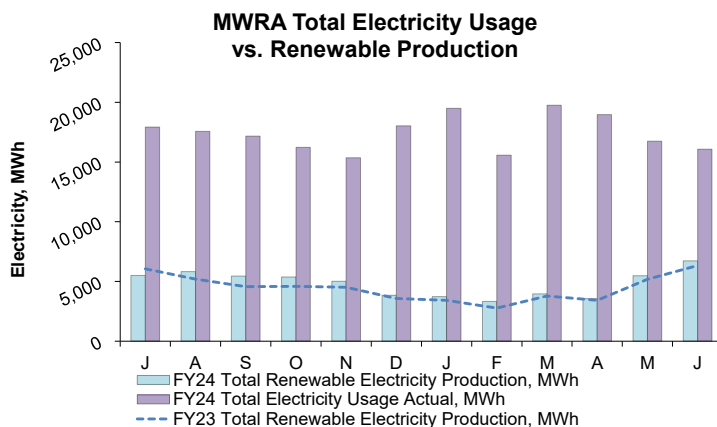
In Quarter 4, the renewable energy produced from all wind turbines totaled 139 MWh; 18% below budget¹. Deer Island Turbine #1 has been out of service since April 2022, and was heavily damaged following a braking failure on May 29, 2023.



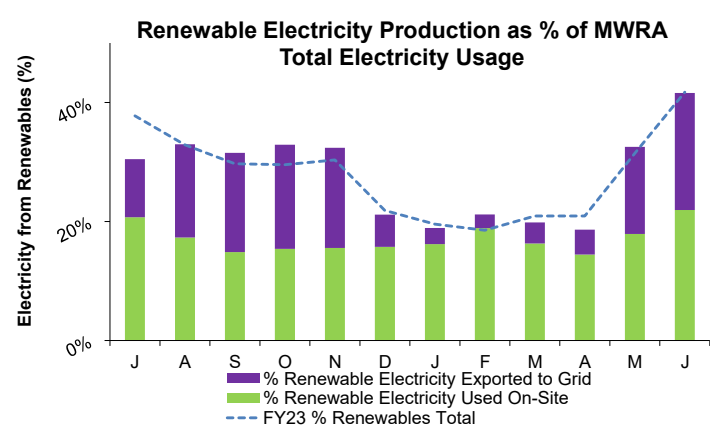
In Quarter 4, the renewable energy produced from all solar PV systems totaled 411 MWh; 15% below budget¹. The Deer Island Residuals Odor Control roof mounted array has been offline since September 11, 2022 due to a failed inverter. An inverter was repaired at the CWTP array, restoring the system to full 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.

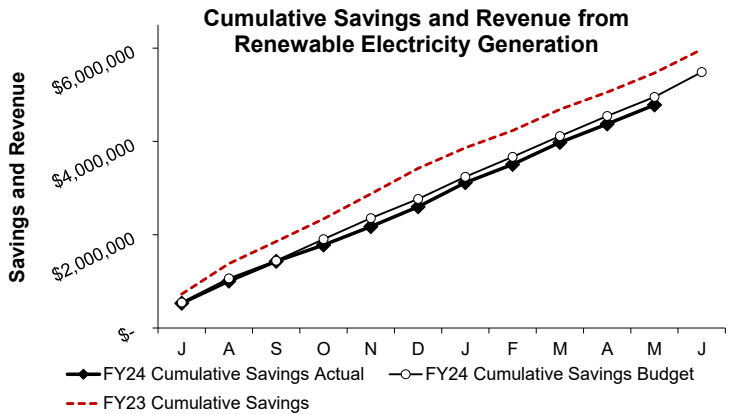
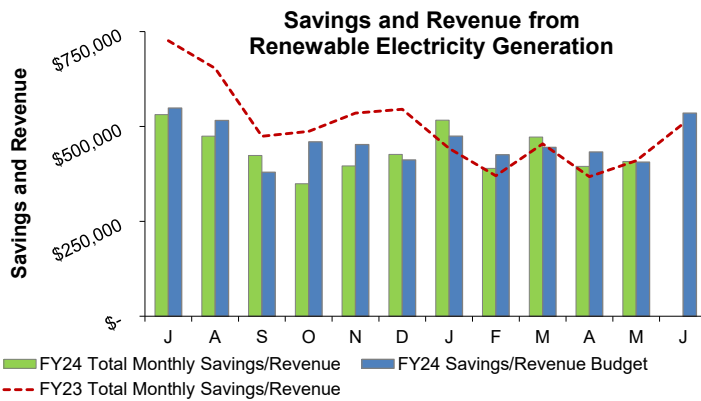


Notes: 1. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.

Renewable Electricity Generation: Savings and Revenue

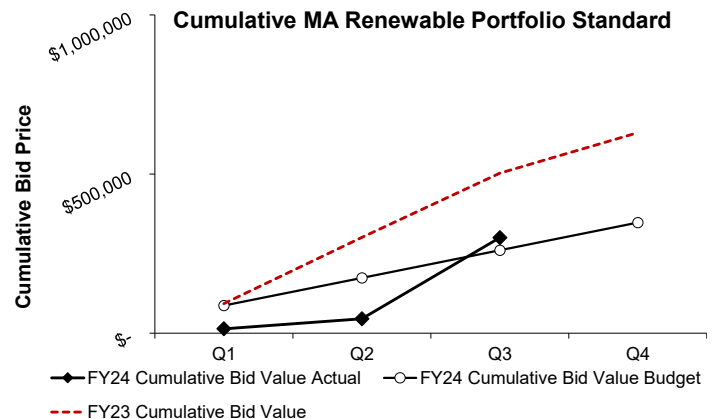
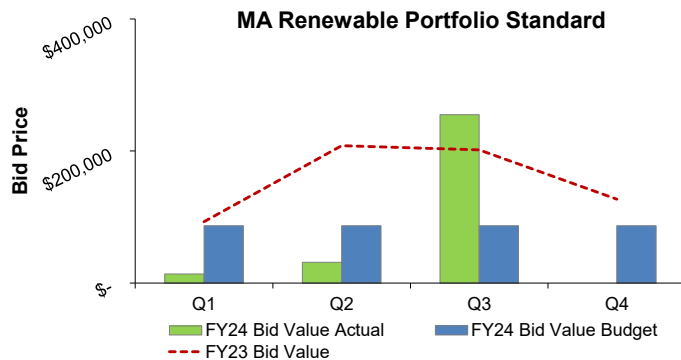
4th Quarter - FY24

* Not all billing data is available for June. Some values are estimates.



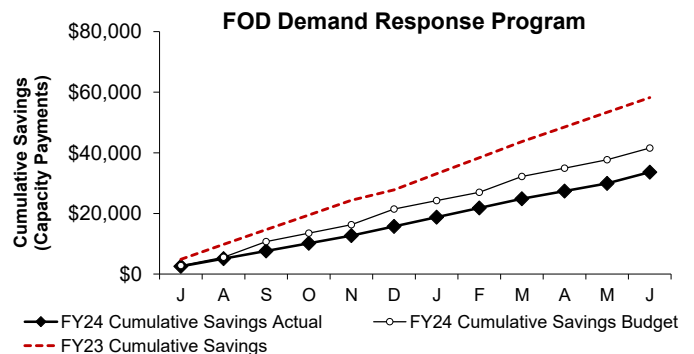
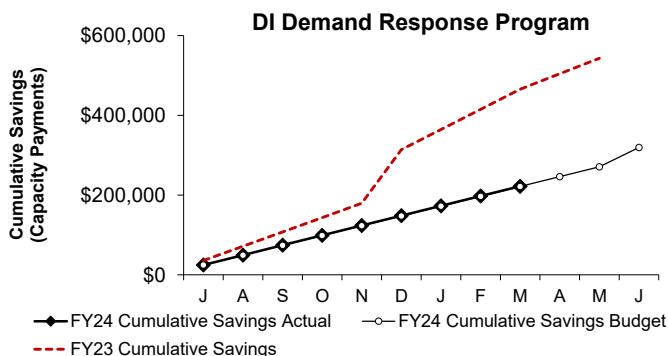
Savings and revenue from renewable energy sources totaled \$407,697 in May. Not all data savings and revenue data for June has been received. Cumulative Savings and Revenue is 3% below budget for the fiscal year as of May.

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 I 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.

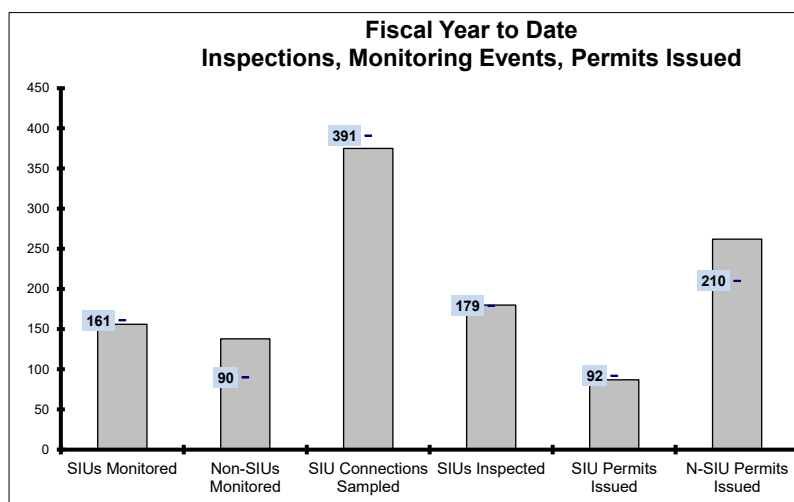


Currently Deer Island, Loring Rd, Brutsch Hydro, and JCWTP participate in the ISO-New England Demand Response Programs. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity 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							
	0 to 120		121 to 180		181 or more		Permits Issued
	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.

ENVIRONMENTAL QUALITY- WASTEWATER

- Ambient Monitoring: Three monthly water column surveys were successfully completed.

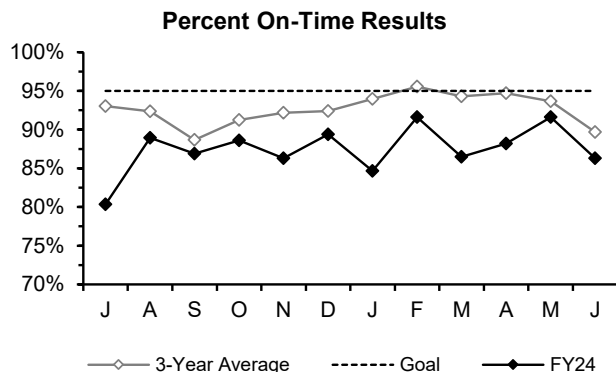
Report production on 2023 monitoring data has begun.

- 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.

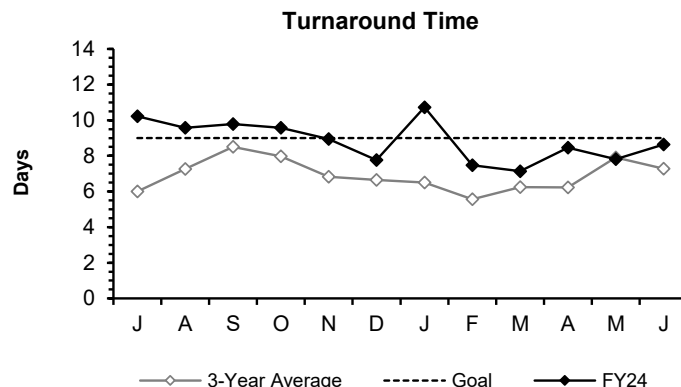
Laboratory Services

4th Quarter - FY24

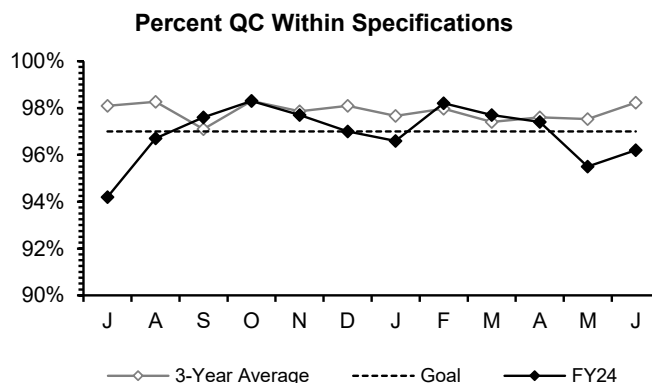
Laboratory Services supports the laboratory sampling, testing, and consulting needs of various client groups primarily in the Operations Division. This includes drinking water transmission and treatment, wastewater collection and treatment, wastewater residuals management, industrial-pretreatment monitoring, and environmental quality.



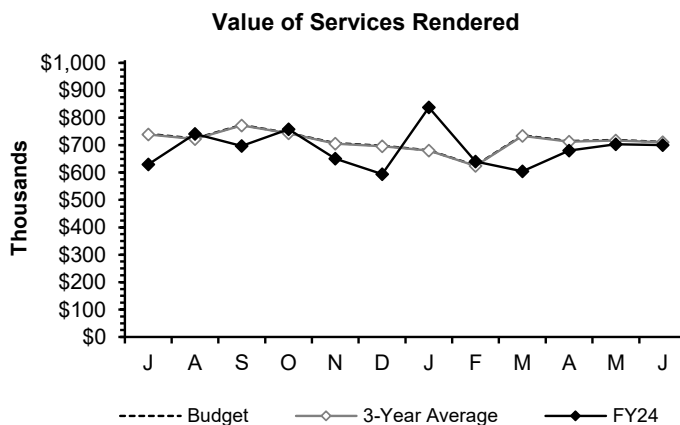
The Percent On-Time measurement assesses performance against internal client due dates. These due dates are shorter than the compliance reporting requirements to allow for internal review of the data.



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.

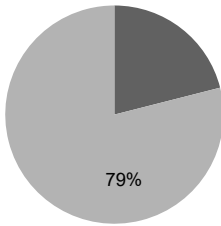
School Lead Program: During the 4th quarter of FY24, MWRA's lab completed 2518 tests from 59 schools and childcare facilities in 17 communities. Since 2016, MWRA's Laboratory has conducted over 44,000 tests from 647 schools and daycares in 45 communities. We have also completed 1007 home lead tests under the DPH sampling program since 2017.

CONSTRUCTION PROGRAMS

Engineering & Construction Projects In Construction

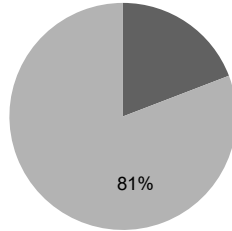
4th Quarter – FY24

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.

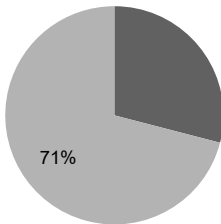
Contract Amount: \$13,526,674.07

Contract Duration: 1,127 Days

Notice to Proceed: 1-Sep-21

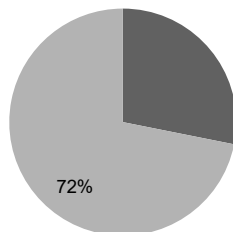
Contract Completion: 2-Oct-24

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.

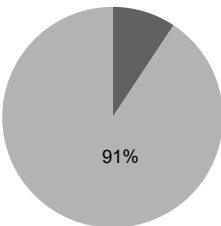
Contract Amount: \$35,275,662.11

Contract Duration: 1,475 Days

Notice to Proceed: 5-Aug-21

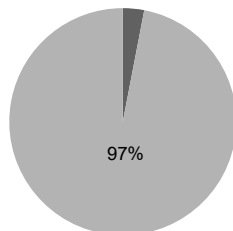
Contract Completion: 19-Aug-25

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.

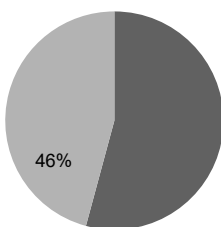
Contract Amount: \$12,205,837.64

Contract Duration: 990 Days

Notice to Proceed: 14-Jul-21

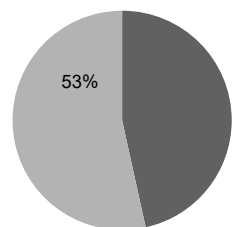
Contract Completion: 30-Mar-24

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

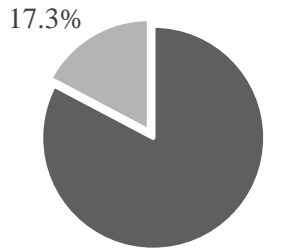
Contract Completion: 29-Sep-25

Deer Island Wastewater Treatment Plant

Projects In Construction

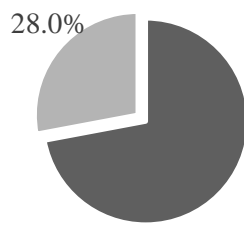
4th Quarter – FY24

Cost



- Amount Remaining
- Billed to Date

Time



- Time Remaining
- Time Expended

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.

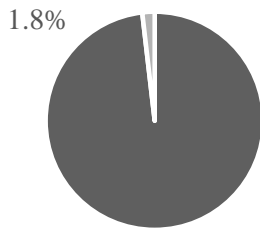
Contract Amount: \$289,359,690

Contract Duration: 1710 Days

Notice to Proceed: 10-Mar-23

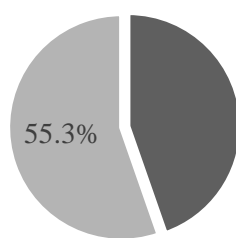
Contract Completion: 14-Nov-27

Cost



- Amount Remaining
- Billed to Date

Time



- Time Remaining
- Time Expended

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:

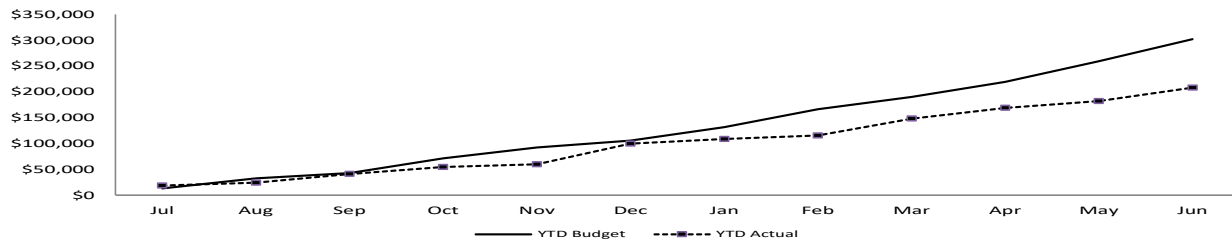
- Spending was less than planned in Wastewater due to timing of community grants and loans for the I/I Local Financial Assistance program, later than anticipated contract award for DITP Roofing Replacement, schedule changes for Motor Control Center Switchgear Replacement, Siphon Structure Rehabilitation 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	\$170 million
Budgeted FY24 Cash Flow Expectancy*:	\$246 million

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

4th Quarter – FY24

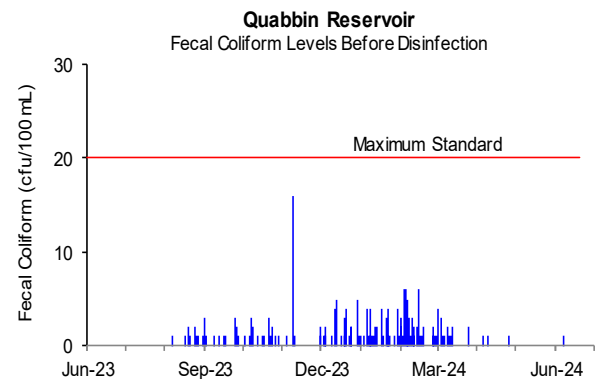
Source Water – Microbial Results

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.**

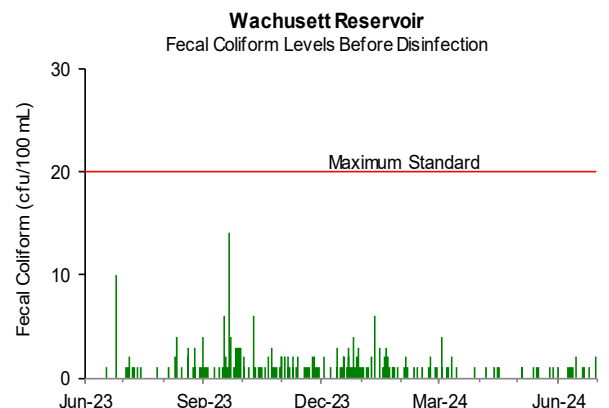


Sample Site: Wachusett Reservoir

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.**

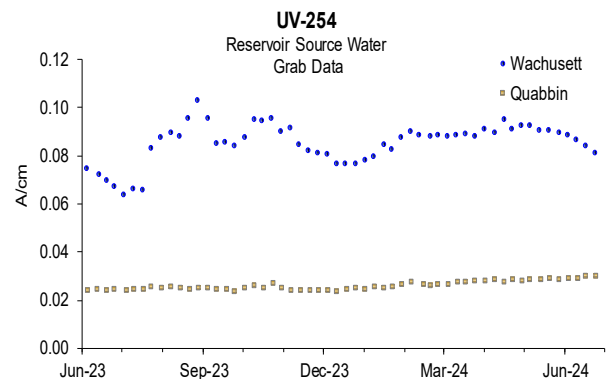


Source Water – UV Absorbance

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.



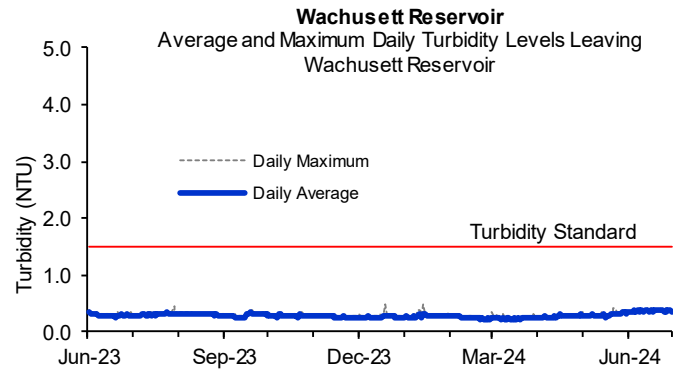
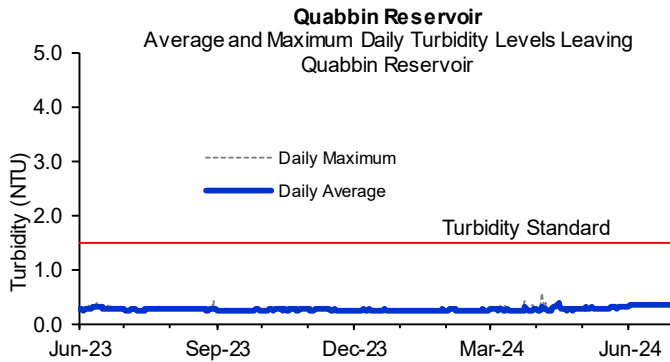
Source Water – Turbidity

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.

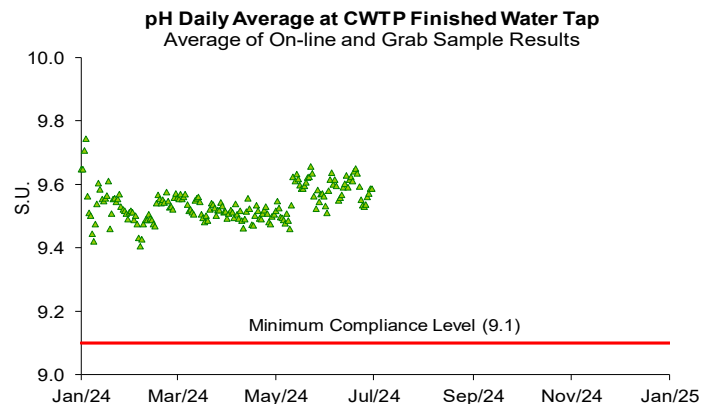
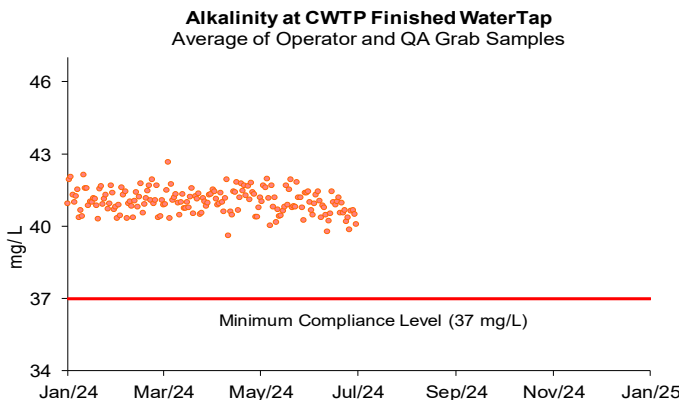


Treated Water – pH and Alkalinity Compliance

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

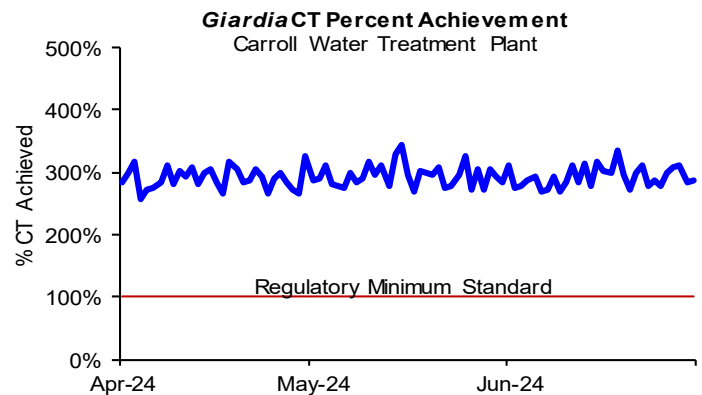
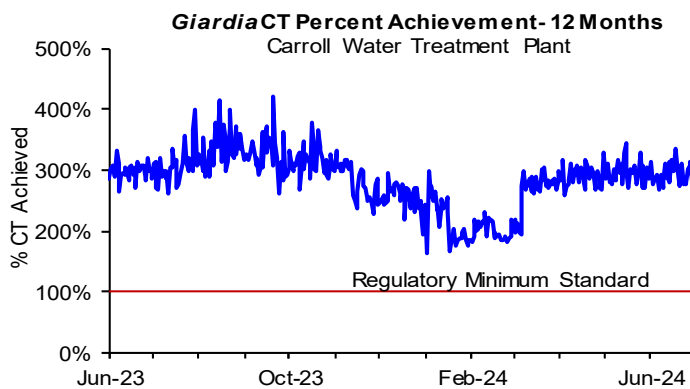
4th Quarter – FY24

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.

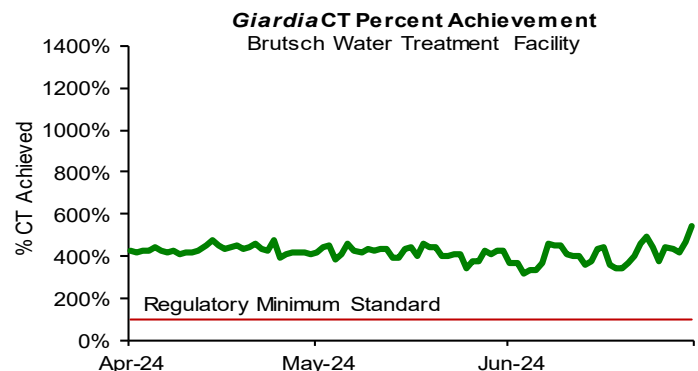
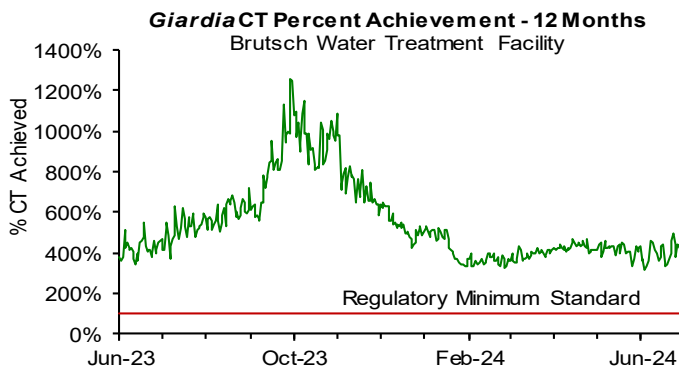
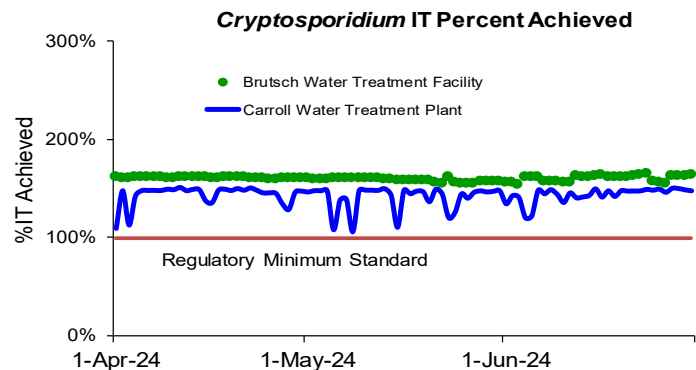
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- 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%.



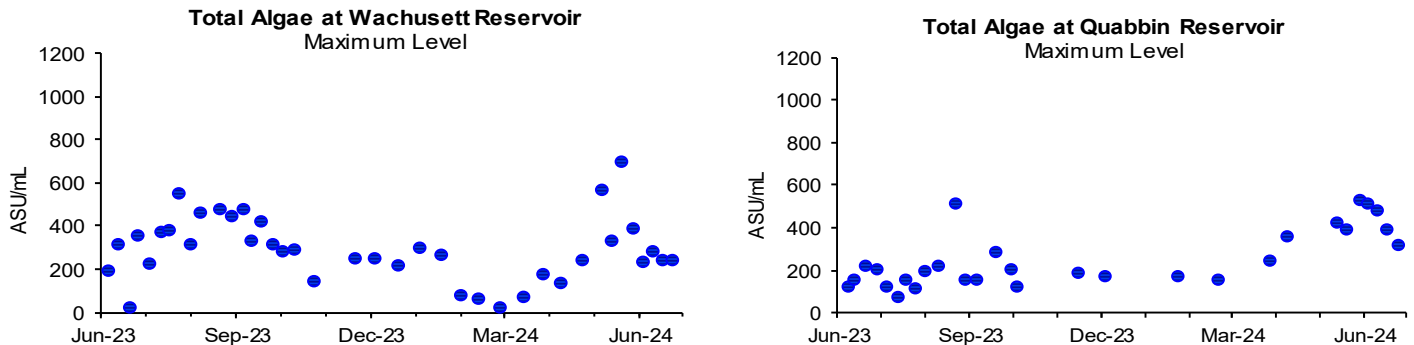
Source Water - Algae

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.



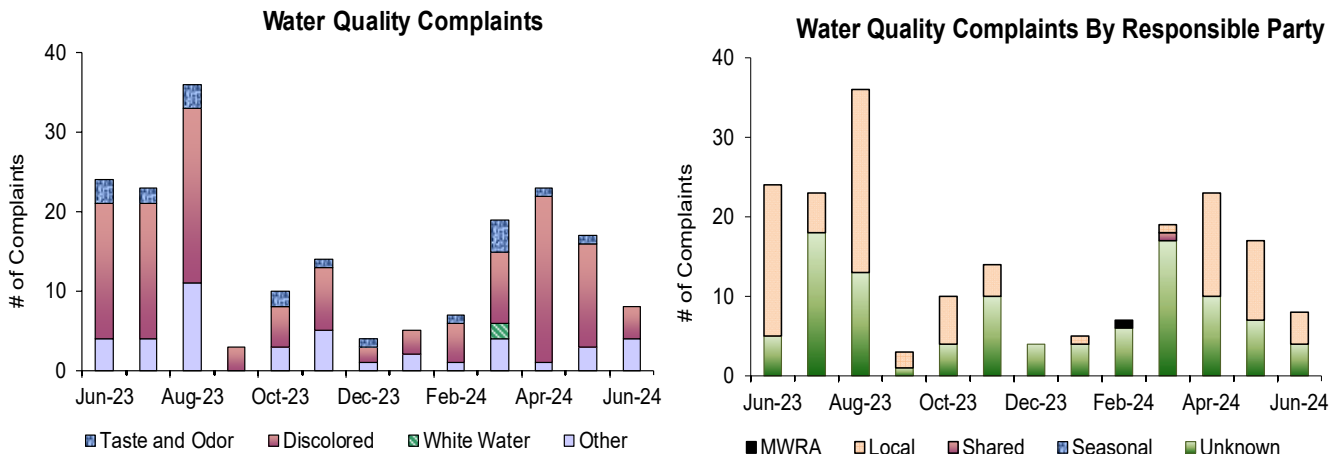
Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

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 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.

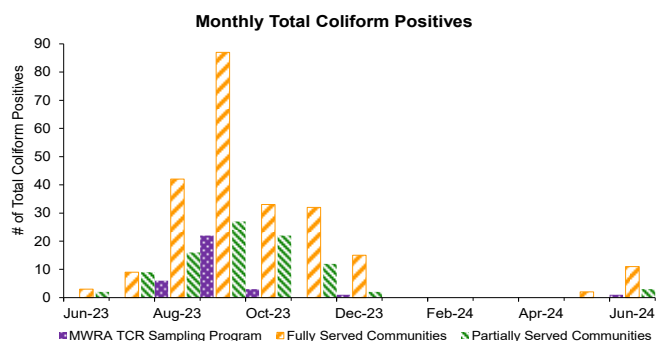
A disinfectant residual is intended to maintain the sanitary integrity of the water; MWRA considers a residual of 0.2 mg/L a minimum target level at all points in the distribution system.

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		<i>E.coli</i> 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	b	ARLINGTON	169	0 (0%)	0
		BELMONT	104	0 (0%)	0
		BOSTON	783	1 (0.1%)	No
		BROOKLINE	237	0 (0%)	0
		CHELSEA	172	1 (0.6%)	No
		DEER ISLAND	52	0 (0%)	0
		EVERETT	169	0 (0%)	0
		FRAMINGHAM	276	1 (0.4%)	No
		LEXINGTON	119	0 (0%)	0
		LYNNFIELD	21	1 (4.8%)	No
		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%)	No
		SWAMPSCOTT	57	0 (0%)	0
		WALTHAM	225	3 (1.3%)	No
		WATERTOWN	143	0 (0%)	0
		WESTON	45	0 (0%)	0
		WINTHROP	72	5 (6.9%)	Yes
		Total: Fully Served	5185	13 (0.25%)	
Partially Served	c	BEDFORD	63	2 (3.2%)	1 Yes
		BURLINGTON	126	0 (0%)	0
		CANTON	90	0 (0%)	0
		NEEDHAM	123	0 (0%)	0
		PEABODY	223	1 (0.45%)	No
		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

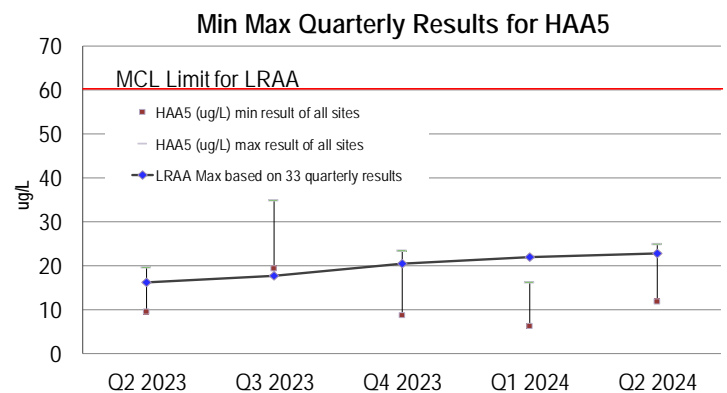
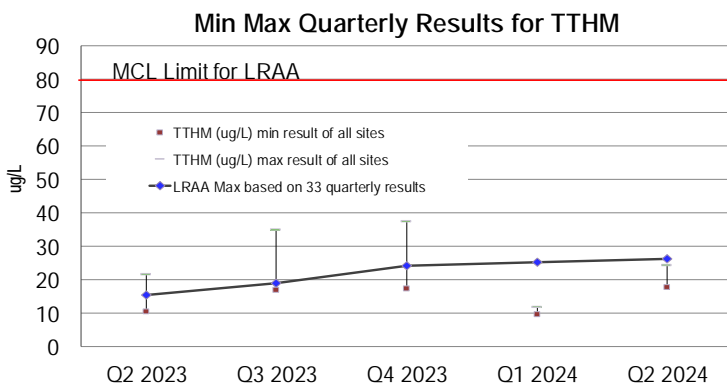
Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. They are of concern due to their potential adverse health effects at high levels. EPA's locational running annual average (LRAA) standard, using the most recent four quarterly results, 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.

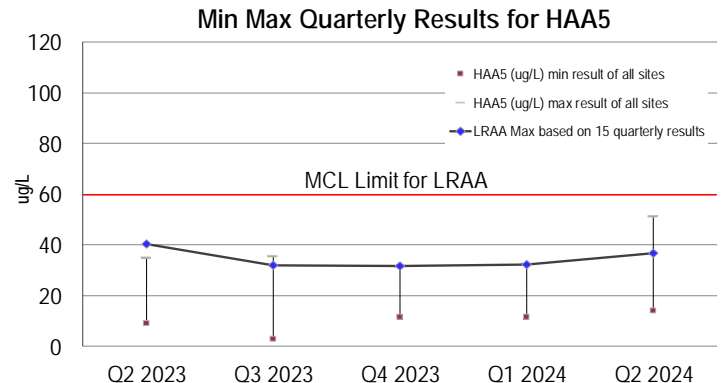
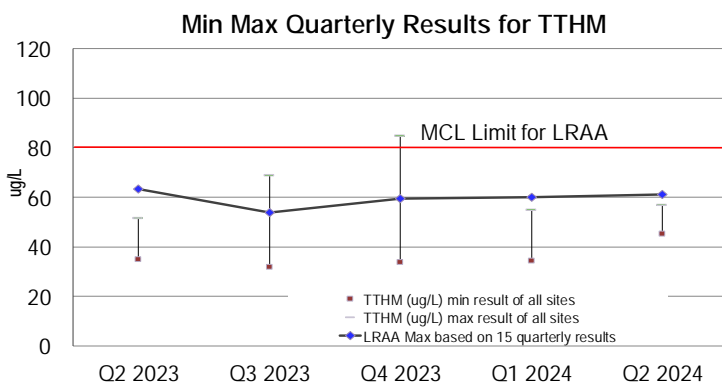
MWRA's TTHM and HAA5 sampling program includes sampling at 33 MetroWest and Metro Boston communities sites. Partially served and CVA communities are responsible for their own compliance monitoring and are regulated individually.

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

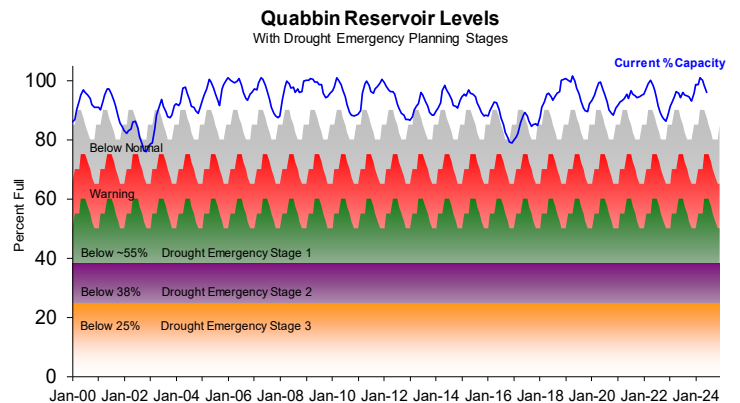
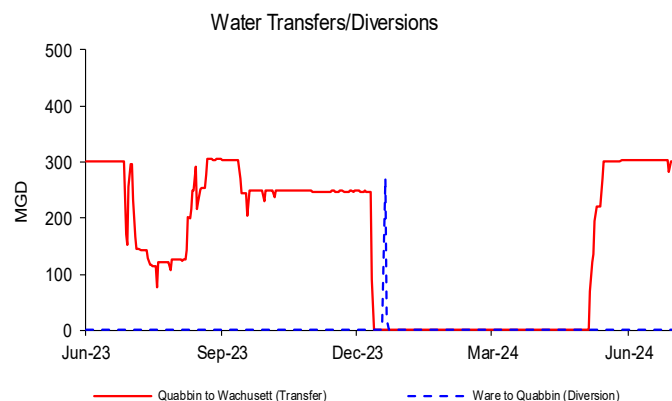
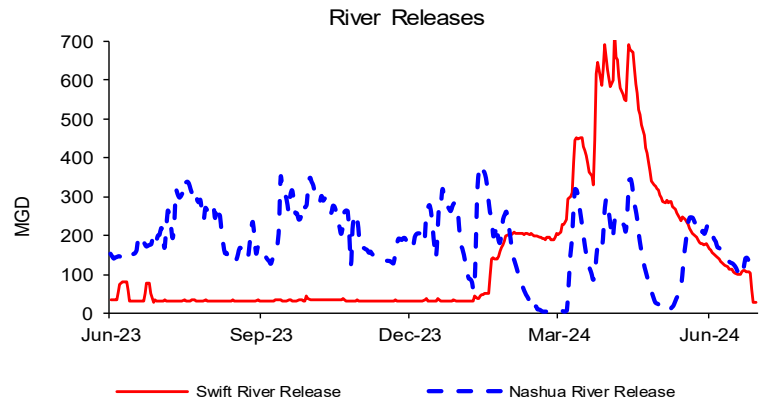
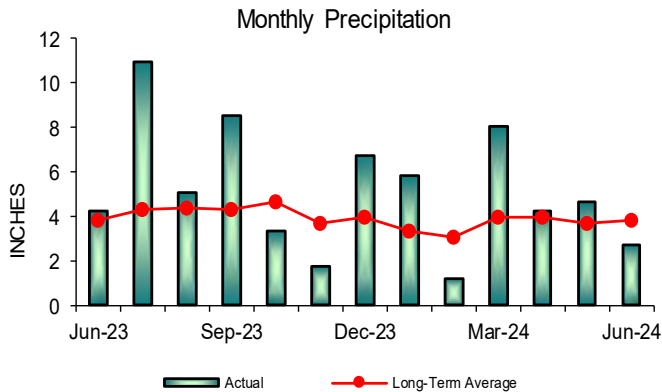
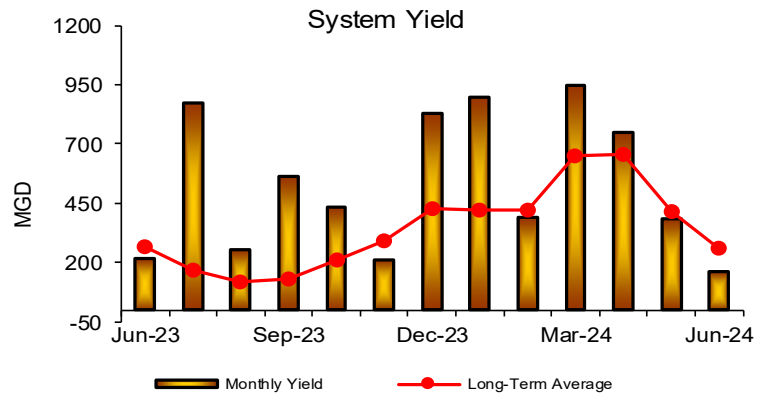
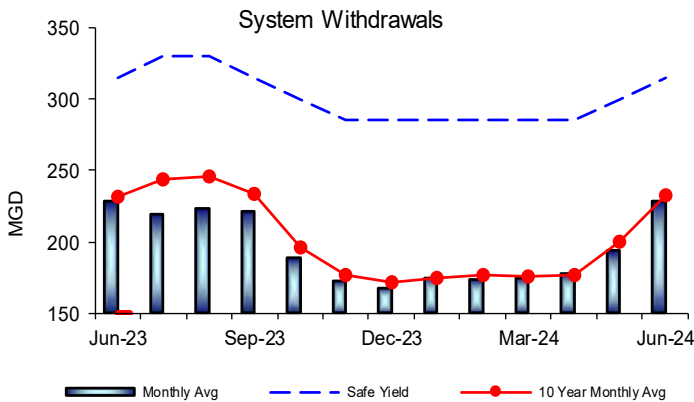
4th Quarter – FY24

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

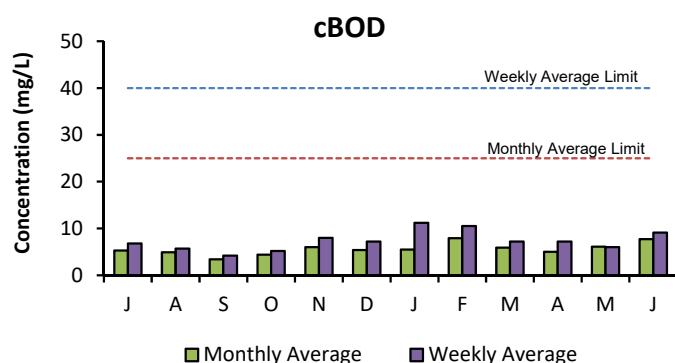
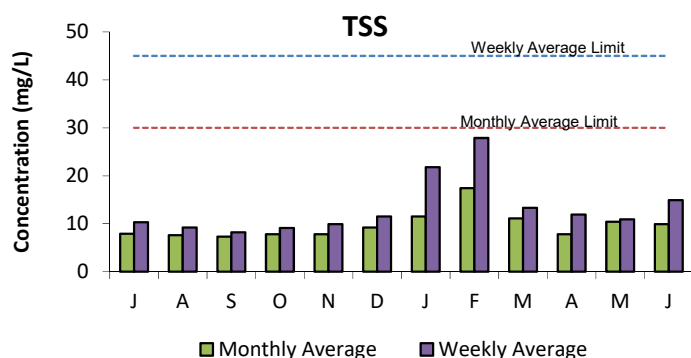
NPDES Permit Compliance: Deer Island Treatment Plant

4th Quarter - FY24

NPDES Permit Limits

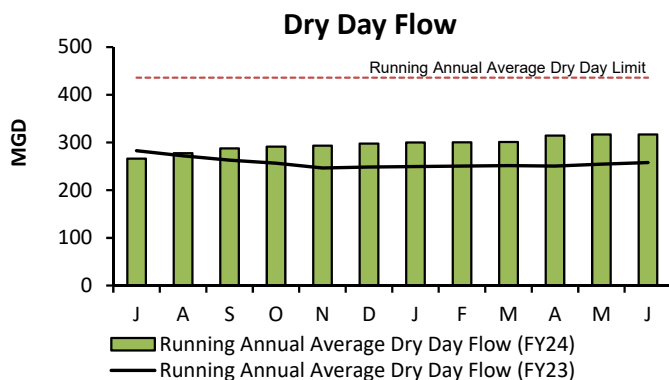
Effluent Characteristics	Units	Limits	April	May	June	4th Quarter Violations	FY24 YTD Violations
Dry Day Flow (365 Day Average):	mgd	436	314.5	316.7	316.8	0	0
cBOD: Monthly Average	mg/L	25	5.0	6.1	7.7	0	0
Weekly Average	mg/L	40	7.2	6.0	9.1	0	0
TSS: Monthly Average	mg/L	30	7.8	10.4	9.9	0	0
Weekly Average	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	0.000045	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).

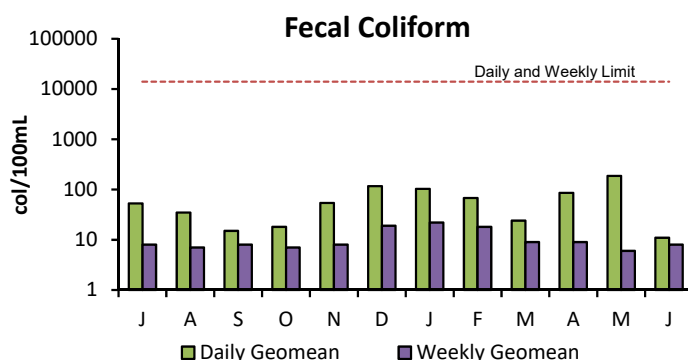


Total Suspended Solids (TSS) in the effluent is a measure of the amount of solids that remain suspended after treatment. All TSS measurements for the 4th Quarter were within permit limits.

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.

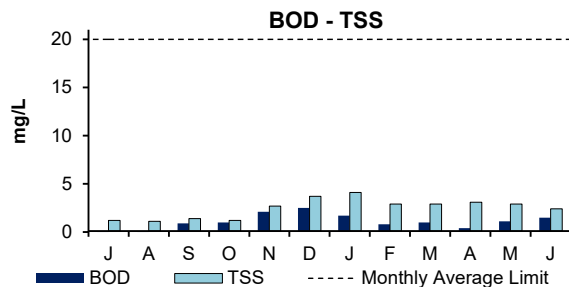
1st Quarter: There were no permit violations in the first quarter.

2nd Quarter: There were three permit violations in the second quarter, each for 12 month rolling-average flow.

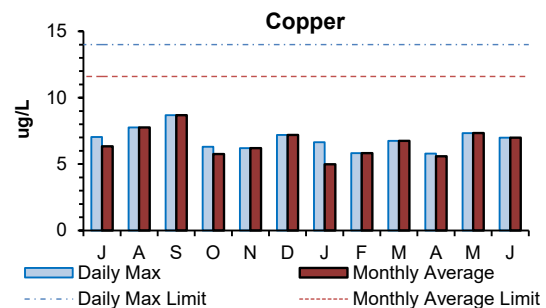
3rd Quarter: There were three permit violations in the third quarter, each for 12 month rolling-average flow.

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.

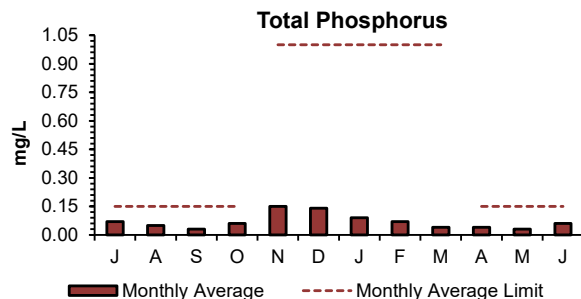
+ Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



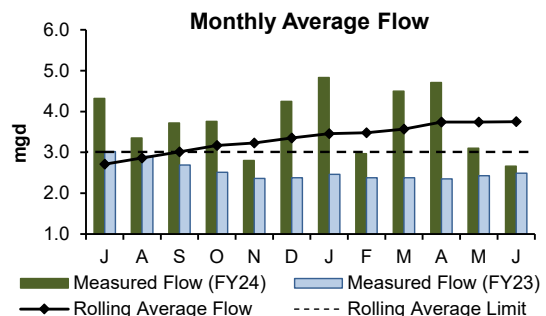
Monthly average concentrations of BOD and TSS were below permit limits in the 4th Quarter. The permit monthly limit for both parameters is 20 mg/L.



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.



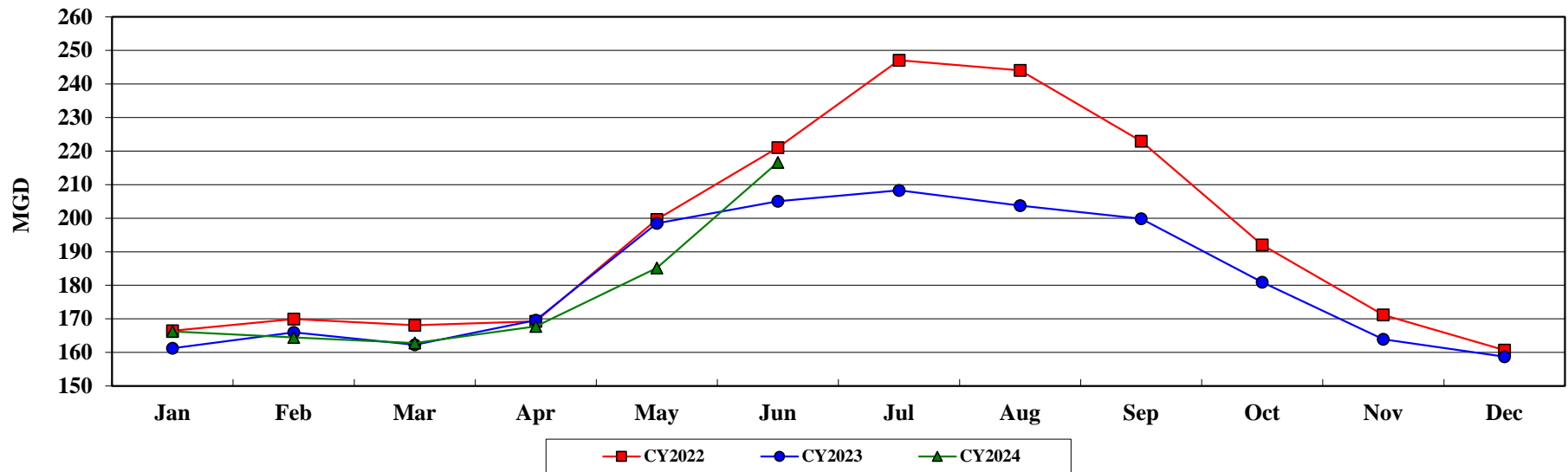
The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant. The 12-month rolling average flows during the 4th Quarter were above the permit limit.

COMMUNITY FLOWS AND PROGRAMS

Customer Water Use

4th Quarter - FY24

MWRA Water Supplied: All Revenue Customers



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.

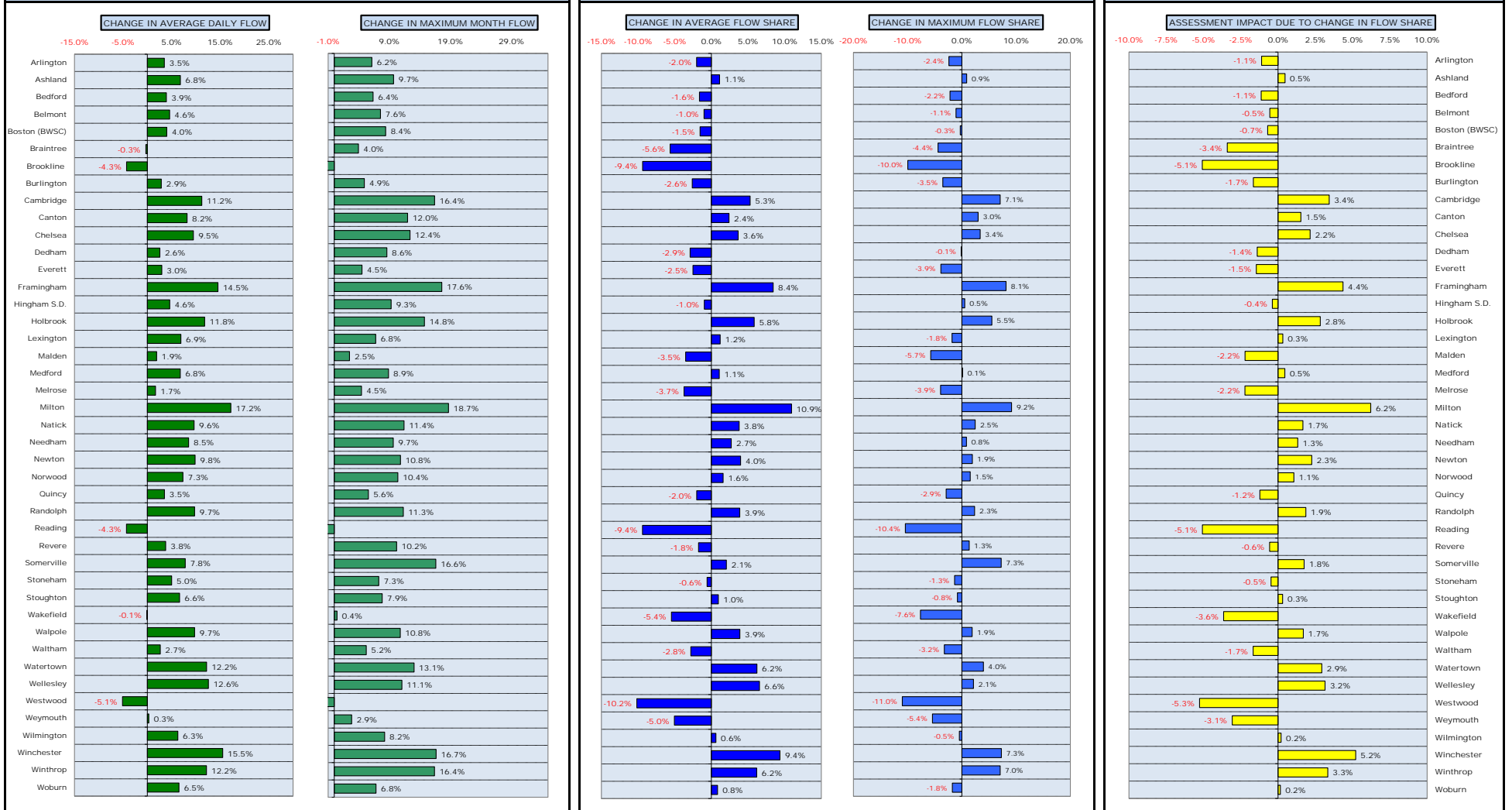
MWRA customers used an average of 189.8 mgd in the 4th quarter (Apr-Jun 2024) of FY2024. This is a decrease of 1.3 mgd or 0.7% compared to the 4th quarter of FY2023.

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 smoothes 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.

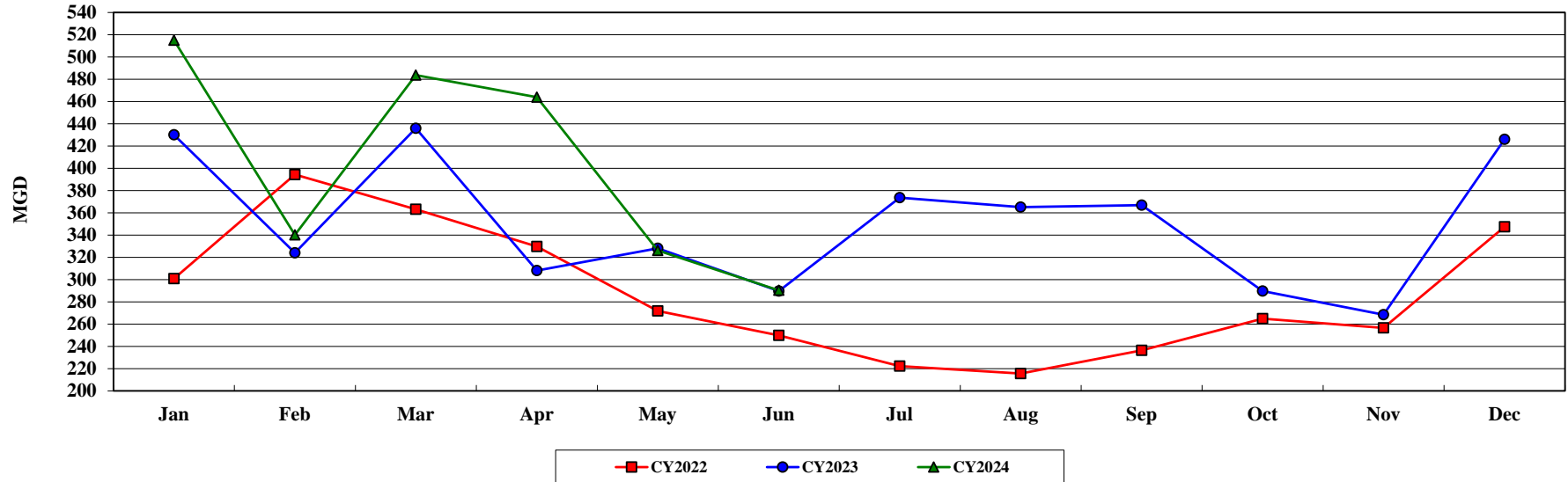
² Based on actual flows for 2022 through June 2024.

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

MWRA Metro-System Sewer Flow



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.

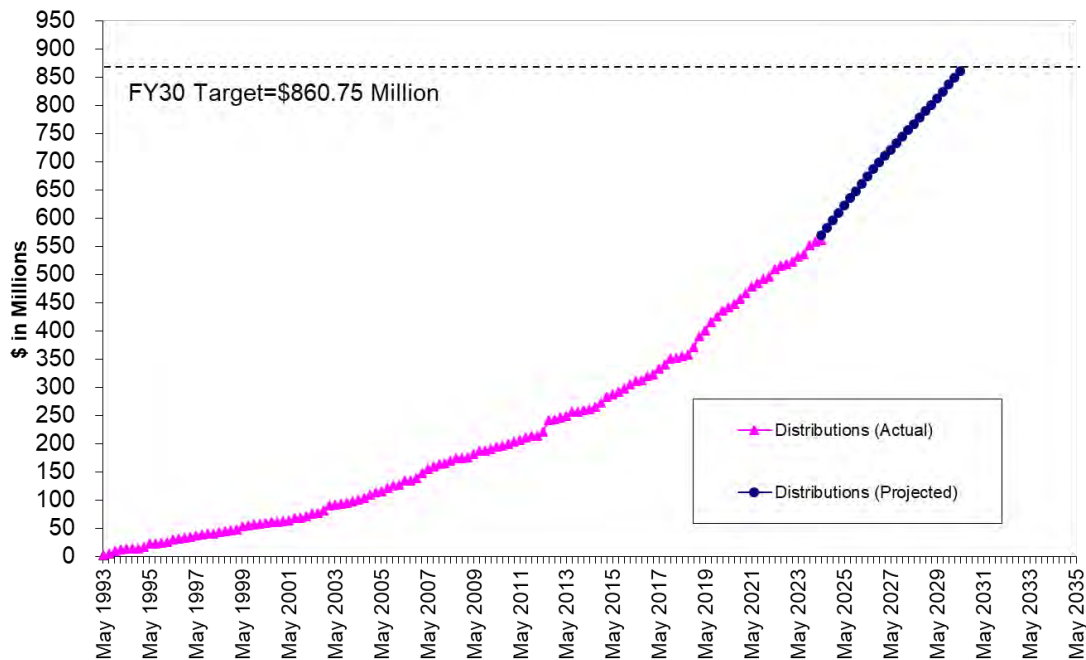
Community Support Programs

4th Quarter – FY24

Infiltration/Inflow Local Financial Assistance Program

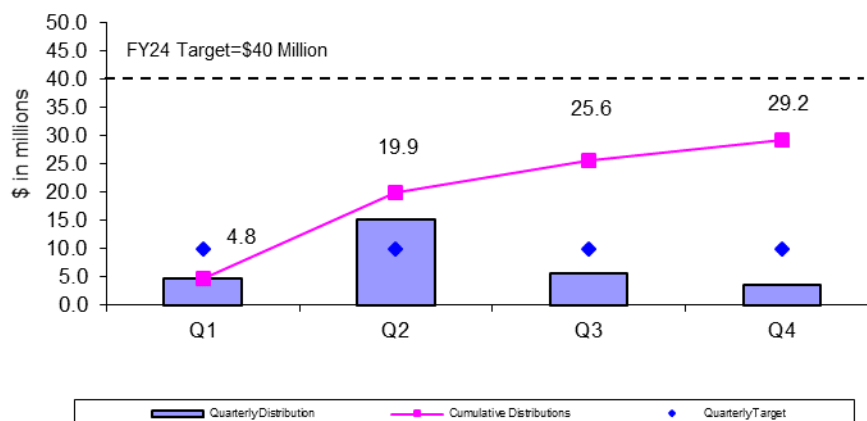
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$860.75 million in grants and interest-free loans (average of about \$22 million per year from FY93 through FY30) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned 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



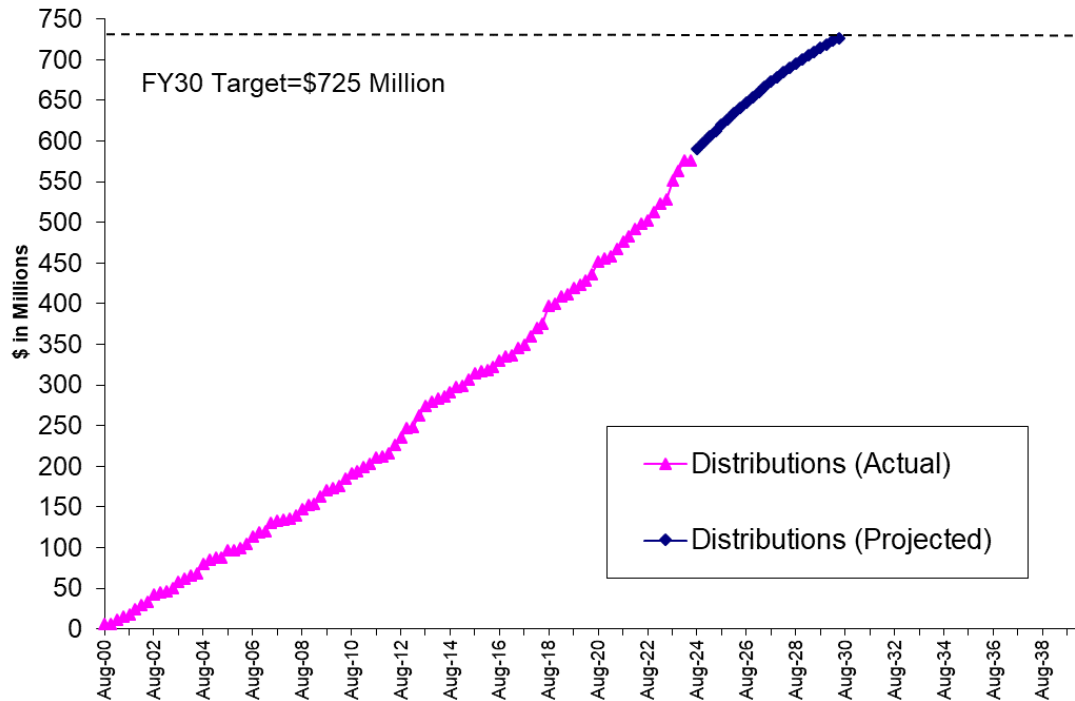
Community Support Programs

4th Quarter – FY24

Local Water System Assistance Program

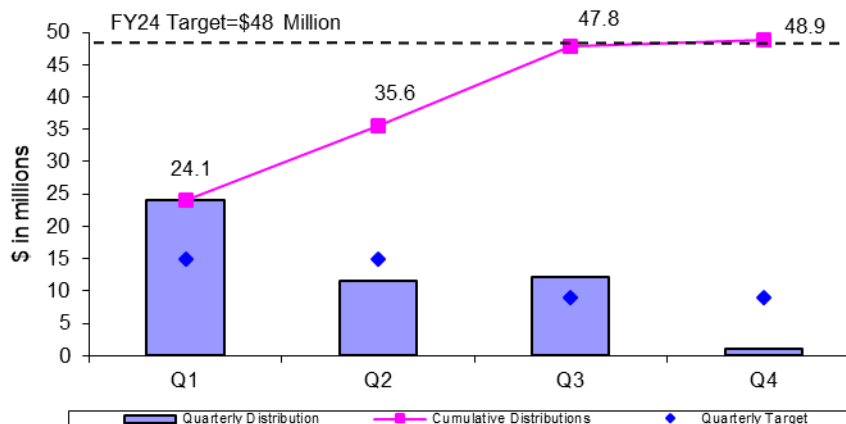
MWRA's Local Water System Assistance Programs (LWSAP) provides \$725 million in interest-free loans (an average of about \$24 million per year from FY01 through FY30) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There 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.

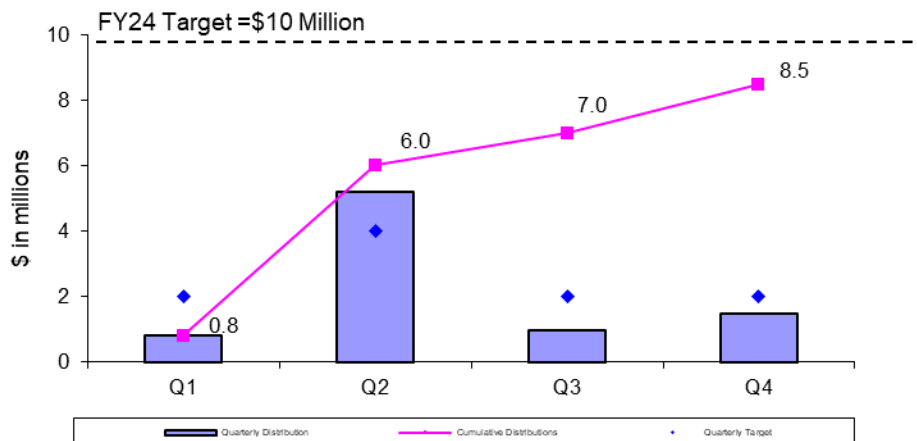
FY23 was the seventh year of the Lead Loan Program - MWRA made six Lead Loans.

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

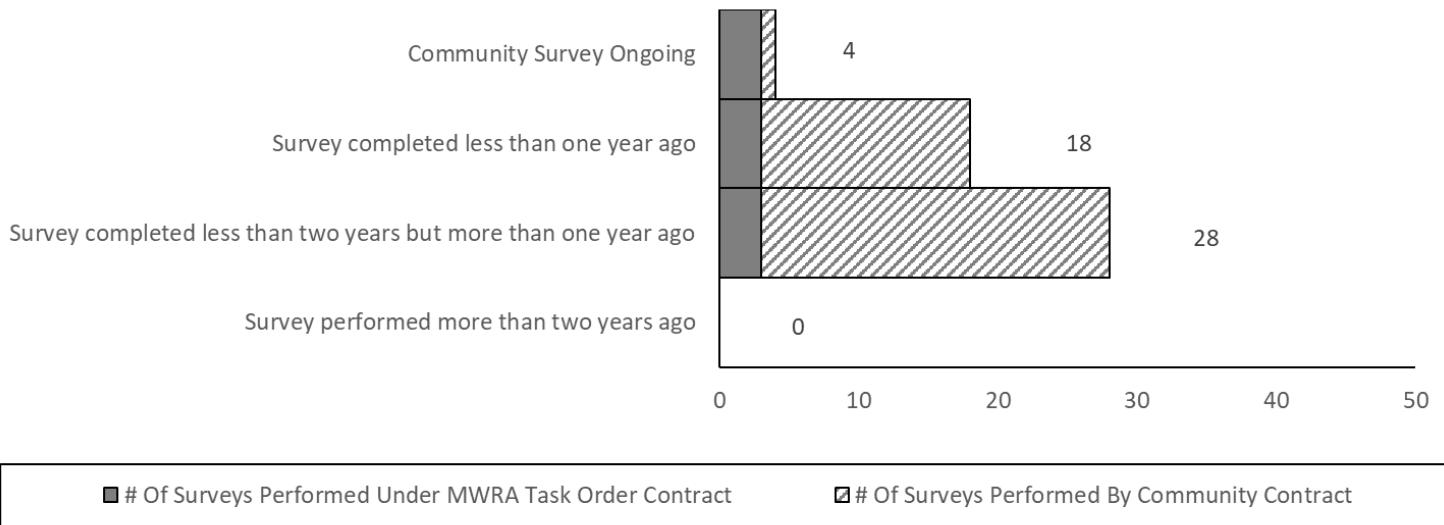


Community Support Programs

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

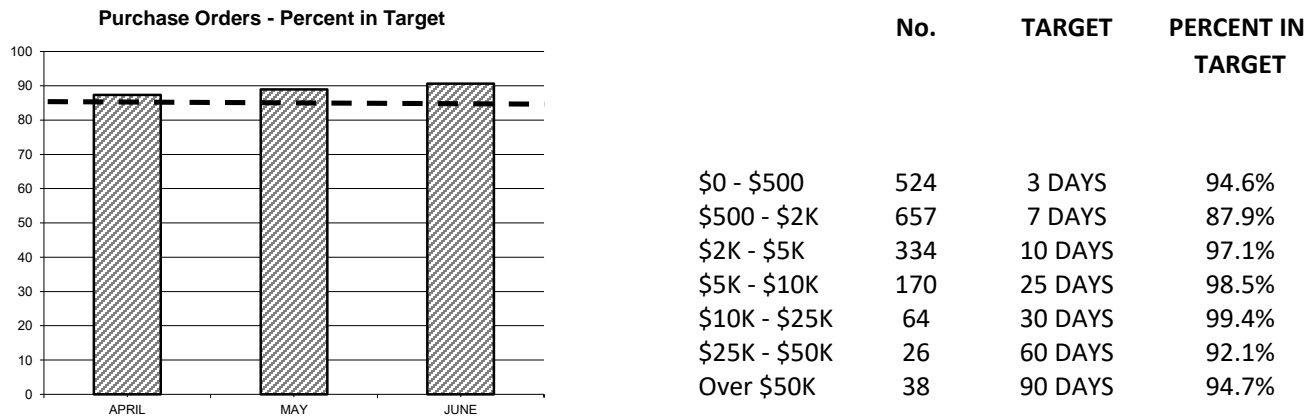
Procurement: Purchasing and Contracts

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.

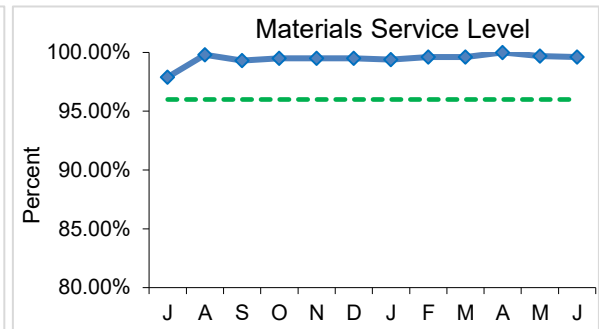
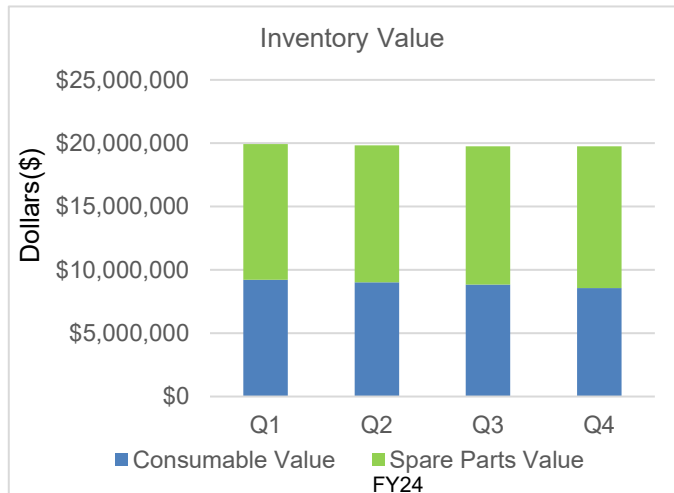
Materials Management

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:

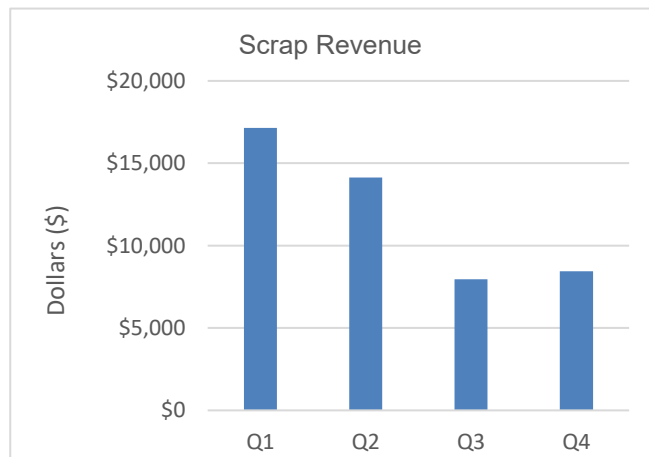
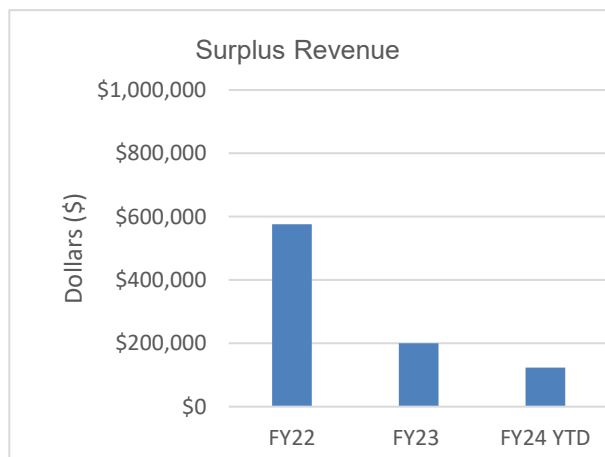
- Maintaining optimum levels of consumables inventory (office supplies, electrical, safety, etc.) and spare parts inventory (critical items such as actuators, motors, muffin monsters, etc.) necessary to support MWRA Operations and Maintenance. Typically spare parts carry longer lead times.
- Adding new 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:

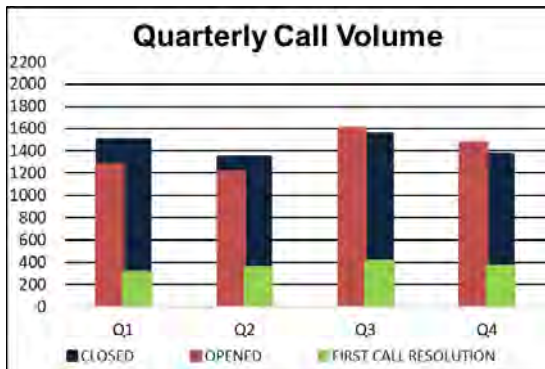
- Conducts audits of tools and equipment to ensure the safeguarding of MWRA assets.
- Manages the disposition and sale of surplus tools and equipment through GovDeals, an online auction site.
- Manages the surplusing of scrap metals and materials generating revenue to the MWRA staff.



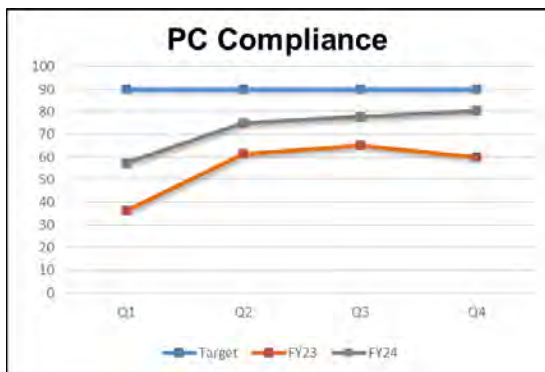
MIS Program

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/FRRC'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.

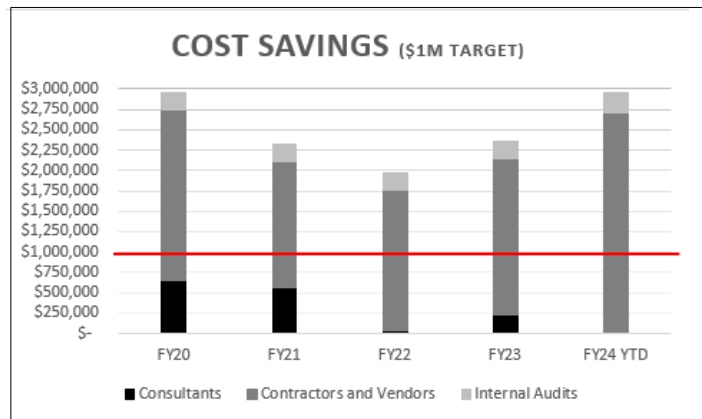
INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES

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.

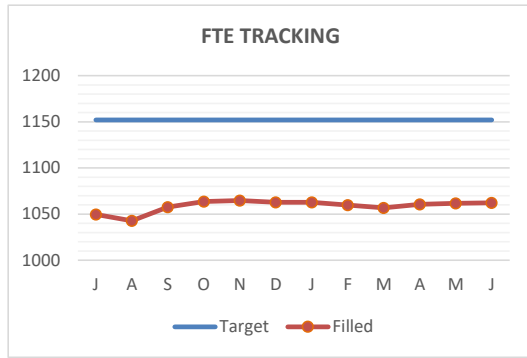
IA follows-up on open recommendations on a continuous basis. All open recommendations have target dates for implementation and are generally targeted to be closed within 12 months of the audit report issue date.

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

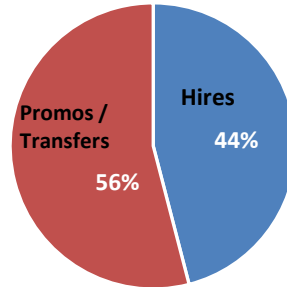
OTHER MANAGEMENT

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

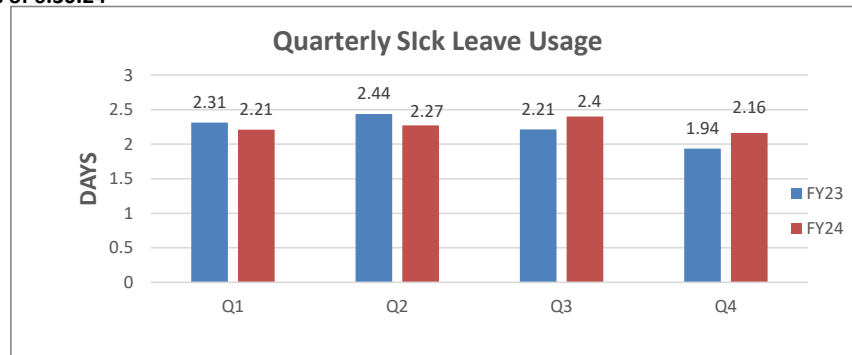
FTE's as of June = 1062.2

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

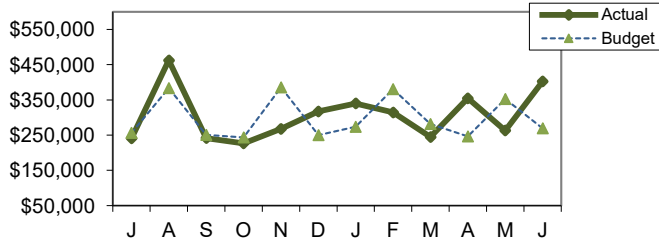
* as of 6.30.24



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

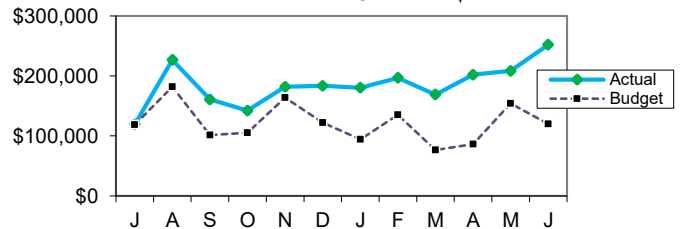
YTD Overtime \$



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 \$

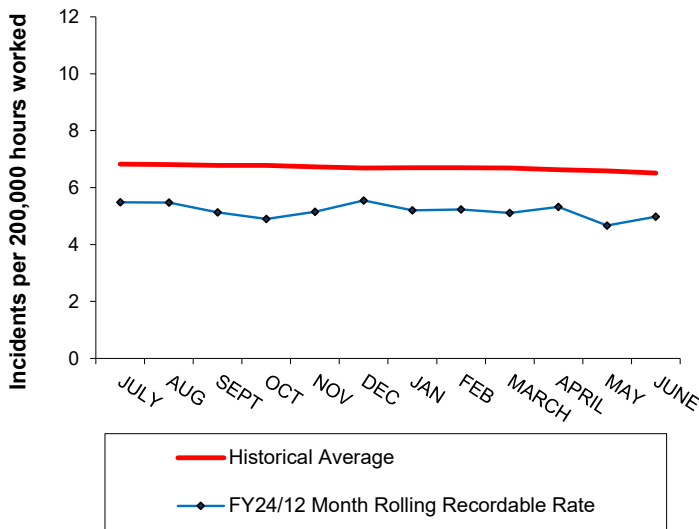


Deer Island's total overtime expenditure in June 2024 was \$252K, which was \$132K or 110.2% over budget. In June 2024, Deer Island experienced higher than anticipated shift coverage of \$79K - driven by Wastewater Ops \$69K & Thermal \$10K. Storm coverage of (\$2K) was under budget, and Planned/Unplanned 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.

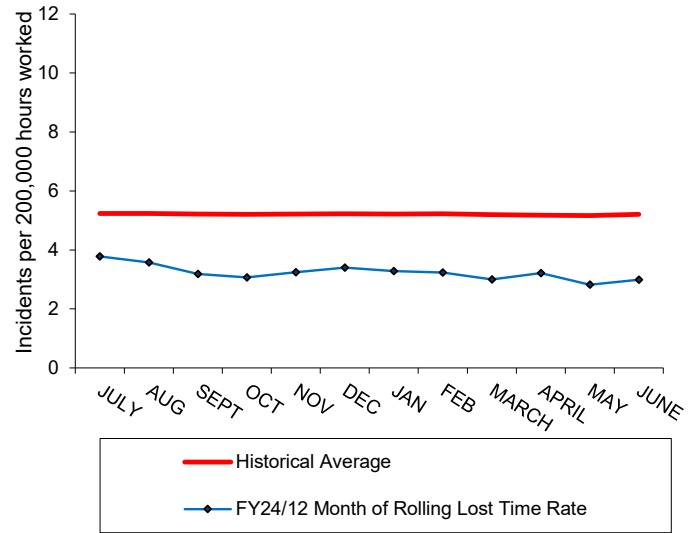
Workplace Safety

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

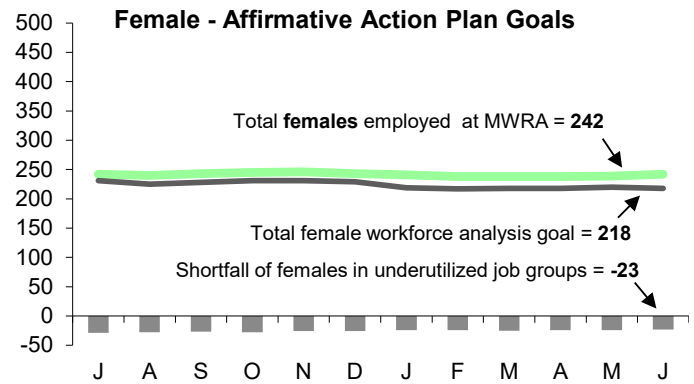
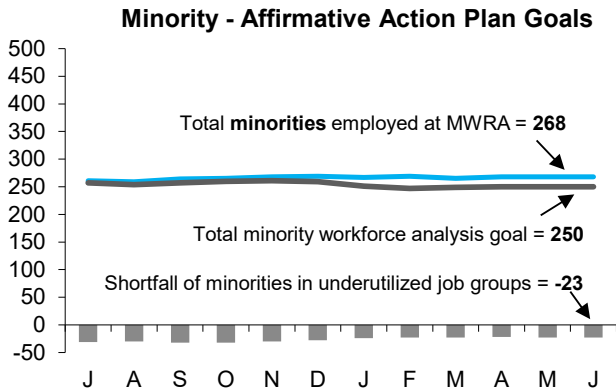
		4th Quarter Information		
		New	Closed	
Lost Time		3	3	31
Medical Only		5	2	110
Report Only		4	4	
		QYTD		FYTD
Regular Duty Returns		6		18
Light Duty Returns		0		1
Indemnity payments as of June 2024 included in open claims listed				19

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	1	Int./Ext.	1	0	PROMO = WM

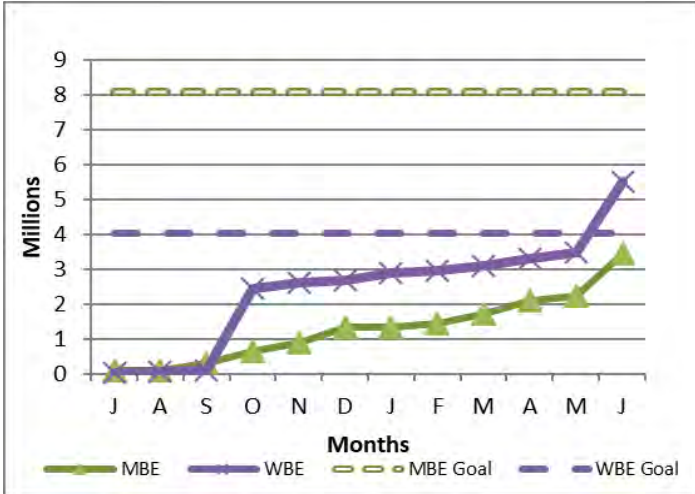
MBE/WBE Expenditures

4th Quarter - FY24

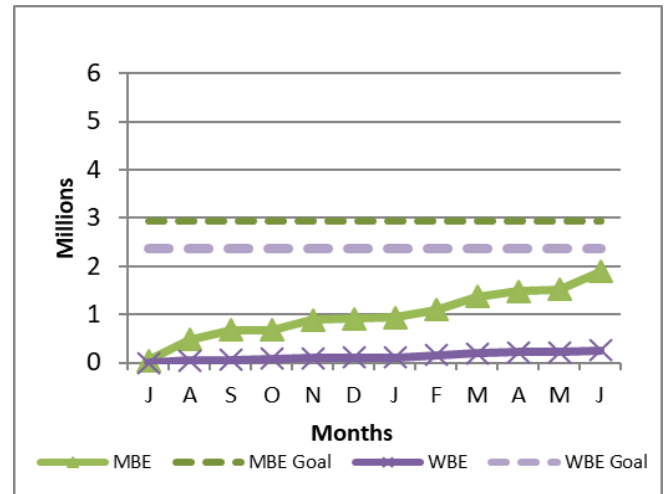
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The spending goals for FY24 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects that do not meet the established 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.

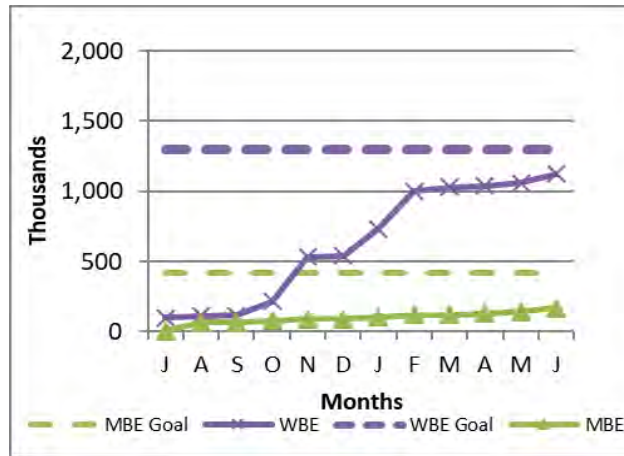
Construction



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%

Construction
Prof Svcs
Goods/Svcs
Totals

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%

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.

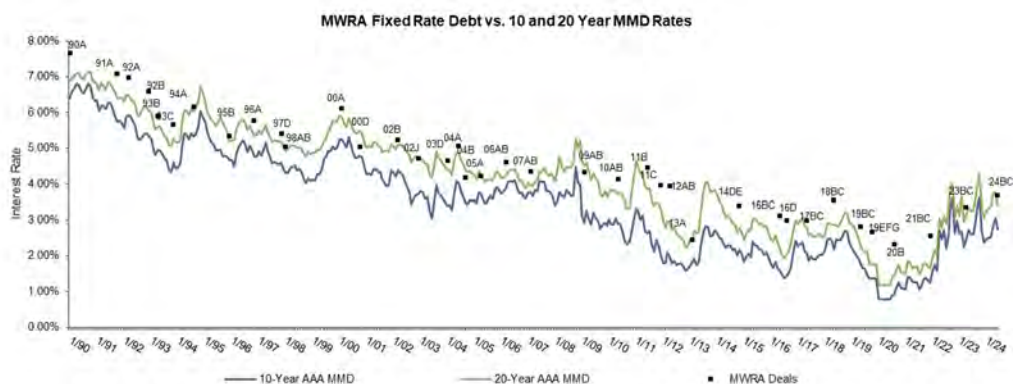
Average Cost of MWRA Debt FYTD

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%

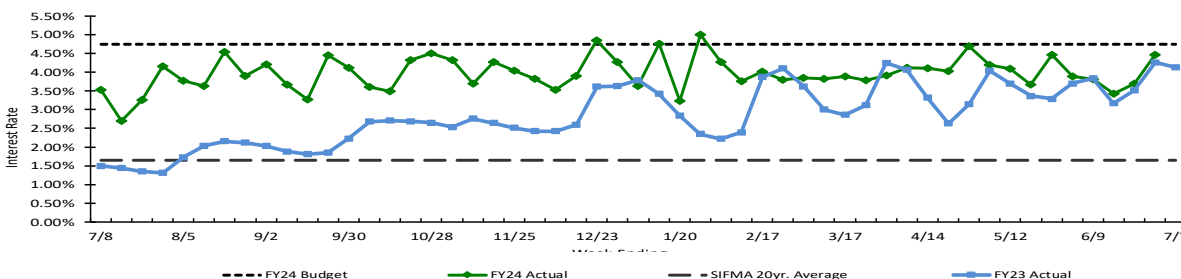


Bond Deal	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B	2005A	2006AB	2007AB	2009AB	2010AB	2011B
Rate	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%	5.05%	4.17%	4.22%	4.61%	4.34%	4.32%	4.14%	4.45%
Avg Life	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs	19.6 yrs	13.5 yrs	18.4 yrs	25.9 yrs	24.4 yrs	15.4 yrs	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	18.8yrs	11.2 yrs	11.7yrs	11.9yrs	9.73 yrs.	15.6 yrs	12.2 yrs	10.45 yrs	11.77 yrs

Weekly Average Variable Interest Rates vs. Budget

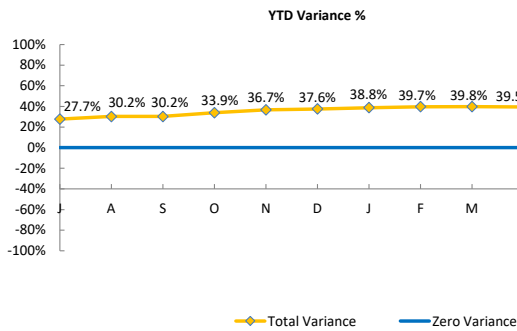
MWRA currently has eight variable rate debt issues with \$382.4 million outstanding, excluding commercial paper. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In June, the Securities Industry 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.



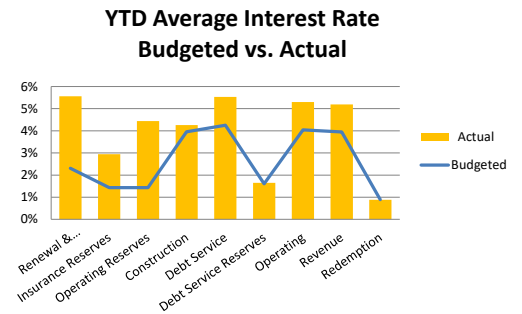
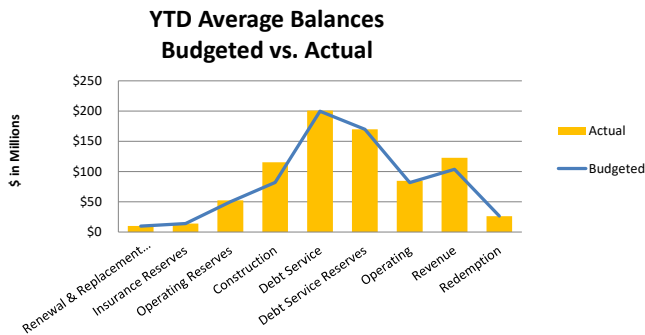
Investment Income

4th Quarter – FY24

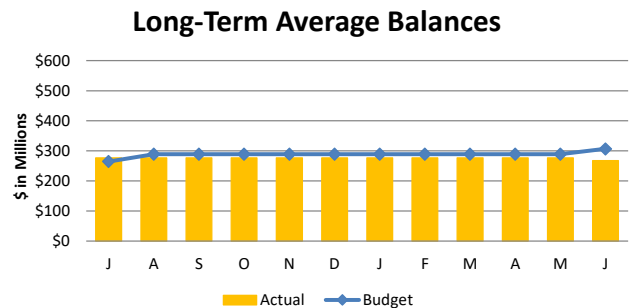
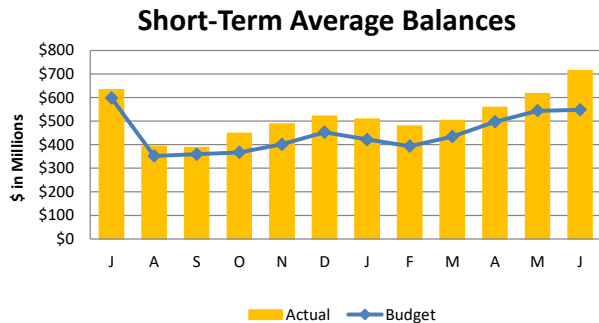
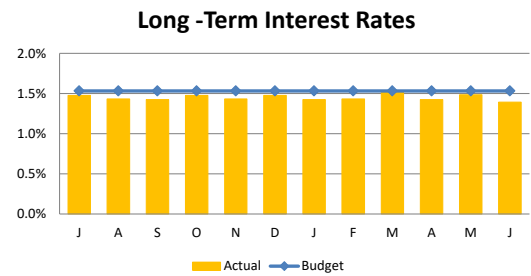
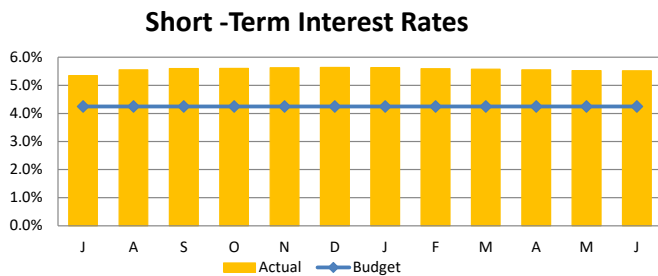
- YTD variance is 41.3%, \$9.6 million, over budget due higher than budgeted interest rates and average balance.



	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



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: FY24 Year-End Financial Update and Summary



COMMITTEE: Administration, Finance & Audit

Michael J. Cole, Budget Director
James J. Coyne, Budget Manager
Preparer/Title

X INFORMATION

 VOTE



Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2024.

DISCUSSION:

The total FY24 year-end variance is \$30.8 million (after \$20.2 million defeasance and a cash tender of bonds totaling \$12.0 million), due to lower direct expenses of \$30.7 million, indirect expenses of \$0.7 million, and higher debt service costs of \$11.5 million, as well as higher revenue of \$10.9 million.

The largest variances in comparison with the budget are highlighted below:

Direct expenses were \$30.7 million below budget, driven by lower spending for Wages & Salaries, Other Services, Chemicals, Professional Services, Fringe Benefits, Maintenance, Other Materials, and Training & Meetings, partially offset by higher spending on Utilities, Overtime, and Worker's Compensation.

Indirect expenses were \$0.7 million below budget due to lower spending on Watershed Reimbursement of \$1.4 million associated with lower costs for wages & salaries, fringe benefits and equipment & maintenance, as well as PILOT. This underspending is partially offset by higher HEEC payments of \$0.4 million and higher insurance payment/claims of \$0.2 million.

Capital Finance costs were \$11.5 million greater than budget due to 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 later than assumed borrowing and lower than budget interest expense of \$5.0 million as a result of lower interest rates and the swap termination savings.

Revenue was \$10.9 million greater than budget, driven by Investment Income of \$9.6 million greater than the estimate based on higher than anticipated interest rates and higher average balances. Other Revenue of \$0.9 million, and Other User Charges of \$0.3 million.

Of the \$30.8 million year-end favorable variance, \$1.8 million will be reserved for emergency repairs to the Quabbin Admin Building roof. Staff are recommending that the remaining approximately \$29.0 million of the FY24 favorable variance be used to defease debt to provide targeted rate relief for communities between FY26-28. This rate management strategy has proven to be very effective in the past few years in managing assessment increases over time. The proposed defeasance scenario is being presented to the Board at this meeting in a separate staff summary.

FY24 Current Expense Budget

The CEB expense variances for FY24 by major budget category were:

- Lower Direct Expenses of \$30.7 million or 9.7% under budget. Spending was lower for Wages & Salaries, Other Services, Chemicals, Professional Services, Fringe Benefits, Maintenance, Other Materials, and Training & Meetings. Spending was higher than budget for Utilities, Overtime, and Worker's Compensation.
- Lower Indirect Expenses of \$0.7 million or 1.0% under budget due primarily to lower Watershed Reimbursement and PILOT.
- Higher Debt Service expenses of \$11.5 million was a result of higher Senior Debt, as a result of defeasance expenditures, and a cash tender of bonds, partially offset by lower SRF issues due to timing and lower than budget interest expense as a result of lower interest rates and the swap termination savings.
- Revenue was \$10.8 million or 1.2% over budget largely driven by higher Investment Income of \$9.6 million due to higher than budgeted interest rates and higher average balances.

FY24 Budget and FY24 Actual Variance by Expenditure Category
(in millions)

	FY24 Budget	FY24 Actual	\$ Variance	% Variance
Direct Expenses	\$316.0	\$285.3	-\$30.7	-9.7%
Indirect Expenses	\$70.4	\$69.7	-\$0.7	-1.0%
Capital Financing	\$487.8	\$499.2	\$11.5	2.4%
Total	\$874.1	\$854.2	-\$20.0	-2.3%

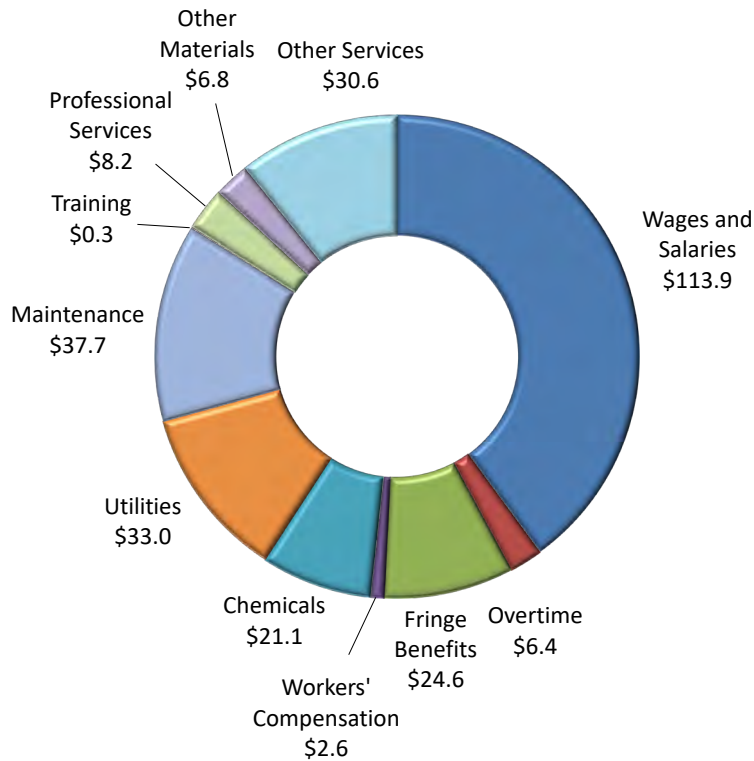
Totals may not add due to rounding

Please refer to Attachment 1 for a more detailed comparison by line item of the budget variances for FY24.

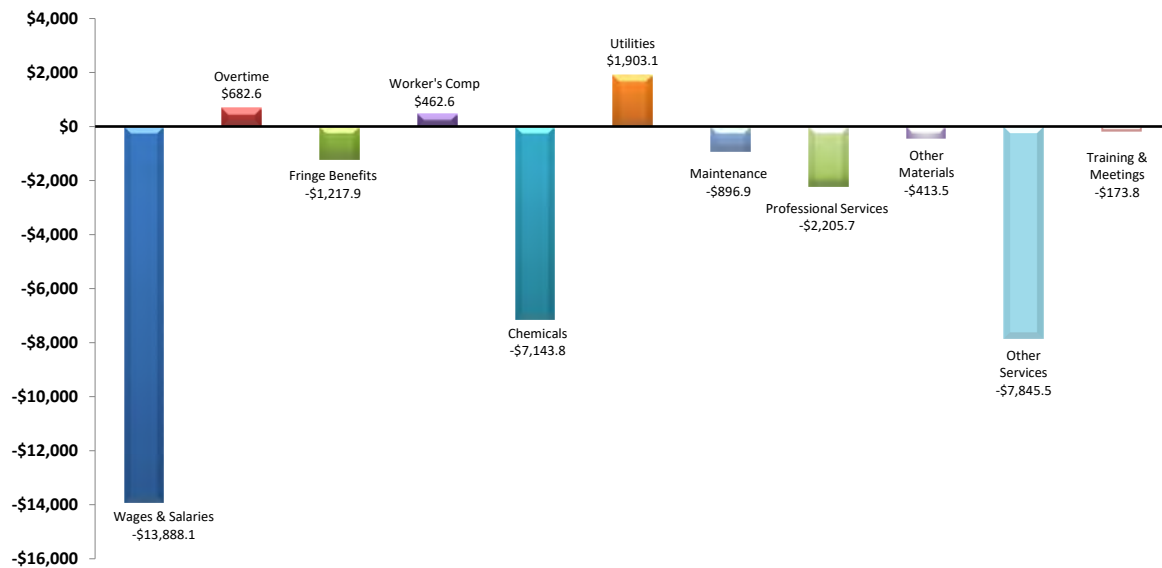
Direct Expenses

FY24 Direct Expenses totaled \$285.3 million, which was \$30.7 million or 9.7% less than budgeted.

**FY24 Direct Expenses
(in millions)**

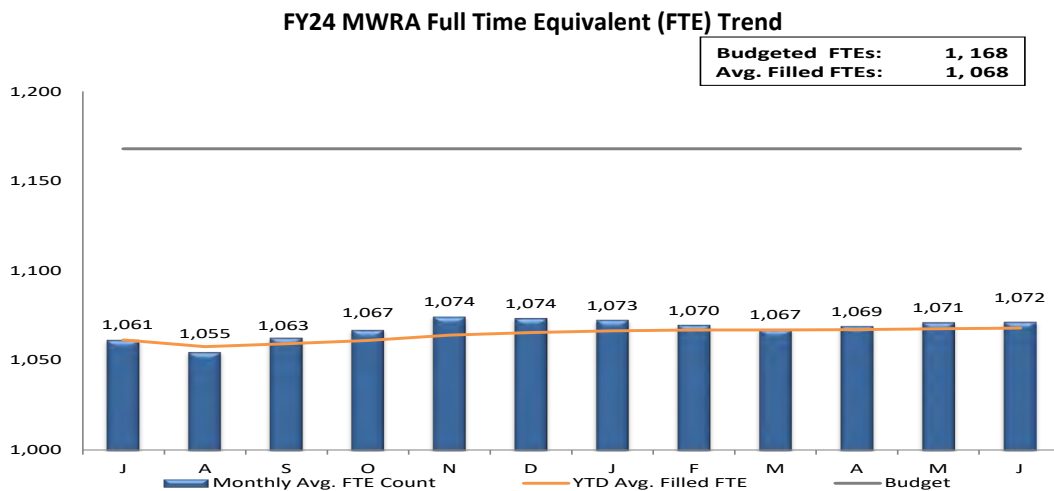


**FY24 Direct Expense Variance
(in thousands)**



Wages and Salaries

Wages and Salaries were lower than budget by \$13.9 million or 10.9%. In FY24, there were 100 fewer average FTEs (1,068 versus 1,168 budget) or 8.6% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions also contributed to Regular Pay being under budget.



Other Services

Other Services were lower than budget by \$7.8 million or 20.4% driven by Sludge Pelletization of \$6.2 million primarily due to the potential PFAS regulation changes requiring landfilling that were budgeted for, but unspent in FY24. Telecommunications costs were \$992,000 less than anticipated, and lower Grit & Screenings Removal of \$355,000 was due to lower quantities.

Chemicals

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 Deer Island Treatment Plant (DITP) of \$1.5 million due to lower pricing for the new contract, which is partially offset by additional usage for disinfection due to higher flows. Lower Ferric Chloride of \$1.5 million is primarily due to lower pricing. Carbon Dioxide was lower than budget by \$709,000 primarily due to lower volume, lower contract pricing, and lower doses required to meet target residual levels in finished water. Lower Aqua Ammonia of \$409,000 was due to lower pricing and lower flows. Lower Sodium Bisulfite of \$261,000 was primarily driven by Water Operations of \$143,000 due to lower dose and volume due to lower flows, lower price and volume at Clinton Wastewater Treatment Plant of \$66,000, and lower volume at DITP of \$40,000 due to lower quantities to dechlorinate the effluent. Lower Polymer of \$252,000 was due to several rain events resulting in higher plant flows and reduced wasting of secondary sludge. DITP flows were 13.8% greater than the budget and the CWTP flows were 2.8% less than the budget in FY24. 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.

Professional Services

Professional Services were less than budget by \$2.2 million or 21.2% driven by lower Other Services of \$913,000 due to the timing of services including the Disparity Study, Legal Services of \$453,000, Lab & Testing Analysis of \$298,000, and Engineering of \$178,000 all due to less than anticipated spending.

Utilities

Utilities were greater than budget by \$1.9 million or 6.1%. Overspending on Electricity of \$2.2 million primarily at DITP of \$1.6 million was driven by higher demand usage due to the many rain events and new pass through cost associated with the Mystic Power Station and winter reliability pass through cost. Electricity in Field Operations was greater than budget by \$660,000 primarily due to higher use as a result of the many rain events for pumping and fan use for odor control. Underspending on Diesel Fuel of \$415,000 primarily in field Operations was due to less than projected costs of diesel fuel.

Fringe Benefits

Fringe Benefit spending was lower than budget by \$1.2 million or 4.7%. This is primarily driven by lower Health Insurance costs of \$1.3 million, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive.

Maintenance

Maintenance was lower than budget by \$897,000 or 2.3% largely driven by the timing of projects. Maintenance Services were lower than budget by \$1.7 million driven by Computer Software Licenses of \$1.3 million primarily due to removal of Financial Management System Upgrade related costs from the CEB since they are included in the current CIP. The upgrade contract was awarded in June 2023, Electrical Services of \$1.2 million due to timing of work including JCWTP Ozone generator PLC replacement, JCWTP emergency generator emissions monitoring PLC repair, and JCWTP Switchgear PLC Replacement, Building & Grounds Services of \$1.1 million due to less than anticipated spending through June including a delay of the Deer Island Treatment Plant door replacements, and Pipeline Services of \$310,000 due to less than anticipated costs through FY24. This lower than budgeted spending was partially offset by Plant & Machinery Services of \$1.7 million primarily due to the earlier purchase of parts related to the Combustion Turbine Generator (CTG) control system upgrade and HVAC Services of \$157,000 due to purchase of a temporary air handler unit at Columbus Park Headworks. Maintenance Materials were higher than budget by \$801,000 driven by Plant & Machinery Materials of \$1.0 million due to timing of spending and higher costs for glass lined pipe/fittings, seals, grinder cartridges, rotating assemblies for pump, and end caps and tubes for the residual heat exchangers, and Warehouse Inventory of \$993,000 due to need for spare parts as well as purchasing of materials early due to supply chain delays. These are partially offset by lower Special Equipment Materials of \$804,000 due to later than anticipated purchase of hatch covers at Loring Road and at the Fells Covered Storage, Electrical Materials of \$242,000 and Pipeline Materials of \$217,000, both due to less than anticipated purchases through FY24.

Overtime

Overtime expenses were greater than budget by \$683,000 or 11.9%. Greater than budgeted spending at DITP of \$764,000 and Field Operations of \$57,000 was primarily due to shift coverage due to vacancies. These were partially offset by lower spending in Engineering & Construction of \$57,000 due to less than anticipated needs. Year-to-date rainfall was a major contributor for the increased overtime.

Worker's Compensation

Worker's Compensation expenses were greater than budget by \$463,000 or 21.6%. The higher than budgeted expenses were due to Compensation Payments of \$354,000 and Medical Payments of \$144,000, partially offset by lower Administrative Expenses of \$35,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

Other Materials

Other Materials were lower than budget by \$413,000 or 5.8% driven by Other Materials of \$539,000 primarily due to timing of spending related to Phase 3 of the Office Consolidation to Chelsea and DITP through FY24 and Equipment/Furniture of \$441,000 due to timing of purchases including the Operations Control Center (OCC) furniture and other miscellaneous items. This underspending was partially offset by higher Computer Hardware of \$245,000 primarily due to additional purchases for printers, Health/Safety of \$212,000 due to more safety materials purchased than originally planned, and Vehicle Purchases of \$145,000 due to timing of purchases.

Training & Meetings

Training & Meetings was lower than budget by \$174,000 or 34.9% due to less than anticipated spending.

Indirect Expenses

Indirect Expenses totaled \$69.7 million, which is \$725,000 or 1.0% lower than budget. The variance is largely driven by lower Watershed Reimbursements and PILOT payment, partially offset by higher spending on HEEC and Insurance.

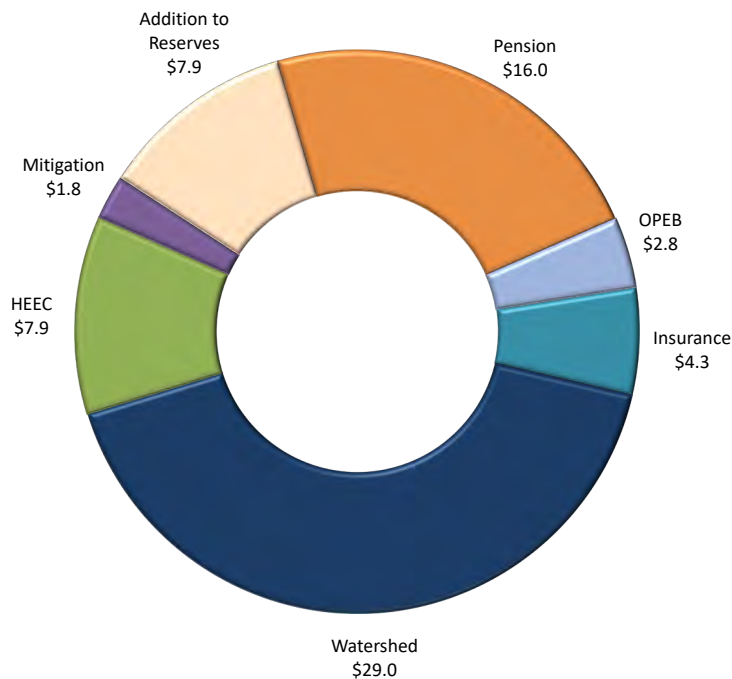
Based on FY24 operating activity only, the Watershed Division is \$801,000 or 3.7% under budget. Lower spending on Wages and Salaries and Fringe Benefits are driving the variance. When factoring in the FY23 balance forward of \$157,000 which was a credit towards FY24, Watershed Reimbursement is \$958,000 or 4.5% below budget in FY24. The PILOT payment in the amount of \$8.5 million was paid in February, and was \$411,000 under budget.

**FY24 Watershed Protection Variance
(in millions)**

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	22.5	21.4	-1.1	-4.9%
Operating Revenues - Offset	1.0	0.7	-0.3	-29.3%
FY24 Operating Totals	21.5	20.7	-0.8	-3.7%
DCR Balance Forward (FY23 year-end accrual true-up)	0.0	-0.2	-0.2	
FY24 Adjusted Operating Totals	21.5	20.5	-1.0	-4.5%
PILOT	8.9	8.5	-0.4	-4.6%
Total Watershed Reimbursement	30.4	29.0	-1.4	-4.5%

MWRA reimburses the Commonwealth of Massachusetts Department of Conservation (DCR) and Recreation - Division of Water Supply Protection – Office of Watershed Management for expenses. The reimbursements are presented for payment monthly in arrears. Accruals are being made monthly based on estimates provided by DCR and trued-up monthly based on the monthly invoice. MWRA's budget is based on the annual Fiscal Year Work Plan approved by the Massachusetts Water Supply Protection Trust (with a vacancy adjustment applied). The FTE count at the end of June was 148 (and 146.3 on a year-to-date basis) vs. a budget assumption of 150.

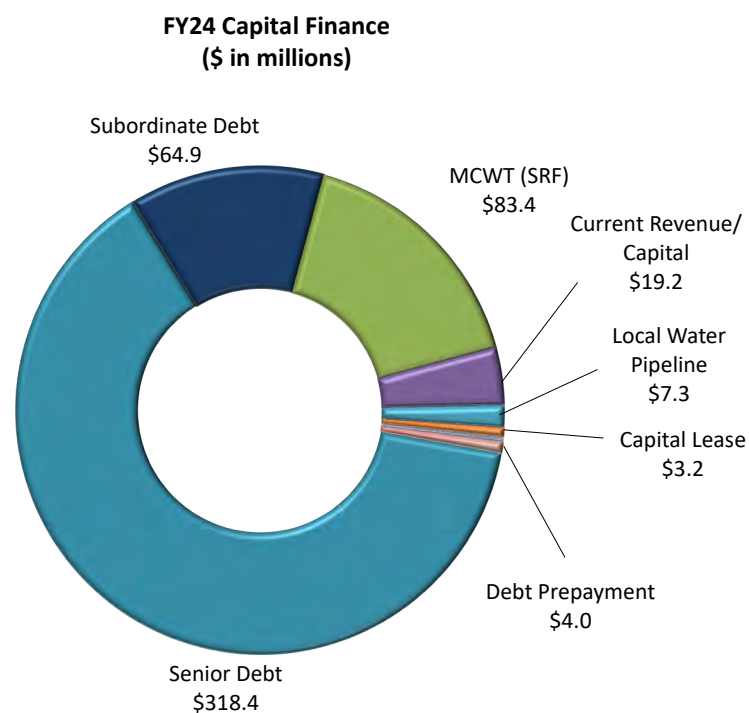
**FY24 Indirect Expenses
(in millions)**



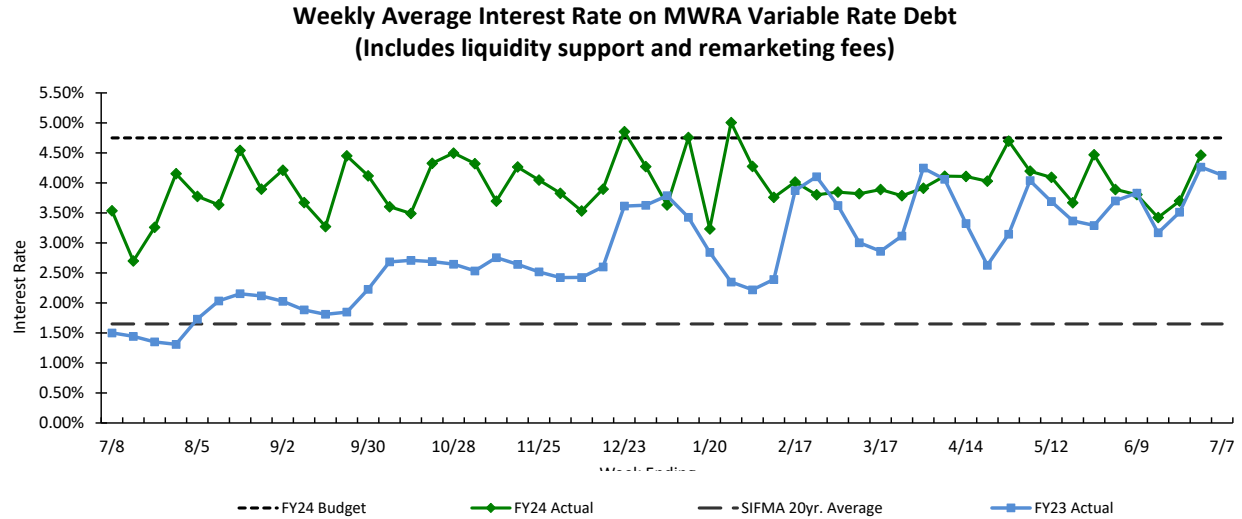
Capital Financing

Capital Financing expenses include the principal and interest payments for fixed senior debt, the variable subordinate debt, the Massachusetts Clean Water Trust (SRF) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, Optional Debt Prepayment, and the Chelsea Facility lease payment.

Capital Finance totaled \$499.2 million and was \$11.5 million greater than budget due to 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 later than assumed borrowing and lower than budget interest expense of \$5.0 million as a result of lower interest rates and the swap termination savings.



The graph below reflects the FY24 actual variable rate trend by week against the FY24 Budget.



Revenue & Income

Revenues of \$885.0 million were \$10.9 million or 1.2% greater than the estimate. Investment Income was \$9.6 million greater than the estimate based on higher than anticipated interest rates and higher average balances. Other Revenue was \$932,000 or 16.0% greater than the estimate due to Miscellaneous Revenue of \$397,000, Permit Fees of \$291,000, and Energy Rebates of \$245,000.

ATTACHMENTS:

- Attachment 1 – FY24 Variance Summary
- Attachment 2 – Current Expense Variance Explanations
- Attachment 3 – FY24 Actual vs. FY24 Projection

ATTACHMENT 1
FY24 Actuals vs. FY24 Budget

	Jun 2024 Year-to-Date				
	Period 12 YTD Budget	Period 12 YTD Actual	Period 12 YTD Variance	%	FY24 Approved
<u>EXPENSES</u>					
WAGES AND SALARIES	\$ 127,828,242	\$ 113,940,177	\$ (13,888,065)	-10.9%	\$ 127,828,242
OVERTIME	5,727,593	6,410,242	682,649	11.9%	5,727,593
FRINGE BENEFITS	25,823,383	24,605,503	(1,217,880)	-4.7%	25,823,383
WORKERS' COMPENSATION	2,144,395	2,606,979	462,584	21.6%	2,144,395
CHEMICALS	28,269,124	21,125,295	(7,143,829)	-25.3%	28,269,124
ENERGY AND UTILITIES	31,064,890	32,968,038	1,903,148	6.1%	31,064,890
MAINTENANCE	38,574,256	37,677,377	(896,879)	-2.3%	38,574,256
TRAINING AND MEETINGS	498,597	324,788	(173,809)	-34.9%	498,597
PROFESSIONAL SERVICES	10,410,484	8,204,808	(2,205,676)	-21.2%	10,410,484
OTHER MATERIALS	7,167,400	6,753,950	(413,450)	-5.8%	7,167,400
OTHER SERVICES	38,494,660	30,649,141	(7,845,519)	-20.4%	38,494,660
TOTAL DIRECT EXPENSES	\$ 316,003,024	\$ 285,266,298	\$ (30,736,726)	-9.7%	\$ 316,003,024
INSURANCE	\$ 4,065,380	\$ 4,280,811	\$ 215,431	5.3%	\$ 4,065,380
WATERSHED/PILOT	30,358,187	28,989,024	(1,369,163)	-4.5%	30,358,187
HEEC PAYMENT	7,500,650	7,929,639	428,989	5.7%	7,500,650
MITIGATION	1,779,086	1,779,086	-	0.0%	1,779,086
ADDITIONS TO RESERVES	7,861,035	7,861,035	-	0.0%	7,861,035
RETIREMENT FUND	15,972,804	15,972,804	-	0.0%	15,972,804
POST EMPLOYEE BENEFITS	2,849,365	2,849,365	-	0.0%	2,849,365
TOTAL INDIRECT EXPENSES	\$ 70,386,507	\$ 69,661,763	\$ (724,744)	-1.0%	\$ 70,386,507
STATE REVOLVING FUND	\$ 90,798,263	\$ 83,358,104	\$ (7,440,159)	-8.2%	\$ 90,798,263
SENIOR DEBT	294,055,644	318,360,317	24,304,673	8.3%	294,055,644
DEBT SERVICE ASSISTANCE	(1,187,297)	(1,187,297)	-	0.0%	(1,187,297)
CURRENT REVENUE/CAPITAL	19,200,000	19,200,000	-	0.0%	19,200,000
SUBORDINATE MWRA DEBT	69,931,072	69,931,072	-	0.0%	69,931,072
LOCAL WATER PIPELINE CP	7,744,625	7,347,129	(397,496)	-5.1%	7,744,625
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%	3,217,060
VARIABLE DEBT	-	(5,003,706)	(5,003,706)	---	-
DEFEASANCE ACCOUNT	-	-	-	---	-
DEBT PREPAYMENT	4,000,000	4,000,000	-	0.0%	4,000,000
TOTAL CAPITAL FINANCE EXPENSE	\$ 487,759,367	\$ 499,222,679	\$ 11,463,312	2.4%	\$ 487,759,367
TOTAL EXPENSES	\$ 874,148,898	\$ 854,150,740	\$ (19,998,158)	-2.3%	\$ 874,148,898
<u>REVENUE & INCOME</u>					
RATE REVENUE	\$ 834,268,000	\$ 834,268,000	\$ -	0.0%	\$ 834,268,000
OTHER USER CHARGES	10,390,434	10,679,161	288,727	2.8%	10,390,434
OTHER REVENUE	5,838,903	6,771,316	932,413	16.0%	5,838,903
RATE STABILIZATION	305,482	305,482	-	0.0%	305,482
INVESTMENT INCOME	23,346,079	32,980,995	9,634,916	41.3%	23,346,079
TOTAL REVENUE & INCOME	\$ 874,148,898	\$ 885,004,954	\$ 10,856,056	1.2%	\$ 874,148,898

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget	FY24 Actuals	FY24 Actual vs. FY24 Budget		Explanations
			\$	%	
<u>Direct Expenses</u>					
Wages & Salaries	127,828,242	113,940,177	(13,888,065)	-10.9%	Wages and Salaries were under budget by \$13.9 million or 10.9%. Year to date, there have been 100 fewer average FTEs (1,068 versus 1,168 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	5,727,593	6,410,242	682,649	11.9%	Overtime expenses were greater than budget by \$683,000 or 11.9%. Greater than budget spending at Deer Island of \$764,000 and Field Operations of \$57,000 was primarily due to shift coverage due to vacancies and Engineering & Construction of \$57,000 due to less than anticipated needs. Year-to-date rainfall was a major contributor for the increased overtime.
Fringe Benefits	25,823,383	24,605,503	(1,217,880)	-4.7%	Fringe Benefit spending was lower than budget by \$1.2 million or 4.7%. Spending was lower than budget for Health Insurance of \$1.3 million, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive.
Worker's Compensation	2,144,395	2,606,979	462,584	21.6%	Worker’s Compensation expenses were greater than budget by \$463,000 or 21.6%. The higher than budgeted expenses were due to Compensation Payments of \$354,000 and Medical Payments of \$144,000, partially offset by lower Administrative Expenses of \$35,000. Due to uncertainties of when spending will happen, the budget was spread evenly throughout the year.
Chemicals	28,269,124	21,125,295	(7,143,829)	-25.3%	Chemicals were lower than budget by \$7.1 million or 25.3%. Lower than budget spending on Sodium Hypochlorite of \$3.8 million was driven by Water Operations of \$2.1 million and Wastewater Operations of \$206,000 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 primarily due to lower pricing. Lower Carbon Dioxide was lower than budget by \$709,000 primarily due to lower volume, lower contract price, and lower dose required to meet target residual levels in finished water. Lower Aqua Ammonia of \$409,000 due to lower price and lower flows. Lower Sodium Bisulfite of \$261,000 was primarily driven by Water Operations of \$143,000 due to lower dose and volume due to lower flows, lower price and volume at Clinton Wastewater Treatment Plant of \$66,000, and lower volume at DITP of \$40,000 due to lower quantities to dechlorinate the effluent. Lower Polymer of \$252,000 due to several rain events resulting in higher plant flows and reduced wasting of secondary sludge. DITP flows are 13.8% greater than the budget and the CWTP flows are 2.8% less than the budget in FY24. 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.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget	FY24 Actuals	FY24 Actual vs. FY24 Budget		Explanations
			\$	%	
Utilities	31,064,890	32,968,038	1,903,148	6.1%	Utilities were greater than budget by \$1.9 million or 6.1%. Overspending in Electricity of \$2.2 million primarily at DITP of \$1.6 million was driven by higher demand usage due to the many rain events and new pass through cost associated with the Mystic Power Station and winter reliability pass through cost. Electricity in Field Operations was greater than budget by \$660,000 primarily due to higher use as a result of the many rain events for pumping and fan use for odor control. Underspending in Diesel Fuel of \$415,000 primarily in field Operations due to less than projected cost of diesel.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget	FY24 Actuals	FY24 Actual vs. FY24 Budget		Explanations
			\$	%	
Maintenance	38,574,256	37,677,377	(896,879)	-2.3%	Maintenance was lower than budget by \$897,000 or 2.3%, largely driven by the timing of projects. Maintenance Services were lower than budget by \$1.7 million driven by Computer Software Licenses of \$1.3 million primarily due to removal of Financial Management System Upgrade related costs from the CEB since they are included in the current CIP contract that was awarded in June 2023, Electrical Services of \$1.2 million due to timing of work including JCWTP Ozone generator PLC replacement, JCWTP emergency generator emissions monitoring PLC repair, and JCWTP Switchgear PLC Replacement, Building & Grounds Services of \$1.1 million due to less than anticipated spending through June including a delay of the Deer Island Treatment Plant door replacements, and Pipeline Services of \$310,000 due to less than anticipated costs through FY24. This lower than budgeted spending was partially offset by Plant & Machinery Services of \$1.7 million primarily due to the earlier purchase of parts related to the Combustion Turbine Generator (CTG) control system upgrade and HVAC Services of \$157,000 due to purchase of a temporary air handler unit at Columbus Park Headworks. Maintenance Materials were higher than budget by \$801,000 driven by Plant & Machinery Materials of \$1.0 million due to timing of spending and higher costs for glass lined pipe/fittings, seals, grinder cartridges, rotating assemblies for pump, and end caps and tubes for the residual heat exchangers, and Warehouse Inventory of \$993,000 due to need for spare parts as well as purchasing of materials early due to supply chain delays. These are partially offset by lower Special Equipment Materials of \$804,000 due to later than anticipated purchase of hatch covers at Loring Road and at the Fells Covered Storage, Electrical Materials of \$242,000 and Pipeline Materials of \$217,000, both due to less than anticipated purchases through FY24.
Training & Meetings	498,597	324,788	(173,809)	-34.9%	Training & Meetings was lower than budget by \$174,000 or 34.9% primarily due to less than anticipated spending on meetings and conferences driven by MIS (\$106,000), Water Redundancy (\$29,000), Deer Island Treatment Plant (\$16,000), Engineering & Construction (\$11,000), and Procurement (\$13,000), partially offset by higher spending in Operations Administration of \$24,000 and Laboratory Services of \$14,000.
Professional Services	10,410,484	8,204,808	(2,205,676)	-21.2%	Professional Services were less than budget by \$2.2 million or 21.2% driven by lower Other Services of \$913,000 due to timing of services including the Disparity Study, Legal Services of \$453,000, Lab & Testing Analysis of \$298,000, and Engineering of \$178,000 all due to less than anticipated spending, all due to less than anticipated spending through FY24.
Other Materials	7,167,400	6,753,950	(413,450)	-5.8%	Other Materials were lower than budget by \$413,000 or 5.8% driven by Other Materials of \$539,000 primarily due to timing of spending related to Phase 3 of the Office Consolidation to Chelsea and DITP through FY24 and Equipment/Furniture of \$441,000 due to timing of purchases including the Operations Control Center (OCC) furniture and other miscellaneous items. This underspending was partially offset by Computer Hardware of \$245,000 primarily due additional purchases for printers, Health/Safety of \$212,000 due to additional safety materials purchases than originally planned, and Vehicle Purchases of \$145,000 due to timing of purchases.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget	FY24 Actuals	FY24 Actual vs. FY24 Budget		Explanations
			\$	%	
Other Services	38,494,660	30,649,141	(7,845,519)	-20.4%	Other Services were lower than budget by \$7.8 million or 20.4% driven by Sludge Pelletization of \$6.2 million primarily due to \$6.2 no spending on landfill costs related to potential PFAS regulation changes that were budgeted in the second half of FY24. Telecommunications of \$992,000 due to less than anticipated costs, and lower Grit & Screenings Removal of \$355,000 due to lower quantities.
Total Direct Expenses	316,003,024	285,266,298	(30,736,726)	-9.7%	
Indirect Expenses					
Insurance	4,065,380	4,280,811	215,431	5.3%	Higher Payments/Claims of \$222,000 than budgeted.
Watershed/PILOT	30,358,187	28,989,024	(1,369,163)	-4.5%	Lower Watershed Reimbursement of \$1.4 million driven by lower spending on Wages & Salaries, Fringe Benefits, and Equipment/Maintenance, as well as lower than anticipated PILOT.
HEEC Payment	7,500,650	7,929,639	428,989	5.7%	Driven by HEEC Revenue Requirement of \$436,000.
Mitigation	1,779,086	1,779,085	(1)	0.0%	
Addition to Reserves	7,861,035	7,861,035	-	0.0%	
Pension Expense	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%	
Debt Service					
Debt Service	488,946,664	500,409,976	11,463,312	2.3%	Capital Financing was \$11.5 million greater than budget due to 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.
Debt Service Assistance	(1,187,297)	(1,187,297)	-	0.0%	
Total Debt Service Expenses	487,759,367	499,222,679	11,463,312	2.4%	
Total Expenses	874,148,898	854,150,740	(19,998,157)	-2.3%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget	FY24 Actuals	FY24 Actual vs. FY24 Budget		Explanations
			\$	%	
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%	Water usage by Cambridge.
Other Revenue	5,838,903	6,771,316	932,413	16.0%	Other Revenue was \$932,000 or 16.0% greater than budget due to Miscellaneous Revenue of \$397,000, Energy Rebates of \$245,000, and Permit Fees of \$291,000.
Rate Stabilization	305,482	305,482	-	0.0%	
Investment Income	23,346,079	32,980,995	9,634,916	41.3%	Investment Income is over budget due to higher than budgeted interest rates and higher average balances.
Total Revenue	874,148,898	885,004,954	10,856,056	1.2%	
Net Revenue in Excess of Expenses	-	30,854,214	30,854,213		

Attachment 3
FY24 Actual vs. FY24 Projection

TOTAL MWRA	FY24 Projection	FY24 Actual	Change FY24 Actual vs FY24 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 115,045,418	\$ 113,940,177	\$ (1,105,241)	-1.0%
OVERTIME	6,243,283	6,410,242	166,959	2.7%
FRINGE BENEFITS	24,532,214	24,605,503	73,289	0.3%
WORKERS' COMPENSATION	2,412,444	2,606,979	194,535	8.1%
CHEMICALS	20,340,501	21,125,295	784,794	3.9%
ENERGY AND UTILITIES	31,733,215	32,968,038	1,234,823	3.9%
MAINTENANCE	38,750,865	37,677,377	(1,073,488)	-2.8%
TRAINING AND MEETINGS	373,948	324,788	(49,160)	-13.1%
PROFESSIONAL SERVICES	9,410,484	8,204,808	(1,205,676)	-12.8%
OTHER MATERIALS	7,667,398	6,753,950	(913,448)	-11.9%
OTHER SERVICES	33,736,660	30,649,141	(3,087,519)	-9.2%
TOTAL DIRECT EXPENSES	\$ 290,246,430	\$ 285,266,298	\$ (4,980,132)	-1.7%
INSURANCE	\$ 4,295,270	\$ 4,280,811	\$ (14,459)	-0.3%
WATERSHED/PILOT	28,073,556	28,989,024	915,468	3.3%
HEEC PAYMENT	7,643,162	7,929,639	286,477	3.7%
MITIGATION	1,779,086	1,779,085	-	0.0%
ADDITIONS TO RESERVES	7,861,035	7,861,035	-	0.0%
RETIREMENT FUND	15,972,805	15,972,804	(1)	0.0%
POSTEMPLOYMENT BENEFITS	2,849,365	2,849,365	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 68,474,278	\$ 69,661,763	\$ 1,187,485	1.7%
STATE REVOLVING FUND	\$ 83,358,104	\$ 83,358,104	\$ (0)	0.0%
SENIOR DEBT	290,300,910	318,360,317	28,059,407	9.7%
SUBORDINATE DEBT	65,420,788	64,927,366	(493,422)	-0.8%
LOCAL WATER PIPELINE CP	7,370,009	7,347,129	(22,880)	-0.3%
CURRENT REVENUE/CAPITAL	19,200,000	19,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	4,000,000	4,000,000	-	0.0%
DEBT SERVICE ASSISTANCE	(1,187,297)	(1,187,297)	-	0.0%
TOTAL DEBT SERVICE	\$ 471,679,574	\$ 499,222,679	\$ 27,543,105	5.8%
TOTAL EXPENSES	\$ 830,400,282	\$ 854,150,740	\$ 23,750,458	2.9%
REVENUE & INCOME				
RATE REVENUE	\$ 834,268,000	\$ 834,268,000	\$ 0	0.00%
OTHER USER CHARGES	10,349,723	10,679,161	329,438	3.2%
OTHER REVENUE	5,645,942	6,771,316	1,125,374	19.9%
RATE STABILIZATION	305,482	305,482	-	0.0%
INVESTMENT INCOME	31,520,079	32,980,995	1,460,916	4.6%
TOTAL REVENUE & INCOME	\$ 882,089,226	\$ 885,004,954	\$ 2,915,728	0.3%

VARIANCE: **\$ (30,854,214) \$ 20,834,730 2.4%**


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: FY24 Year-End Capital Improvement Program Spending Report




COMMITTEE: Administration, Finance & Audit

 VOTE
 X INFORMATION


David W. Coppes
Chief Operating Officer

Michael J. Cole, Budget Director
James J. Coyne, Budget Manager
Preparer/Title


Thomas J. Durkin
Director, Finance

At the end of each fiscal year, staff present the Board with a recap of the Capital Improvement Program. FY24 was the first year of MWRA's five-year spending cap for FY24-28 established at \$1.4 billion. The FY24 capital plan was \$302.2 million. The FY24 capital spending totaled \$208.2 million, \$94.0 million or 31.1% lower than planned.

In FY24, the Authority reached substantial completion of the Nut Island Odor Control and HVAC Improvements, Rehab of Sections 23,24,47, Tunnel Redundancy Preliminary Design & MEPA Review, Weston Aqueduct Pressure Reducing Valves Improvements, Northern Extra High Improvements CP-1, Clinton Wastewater Treatment Plant Screw Pump Replacement, Prison Point Const. 2 Discharge Piping Rehab, Electrical Distribution Upgrades at Southborough, Remote Headwork Shaft Access Improvements, and Carroll Water Treatment Plant Chemical Feed System Improvements.

The Authority made significant progress on several major projects including Carroll Water Treatment Plant SCADA Upgrade Construction, Braintree-Weymouth Improvements Construction, Northern Intermediate High (NIH) Section 89/29 Replacement, and New Connecting Mains Sections 24 & 25 Construction CP-2.

In FY24, MWRA managed 102 design and construction contracts and awarded 17 contracts valued at \$53.1 million.

RECOMMENDATION:

For information only. The Fiscal Year 2024 Year-End Capital Program Spending Report highlights MWRA's major capital program accomplishments during FY24 and provides explanations for spending variances.

Please see Attachment A for the full Report.

DISCUSSION:

Projects that were completed or reached substantial completion in FY24 included:

- Nut Island Headworks Odor Control and HVAC Improvements Construction - \$61.9 million
- Rehab of Sections 23,24,47 Rehab - \$25.8 million
- Tunnel Redundancy Preliminary Design & MEPA Review – \$15.7 million
- WASM/SPSM West PRV Construction - \$12.0 million
- CP-1 NEH Improvements - \$11.2 million
- Clinton Wastewater Treatment Plant Screw Pump Replacement- \$3.4 million
- Prison Point Const. 2 Discharge Piping Rehab. - \$3.0 million
- Electrical Distribution Upgrades at Southborough - \$2.8 million
- Carroll Water Treatment Plant Chemical Feed System Improvements - \$2.7 million
- Deer Island Wastewater Treatment Plant Radio Repeater System Upgrade 2- \$2.5 million
- Remote Headwork Shaft Access Improvements - Construction - \$2.4 million
- Fuel Oil Tank Replacement Construction Phase 2 - \$2.1 million
- Section 22 Rehab Alt. Analysis & Env. Permitting - \$2.0 million
- CHE008 Pipe Replacement- \$1.9 million
- Carroll Water Treatment Plant Technical Assistance 12 - \$1.1 million
- SAP BO Migration - \$0.9 million
- Carroll Water Treatment Plant Technical Assistance 11- \$0.9 million
- Wachusett Lower Gatehouse Window & Door Replacement- \$0.7 million
- MSSP/SIEM- \$0.4 million
- Chelsea Creek Headworks Radio Equipment - \$0.3 million
- Netscalers - \$0.1 million
- Archiving & Data Management - \$0.1 million

MWRA made significant progress on a number of water and wastewater projects, including:

- Carroll Water Treatment Plant SCADA Upgrade Construction – 89.4% complete
- Braintree-Weymouth Improvements Construction – 76.0% complete
- Northern Intermediate High (NIH) Section 89/29 Replacement – 69.8% complete
- New Connecting Mains Sections 24 & 25 Construction CP-2 – 59.5% complete
- Metro Tunnel Redundancy Geotechnical Technical Support Services - 59.4% complete
- Section 101 Waltham Pipeline Construction – 59.1% complete
- Wachusett Lower Gatehouse Pipe and Boiler Replacement – 55.3% complete
- Carroll Water Treatment Plant Parapet Wall Repair – 50.8% complete
- Metro Tunnel Redundancy Program Support Services – 40.5% complete
- Deer Island Clarifier Rehab Phase 2 Construction – 17.2% complete

MWRA pipelines rehabilitated or constructed in FY24 totaled 4.1 miles for water and wastewater projects.

Please see Attachment D for a detailed breakdown of the linear footage of pipeline rehabilitated or constructed by project for FY24.

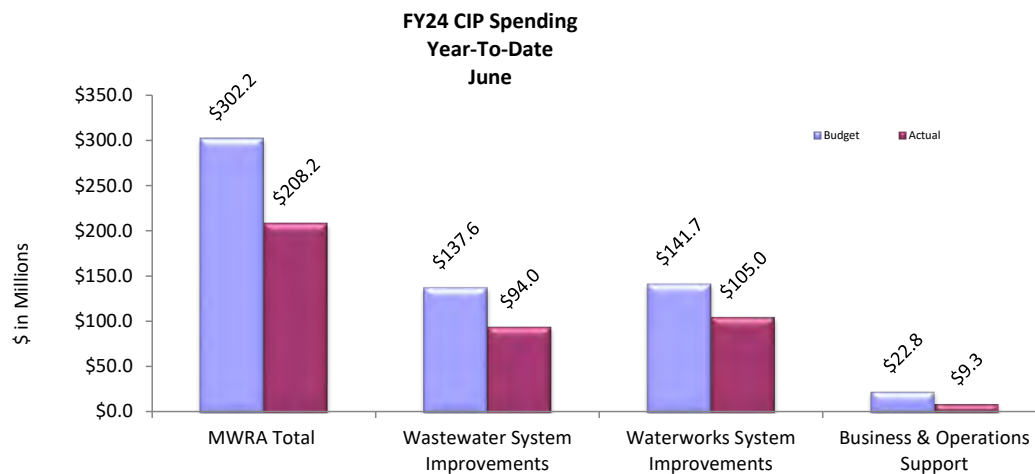
17 major contracts awarded by MWRA for \$53.1 million in FY24 with the following Notice to Proceed and amount:

- Digester Storage Tank Rehabilitation Design/ESDC – July 2023 - \$10.0 million
- Deer Island Roof Replacement – November 2023 - \$8.9 million
- Lawson Upgrade – July 2023 - \$8.8 million
- CP-2 Shaft 5 – February 2024 - \$5.4 million
- Prison Point Discharge Piping Rehabilitation Construction 2 – August 2023 - \$2.5 million
- Quinapoxet Dam Removal – October 2023 - \$2.5 million
- Deer Island Asset Protection – As Needed Design – October 2023 - 3 contracts \$2.4 million each
- Sudbury Reservoir Dam Spillway & Gatehouse Vent Repair - \$2.0 million - May 2024
- West Roxbury Tunnel Inspection – June 2024 - \$1.6 million
- Carroll Water Treatment Plant Parapet Wall Repairs – January 2024 - \$1.4 million
- Columbus Park Headworks Air Handling Equipment – February 2024 - \$1.1 million
- Metropolitan Tunnel Interim Improvements - CP-2 Tops of Shafts REI – June 2024 - \$0.9 million
- Embankment Raising at Wachusett North Dike – November 2023 - \$0.3 million
- Technical Assistance – 2 contracts – June 2024 - \$0.3 million each

Please see Attachment C for FY24 Planned versus Actual/Revised CIP Notices to Proceed for a complete list of contracts awarded.

FY24 also included overall spending of \$48.2 million for the community financial assistance programs on both the water and wastewater sides. Inflow and Infiltration (I/I) spending consisted of \$21.2 million in grants and \$8.0 million in loans offset by \$7.3 million in prior period loan repayments for net spending of \$21.9 million. The Local Water System Assistance Program spending was \$57.4 million in loans, including CVA communities, offset by \$31.2 million in prior period loan repayments for net spending of \$26.2 million that includes Lead Service Line Replacement loan distributions of \$8.5 million.

Major Variances to FY24 Plan



For FY24, total Capital Improvement Program spending was projected at \$302.2 million. Total spending was \$208.2 million, which was \$94.0 million or 31.1% below plan. Underspending was reported in Wastewater of \$43.6 million, \$36.8 million in Waterworks Improvements, and \$13.5 million in Business and Operations Support.

After accounting for programs which are not directly under MWRA's control which include the Inflow and Infiltration (I/I) grant/loan program, the Local Water System Assistance loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$151.1 million, \$90.3 million or 37.4% under planned spending.

The table below reports the FY24 spending and variances by major program:

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	31.0	20.4	(10.6)	-34.2%
Treatment	56.2	41.4	(14.8)	-26.4%
Residuals	0.0	0.0	0.0	0.0%
CSO	7.5	10.2	2.8	37.3%
Other	42.9	22.0	(21.0)	-48.9%
Total Wastewater System Improvements	\$137.6	\$94.0	(\$43.6)	-31.7%
Waterworks System Improvements				
Drinking Water Quality Improvements	4.0	2.6	(1.4)	-34.8%
Transmission	66.2	39.3	(26.9)	-40.7%
Distribution & Pumping	47.1	31.3	(15.8)	-33.5%
Other	24.5	31.8	7.3	29.7%
Total Waterworks System Improvements	\$141.7	\$105.0	(\$36.8)	-26.0%
Business & Operations Support	\$22.8	\$9.3	(\$13.5)	-59.3%
Total MWRA	\$302.2	\$208.2	(\$94.0)	-31.1%

The \$94.0 million variance is the net of \$115.0 million in less than planned spending on 35 projects offset by \$21.0 million in more than planned spending on six projects. The main reasons for the project spending variances in order of magnitude are:

Waterworks Transmission: Net under planned spending of \$26.9 million

- \$5.7 million for CP3 Shafts 7, 7B, 7C & 7D, \$3.1 million for Maintenance Garage/Wash Bay/Storage Building Construction, and \$2.9 million for Shaft 5 Improvements Design/CA and Construction all due to updated schedules.
- \$2.7 million for Tunnel Redundancy Preliminary Design & MEPA Review, \$1.2 million for WASM 3 MEPA/Design/CA/RI, and \$0.6 million for WASM/SPSM Pressure Reducing Valves (PRVs) Design/CA due to less than anticipated consultant work.
- \$2.3 million for Wachusett Lower Gatehouse Pipe & Boiler Replacement Construction due to longer lead-time on some larger items and a change in design for the multi-orifice valve.
- \$2.1 million for Administration, Legal & Public Outreach due to timing of costs.
- \$1.5 million for WASM 3 Rehabilitation CP-1 due to work scheduled for FY24 performed in FY23.
- \$0.9 million for Program Support Services due to less than anticipated services.
- \$0.8 million for Watershed Land Acquisition due to less than anticipated land purchases.

- This under planned spending was partially offset by greater than planned spending of \$0.4 million for Waltham Water Pipeline due to work scheduled in FY23 that was performed in FY24.

Other Wastewater: Net under planned spending of \$21.0 million

- \$21.0 million for Community I/I due to timing of community distributions of grants and loans.

Water Distribution and Pumping: Net under planned spending of \$15.8 million

- \$6.0 million for Section 75 Extension Construction CP-1, \$1.7 million for Cathodic Protection Shafts E, L, N & W Construction, \$1.3 million for Northern Intermediate High Storage Design, and \$1.0 million for NEH Improvements CP-2 due to updated schedules.
- \$3.3 million for Section 89/29 Replacement Construction due to less than anticipated contractor progress.
- \$2.6 million for CP-1 NEH Improvements due to timing of final work including paving.

Wastewater Treatment: Net under planned spending of \$14.8 million

- \$6.6 million for Motor Control Center & Switchgear Replacement Design/ESDC/REI and Construction, \$3.8 million for Deer Island Roofing Replacement, \$2.5 million for DiStor Membrane Replacements, \$3.0 million for Fire Alarm System Replacement Construction and REI, \$1.9 million for Clinton Treatment Plant Digester Covers, \$1.0 million for Chemical Pipe Replacement Construction, \$0.8 million for Gas Protection System Replacement, \$0.7 million for Combined Heat and Power Design/ESDC/REI, and \$0.6 million for Odor Control Rehabilitation - Design/ESDC all due to schedule changes.
- \$1.7 million for Deer Island As-Needed Design contracts due to lower than projected task order work, and \$1.7 million for South System Pump Station VFD Replacement Design due to Design Report phase being more complicated than originally anticipated.
- \$0.5 million for Clinton Clariflocculator Valve Replacement due to work being incorporated into Clinton Rehabilitation contract.
- This under planned spending was partially offset by greater than planned spending of \$12.6 million for Clarifier Rehabilitation Phase 2 Construction due to equipment received ahead of schedule, and \$0.5 million for Digester & Storage Tank Rehabilitation - Design/ESDC due to consultant starting work sooner than originally planned.

Business & Operations Support: Net under planned spending of \$13.5 million

- \$3.9 million for Cabling due to timing and scheduling of work including identifying available conduit paths and verification of phone & network data jack locations.
- \$2.3 million for As-Needed Design Contracts due to lower than projected task order work.
- \$2.3 million for FY24-28 Vehicle Purchases due to industry shift to a just-in-time purchase model adding between 9 months to two years for acquisition of large vehicles.
- \$1.5 million for Security Equipment & Installation due to delays with upgrades to communication circuits, security cameras, and back-up of the head-end of intrusion alarms.
- \$1.1 million for Pre-Treatment Information Management System (PIMS) Replace or Build due to updated schedule.
- \$0.5 million for Lawson Upgrade due to timing of vendor invoicing.

Interception & Pumping: Net under planned spending of \$10.6 million

- \$3.7 million for Siphon Structure Rehabilitation and \$3.3 million for Hayes Pump Station Rehabilitation Construction due to updated schedules.
- \$3.2 million for Ward Street & Columbus Park Headworks Upgrades Design/CA due to delay in performing shaft inspections and issuing NTP for Final Design.
- \$2.4 million for Braintree/Weymouth Improvements Construction, Construction Services and REI due to changes to the structural steel design leading to later than anticipated date for its fabrication and installation.
- This under planned spending was partially offset by greater than planned spending of \$2.5 million for Prison Point Construction 2 Discharge Piping Rehab due to the contract award being greater than amount in the CIP, \$1.6 million for Chelsea Creek Upgrades Design/CA and Construction due to claim settlements, and \$1.3 million for Nut Island Odor Control & HVAC Improvements Construction Phase 2 due to work scheduled for FY23 performed in FY24.

Other Waterworks: Net greater than planned spending of \$7.3 million

- \$12.1 million for Local Financial Assistance due to greater than anticipated requests for community loans.
- This over planned spending was partially offset by less than planned spending of \$3.9 million for Steel Tank Improvements due to updated schedule.

Combined Sewer Overflow: Net greater than planned spending of \$2.8 million

- \$5.2 million for Fort Point Channel & Mystic due to the timing of Community Managed CSO payments that were paid earlier than anticipated.
- This greater than planned spending was partially offset by under planned spending of \$1.3 million for Somerville Marginal New Pipe Connection, and \$0.5 million for CSO Updated Control Plan Design due to updated schedules, and \$0.4 million for Chelsea 008 Pipe Replacement due to work scheduled for FY24 performed in FY23.

Drinking Water Quality Improvements: Net under planned spending of \$1.4 million

- \$2.0 million for the Carroll Water Treatment Plant Technical Assistance due to lower than projected task order work, partially offset by \$0.8 million for Carroll Water Treatment Plant Chemical Feed System Improvements Construction due to work scheduled for FY23 that was performed in FY24.

Please see Attachment B for detailed FY24 CIP variance explanations of all FY24 projects.

Construction Fund Balance

The construction fund balance was \$157.3 million as of the end of June. Commercial Paper/Revolving Loan available capacity was \$170.0 million.

FY25 Outlook

Looking ahead to FY25, the projected capital spending is \$347.9 million with program spending of \$176.7 million for Wastewater System Improvements, \$145.8 million for Waterworks System Improvements, and \$25.3 million for Business and Operations Support. 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 Tunnel Redundancy Final Design (\$10.0 million) and NIH Redundancy & Storage - Section 89 & 29 Replacement Construction (\$9.3 million).

In FY25, 77 contracts or phases of projects with a total budget of \$371.0 million are expected to be awarded. 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 \$229.2 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.

Please see Attachment E for FY25 Planned Contract Awards.

ATTACHMENTS:

Attachment A - Fiscal Year 2024 Year-End Capital Program Spending Report

Attachment B - FY24 CIP Year-End Variance Report

Attachment C - FY24 Planned versus Actual/Revised Contract Awards

Attachment D - Linear Footage of Rehabilitated or New Pipelines in FY24

Attachment E - FY25 Planned Capital Contract Awards

MASSACHUSETTS WATER RESOURCES AUTHORITY

Capital Program Spending Report

for

Fiscal Year 2024



September 11, 2024

Fiscal Year 2024 Year-End Capital Program Spending Report

Table of Contents –

Introduction	1
FY24 Capital Program Highlights	2
FY24 Spending Variances	9
Change Orders Review	17
Master Plan and the FY24 CIP Process	17
FY25 Outlook based on FY25 CIP	18

Introduction

Since its inception in 1986, MWRA has expended \$9.3 billion on capital initiatives. Of this spending 69% has supported improvements to Wastewater treatment, interception, pumping and combined sewer overflow (CSO) systems, 28% has supported Waterworks treatment, transmission, distribution and water protection improvements, and 2% has supported Business and Operations Support initiatives. Through FY24, nearly 70% of the capital spending has been for court mandated projects. The long-term strategy for capital work is identified in the Authority's Master Plan which was first published in 2006, updated in 2013 and 2019, and serves as a road map for inclusion of projects in the Capital Improvement Program (CIP) in every budget cycle. An update to the Master Plan is currently under review. Going forward, MWRA expects to spend \$5.3 billion on system improvements between FY25-FY34 with main emphasis on Asset Protection and Water System Redundancy initiatives including the Metropolitan Tunnels Long-Term Redundancy Project.

MWRA Capital Spending FY1986 - FY2034 (in millions)				
	Expenditures FY86 - FY24		Planned Expenditures FY25 - FY34	
Program	Amount	% of Total	Amount	% of Total
Wastewater	\$6,464	69%	\$2,523	48%
Waterworks	\$2,691	28%	\$2,720	51%
Business & Operations Support	\$195	2%	\$63	1%
Total MWRA	\$9,349	100.0%	\$5,305	100.0%

**Totals may not add up due to rounding*

To date, MWRA has spent \$925.2 million on the Wastewater CSO program and plans to spend an additional \$15.0 million through FY33.

To date, MWRA has distributed \$308.7 million in grants and \$251.9 million in no-interest loans to fund 685 separate projects in 43 communities under the I/I Local Financial Assistance Program. Additionally, \$620.2 million in Local Water Pipeline Assistance Program loans has been distributed to member communities which includes \$43.8 million in lead service loans.

FY24 Spending

Total CIP spending in FY24 was \$208.2 million which was \$94 million or 31.1% less than the \$302.2 million budgeted.

Spending by program in FY24 was:

Program	FY24 Budget (in millions)	FY24 Actuals (in millions)	Variance	% Variance
Wastewater	\$137.6	\$94.0	(\$43.6)	-31.7%
Waterworks	\$141.7	\$105.0	(\$36.8)	-26.0%
Business & Operations Support	\$22.8	\$9.3	(\$13.5)	-59.3%
Total	\$302.2	\$208.2	(\$94.0)	-31.1%

FY24 included spending of \$57.2 million not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) program, the Local Water Pipeline programs, and CSO Community Managed projects. The community assistance programs are either loan or grant programs to support the MWRA's member communities' local water and sewer infrastructure. In FY24, MWRA expended \$65.4 million in water and I/I loans and \$21.2 million in I/I grants offset by \$38.4 million in prior period loan repayments for net spending of \$48.2 million. An additional \$9.0 million was expended on the CSO Community Managed projects. After accounting for these programs which are not directly under MWRA's control, the FY24 CIP underspending is \$90.3 million or 37.4%.

FY24 Capital Program Highlights

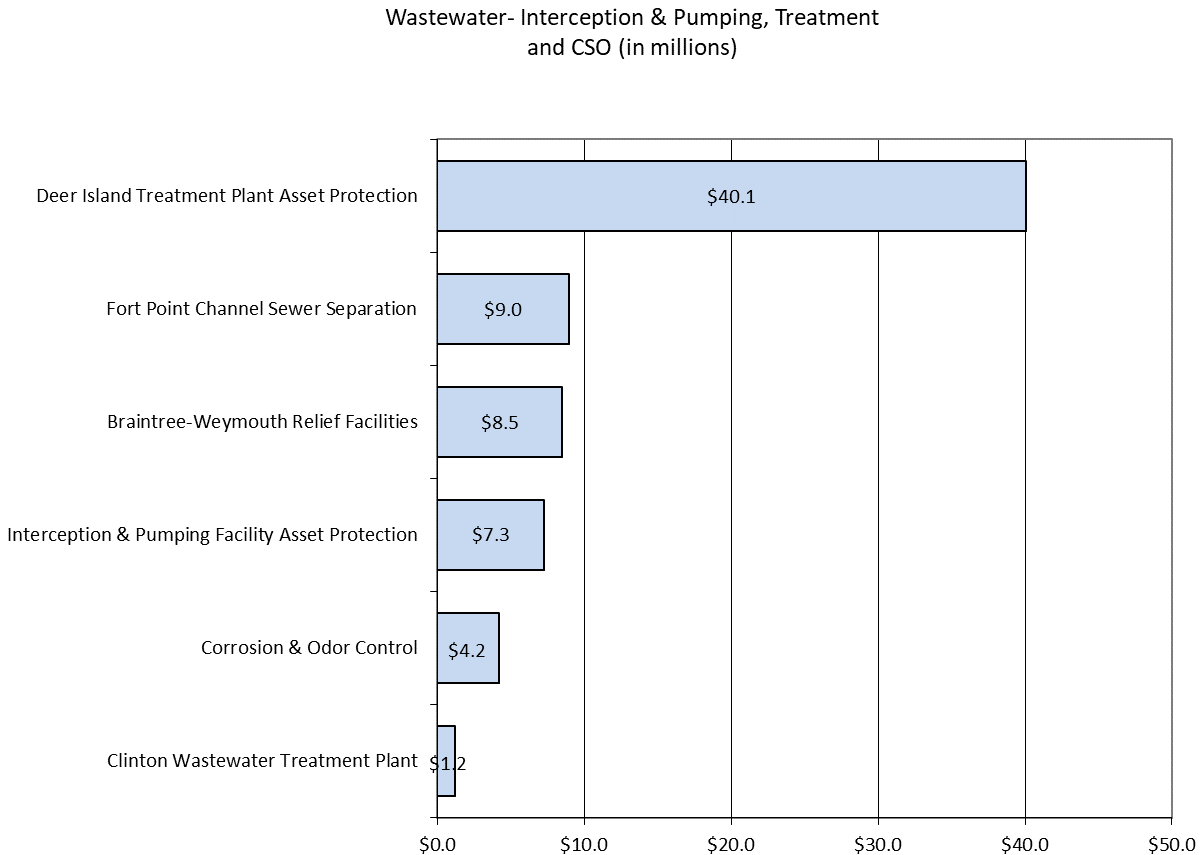
This section highlights the spending and key accomplishments by major program categories and projects.

Wastewater System

During FY24, the MWRA spent \$94.0 million on Wastewater system projects: \$20.4 million for Interception & Pumping projects, \$41.3 million for Treatment projects, \$10.2 million for CSO projects, and \$21.9 million for Other Wastewater projects.

Wastewater Interception & Pumping, Treatment, and CSO Projects

Total FY24 spending for Interception & Pumping was \$20.4 million, Treatment was \$41.3 million, and CSO was \$10.2 million. The largest spending occurred on the following:



Key Accomplishments in Wastewater - Interception and Pumping:

- Chelsea Creek Headworks Radio Equipment
 - Completed in July 2023
- Remote Headworks Shaft Access Improvements Construction
 - Completed in August 2023
- Nut Island Headworks Odor Control and HVAC Improvements Construction
 - Completed in September 2023
- Fuel Oil Tank Replacement Construction Phase 2
 - Completed in January 2024
- Columbus Park Headworks Air Handling Equipment
 - Contract awarded in February 2024

- Prison Point Rehabilitation- Design/CA/RI -
 - Completed in March 2024
- Prison Point Construction Discharge Piping Rehabilitation
 - Completed in May 2024

Key Accomplishments in Wastewater – Treatment:

- Clinton Wastewater Treatment Plant Screw Pump Replacement
 - Completed in July 2023
- Digester & Storage Tank Rehab Design/ESDC
 - Contract awarded in July 2023
- As-Needed Design 10-1 , 10-2 and 10-3
 - Contract awarded in October 2023
- DITP Roofing Replacement
 - Contract awarded in November 2023
- Deer Island Treatment Plant Radio Repeater System Upgrade 2
 - Completed in April 2024

Wastewater System – Combined Sewer Overflow (CSO) Projects

Total FY24 spending for CSO projects was \$10.2 million which was primarily for the Fort Point Channel & Mystic work, CSO Planning & Support, and Chelsea Trunk Sewer.

Key Accomplishments in CSO:

- CHE008 Pipe Replacement
 - Completed in September 2023

Wastewater - Other

This category includes spending only for the community managed Infiltration/Inflow (I/I) Local Financial Assistance Program.

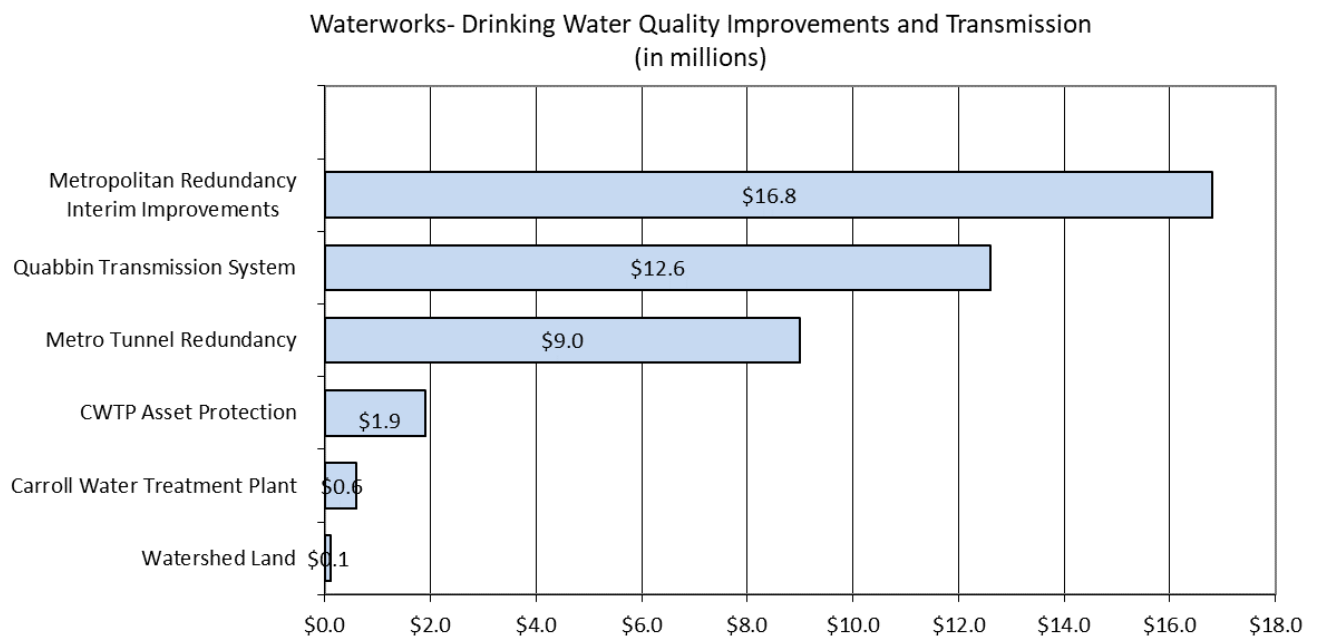
In FY24, MWRA distributed \$21.2 million in grants and \$8.0 million in no-interest loans which is offset by repayment of prior-period loans of \$7.3 million resulting in net spending of \$21.9 million.

Waterworks System

During FY24, the MWRA spent \$104.9 million on Waterworks system projects: \$2.5 million for Drinking Water Quality Improvement projects, \$39.2 million for Transmission projects, \$31.3 million for Distribution and Pumping projects, and \$31.7 million for Other Waterworks projects.

Waterworks System – Drinking Water Quality Improvements and Transmission

Total FY24 spending for Drinking Water Quality Improvements and Transmission projects was \$2.5 million and \$39.2, respectively. Projects with the largest spending are listed below:



Key Accomplishments in Drinking Water Quality Improvements:

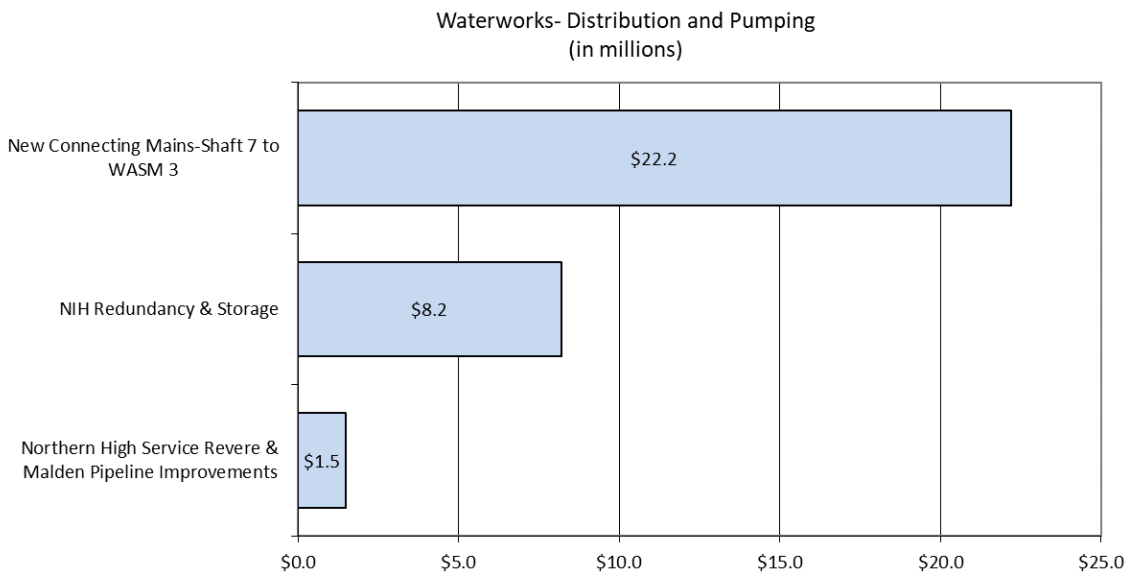
- Carroll Water Treatment Plant Technical Assistance 11 and 12
 - Completed in December 2023
- Carroll Water Treatment Plant Parapet Wall Repairs
 - Contract awarded in January 2024
- Carroll Water Treatment Plant Chemical Feed System Improvements
 - Completed in March 2024
- Soda Ash & Fluoride RE
 - Completed in March 2024

Key Accomplishments in Transmission:

- Quinapoxet Dam Removal – Construction
 - Contract awarded in October 2023
- Wachusett Dam LGH Window & Door Replacement
 - Completed in October 2023
- Embankment Raising at Wachusett North Dike
 - Contract awarded in November 2023 and completed in May 2024.
- Tunnel Redundancy Preliminary Design & MEPA Review
 - Completed in January 2024
- CP2 Shafts 5
 - Contract awarded in February 2024
- WASM/SPSM West PRV Construction
 - Completed in March 2024
- Sudbury Reservoir Dam Spillway & Gatehouse Vent Repair
 - Contract awarded in May 2024

Waterworks System - Distribution and Pumping

Total FY24 spending for Distribution and Pumping projects totaled \$31.3 million. Projects with the largest spending are listed below:



Key Accomplishments in Distribution and Pumping:

- CP-1 NEH Improvements
 - Completed in September 2023
- Section 22 Rehab Alt Anal & Env. Permitting
 - Completed in September 2023
- Rehab of Sections 23,24,47 Rehab
 - Completed in May 2024

Waterworks – Other

Total FY24 spending for Waterworks Other totaled \$31.7 million.

This category includes the community assistance program for the local water pipelines and other MWRA Waterworks projects.

In FY24, MWRA distributed \$57.4 million in Local Water Pipeline Assistance Program loans to member communities offset by repayment of prior-period loans of \$31.2 million which resulted in total net receipts of \$26.2 million.

Key Accomplishments in Waterworks – Other:

- Electrical Distribution Upgrades at Southborough
 - Completed in March 2024

Business & Operations Support

Total FY24 spending for Business and Operations Support totaled \$9.2 million.

Key Accomplishments in Business & Operations Support:

- MSSP/SIEM
 - Completed in July 2023
- Lawson Upgrade
 - Contract awarded in July 2023
- Netscalers
 - Completed in August 2023

- Archiving & Data Management
 - Completed in September 2023
- As-Needed Design Contract 18
 - Substantially completed in December 2023
- As-Needed Design Contract 19
 - Substantially completed in December 2023
- SAP BO Migration
 - Completed in December 2023

Total New or Rehabilitated Pipeline

In addition to measuring spending on CIP projects, MWRA tracks the mileage of pipeline that is rehabilitated or added to its infrastructure. During FY24, the MWRA rehabilitated or constructed 4.1 miles of water and wastewater pipeline. These numbers do not include the rehabilitated or replaced pipelines of our member communities which are funded through our Inflow/Infiltration (I/I) and Water Loan programs as referenced above.

Refer to Attachment D for the specific linear footage of rehabilitated or new pipelines by project in FY24.

FY24 Spending Variances

Total FY24 capital spending was \$208.2 million which was \$94.0 million or 31.1% less than the \$302.2 million budget. The variance is primarily due to underspending for the Infiltration/Inflow Assistance Program, Metropolitan Redundancy Interim Improvements, Deer Island Treatment Plant Asset Protection, IT Infrastructure Program, and Interception & Pumping Facility Asset Protection, partially offset by Local Water System Assistance Program.

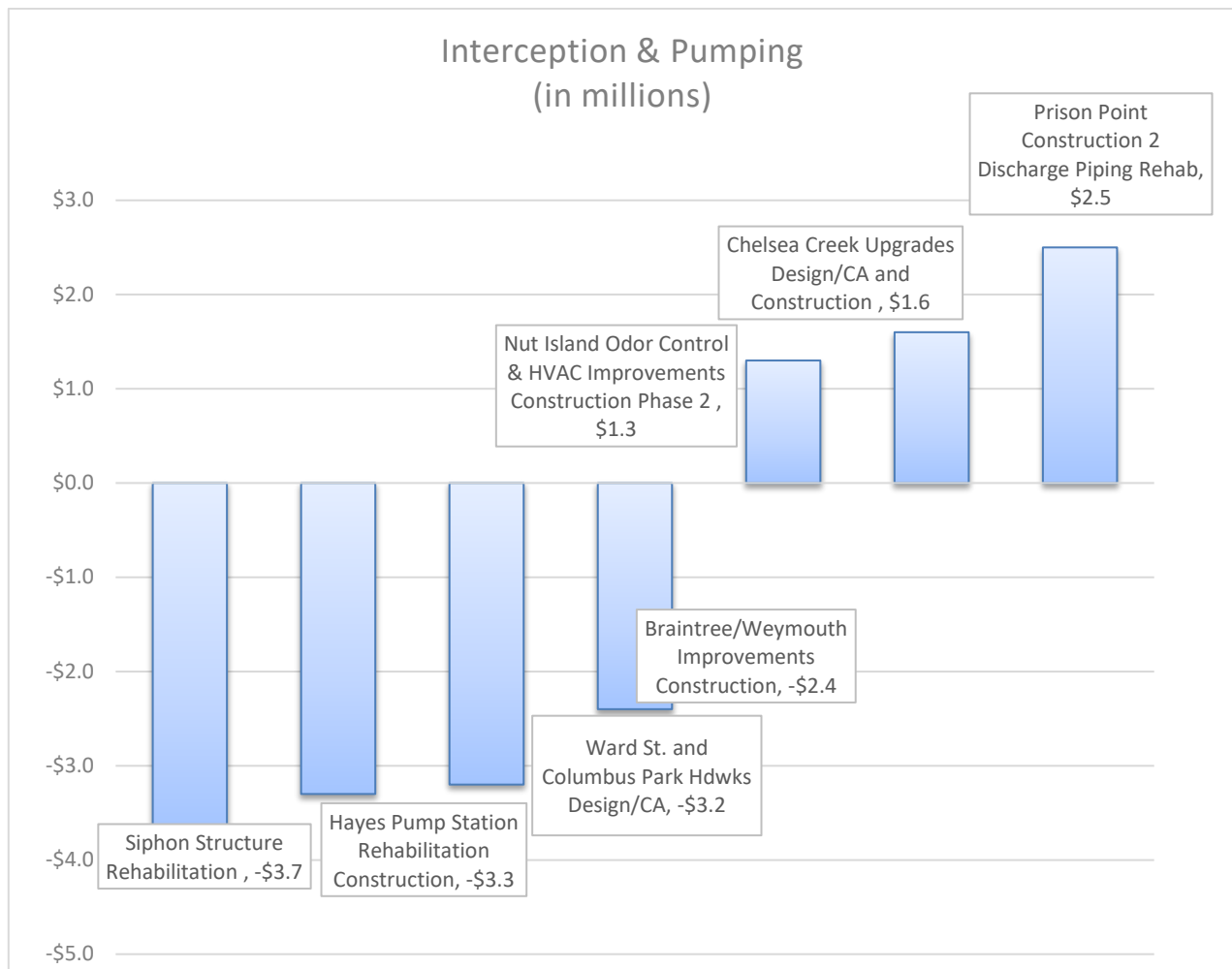
FY24 Spending Variances

Program	Budgeted Spending	Actual Spending	Variance to Budget		% Actual Spending to Total Spending
			\$	%	
Total Wastewater System	\$137,646,777	\$93,999,674	(\$43,647,103)	-31.7%	45%
Interception & Pumping	\$31,024,406	\$20,411,206	(\$10,613,200)	-34.2%	10%
Treatment	\$56,228,652	\$41,392,304	(\$14,836,348)	-26.4%	20%
Residuals	\$0	\$0	\$0	#DIV/0!	0%
Combined Sewer Overflow	\$7,458,585	\$10,241,668	\$2,783,083	37.3%	5%
Other Wastewater Programs	\$42,935,134	\$21,954,493	(\$20,980,641)	-48.9%	11%
Total Waterworks System	\$141,742,114	\$104,956,157	(\$36,785,957)	-26.0%	50%
Drinking Water Quality Improvements	\$3,982,134	\$2,595,317	(\$1,386,817)	-34.8%	1%
Transmission	\$66,175,466	\$39,273,208	(\$26,902,258)	-40.7%	19%
Distribution and Pumping	\$47,087,476	\$31,310,180	(\$15,777,296)	-33.5%	15%
Other Waterworks Programs	\$24,497,038	\$31,777,452	\$7,280,414	29.7%	15%
Business & Operations Support	\$22,811,888	\$9,281,031	(\$13,530,857)	-59.3%	4%
Total MWRA	\$302,200,779	\$208,236,865	(\$93,963,913)	-31.1%	100%

FY24 Variances for Major Projects

Please see Attachment B for the full FY24 CIP variance explanations by project.

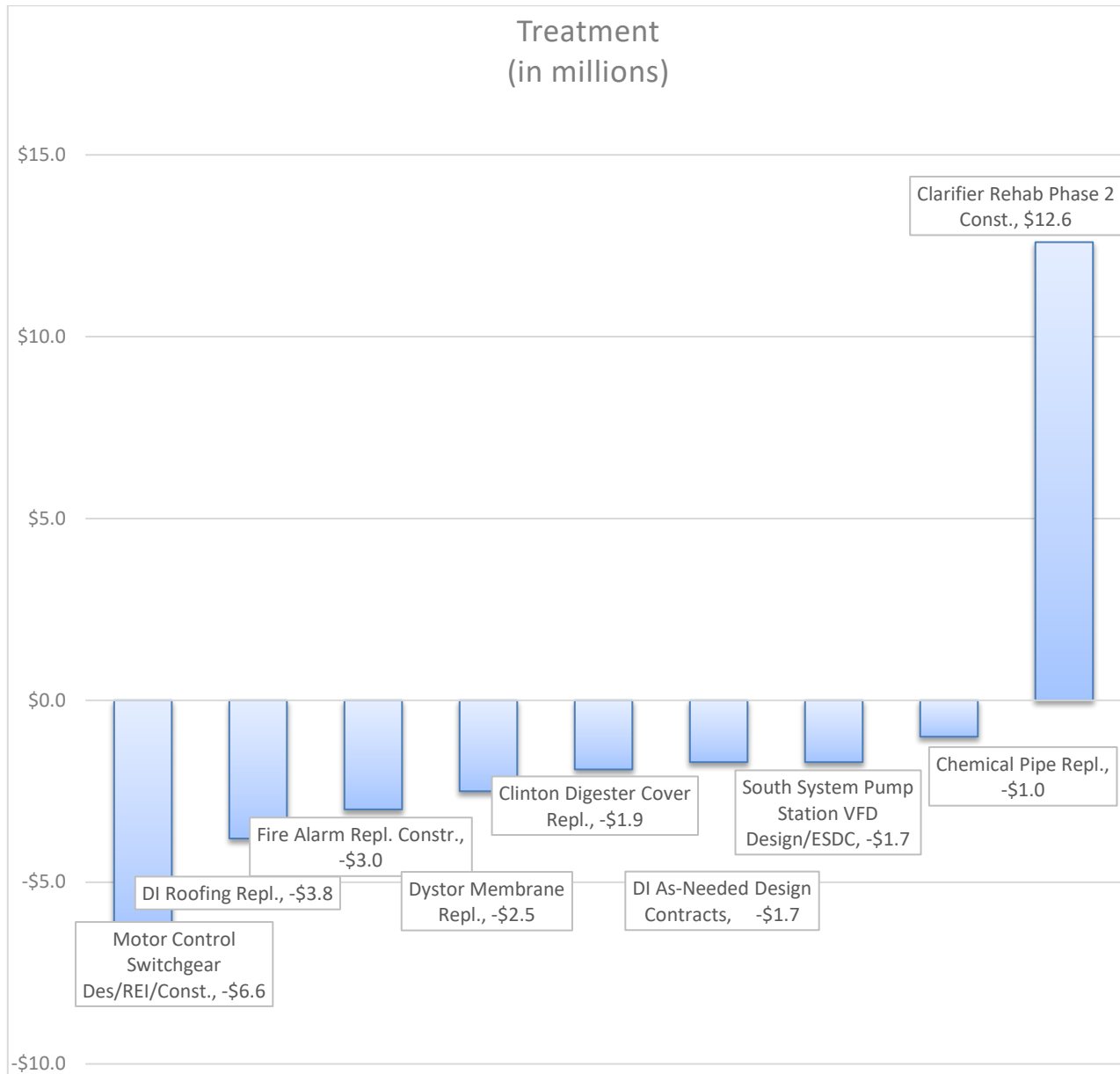
Wastewater - Interception & Pumping



- Total FY24 Planned Spending: \$31.0 million
- Total FY24 Expended: \$20.4 million
- \$10.6 million less than budgeted spending
 - Underspending on various projects, including
 - \$3.7 million for Siphon Structure Rehabilitation and \$3.3 million for Hayes Pump Station Rehabilitation Construction due to updated schedules.
 - \$3.2 million for Ward Street & Columbus Park Headworks Upgrades Design/CA due to delay in performing shaft inspections and issuing NTP for Final Design.
 - \$2.4 million for Braintree/Weymouth Improvements Construction, Construction Services and REI due to changes to the structural steel design leading to later than anticipated date for its fabrication and installation.
 - This under planned spending was partially offset by greater than planned spending of \$2.5 million for Prison Point Construction 2 Discharge Piping Rehab due to the contract award being greater than amount in the CIP, \$1.6

million for Chelsea Creek Upgrades Design/CA and Construction due to claim settlements, and \$1.3 million for Nut Island Odor Control & HVAC Improvements Construction Phase 2 due to work scheduled for FY23 performed in FY24.

Wastewater – Treatment

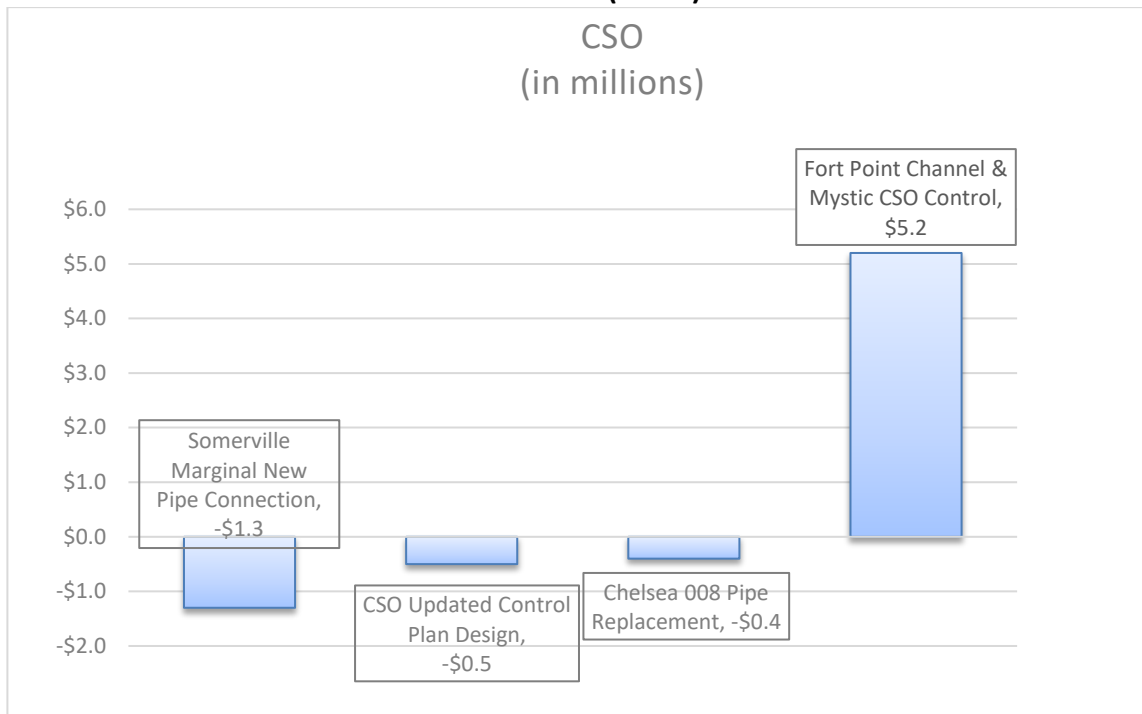


- Total FY24 Planned Spending: \$56.2 million
- Total FY24 Expended: \$41.4 million
- \$14.8 million less than budgeted spending
 - Underspending on various projects, including
 - \$6.6 million for Motor Control Center & Switchgear Replacement Design/ESDC/REI and Construction, \$3.8 million for DITP Roofing

Replacement, \$2.5 million for DiStor Membrane Replacements, \$3.0 million for Fire Alarm System Replacement Construction and REI, \$1.9 million for Clinton Treatment Plant Digester Covers, \$1.0 million for Chemical Pipe Replacement Construction, \$0.8 million for Gas Protection System Replacement, \$0.7 million for Combined Heat and Power Design/ESDC/REI, and \$0.6 million for Odor Control Rehabilitation - Design/ESDC all due to schedule changes.

- \$1.7 million for Deer Island As-Needed Design contracts due to lower than projected task order work, and \$1.7 million for South System Pump Station VFD Replacement Design due to Design Report phase being more complicated than originally anticipated.
- \$0.5 million for Clinton Clariflocculator Valve Replacement due to work being incorporated into Clinton Rehabilitation contract.
- This under planned spending was partially offset by greater than planned spending of \$12.6 million for Clarifier Rehabilitation Phase 2 Construction due to equipment received ahead of schedule, and \$0.5 million for Digester & Storage Tank Rehabilitation - Design/ESDC due to consultant starting work sooner than originally planned.

Wastewater - Combined Sewer Overflows (CSO's)



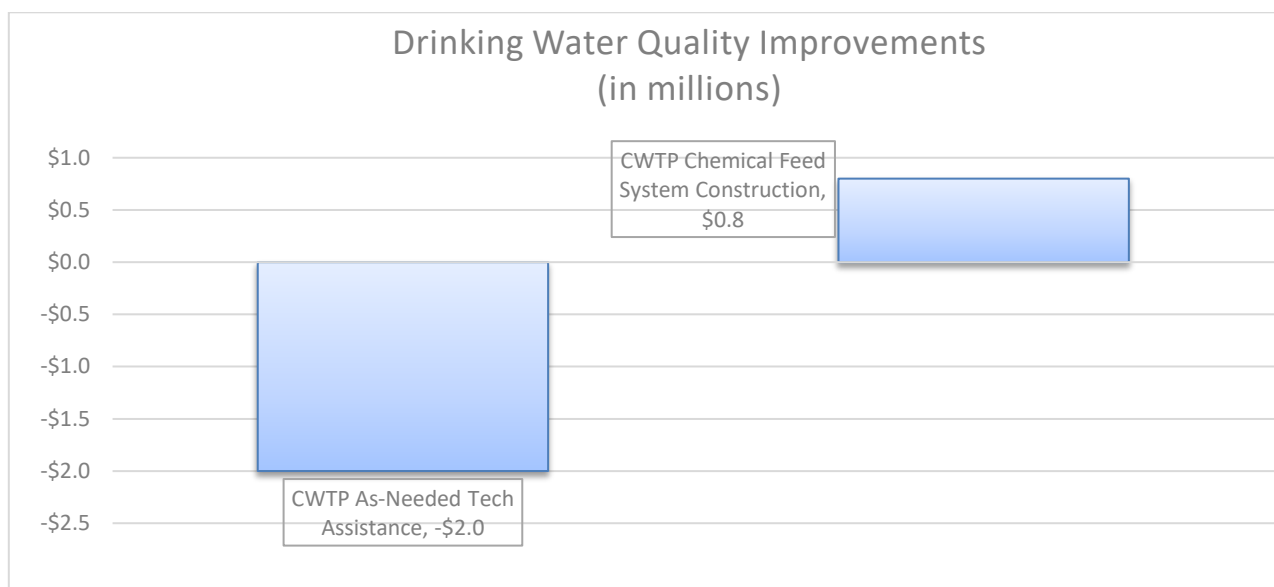
- Total FY24 Planned Spending: \$7.5 million
- Total FY24 Expended: \$10.2 million
- Greater than budgeted spending of \$2.8 million
 - \$5.2 million for Fort Point Channel & Mystic due to timing of Community Managed CSO payments.

- This greater than planned spending was partially offset by under planned spending of \$1.3 million for Somerville Marginal New Pipe Connection, and \$0.5 million for CSO Updated Control Plan Design due to updated schedules, and \$0.4 million for Chelsea 008 Pipe Replacement due to work scheduled for FY24 performed in FY23.

Wastewater - Other

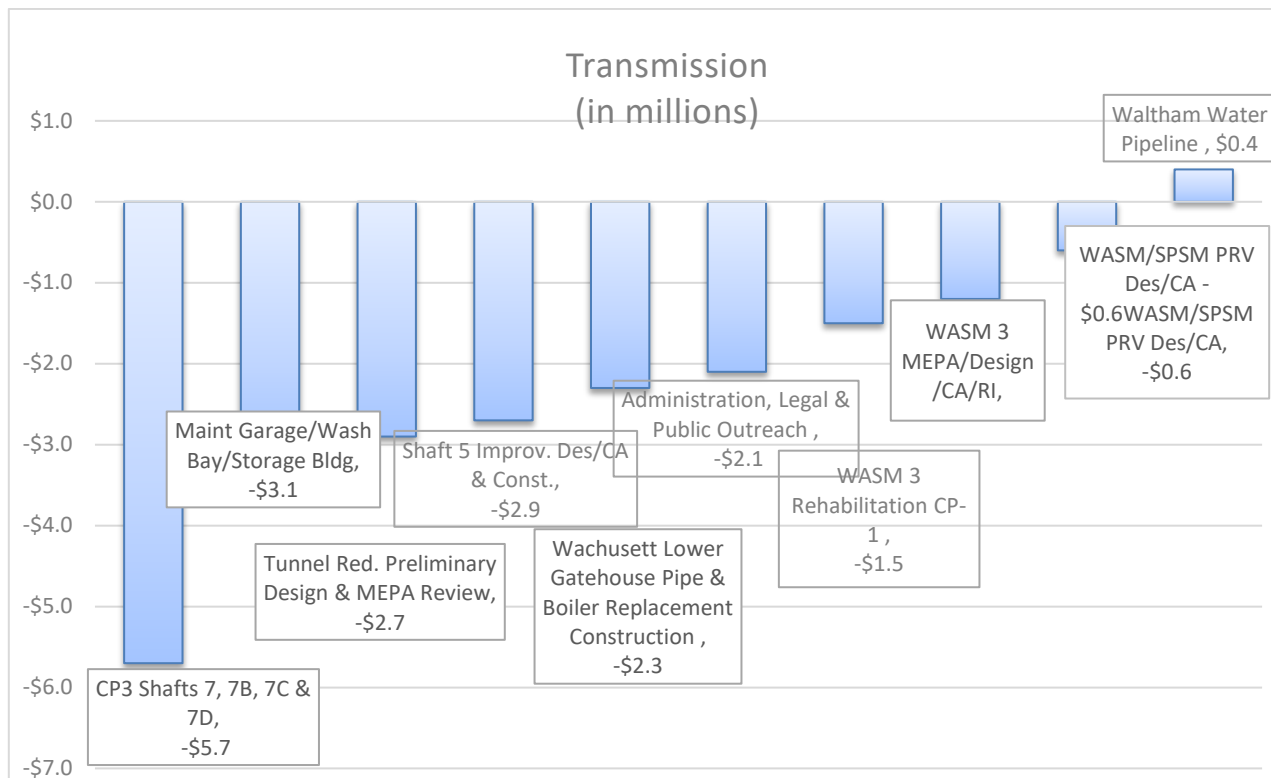
- \$21.0 million less than planned spending for Community I/I due to timing of community distributions of grants and loans.

Waterworks - Drinking Water Quality Improvements



- Total FY24 Planned Spending: \$4.0 million
- Total FY24 Expended: \$2.6 million
- \$1.4 million less than planned spending
 - \$2.0 million for the John Carroll Water Treatment Plant (JCWTP) Technical Assistance due to lower than projected task order work, partially offset by \$0.8 million for JCWTP Chemical Feed System Improvements Construction due to work scheduled for FY23 that was performed in FY24.

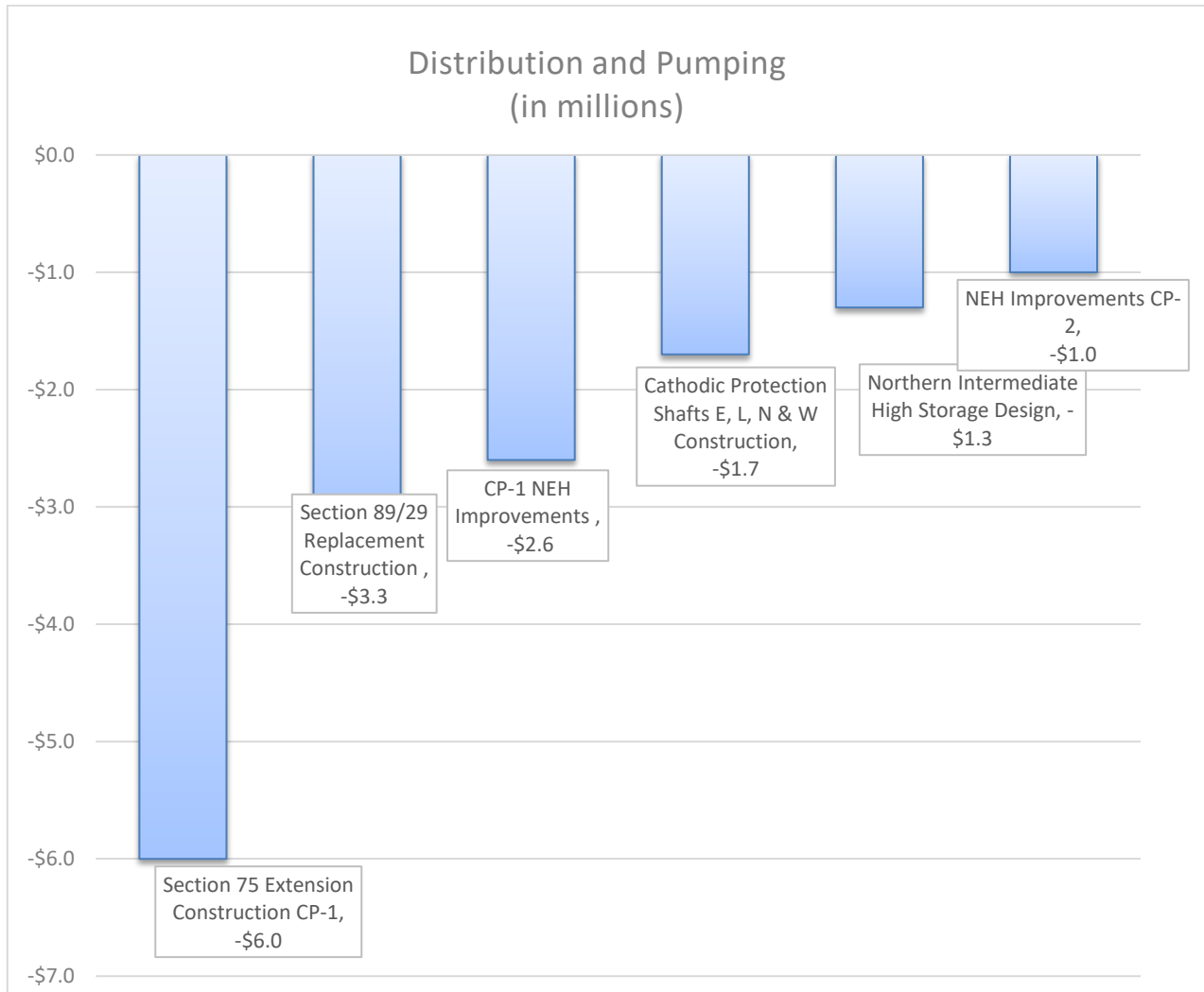
Waterworks – Transmission



- Total FY24 Planned Spending: \$66.2 million
- Total FY24 Expended: \$39.3 million
- \$26.9 million less than budgeted spending
 - Underspending on various projects, including
 - \$5.7 million for CP3 Shafts 7, 7B, 7C & 7D, \$3.1 million for Maintenance Garage/Wash Bay/Storage Building Construction, and \$2.9 million for Shaft 5 Improvements Design/CA and Construction all due to updated schedules.
 - \$2.7 million for Tunnel Redundancy Preliminary Design & MEPA Review, \$1.2 million for WASM 3 MEPA/Design/CA/RI, and \$0.6 million for WASM/SPSM Pressure Reducing Valves (PRVs) Design/CA due to less than anticipated consultant work.
 - \$2.3 million for Wachusett Lower Gatehouse Pipe & Boiler Replacement Construction due to longer lead-time on some larger items and a change in design for the multi-orifice valve.
 - \$2.1 million for Administration, Legal & Public Outreach due to timing of costs.
 - \$1.5 million for WASM 3 Rehabilitation CP-1 due to work scheduled for FY24 performed in FY23.
 - \$0.9 million for Program Support Services due to less than anticipated services.

- \$0.8 million for Watershed Land Acquisition due to less than anticipated land purchases.
- This under planned spending was partially offset by greater than planned spending of \$0.4 million for Waltham Water Pipeline due to work scheduled in FY23 that was performed in FY24.

Waterworks - Distribution and Pumping



- Total FY24 Planned Spending: \$47.1 million
- Total FY24 Expended: \$31.3 million
- \$15.8 million less than budgeted spending
 - Underspending on various projects, including
 - \$6.0 million for Section 75 Extension Construction CP-1, \$1.7 million for Cathodic Protection Shafts E, L, N & W Construction, \$1.3 million for

Northern Intermediate High Storage Design, and \$1.0 million for NEH Improvements CP-2 due to updated schedules.

- \$3.3 million for Section 89/29 Replacement Construction due to less than anticipated contractor progress.
- \$2.6 million for CP-1 NEH Improvements due to timing of final work including paving.

Waterworks - Other

- Total FY24 Planned Spending: \$24.5 million
- Total FY24 Expended: \$31.8 million
- \$7.3 million greater than planned spending
 - 12.1 million For Local Financial Assistance due to greater than anticipated requests for community loans.
 - This over planned spending was partially offset by less than planned spending of \$3.9 million for Steel Tank Improvements due to updated schedules.

Business & Operations Support

- Total FY24 Planned Spending: \$22.8 million
- Total FY24 Expended: \$9.3 million
- \$13.5 million less than budgeted spending
 - \$3.9 million for Cabling due to timing and scheduling of work including identifying available conduit paths and verification of phone & network data jack locations.
 - \$2.3 million for As-Needed Design Contracts due to lower than projected task order work.
 - \$2.3 million for FY24-28 Vehicle Purchases due to industry shift to a just-in-time purchase model adding between 9 months to two years for acquisition of large vehicles.
 - \$1.5 million for Security Equipment & Installation due to delays with upgrades to communication circuits, security cameras, and back-up of the head-end of intrusion alarms.
 - \$1.1 million for Pre-Treatment Information Management System (PIMS) Replace or Build due to updated schedule.
 - \$0.5 million for Lawson Upgrade due to timing of vendor invoicing.

FY24 CIP Contract Awards

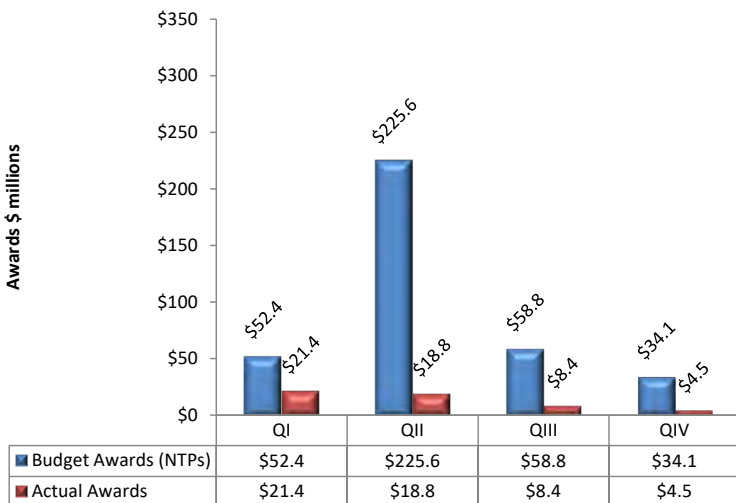
The FY24 CIP planned the award of 77 contracts with a value of \$371.2 million. During FY24, the MWRA awarded 17 contracts valued at \$53.1 million, representing 21% of contracts and 14% of contract funding. Of the 77 planned awards, 17 contracts were awarded, 37 are expected to be awarded in FY25, 23 have been rescheduled beyond FY25, and 4 are being done in-house, were deleted, renamed, or scope moved to another contract. Of the 37 contracts that shifted to FY25:

8 were due to permitting issues, 19 due to scope changes, 5 due to changes in priorities, and 5 due to bidder issues/outside consultant/contractor delays/additional specification review.

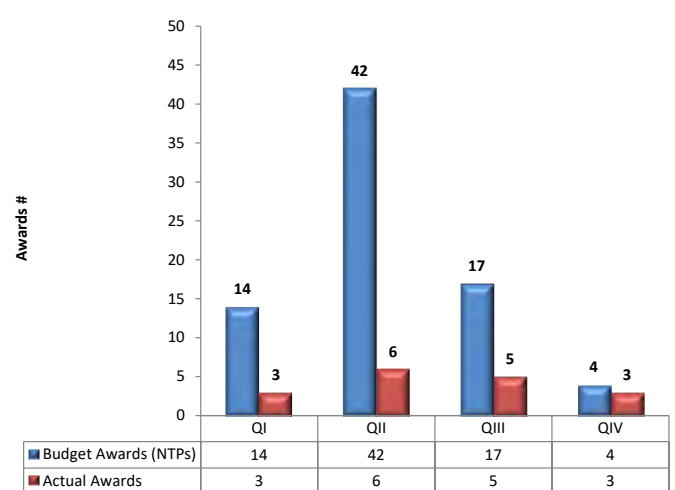
A comparison of the FY24 budgeted contracts and the FY24 actual contract awards are detailed below:

FY24 Contracts (\$ in Millions)				
Program	Budget		Actuals	
	#	\$	#	\$
Total MWRA	77	\$371.2	17	\$53.1
Wastewater	38	231.4	8	31.3
Waterworks	32	128.4	6	12.3
Business Operations & Support	7	11.5	3	9.5

FY24 Budget and Actual Awards (\$)



FY24 Budget and Actual Awards (#)



Please refer to Attachment C for a full listing of contracts planned to be awarded in FY24 and actual awards.

Change Orders Review

Management of change orders remains a top priority. Total change orders for MWRA-managed active capital projects were 2.7% of award value through June 2024. This percentage is within the target of 10% for change orders as a percentage of awards.

Master Plan and the FY24 CIP Process

To arrive at the FY24 Final CIP, the Authority identified the needs of the 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, 2019, and is expected to be updated in 2024/2025. The Master Plan serves as a road map for inclusion of projects in the CIP in every budget cycle.

The updated Master Plans focused on capital needs over the next 40-years and are intended to be the principal framework for annual capital planning. The Plans focus on projects that require capital spending during the next two 5-year CIP cap cycles: FY24-28 and FY29-33. Potential capital needs during the next 10-year (FY34-43) and 20-year (FY44-63) planning periods will also be identified.

FY24-28 Spending Cap

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. Net MWRA spending during the FY24-28 timeframe is planned to be \$1,321.1 million, with additional net spending of \$242.6 million for the community I/I (Infiltration and Inflow) loan and grant program and \$130.9 million for the community water pipeline loan program. Annual cash flows for the Cap period are shown below in millions:

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 Tunnel 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.

FY25 Outlook Based on FY25 CIP

Looking ahead to FY25, the projected capital spending is \$347.9 million with program spending of \$176.7 million for Wastewater System Improvements, \$145.8 million for Waterworks System Improvements, and \$25.3 million for Business and Operations Support. 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 Tunnel Redundancy Final Design (\$10.0 million) and NIH Redundancy & Storage - Section 89 & 29 Replacement Construction (\$9.3 million).

In FY25, 77 contracts or phases of projects with a total budget of \$371.0 million are expected to be awarded. 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 \$229.2 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.

Please see Attachment E for FY25 Planned Contract Awards.

ATTACHMENT B
FY24 CIP Variance Report (\$000s)

	FY24 Budget June	FY24 Actuals June	Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$31,024	\$20,411	(\$10,613)	-34.2%	<u>Less than planned spending</u> Siphon Structure Rehabilitation Construction and REI: \$3.7M, Hayes Pump Station Rehabilitation: \$3.3M, Fuel Oil Tank Replacement Construction Phase 3: \$500k, Cottage Farm PCB Abatement Design/CA: \$450k, and West Roxbury Tunnel Inspection: \$325k (updated schedules) Ward Street & Columbus Park Headworks Upgrades Design/CA: \$3.2M (delay in performing shaft inspections and issuing NTP for Final Design) Braintree/Weymouth Improvements Construction, Construction Services and REI: \$2.4M (changes to the structural steel design leading to later than anticipated date for its fabrication and installation) <u>Greater than planned spending</u> Prison Point Construction 2 Discharge Piping Rehab: \$2.5M (award greater than budget) Chelsea Creek Upgrades Design/CA and Construction: \$1.6M (claim settlements) Nut Island Odor Control & HVAC Improvements Construction Phase 2: \$1.3M (work scheduled for FY23 performed in FY24)
Treatment	\$56,229	\$41,392	(\$14,836)	-26.4%	<u>Less than planned spending</u> MCC & Switchgear Replacement Des/Constr: \$6.6M, DITP Roofing Replacement: \$3.8M, DiStor Membrane Replacements: \$2.5M, Fire Alarm System Replacement Constr/REI: \$3.0M, Clinton Treatment Plant Digester Covers: \$1.9M, Chemical Pipe Replacement Construction: \$1.0M, Gas Protection System Replacement: \$750k, Combined Heat and Power Design/ESDC/REI: \$714k, and Odor Control Rehabilitation - Design/ESDC: \$568k (updated schedules) DITP As-Needed Design: \$1.7M (lower than projected task order work) SSPS VFD Replacement - Design/ESDC/REI: \$1.7M (Design Report phase more complicated than originally anticipated) Clinton Clariflocculator Valve Replacement: \$500k (work will be incorporated into Clinton Rehabilitation contract) <u>Greater than planned spending</u> Clarifier Rehabilitation Phase 2 Construction: \$12.6M (equipment received ahead of schedule) Digester & Storage Tank Rehabilitation - Design/ESDC: \$496k (consultant began work sooner than originally planned)

ATTACHMENT B
FY24 CIP Variance Report (\$000s)

	FY24 Budget June	FY24 Actuals June	Actuals vs. Budget		Explanations
			\$	%	
Residuals	\$0	\$0	\$0	0.0%	
CSO	\$7,459	\$10,242	\$2,783	37.3%	<u>Greater than planned spending</u> Fort Point Channel & Mystic: \$5.2M (timing of Community Managed CSO payments) <u>Less than planned spending</u> Somerville Marginal New Pipe Connection: \$1.3M, and CSO Updated Control Plan Design: \$500k (updated schedules) Chelsea 008 Pipe Replacement: \$445k (work scheduled for FY24 performed in FY23)
Other Wastewater	\$42,935	\$21,954	(\$20,981)	-48.9%	<u>Less than planned spending</u> I/I Local Financial Assistance: \$21.0M (less than anticipated requests for community grants and loans)
Total Wastewater	\$137,647	\$94,000	(\$43,647)	-31.7%	
Waterworks					
Drinking Water Quality Improvements	\$3,982	\$2,595	(\$1,387)	-34.8%	<u>Less than planned spending</u> CWTP Technical Assistance: \$2.0M (lower than projected task order work) <u>Greater than planned spending</u> CWTP Chemical Feed System Improvements Construction: \$836k (work scheduled for FY23 performed in FY24)

ATTACHMENT B
FY24 CIP Variance Report (\$000s)

	FY24 Budget June	FY24 Actuals June	Actuals vs. Budget		Explanations
			\$	%	
Transmission	\$66,175	\$39,273	(\$26,902)	-40.7%	<p><u>Less than planned spending</u> CP3 Shafts 7, 7B, 7C & 7D: \$5.7M, Maintenance Garage/Wash Bay/Storage Building - Design/CA/RI and Construction: \$3.1M, Shaft 5 Improvements: \$2.9M, Quinapoxet Dam Removal Construction: \$1.8M, Sudbury/Foss Dam Improvements: \$796k, and Foss Reservoir 3 Sluice Gates - Repoint Construction: \$400k (updated schedules) Tunnel Redundancy Preliminary Design & MEPA Review: \$2.7M (less than anticipated consultant work) Wachusett Lower Gatehouse Pipe & Boiler Replacement Construction: \$2.3M (longer lead time on some larger items and a change in design for the multi-orifice valve) Administration, Legal & Public Outreach: \$2.1M (timing of administration, legal and public acquisition costs) WASM 3 Rehabilitation CP-1: \$1.5M (work scheduled for FY24 performed in FY23) WASM 3 - MEPA/Design/CA/RI: \$1.2M (timing of consultant work) Program Support Services: \$945k (less than anticipated services) Watershed Land Acquisition: \$804k (timing of land purchases) WASM/SPSM Pressure Reducing Valve - Design/CA: \$631k (less than anticipated consultant services)</p> <p><u>Greater than planned spending</u> Waltham Water Pipeline Construction: \$370k (work scheduled in FY23 performed in FY24)</p>
Distribution & Pumping	\$47,087	\$31,310	(\$15,777)	-33.5%	<p><u>Less than planned spending</u> Section 75 Extension Construction CP-1: \$6.0M, Cathodic Protection Shafts E, L, N & W: \$1.7M, Northern Intermediate High Storage Design: \$1.3M, and NEH Improvements CP-2 : \$1.0M (updated schedules) Section 89/29 Replacement Construction: \$3.3M (less than anticipated contractor progress) NEH Improvements CP-1: \$2.6M (timing of final work including paving which commenced in June) Northern Extra High Service Legal: \$700k (less than anticipated legal expenses) New Connecting Mains CP3-Sections 23, 24 & 47 Rehabilitation: \$569k (final paving work has been delayed multiple times. Work started in June)</p> <p><u>Greater than planned spending</u> CP-2, Sections 25 & 24 Construction: \$2.8M (contractor progress)</p>

ATTACHMENT B
FY24 CIP Variance Report (\$000s)

	FY24 Budget June	FY24 Actuals June	Actuals vs. Budget		Explanations
			\$	%	
Other Waterworks	\$24,497	\$31,777	\$7,280	29.7%	<u>Greater than planned spending</u> Local Water Pipeline Financial Assistance Program: \$12.1M (greater than anticipated requests for community loans) CWTP SCADA Upgrades Construction: \$442k (contractor progress) Electrical Distribution Upgrades at Southborough: \$344k (work planned for FY23 performed in FY24) <u>Less than planned spending</u> Steel Tank Improvements: \$3.9M, and Other Design and Programming Services: \$660k (updated schedules)
Total Waterworks	\$141,742	\$104,956	(\$36,786)	-26.0%	
Business & Operations Support					
Total Business & Operations Support	\$22,812	\$9,281	(\$13,531)	-59.3%	<u>Less than planned spending</u> Cabling: \$3.9M (timing and scheduling of work including identifying available conduit paths and verification of phone & network data jack locations) As-Needed Design Contracts: \$2.3M (lower than projected task order work) FY24-28 Vehicle Purchases: \$2.3M (industry shift to just-in-time purchase model adding between 9 months to 2 years for acquisition of large vehicles) Security Equipment & Installation: \$1.5M (delays with upgrades to communication circuits, security cameras, and back-up of the head-end of intrusion alarms) Pre-Treatment Information Management System (PIMS) Replace or Build: \$1.1M (updated schedule) Lawson Upgrade: \$543k (slower than anticipated vendor invoicing) Edge Switches: \$538k (due to dependencies with other projects including Cabling, some planned spending has been delayed) Enterprise Data Management: \$519k (due to competing priorities, this project isn't expected to start until February 2025) <u>Greater than planned spending</u> Office Space Modifications: \$1.4M (FY23 planned work completed in FY24)
Total MWRA	\$302,201	\$208,237	(\$93,964)	-31.1%	

ATTACHMENT C
FY24 CIP Planned Awards

Project	Contract No.	Subphase	FY24 Notice to Proceed	Total Contract Amount (\$ in millions)	Award Amount (\$ in millions)	Vendor	Schedule Change Reason Code *	Secondary Codes*
IT Infrastructure Program	7663	Disaster Recovery	Jul-23	1.0			3	6
IT Infrastructure Program	7664	Instrumentation & Controls IT	Jul-23	0.3			2	
Facility Asset Protection	7392	Cottage Farm PCB Abatement - Design/CA	Jul-23	1.8			3	7
Clinton Wastewater Treatment Plant	8071	Influent Sampler Enclosure	Jul-23	0.2			2	
Central Monitoring System	7583	Other Design and Programming Services	Jul-23	2.9			6	
Facility Asset Protection	7989	Belle Isle Rehab Des/ESDC/REI	Aug-23	1.9			3	7
DI Treatment Plant Asset Protection	7734	DITP Roofing Replacement	Aug-23	9.0	8.9	Greenwood Industries, Inc.	1	
Clinton Wastewater Treatment Plant	7735	Clinton Clariflocculator Valve Repl.	Aug-23	1.1			2	
DI Treatment Plant Asset Protection	6730	Combined Heat & Power Design/ESDC/REI	Sep-23	14.5			3	5
DI Treatment Plant Asset Protection	8018	As-Needed Design 10-1	Sep-23	2.4	2.4	Hazen and Sawyer	1	
DI Treatment Plant Asset Protection	7981	As-Needed Design 10-2	Sep-23	2.4	2.4	AECOM Technical Services	1	
DI Treatment Plant Asset Protection	7982	As-Needed Design 10-3	Sep-23	2.4	2.4	CDM Smith, P.C.	1	
Waterworks Facility Asset Protection	7676	Steel Tanks Improvement REI	Sep-23	1.1			3	5
Waterworks Facility Asset Protection	7493	Steel Tank/Improvement Construction	Sep-23	11.5			3	5
Info Security Program ISP	7440	Information Security Assessments	Oct-23	0.4			3	6
Hydraulic Relief Projects	7985	Somerville Marginal New Pipe Connection	Oct-23	1.7			3	5
Hydraulic Relief Projects	8070	Somerville Marginal New Pipe Connection REI	Oct-23	0.5			3	5
Siphon Structure Rehabilitation	6225	Construction	Oct-23	8.3			3	4
Siphon Structure Rehabilitation	7996	Siphon Structure Phase 1 REI	Oct-23	1.0			3	4
Facility Asset Protection	7689	Somerville-Marginal CSO Facility Rehab Des/CA	Oct-23	3.0			3	5
Facility Asset Protection	8013	Prison Point Const. 2 Discharge Piping Rehab	Oct-23	0.8	2.5	R. Zoppo Corp.	1	
DI Treatment Plant Asset Protection	7110	HVAC Design/ESDC	Oct-23	3.0			3	5
Clinton Wastewater Treatment Plant	7648	Digester Cover Replacement	Oct-23	2.1			3	5
New Connect Mains-Shaft 7 to WASM 3	7484	Section 75 Extension - Construction CP-1	Oct-23	14.0			3	4
New Connect Mains-Shaft 7 to WASM 3	8067	Sect 75 Extension REI CP-1	Oct-23	1.2			3	4
CWTP Asset Protection	7755	CWTP Parapet Wall Repairs	Oct-23	0.8	1.4	G.V.W., Inc.	1	
Dam Projects	7615	Sudbury Res. Dam Spillway & Gatehouse Vent Rep.	Oct-23	3.2	2.0	Ardent Group, Inc.	1	
Metro Redundancy Interim Impr.	7600	Shaft 5 Building Improvement Construction	Oct-23	3.0			5	
Metro Redundancy Interim Impr.	7670	CP3 Shafts 7, 7B, 7C, 7D	Oct-23	8.6			5	
Metro Redundancy Interim Impr.	7673	Shaft 5 Improvement REI	Oct-23	0.3			5	
Metro Redundancy Interim Impr.	7703	CP3 Tops of Shafts REI	Oct-23	0.3			5	
Facility Asset Protection	7637	Fuel Oil Tank Replacement Construction Phase 3	Nov-23	3.8			3	7
DI Treatment Plant Asset Protection	6852	Chemical Pipe Replacement - Construction	Nov-23	7.0			3	5
DI Treatment Plant Asset Protection	7052	Digester & Storage Tank Rehab Design/ESDC	Nov-23	6.0	10.0	CDM Smith	1	
DI Treatment Plant Asset Protection	7135	DI DiStor Membrane Replacements	Nov-23	5.0			3	7
Waterworks Facility Asset	8021	Brutsch Treatment Plant Sodium Hypo Upgrade	Nov-23	0.7			4	
Quabbin Transmission Syst.	8061	Heat Pumps WLGH/N.Nep/Newt PS	Nov-23	1.1			5	
Dam Projects	7348	Quinapoxet Dam Removal - Construction	Nov-23	2.0	2.5	Lucianos Excavation, Inc.	1	
Dam Projects	7690	Quinapoxet Rem Dam REI	Nov-23	0.1			2	
Metro Redundancy Interim Impr.	7671	CP2 Shafts 5	Nov-23	4.9	5.4	E. Zoppo Corp.	1	
Metro Redundancy Interim Impr.	7702	CP2 Tops of Shafts REI	Nov-23	0.5	0.9	Mott MacDonald	1	
Applicat Improv Program	7286	Lawson Upgrade	Dec-23	7.6	8.8	RPI Consultants	1	
Facility Asset Protection	7375	Hayes Pump Station Rehab Construction	Dec-23	19.5			3	4
Facility Asset Protection	7668	Hayes Pump St Rehab REI	Dec-23	1.0			3	4
Facility Asset Protection	7827	Hingham Pump Station Rehab Design	Dec-23	1.9			3	5
DI Treatment Plant Asset Protection	7051	Fire Alarm System Replacement - Construction	Dec-23	35.0			3	5

ATTACHMENT C
FY24 CIP Planned Awards

DI Treatment Plant Asset Protection	7088	Odor Control Rehab - Design/ESDC	Dec-23	8.5			3	5
DI Treatment Plant Asset Protection	7169	Gas Protect System Replacement Phase 2	Dec-23	5.5			3	5
DI Treatment Plant Asset Protection	7397	Clarifier Rehab Phase 2 - REI	Dec-23	7.3			3	5
DI Treatment Plant Asset Protection	7420	MCC & Switchgear Replace Construction	Dec-23	23.5			3	7
DI Treatment Plant Asset Protection	7426	Fire System Replacement - REI	Dec-23	4.8			3	5
Northern Extra High Serv New Pipeline	7725	CP-2 NEH Improvements	Dec-23	20.7			3	4
Northern Extra High Serv New Pipeline	8004	REI CP-2	Dec-23	1.5			3	4
Central Monitoring System	7585	Other Equipment/Hardware	Dec-23	0.8			6	
Watershed Div Cap Impr	7569	QAB Concept Design Report	Dec-23	0.3			3	5
Watershed Div Cap Impr	7577	Maint Gar/Wash Bay/Stor Bldg Construction	Dec-23	4.8			3	6
Application Improvement Program	7666	PI (OSI)	Jan-24	0.3			6	
Info Security Program ISP	7657	ITSM Access Management	Jan-24	0.3			3	6
West Roxbury Tunnel	6898	Tunnel Inspection	Jan-24	0.7	1.7	Black Dog Divers, Inc.	1	
Facility Asset Protection	7421	Sections 4, 5, 6, 186 - Design CA/RI	Jan-24	2.0			6	
Cathodic Protection Of Distribution Mains	6439	Cathodic Protection Shafts E,L,N&W Construction	Jan-24	5.1			5	
Cathodic Protection Of Distribution Mains	7610	Cathodic Protection Shafts E,L,N&W REI	Jan-24	1.0			5	
NIH Redundancy & Storage	7311	NIH Storage - Design	Jan-24	6.7			5	
Waterworks Facility Asset Protection	7711	Masonry/Structural Repairs Condition Assessment/Evaluation	Jan-24	1.1			5	
Dam Projects	8058	Foss Reservoir 3 Sluice Gates-Repoint Construction	Jan-24	1.2			6	
Waterworks Facility Asset Protection	7729	Beacon St Line Des/ESDC	Feb-24	4.9			5	
Application Improvement Program	7650	MAXIMO Upgrade	Mar-24	1.6			6	
DI Treatment Plant Asset Protection	7139	Cryo Plant Equipment Repl Design-ESDC-REI	Mar-24	6.3			3	6
Clinton Wastewater Treatment Plant	7591	Screw Pump Replacement Phase 2 Construction	Mar-24	3.5			3	5
South Spine Distribution Mains	7120	Section 22 - Design/ESDC	Mar-24	2.7			5	
Waterworks Facility Asset Protection	7727	Steel Tank Improvement Construction Phase 2	Mar-24	7.1			3	5
Waterworks Facility Asset Protection	7728	Steel Tank Improvement REI Phase 2	Mar-24	0.8			3	5
Metropolitan Redundancy Interim Improvements	6543	WASM 3 Rehab CP-2	Mar-24	13.7			5	
Facility Asset Protection	7410	CB1 Sect 23, 24, 25, 26 Des/ESDC	Apr-24	2.0			5	
DI Treatment Plant Asset Protection	6725	Barge Berth Des/ESDC/REI	Apr-24	4.0			5	
DI Treatment Plant Asset Protection	7094	HVAC Equip Replacement REI	Jun-24	6.2			6	
DI Treatment Plant Asset Protection	7745	HVAC Control System Replacement	Jun-24	22.0			6	

77 Total Planned Contracts

\$371.2

13 Planned Awards Achieved

\$51.1

Unplanned contracts

Dam Projects	7615A	Embankment Raising at Wachusett North Dike	Oct-23	1	0.3	SumCo Eco Contracting, Inc.	1	
Facility Asset Protection	8100	Columbus Park Headworks Emergency Replacement of Air Handling Equipment		0.1	1.1	CAM HVAC & Construction	1	
Technical Assistance	620TA	Technical Assistance Hazardous Materials			0.3	Hydro Environmental Technology, Inc.	1	
Technical Assistance	621TA	Technical Assistance Hazardous Materials			0.3	BETA Group	1	

4 Unplanned Awards Achieved

\$2.0

17 Total Awards in FY24

\$53.1

ATTACHMENT C
FY24 CIP Planned Awards

*** Reason Codes:**

1. NTP issued in FY24
2. Project/Phase eliminated or being performed in-house; combined with another project, or phase completed but on hold.
3. NTP expected in FY25
4. Schedule change due to permitting.
5. Scope changes.
6. Changes in priorities.
7. Bidder Issue/Outside Design Delay/Contractor issue/Additional specifications review

ATTACHMENT D
Linear Footage of Rehabilitated or New Pipelines
FY24 (July 2023 - June 2024)

	<u>Contract #</u>	<u>Type</u>	<u>Linear Feet</u>
<u>WASTEWATER PROJECTS</u>			
Braintree-Weymouth Pump Station Improvements	7366	New	400
Prison Point Facility Discharge Header Rehab	7548	New	100
<u>WATERWORKS PROJECTS</u>			
Waltham Section 101 Extension Construction	7067	New	4,200
CP-2 Sections 24 & 25	6522	New	4,154
		Rehab	3,162
NIH Sections 89 & 29 Replacement	7117	New	1,637
CP-3 Sections 23,24,47 Rehab	6392	New	1,429
		Rehab	6,578
<u>TOTAL PIPELINE REHABILITATED OR CONSTRUCTED IN FY24</u>			
	<u>Linear Feet</u>		<u>Miles</u>
Wastewater Projects	500		0.1
Water Projects	<u>21,160</u>		<u>4.0</u>
Total	21,660		4.1

ATTACHMENT E
FY25 Planned Contract Awards

Project	Contract No.	Subphase	Notice to Proceed	FY25 Final Budget (\$ in millions)
Application Improvements Program	8088	PI Vision Process Book Replace	Jul-24	\$0.2
Application Improvements Program	8096	Hyperion v.2	Jul-24	\$0.3
Information Security Program (ISP)	7657	ITSM Access Management	Jul-24	\$0.3
IT Infrastructure Program	7664	Instrumentation & Controls IT	Jul-24	\$0.3
IT Infrastructure Program	8097	Oracle Database Appliance v.2	Jul-24	\$0.5
Siphon Structure Rehabilitation	6225	Construction	Jul-24	\$8.3
Siphon Structure Rehabilitation	7996	Siphon Structure Phase 1 REI	Jul-24	\$1.0
West Roxbury Tunnel	6898	Tunnel Inspection	Jul-24	\$1.2
New Connect Mains-Shaft 7 to WASM 3	7484	Section 75 Extension - Constr. CP-1	Jul-24	\$16.9
New Connect Mains-Shaft 7 to WASM 3	8067	Sect 75 Extension REI CP-1	Jul-24	\$2.0
Waterworks Facility Asset Protection	7729	Beacon St Line Design/ESDC	Jul-24	\$4.9
Watershed Division Capital Improvements	7569	QAB Concept Design Report	Jul-24	\$0.3
IT Infrastructure Program	8092	Distributed Antenna System Upgrade	Aug-24	\$0.3
IT Infrastructure Program	8098	Servers v.2	Aug-24	\$0.2
Hydraulic Relief Projects	7985	Somerville Marginal New Pipe Connection	Aug-24	\$4.6
Hydraulic Relief Projects	8070	Somerville-Marg.New Pipe Conn. REI	Aug-24	\$0.5
Facility Asset Protection	7392	Cottage Farm PCB Abatement - Design/CA	Aug-24	\$2.7
Facility Asset Protection	7989	Belle Isle Rehab Design/ESDC/REI	Aug-24	\$2.5
Residuals Asset Protection	7145	Residuals Facility Upgrades - Design	Aug-24	\$4.0
DI Treatment Pl Asset Prot	6730	Combined Heat & Power Design/ESDC/REI	Aug-24	\$16.5
DI Treatment Pl Asset Prot	7110	HVAC Design/ESDC	Aug-24	\$4.5
Clinton Wastewater Treatment Plant	7648	Digester Cover Replacement	Aug-24	\$5.8
Waterworks Facility Asset Protection	7711	Water Tank Masonry/Strct.Condition Assessment/Evaluation	Aug-24	\$0.9
Metro Redundancy Interim Improvements	7702	CP2 Tops of Shafts REI	Aug-24	\$0.7
Facility Asset Protection	7375	Hayes Pump Station Rehab Const	Sep-24	\$22.7
Facility Asset Protection	7668	Hayes Pump Station Rehab REI	Sep-24	\$1.1
IT Infrastructure Program	7663	Disaster Recovery	Sep-24	\$1.0
IT Infrastructure Program	8091	Microsoft Office Upgrades	Sep-24	\$0.2
Facility Asset Protection	7637	Fuel Oil Tank Repl Constr. Phase 3	Sep-24	\$4.0
Facility Asset Protection	7689	Somville-Marginal CSO Facility Rehab Des/CA	Sep-24	\$3.0
DI Treatment Plant Asset Protection	7169	Gas Protection System Replacement Phase 2	Sep-24	\$6.5
Clinton Wastewater Treatment Plant	7591	Screw Pump Replacement Phase 2 Constr.	Sep-24	\$4.5

ATTACHMENT E
FY25 Planned Contract Awards

Project	Contract No.	Subphase	Notice to Proceed	FY25 Final Budget (\$ in millions)
Application Improvements Program	8095	LIMS Upgrade v.2	Oct-24	\$0.8
DI Treatment Plant Asset Protection	6728	Digester Gas Flare No 4-Design/ESDC	Oct-24	\$1.2
South Spine Distribution Mains	7120	Section 22 - Design/ESDC	Oct-24	\$3.1
NIH Redundancy & Storage	7311	NIH Storage - Design/CA/RI	Oct-24	\$6.9
CWTP Asset Protection	7595	CWTP Water Pump VFD Replacement	Oct-24	\$0.2
Waterworks Facility Asset Protection	7676	Steel Tanks Impr REI	Oct-24	\$1.1
Waterworks Facility Asset Protection	7727	Steel Tank Improvements Constr. Ph2	Oct-24	\$7.1
Waterworks Facility Asset Protection	7728	Steel Tank Improvements REI Phase 2	Oct-24	\$0.8
Waterworks Facility Asset Protection	7493	Steel Tank/Improvements Construction	Oct-24	\$9.8
Information Security Program (ISP)	8090	Data Center Firewalls	Nov-24	\$0.8
Facility Asset Protection	7410	CB1 Sect 23, 24, 25, 26 Design/ESDC	Nov-24	\$2.0
DI Treatment Plant Asset Protection	6852	Chemical Pipe Replacement - Construction	Nov-24	\$9.0
630 Watershed Div Cap Impr	7577	Maint Garage/Wash Bay/Storage Bldg Constr.	Nov-24	\$5.4
Capital Maintenance Planning	8063	As-Needed Design Contract 23	Dec-24	\$2.5
Alternative Energy Initiatives	7270	Future Renewable Energy Projects	Dec-24	\$10.0
DI Treatment Plant Asset Protection	7088	Odor Control Rehab - Design/ESDC	Dec-24	\$14.0
DI Treatment Plant Asset Protection	7137	Centrifuge Replac Design/ESCD/REI	Dec-24	\$5.2
DI Treatment Plant Asset Protection	7397	Clarifier Rehab Phase 2 - REI	Dec-24	\$7.3
NHS - Revere & Malden Pipeline	7486	Section 56 Replacement- Construction	Dec-24	\$6.7
NHS - Revere & Malden Pipeline	7681	Sect 56 Replace REI	Dec-24	\$0.6
Northern Ext High Service New Pipeline	7725	CP-2 NEH Improvements	Dec-24	\$21.0
Northern Ext High Service New Pipeline	8004	REI CP-2	Dec-24	\$1.5
Quabbin Transmission Syst.	8061	Heat Pumps WLGH/N.Nep/Newt PS	Jan-25	\$1.1
Capital Maintenance Planning	8062	As-Needed Design Contract 22	Jan-25	\$2.5
Application Improvements Program	7666	PI (OSI)	Jan-25	\$0.3
Wastewater Meter Sys-Equipment Repl.	6928	Community Unmetered Flows Eval.	Jan-25	\$2.7
Facility Asset Protection	8106	Prison Point Repack Design/CA/RI	Jan-25	\$2.3
Waterworks Facility Asset Protection	7900	Roofs Gillis/Brattle Ct./Newton REI	Jan-25	\$0.3
Waterworks Facility Asset Protection	7901	Roofs Gillis/Brattle Ct./Newton Construction	Jan-25	\$1.5
MetroWest Tunnel	8080	Shaft L Interconnect Design/ESDC	Jan-25	\$1.1
Watershed Division Capital Improvements	8073	New Salem Building Design	Jan-25	\$2.1
DI Treatment Plant Asset Protection	7051	Fire Alarm System Replacement - Construction	Mar-25	\$35.0

ATTACHMENT E
FY25 Planned Contract Awards

Project	Contract No.	Subphase	Notice to Proceed	FY25 Final Budget (\$ in millions)
DI Treatment Plant Asset Protection	7135	DI Dystor Membrane Replacements	Mar-25	\$8.0
DI Treatment Plant Asset Protection	7139	Cryo Plant Equipment Repl. Design-ESDC-REI	Mar-25	\$6.3
DI Treatment Plant Asset Protection	7420	Motor Control Center & Switchgear Replace Const.	Mar-25	\$23.5
DI Treatment Plant Asset Protection	7426	Fire System Replacement - REI	Mar-25	\$4.8
Cathodic Protection Of Distribution Mains	6439	Cathodic Protection Shafts E,L,N&W Const.	Mar-25	\$5.1
Cathodic Protection Of Distribution Mains	7610	Cathodic Protection Shafts E,L,N&W REI	Mar-25	\$1.0
Carroll Water Treatment Plant	8130	Technical Assistance 15	Mar-25	\$2.5
Carroll Water Treatment Plant	8131	Technical Assistance 16	Mar-25	\$2.5
CWTP Asset Protection	7790	CWTP Ultraviolet Rooms Dehumidification	Mar-25	\$1.6
Facility Asset Protection	7827	Hingham Pump Station Rehab Design/ESDC	Apr-25	\$2.9
Facility Asset Protection	7217	Interceptor Renewal 7-Malden & Melrose-Const.	May-25	\$9.4
Facility Asset Protection	7751	Interceptor Renewal 7 REI	May-25	\$1.3
Metro Redundancy Interim Improvements	6543	WASM 3 Rehab CP-2	May-25	\$13.9

77 Planned contracts

\$371.0

Metro Tunnel Redundancy	7556	Final Design/ESDC	Jun-24	\$117.8
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STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: Bond Defeasance of Future Debt Service



COMMITTEE: Administration, Finance & Audit

X VOTE
 INFORMATION

Matthew R. Horan, Deputy Director, Finance/Treasurer
Preparer/Title


Thomas J. Durkin
Director of Finance

Consistent with MWRA's multi-year rates management strategy, MWRA staff are recommending the execution of an approximately \$29.6 million defeasance to reduce future year rate increases. The \$29.6 million required for the defeasance is derived from the remaining FY24 positive budget variance and interest earnings on the escrow. These funds will be used to prepay debt service coming due in FY26 through FY28 (\$28.0 million in principal and \$1.6 million in interest). The defeasance of debt, coupled with diligent management of operational expenses, have been the keys to MWRA's ability to keep assessment increases sustainable and predictable.

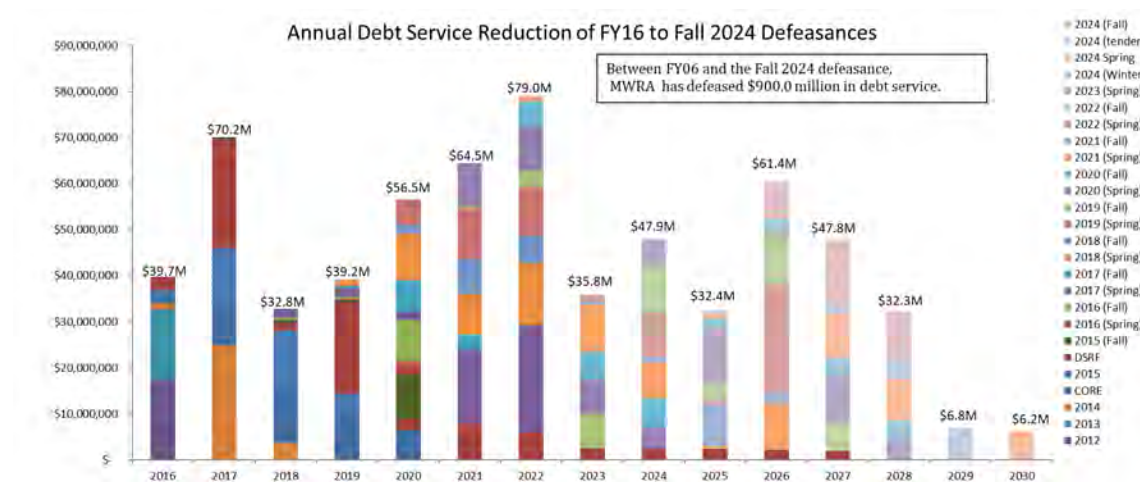
RECOMMENDATION:

To authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$28,021,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by approximately \$31.1 million in the FY26 through FY28 timeframe.

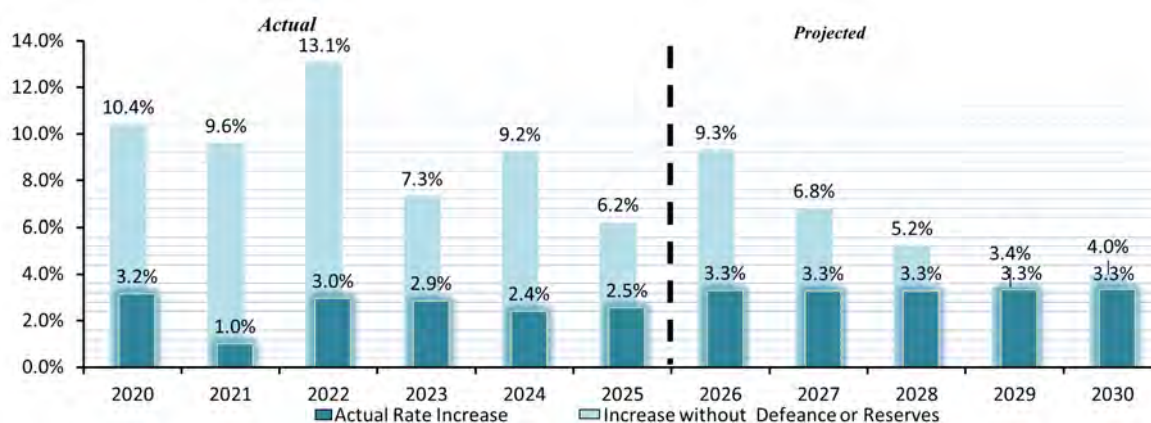
DISCUSSION:

As described in more detail in the FY24 Year-end Financial Update and Summary presented at this meeting, MWRA has approximately \$29.1 million available from the FY24 budget, after the \$1.8 million deposit into the Construction Fund to pay for the Quabbin Administration Building Roof. Staff propose using those available funds and estimated escrow earnings of \$1.2 million to execute a defeasance of outstanding debt. Staff recommend using those funds to complete a defeasance of outstanding bonds for future year debt service savings and to continue to help manage the impact of the assessment pressure on the water utility communities.

MWRA's ongoing use of defeasances has had a significant impact in lowering future debt service payments and limiting annual rate revenue increases. From 2006 through this proposed transaction, MWRA will have defeased \$901.0 million in debt service to reduce future year rate revenue requirements. The following chart details the multi-year impact of those defeasances.



The application of these defeasances has had a significant impact on rate increases. The chart below shows the estimated rate increase without the application of the defeasances.



Staff reviewed all bonds available to be defeased, and have identified the maturities of the bonds in the following table as the most advantageous defeasance candidates to manage future debt service on both total budget and utility level.

Series	Maturity	Call Date	Principal	Defeasance Cost ¹
2016C	August 1, 2027	August 1, 2026	\$ 11,190,000	\$ 11,749,500
2016C	August 1, 2028	August 1, 2026	\$ 9,035,000	\$ 9,486,750
2020B	August 1, 2026	August 1, 2026	\$ 2,155,000	\$ 2,262,750
2020B	August 1, 2027	August 1, 2027	\$ 736,000	\$ 809,600
2020B	August 1, 2028	August 1, 2028	\$ 1,035,000	\$ 1,190,250
2021B	August 1, 2026	August 1, 2026	\$ 2,735,000	\$ 2,871,750
2023B	August 1, 2027	August 1, 2027	\$ 1,135,000	\$ 1,248,500
Total			\$ 28,021,000	\$ 29,619,100

(1) Defeasance costs is only anticipated funds from surplus and does not included current year deposits.

The following table details the annual budget savings by fiscal year for the proposed FY25 Fall Defeasance.

Budget Reduction by Fiscal Year			Total CEB
2026	2027	2028	Savings
\$ 6,291,050	\$ 14,217,550	\$ 10,573,500	\$ 31,082,100

The proposed defeasance reduces debt service by a total of \$31.1 million between FY26 and FY28. The total debt service reduction attributable to the defeasance is approximately \$1.5 million higher than the defeasance cost because the 2027 and 2028 maturities of the 2016 Series C bonds are callable prior to its maturity date. The payment of these bonds on the call date will yield interest savings, as a result of paying off the bonds prior to maturity without interest accruing. Since 2006, MWRA has avoided \$44.2 million in interest by defeasing callable bonds. In addition to the interest rate savings, the defeasance also directly targets water utility principal coming due in FY26 and FY27 to continue to manage the assessment increase pressure on MWRA's water communities.

The funds will be utilized to purchase governmental securities in an amount sufficient to make all future interest and principal payments on the bonds to be defeased, offset by the interest earned on the securities.

The governmental securities purchased will be deposited with an escrow agent (bond trustee). Once established, an escrow is irrevocable, replacing any future debt service payments due for the bonds being escrowed, and therefore reducing the rate revenue requirement. Establishing an escrow reduces debt service requirements for each fiscal year from the time it is executed until the defeased bonds mature or are called.

Establishing an escrow to defease debt requires that MWRA's bond counsel draft an agreement to this effect and an independent verification agent must certify that the funds in the escrow are sufficient to pay the remaining debt service. Bonds that are defeased are not included in the MWRA's debt cap or debt service coverage calculations. Staff will continue to monitor market conditions and the maturities available to be defeased to ensure that the bonds selected provide MWRA with the highest available debt service savings.

BUDGET/FISCAL IMPACT:

The defeasance of these bonds will decrease the FY26 through FY28 debt service requirement by approximately \$31.1 million. The cost associated with bond counsel and financial advisory services will be paid out of the Treasury Department's professional services budget.

STAFF SUMMARY

TO: Board of Director
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: September 2024 PCR Amendments



COMMITTEE: Personnel and Compensation

 INFORMATION
 X VOTE



for

Wendy Chu, Director of Human Resources
Preparer/Title

Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve amendments to the Position Control Register (PCR) included in the attached chart.

DISCUSSION:

The Position Control Register lists all positions of the Authority, filled and vacant. It is updated as changes occur and it is published at the end of each month. Any changes to positions during the year are proposed as amendments to the PCR. All amendments to the PCR, except those resulting only in a change in title or cost center, must be approved by the Personnel and Compensation Committee of the Board of Directors. All amendments resulting in an upgrade of a position by more than one grade level, and/or an amendment which creates a position increasing annual cost by \$10,000 or more, must be approved by the Board of Directors after review by the Personnel and Compensation Committee.

September 2024 PCR Amendments

There are six PCR Amendments this month.

Organizational Changes:

1. Title and grade change to one vacant position in the Administration Division, Department of Occupational Health from Manager, Occupational Health and Safety (Non-Union Grade 14) to Director, Occupational Health and Safety (Non-Union Grade 15) to better reflect the responsibilities of the position.
2. Creation of a new position in the Administration Division, Human Resources Department for a Labor Relations Specialist (Confidential Unit 6, Grade 9) to better meet staffing needs.

3. Creation of a new position in the Administration Division, Human Resources Department for a Human Resources Specialist (Benefits and Compensation) (Confidential Unit 6, Grade 9) to better meet staffing needs.
4. Creation of a new position in the Administration Division, Human Resources Department for a Program Manager, Training (Unit 6, Grade 11) to better meet staffing needs.
5. Grade change to one filled position in the Administration Division, Human Resources Department for a Senior Human Resources Analyst (Compensation) moving from Confidential Unit 6, Grade 10 to a Confidential Unit 6, Grade 11 to better reflect the responsibilities of the position.
6. Grade change to one filled position in the Administration Division, Human Resources Department for a Senior Human Resources Analyst (Benefits) moving from Unit 6, Grade 10 to a Unit 6, Grade 11 to better reflect the responsibilities of the position.

BUDGET/FISCAL IMPACT:

The annualized budget impact of these PCR amendments will be a maximum cost of \$366,592. Staff will ensure that the cost associated with these PCR amendments will not result in spending over the approved FY25 Wages and Salaries budget.

ATTACHMENTS:

Job Descriptions

MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2024

PCR AMENDMENTS REQUIRING BOARD APPROVAL - September 11, 2024																	
Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary			Estimated Annual		Reason	
														\$ Impact		For Amendment	
B5	Administration Dept of Occupational Health and Safety 8910001	V	T, G	Manager, Occupational Health and Safety	NU	14	Director, Occupational Health and Safety	NU	15	\$168,363	\$124,713	-	\$186,368	-\$43,650	-	\$18,005	To better reflect responsibilities of the position.
B6	Administration Human Resources TBD	N/A	N/A	N/A	N/A	N/A	Labor Relations Specialist	C6	9	\$0	\$66,362	-	\$101,544	\$66,362	-	\$101,544	To better meet staffing needs.
B7	Administration Human Resources TBD	N/A	N/A	N/A	N/A	N/A	Human Resources Specialist (Benefits and Compensation)	C6	9	\$0	\$66,362	-	\$101,544	\$66,362	-	\$101,544	To better meet staffing needs.
B8	Administration Human Resources TBD	N/A	N/A	N/A	N/A	N/A	Program Manager, Training	U6	11	\$0	\$80,387	-	\$123,009	\$80,387	-	\$123,009	To better meet staffing needs.
B9	Administration Human Resources 8510019	F	G	Senior Human Resources Analyst (Compensation)	C6	10	Senior Human Resources Analyst (Compensation)	C6	11	\$111,764	\$123,009	-	\$123,009	\$11,245	-	\$11,245	To better reflect responsibilities of the position.
B10	Administration Human Resources 8510018	F	G	Senior Human Resources Analyst (Benefits)	U6	10	Senior Human Resources Analyst (Benefits)	U6	11	\$111,764	\$123,009	-	\$123,009	\$11,245	-	\$11,245	To better reflect responsibilities of the position.
			BOARD TOTAL =			6				TOTAL:			\$191,951		-	\$366,592	

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Manager, Occupational Health and Safety

DIVISION: Administration

DEPARTMENT: Safety

BASIC PURPOSE:

Manages MWRA's overall Occupational Health and Safety program including compliance with Massachusetts Department of Labor Standards (DLS) (state) and federal rules and regulations and industry best practices; provides programs, guidance and recommendations in areas of employee safety and health. Oversees and develops 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. Leads agency's activities in a proactive way to minimize health and safety issues and prevent situations that could create workers' compensation cases.

SUPERVISION RECEIVED:

Works under the general supervision of the Director of Administration.

SUPERVISION EXERCISED:

Supervises Program Managers, Project Managers, and other professional and administrative safety staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and oversees an overall program of regulatory compliance consistent with the employer responsibilities defined by DLS designed to reduce work-related injury and illness. Such program will include the following key activities:
 - Conducting multi-facility (30+) worksite safety assessments and inspections (i.e., self-audits) to determine risks to employee safety and health and ensure that the workplace conditions conform to DLS standards;
 - Assessing potential hazards and controls;
 - Evaluating risks and hazard control measures;
 - Investigating incidents involving the safety and health of employees, visitors, vendors and contractors;
 - Maintaining and evaluating incident and loss records;
 - Assisting with the development and deployment of emergency response plans.

- Works closely with authority safety, operations and emergency preparedness staff to create, update, and implement safety and health programs in areas such as Bloodborne Pathogens Exposure Control Plan, Emergency Action Plan, Fire extinguishers, Fire Prevention Plan, Confined Space, Model Confined Space Entry Policy and Procedure, Hazard Communication, Hearing Conservation Program, Lockout /Tagout, Respiratory Program, Personal Protective Equipment Hazard Assessment, and Trench Safety.
- Works closely with MWRA Training Department to provide and deliver safety training as required by state and federal regulations or identified through risk assessments.
- Works closely with other authority safety staff to establish and/or update operating procedures including the MWRA Online Safety & Health Manual and ensure the appropriate communication to employees is delivered in order to ensure employee compliance with safety and health requirements.
- Ensures that any required DLS postings are prominently displayed at authority worksites in order to inform employees of their rights and responsibilities.
- Ensures the proper notification to the appropriate DLS office of any work-related fatalities, inpatient hospitalizations, amputations, loss of consciousness, and loss of an eye within the timeframes established by DLS.
- Administers an authority-wide system for record keeping for work-related injuries and illnesses using the OSHA Log of Work-Related Injuries and Illnesses form (OSHA Form 300). Posts the summary of the OSHA log for injuries and illnesses (OSHA 300A) according to procedures promulgated by OSHA. Provides access to employees, former employees and their representatives to OSHA Form 300 as required by applicable state regulations.
- Complete the Bureau of Labor Statistics (BLS) annual survey on Occupational Injury and Illnesses when selected by BLS to participate.
- Serves as the authority's main contact to DLS Inspectors for communications and for inspections. Attends opening and concluding conferences conducted by the DLS Inspector and provides DLS Inspectors with injury records and written programs as requested. Provides DLS Inspectors with the names of any authorized employee representatives who may be asked to accompany the Inspector during an inspection.
- Reviews reports developed by DLS Inspectors and works with MWRA staff to take any necessary corrective actions.
- As required by DLS, posts citations, abatement verification documents or tags near the cited workplace and complies with the posting period required by DLS. Works with

authority staff to correct cited violations within the timeframes prescribed by DLS.

- Works with authority staff to evaluate hazard communication programs and training of employees regarding the hazards they may be exposed to during the course of employment at MWRA including communicating the need for employees to utilize proper personal protective equipment required for handling hazardous chemicals.
- Interacts with regulatory agencies, operations managers, employee representatives and employees on a regular basis.
- Tracks changes in federal and state safety and health regulations and appraises authority management of such changes and impact to the authority. Recommends and drafts communications, policies and standard operating procedures needed to meet such changes in regulations. Oversees the work of professional consultants under contract to the Authority, including quality of output and budget.
- Develops meaningful management workplace safety indicators for use by senior managers (e.g., Yellow/Orange Notebook data and reports).
- Serves as technical consultant to senior management on issues relevant to occupational safety and health.
- Coaches all levels of staff to create and maintain a strong safety culture.
- Provides professional opinions to Law, Labor Relations, Workers' Compensation, and Risk Management, including testifying as an expert witness.
- Represents the executive office in the investigation of serious or potentially serious accidents or security incidents.
- Interprets technical data provided by outside technical professionals.
- Manages budget and staffing.
- Assists in maintaining harmonious labor management relations through proper applications of collective bargaining agreement provisions and established personnel policies. Prepares for, participates in and hears step one grievances and pre-disciplinary hearings. Participates in collective bargaining negotiations.
- Leads efforts to comply with applicable federal or state requirements.

SECONDARY DUTIES:

Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of the principles and practices of a safety professional as normally attained through a Bachelor's degree in occupational health and safety, industrial hygiene or related science and/or engineering discipline, or environmental science and
- (B) Knowledge of health and safety policies, regulations, standards, best practices in an industrial environment; an understanding of issues related to safety, emergency response, risk management, environmental health; experience in incident investigations, safety inspections as normally attained through at least eight (8) years of experience including at least three years of supervisory experience; and
- (C) Demonstrated knowledge through direct involvement/management of federal OSHA and Massachusetts DLS standards, training, implementation and auditing of policies and procedures as they relate to employee safety; or
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent interpersonal, oral and written communication skills needed to interface with regulatory staff and write analyses, recommendations and draft recommendations for safety policies and procedures.
- (B) Expert knowledge in the area of safety and health regulatory compliance in order to recommend, organize and manage a compliance program as required by Massachusetts DLS.
- (C) Ability to identify safety and health issues and concerns and recommend actions to correct deficiencies identified through inspections and other oversight activities.
- (D) Ability to conduct, interpret and translate all safety-related training requirements mandated by federal, state and local regulatory agencies to staff.

SPECIAL REQUIREMENTS:

Ability to provide evening or weekend coverage on a rotating basis.

A valid Massachusetts Class D Motor Vehicle Operators License.

Certification by the Board of Certified Safety Professionals as a Safety Management Specialist

(SMS), Certified Safety Professional (CSP) or by the American Board of Industrial Hygienists as a Certified Industrial Hygienist (CIH).

TOOLS AND EQUIPMENT USED:

Office machines as normally associated, with the use of telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to sit, talk or hear. The employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment, or controls and reach with hands and arms. The employee frequently is required to stand and walk. The employee is occasionally required to walk, climb, balance, stoop, kneel, crouch, or crawl.

The employee must frequently lift and/or move up to 10 pounds, and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in either an office or field environment which involves traveling to worksites. The employee often works in outside weather conditions. The employee often works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee often works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals, and risk of electrical shock. The employee may be exposed to strenuous, dangerous, or stressful conditions. While in the field, the employee uses gloves, helmets, respirators, and other personal protective and safety equipment to minimize the risk of illness and injury.

The noise level in the work environment is usually loud in field settings, and moderately quiet in office settings.

June 2024

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Director, Occupational Health and Safety

DIVISION: Administration

DEPARTMENT: Occupational Health and Safety

BASIC PURPOSE:

Manages MWRA's overall Occupational Health and Safety program including compliance with Massachusetts Department of Labor Standards (DLS) (state) and federal rules and regulations and industry best practices; provides programs, guidance and recommendations in areas of employee safety and health. Oversees and develops 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. Leads agency's activities in a proactive way to minimize health and safety issues and prevent situations that could create workers' compensation cases.

SUPERVISION RECEIVED:

Works under the general supervision of the Director of Administration.

SUPERVISION EXERCISED:

Supervises Program Managers, Project Managers, and other professional and administrative safety staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and oversees an overall program of regulatory compliance consistent with the employer responsibilities defined by DLS designed to reduce work-related injury and illness. Such program will include the following key activities:
 - Conducting multi-facility (30+) worksite safety assessments and inspections (i.e., self-audits) to determine risks to employee safety and health and ensure that the workplace conditions conform to DLS standards;
 - Assessing potential hazards and controls;
 - Evaluating risks and hazard control measures;
 - Investigating incidents involving the safety and health of employees, visitors, vendors and contractors;
 - Maintaining and evaluating incident and loss records;
 - Assisting with the development and deployment of emergency response plans.

- Works closely with authority safety, operations and emergency preparedness staff to create, update, and implement safety and health programs in areas such as Bloodborne Pathogens Exposure Control Plan, Emergency Action Plan, Fire extinguishers, Fire Prevention Plan, Confined Space, Model Confined Space Entry Policy and Procedure, Hazard Communication, Hearing Conservation Program, Lockout /Tagout, Respiratory Program, Personal Protective Equipment Hazard Assessment, and Trench Safety.
- Works closely with MWRA Training Department to provide and deliver safety training as required by state and federal regulations or identified through risk assessments.
- Works closely with other authority safety staff to establish and/or update operating procedures including the MWRA Online Safety & Health Manual and ensure the appropriate communication to employees is delivered in order to ensure employee compliance with safety and health requirements.
- Ensures that any required DLS postings are prominently displayed at authority worksites in order to inform employees of their rights and responsibilities.
- Ensures the proper notification to the appropriate DLS office of any work-related fatalities, inpatient hospitalizations, amputations, loss of consciousness, and loss of an eye within the timeframes established by DLS.
- Administers an authority-wide system for record keeping for work-related injuries and illnesses using the OSHA Log of Work-Related Injuries and Illnesses form (OSHA Form 300). Posts the summary of the OSHA log for injuries and illnesses (OSHA 300A) according to procedures promulgated by OSHA. Provides access to employees, former employees and their representatives to OSHA Form 300 as required by applicable state regulations.
- Complete the Bureau of Labor Statistics (BLS) annual survey on Occupational Injury and Illnesses when selected by BLS to participate.
- Serves as the authority's main contact to DLS Inspectors for communications and for inspections. Attends opening and concluding conferences conducted by the DLS Inspector and provides DLS Inspectors with injury records and written programs as requested. Provides DLS Inspectors with the names of any authorized employee representatives who may be asked to accompany the Inspector during an inspection.
- Reviews reports developed by DLS Inspectors and works with MWRA staff to take any necessary corrective actions.
- As required by DLS, posts citations, abatement verification documents or tags near the cited workplace and complies with the posting period required by DLS. Works with

authority staff to correct cited violations within the timeframes prescribed by DLS.

- Works with authority staff to evaluate hazard communication programs and training of employees regarding the hazards they may be exposed to during the course of employment at MWRA including communicating the need for employees to utilize proper personal protective equipment required for handling hazardous chemicals.
- Interacts with regulatory agencies, operations managers, employee representatives and employees on a regular basis.
- Tracks changes in federal and state safety and health regulations and appraises authority management of such changes and impact to the authority. Recommends and drafts communications, policies and standard operating procedures needed to meet such changes in regulations. Oversees the work of professional consultants under contract to the Authority, including quality of output and budget.
- Develops meaningful management workplace safety indicators for use by senior managers (e.g., Yellow/Orange Notebook data and reports).
- Serves as technical consultant to senior management on issues relevant to occupational safety and health.
- Coaches all levels of staff to create and maintain a strong safety culture.
- Provides professional opinions to Law, Labor Relations, Workers' Compensation, and Risk Management, including testifying as an expert witness.
- Represents the executive office in the investigation of serious or potentially serious accidents or security incidents.
- Interprets technical data provided by outside technical professionals.
- Manages budget and staffing.
- Assists in maintaining harmonious labor management relations through proper applications of collective bargaining agreement provisions and established personnel policies. Prepares for, participates in and hears step one grievances and pre-disciplinary hearings. Participates in collective bargaining negotiations.
- Leads efforts to comply with applicable federal or state requirements.

SECONDARY DUTIES:

Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of the principles and practices of a safety professional as normally attained through a Bachelor's degree in occupational health and safety, industrial hygiene or related science and/or engineering discipline, or environmental science; an advanced degree is preferred; and
- (B) Knowledge of health and safety policies, regulations, standards, best practices in an industrial environment; an understanding of issues related to safety, emergency response, risk management, environmental health; experience in incident investigations, safety inspections as normally attained through at least ten (10) years of experience including at least four years of supervisory experience; and
- (C) Demonstrated knowledge through direct involvement/management of federal OSHA and Massachusetts DLS standards, training, implementation and auditing of policies and procedures as they relate to employee safety; or
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent interpersonal, oral and written communication skills needed to interface with regulatory staff and write analyses, recommendations and draft recommendations for safety policies and procedures.
- (B) Expert knowledge in the area of safety and health regulatory compliance in order to recommend, organize and manage a compliance program as required by Massachusetts DLS.
- (C) Ability to identify safety and health issues and concerns and recommend actions to correct deficiencies identified through inspections and other oversight activities.
- (D) Ability to conduct, interpret and translate all safety-related training requirements mandated by federal, state and local regulatory agencies to staff.

SPECIAL REQUIREMENTS:

Ability to provide evening or weekend coverage on a rotating basis.

A valid Massachusetts Class D Motor Vehicle Operators License.

Certification by the Board of Certified Safety Professionals as a Safety Management Specialist

(SMS), Certified Safety Professional (CSP) or by the American Board of Industrial Hygienists as a Certified Industrial Hygienist (CIH).

TOOLS AND EQUIPMENT USED:

Office machines as normally associated, with the use of telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to sit, talk or hear. The employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment, or controls and reach with hands and arms. The employee frequently is required to stand and walk. The employee is occasionally required to walk, climb, balance, stoop, kneel, crouch, or crawl.

The employee must frequently lift and/or move up to 10 pounds, and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in either an office or field environment which involves traveling to worksites. The employee often works in outside weather conditions. The employee often works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee often works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals, and risk of electrical shock. The employee may be exposed to strenuous, dangerous, or stressful conditions. While in the field, the employee uses gloves, helmets, respirators, and other personal protective and safety equipment to minimize the risk of illness and injury.

The noise level in the work environment is usually loud in field settings, and moderately quiet in office settings.

September 2024

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Labor Relations Specialist

DIVISION: Administration

DEPARTMENT: Human Resources

BASIC PURPOSE:

Assists in Labor Relations activities including grievance hearings, collective bargaining negotiations, arbitration hearings and other related proceedings. Drafts responses to union requests for information. Serves as a liaison to unions, employees, and managers on routine labor relations inquiries.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Labor Relations. May receive guidance from Assistant Manager, Labor Relations on certain assignments.

SUPERVISION EXERCISED:

May direct administrative staff and interns on specific assignments.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assists with processing grievances, including but not limited to scheduling grievance hearings, participation in grievance hearings, researching grievance allegations, assembling relevant records to respond to grievances, maintaining grievance tracking logs, and responding to requests for information.
- Provides assistance in collective bargaining negotiations, including but not limited to proposal development, responses to requests for information, maintaining bargaining records, serving as note-taker during bargaining sessions and general meeting organization such as scheduling of bargaining sessions.
- Answers questions from managers and supervisors on implementation of collective bargaining agreements.
- Provides assistance in preparing materials for and co-facilitating supervisory training sessions on contract administration and interpretation.

- Represents the Labor Relations Unit at internal and external Labor/Management committee meetings as designated by the Manager of Labor Relations. Schedules meetings with union representatives, facilitates WebEx meetings and reserves meeting space and serves as note-taker during meetings.
- Obtains personnel file and labor relations documents upon request of legal counsel in support of arbitration cases and other external matters.
- Provides information to management as needed relative to grievances, collective bargaining and employee discipline.
- Assists with special projects/programs such as leave management, recruitment and retention programs, employee licensing requirements, internal audit information requests, service awards and workforce development planning.
- Serves as backup coordinator for VISTE school volunteer program.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a Bachelor's degree in labor relations, human resources, business, public administration or related field; and
- (B) A general understanding of labor relations, human resources, and grievance administration and resolution as acquired through at least two (2) years of professional experience preferably in the public sector; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated analytical skills and ability to build working relationships across the organization.
- (B) Excellent interpersonal, written and oral communication skills.
- (C) Demonstrated proficiency in Microsoft Office Suite, including Word, Excel, PowerPoint and Access.

- (D) Experience using web conferencing and collaboration tools such as WebEx.
- (E) Ability to exercise discretion and maintain confidentiality.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License for travel between MWRA work sites.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with a professional office environment, including the use of telephones, personal computers, word processing and other software, email, videoconference applications, copiers, scanners and fax machines.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to feel, finger, handle or operate objects, including office equipment or controls and reach with hands and arms. The employee is occasionally required to stand and walk. The employee is regularly required to sit, and talk or hear.

The employee must frequently lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in an office environment.

The noise level in the normal work environment is quiet.

September 2024

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Human Resources Specialist (Benefits and Compensation)

DIVISION: Administration

DEPARTMENT: Human Resources

BASIC PURPOSE:

Provides professional support to both the Compensation Unit and Benefits/HRIS Unit in the Human Resources Department to ensure accuracy of data in the Human Resources Information System (HRIS). Generates routine weekly and monthly reports related to employee data, leave management, and benefits administration. Responds to and processes employee name and address changes, qualifying life events, dental enrollments, and requests for personnel forms and job descriptions. Maintains benefits data in HRIS and tracks employee leaves.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Benefits and HRIS and Manager, Compensation. May receive guidance from a Senior Human Resources Analyst.

SUPERVISION EXERCISED:

May supervise administrative staff and interns on projects.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Compensation

- Maintains employee license and certification data in HRIS system. Enters data when employees are hired or promoted. Generates monthly reports to track license/certification expirations and renewals. Distributes reports to departments and notifies Manager, Compensation of license expirations. Enters and maintains employee driver's license data. Reviews daily alerts from the Registry of Motor Vehicles and notifies Manager, Compensation of expired or suspended licenses.
- Generates and distributes, as needed, routine weekly reports on Human Resources transactions, weekly full-time equivalent (FTE) count, overtime usage, and other related topics.
- Maintains list of upcoming resignations, retirements, and other separations. Circulates knowledge transfer documents and assists with coordination of exit interviews. Closes debit card accounts when employees separate from the MWRA.
- Tracks requests to update job descriptions. Serves as liaison to departments and unions

on changes to job descriptions. Ensures job descriptions are available for use in the job application system.

- Provides support and assistance in calculating cost estimates relative to the Authority's collective bargaining efforts.
- Prepares salary recommendations for interns and reviews intern job descriptions.
- Researches employee discipline records for candidates to acting assignments.
- Spot checks salary charts and reports for data accuracy.
- Provides monthly or semi-annual rosters of employees to unions upon request.
- Reviews I-9 forms for accuracy and alerts Manager, Compensation of any issues. Maintains I-9 files.
- Requests telework access as needed. Serves as liaison to departments seeking telework access. Maintains telework eligibility field in HRIS.
- Coordinates the VISTE school volunteer program.

Benefits and HRIS

- Updates employee leave status in HRIS when employees go on extended leave. Maintains report of employees on extended leave, including but not limited to MA Paid Family Leave Act (PFML) leave, Family and Medical Leave Act (FMLA) leave, non-FMLA leave, and workers' compensation.
- Communicates with employees out of work due to an industrial accident or on continuous PFML leave regarding employee contributions towards benefit premiums during such absences and, when applicable, coordinates with Payroll and supervisors to ensure continuation of benefit coverage. Facilitates direct billing of employees when necessary.
- Processes employee name and address changes in HRIS and completes GIC forms regarding same.
- Assists in preparing reports of new employees who have elected GIC insurance benefits.
- Assists in the tracking of employees in arrears with insurance payments.
- Generates routine monthly reports from HRIS of health and welfare coverage, union dental plans, etc. to send to the various unions.
- Responds to employment verification requests and prepares letters for employees who request proof of benefit coverage.

- Orders all brochures and supplies required for annual open enrollment. Processes all open enrollment changes. Attends annual GIC information sessions and other periodic GIC events as needed to ensure MWRA has up-to-date information regarding GIC benefit programs. Helps staff information table at annual benefits fair where non-GIC benefits are highlighted.
- Serves as backup Benefits representative to explain benefit options to employees at new employee orientation. Ensures Employment Unit has the latest forms and handouts for new employee orientation. Reviews all forms collected from new employee orientation to ensure forms are complete and accurate.
- Works with Public Affairs to regularly post content from the Employee Assistance Provider (EAP) on the Intranet site. Assists the Manager, Benefits & HRIS with scheduling EAP sessions as needed.
- Helps coordinate annual open enrollment for MWRA dental plan. Is responsible for sending all dental enrollment forms to insurance provider and ensuring deductions are entered in the HRIS.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelor's degree in human resources, business administration, public administration or a related field; and
- (B) General understanding of human resources practices and state and federal laws and regulations governing benefits as acquired through at least two (2) years of professional experience including at least one year in benefits, insurance, or human resources; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent interpersonal, oral, and written communication skills.
- (B) Basic understanding and knowledge of federal and state employment laws, benefit practices, and human resources policies.

- (C) Ability to maintain confidentiality and work in a fast-paced environment.
- (D) Strong attention to detail.
- (E) Solid knowledge and experience with Microsoft Office Suite, video-conferencing applications such as WebEx, and HRIS systems (preferably, Infor Lawson).
- (F) Ability to support two groups under a matrix management system (2 supervisors).

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License for travel between MWRA work sites.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with a professional office environment, including the use of telephones, personal computers, word processing and other software, email, videoconference applications, copiers, scanners, and fax machines.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to sit, talk or hear. The employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment, or controls and reach with hands and arms. The employee frequently is required to stand and walk.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment.

The noise level in the work environment is usually a moderately quiet office setting. This position may be eligible for up to 50% telework.

September 2024

**MWRA
POSITION DESCRIPTION**



POSITION: Program Manager, Training

DIVISION: Administration

DEPARTMENT: Human Resources

BASIC PURPOSE:

Plans, implements, delivers and assesses Human Resources technical training and development programs and facility initiatives including competency-based training, vendor and equipment training, systems training, and training for new and renovated facility start-up projects.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Training and Development.

SUPERVISION EXERCISED:

May provide direction to Senior Training Specialist(s) on projects. May supervise an intern and provide assignments to administrative staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assists the Manager, Training and Development in development and implementation of the long-term vision and strategy for Authority-wide training programs Operations facility-specific initiatives.
- Develops training programs that maintain the level of competence of staff and coordinates with division managers to ensure proficient operational and maintenance personnel.
- Works with department heads and staff to ensure effective communication and work flow practices between operations, maintenance and support groups. Develops employee communication strategies regarding training programs and policies.
- Develops and manages training initiatives including planning, scheduling, tracking, reporting, and the quality control/quality assurance of training deliverables.
- Coordinates with Department of Occupational Health and Safety and other MWRA Departments on initiatives that relate to Authority policies, environmental policies,

regulations and training.

- Works closely with the Department of Occupational Health and Safety to identify, procure, develop, and deliver training consistent with OSHA guidelines and Massachusetts Department of Labor Standards (DLS) regulations.
- Assists in the implementation of Safety Programs and the development of training standards for related safety training that maximizes employee involvement and supports the Authority's overall Health and Safety Program.
- Works with Operations to identify training issues and problems to ensure compliance with authority policies and procedures. Develops and implements action plans for resolution.
- Collaborates with Operations personnel to establish effective ongoing training programs which enhances staff development and management practices and optimizes automation in support of facility operations.
- Manages progressive reporting criteria against department goals and objectives, making recommendations as required. Assists with the management of data input and report generation using the Authority-approved Learning Management System (LMS) and other Authority-approved database systems.
- Assesses the need for external technical support programs; develop plans for technical and competency based training programs. Prepares contract technical assistance and training and start-up program implementation with Operations for new construction projects.
- Coordinates and works with Operations staff to design training that will respond to group as well as individual needs and/or priorities. Works with technical staff to coordinate technically specific training with overall facility and systems training.
- Works with Procurement Department to ensure appropriate application of procurement procedures for vendor selection. Drafts documentation to support vendor solicitation processes and selection. Obtains purchase orders, contracts, and professional service agreements for training programs.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Organizational and management skills as attained through a Bachelor's degree program in business, training, education, human resources, or a related field; and
- (B) At least five (5) years of relevant experience preferably in a public sector unionized environment; demonstrated experience managing training programs; or; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- A. Knowledge of training principles and practices including competency-based learning, vendor/equipment training; and facility start-up initiatives.
- B. Strong background in strategic planning, project management, developing and managing comprehensive training programs, coordinating critical facility start-up deliverables and consultant/contractor oversight.
- C. Proven ability for establishing and implementing efficient organizational practices, business plans, and system benchmarking mechanisms.
- D. Excellent organization, written, and verbal skills and the ability to work with confidential information.
- E. Demonstrated ability to work within a matrix management organizational structure.
- F. Proficient computer skills in Microsoft Office Suite software (Word, Excel, Power Point, Outlook).
- G. Proficient in Learning Management Systems, preferably Infor LMS, including SCORM and Reporting.
- H. Proficient in using virtual platforms such as WebEx to deliver training.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Operators driver's license for travel between MWRA work sites.

TOOLS EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, personal computer including Authority-approved software programs, copy and fax machines; audio-visual equipment, including projectors and multiple display screens

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to sit, talk or hear. The employee is regularly required to use hand to finger, handle, feel or operate objects, including office equipment, or controls and reach with hands and arms. The employee frequently is required to stand and walk.

The employee must regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of this employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office and field environment.

The noise level in the work environment is usually loud in the field and moderately quiet in office settings.

September 2024

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Senior Human Resources Analyst (Compensation)

DIVISION: Support Services

DEPARTMENT: Human Resources

BASIC PURPOSE:

Maintains the human resources information system and database for the MWRA ensuring the quality and timeliness of all employee new hire, salary and position changes. Provides analytical support to the Benefits and Human Resources Information Systems (HRIS) section in the review of human resources and employee data. Maintains information reports and tracking systems used by the department. Prepares cost projections related to collective bargaining proposals. Provides data and information coordination for the department and input on priorities for implementation of application systems and databases. Regularly handles highly confidential and/or collective bargaining-related information.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Compensation. May also be supervised by the Director of Human Resources or his/her designee on special projects.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Maintains the human resources information system and database for the MWRA ensuring the quality and timeliness of all new hire, salary and position changes per established standards and procedures.
- Maintains information related to salary increases and benefit plan changes on the human resources information system to ensure current and accurate information for payroll processing.
- Assists Department staff in identifying type of personnel action/change required, researches issues, and ensures the quality and timeliness of all data changes. Process data change forms.
- Develops data management techniques and Quality Assurance/Quality Control (QA/QC) procedures to maintain accurate data.

- Compiles weekly and monthly reports on MWRA human resources matters (e.g., license data, Affirmative Action, vacancy, overtime, FTE, sick leave, promotion and termination reports).
- Assists Department staff in the development and use of databases and spreadsheets for use in planning and management reports.
- Conducts orientation sessions for MWRA new hires. Provides information on health insurance and other benefit plans, safety information, leaves of absence, and administrative procedures. Responds to employee requests for information in the areas of benefits, compensation and human resources data as necessary.
- Conducts analysis of market data from public and private sources, compiles and analyzes information. Prepares spreadsheets, graphs and charts as necessary to articulate MWRA position to as compared to market, noting areas of discrepancy.
- Assists the Manager of Labor in costing management and union proposals on economic items and in making presentations during the collective bargaining process.
- Assists in all Management Information Systems (MIS) development projects and serves as a liaison in the development of specifications and in planning the implementation of changes/updates to HRIS.
- Maintains all electronic and hard copy personnel files for the Authority, in compliance with applicable state and federal laws. Responds to all public information requests and legal requests with electronic or hard copy information. Serves as the the Human Resources Department Records Management liaison.
- Prepares data for analyses and reporting. Compiles standard and ad-hoc reports on department matters in response to requests that originate Authority-wide.
- Works with staff throughout the MWRA to track data. Documents problems and resolutions. Ensures that documentation is complete and distributed to the appropriate locations and personnel.
- Assists staff in the development of Human Resources web site and Intranet page improvements and enhancements.
- Assists the Manager of Compensation in preparing documentation for union contract increases and related payments.
- Assists with the preparation of external salary surveys to ensure accurate market information for MWRA positions and participates in survey assignments and analysis.
- Coordinates license verification/renewal process for MWRA staff ensuring all staff hold

appropriate valid licenses as documented in job description. Notifies appropriate division staff of pending license renewals and notifies Labor Relations of non-compliance.

- Manages database of participants in the uniform and debit card program using the Lawson System.
- Manages debit card program participants including the ordering, funding and closing of debit card accounts.
- Prepares and distributes all yellow and orange notebook human resources reporting.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in Human Resources, Business Administration, Public Administration, Finance or related field; and
- (B) Four (4) to six (6) years of benefits and human resources information system experience; and
- (C) Knowledge of personal computers, database administration and word processing as acquired through a minimum of three (3) to five (5) years experience, Lawson experience preferred; or
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiencies in the use of personal computers and software applications packages such as Word, Excel, and Access. Familiarity with Human Resources/Payroll Information Systems and Lawson is also required.
- (B) Familiarity with data processing and Quality Assurance/Quality Control (QA/QC) concepts and techniques.
- (C) Excellent analytical and computer skills.
- (D) Experience in a union environment is strongly preferred.
- (E) Excellent interpersonal, oral and written communication skills.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment or controls and reach with hands and arms. The employee is occasionally required stand and walk. The employee is regularly required to sit and talk or hear.

The employee must occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in an office environment. The noise level in the work environment is moderately quiet.

January 2017

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Senior Human Resources Analyst (Compensation)

DIVISION: Administration

DEPARTMENT: Human Resources

BASIC PURPOSE:

Generates intermediate to complex reports on employee, position, and leave data. Ensures that all employee transactions (hiring, compensation changes, acting assignments, promotions, and terminations) are accurately processed in the human resources information system (HRIS). Analyzes employee data and prepares cost estimates for collective bargaining. Serves as specialized resource for tracking and managing employee data for the department by creating spreadsheets, queries and reports. . Maintains employee and position data in the HRIS system. Researches issues regarding employee data and helps troubleshoot discrepancies. Regularly handles highly confidential and/or collective bargaining-related information.

SUPERVISION RECEIVED:

Works under the primary supervision of the Manager, Compensation. May also receive assignments from the other Human Resources Managers.

SUPERVISION EXERCISED:

May provide direction to an intern or the Human Resources Specialist (Benefits and Compensation).

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Maintains data in the HRIS ensuring the quality and timeliness of all employee transactions, including but not limited to new hire, salary and position changes, in accordance with established standards and procedures. Maintains accurate position data.
- Generates intermediate to complex non-routine reports on data such as leave balances and sick leave usage to support Manager, Benefits and HRIS. Calculates adjusted hire dates and manages vacation accrual milestones. Generates annual reports on personal leave balances each spring, as well as vacation balance projection reports for distribution to the unions. Handles all leave and compensatory time override requests and tracking. Researches individual employee leave usage upon request and responds to inquiries regarding same.
- Compiles data and runs monthly reports for the Yellow Notebook and Position Control Register (PCR), as well as other ad hoc reports as requested by management.

- Develops and maintains databases, queries, and spreadsheets for Human Resources staff to use in planning and management reports.
- Responds to employee or manager requests for compensation and human resources data. Researches employment history as needed.
- Conducts salary and benefit surveys, analyzes market data, and drafts preliminary analytical reports. Responds to surveys and requests for information from other jurisdictions. Completes survey requests received from The Survey Group and other outside entities related to compensation data.
- Prepares cost estimates for Manager, Compensation and/or Manager, Labor Relations in support of successor and mid-term collective bargaining. Generates intermediate to complex reports used to perform calculations and cost estimates. Prepares salary charts based on ratified collective bargaining agreements. Works with Payroll Department to implement salary adjustments, including but not limited to negotiated salary increases.
- Assists in all Management Information Systems (MIS) development projects and serves as a liaison in the development of specifications and in planning the implementation of changes/updates to HRIS.
- Maintains all electronic and hard copy personnel files for the Authority, in compliance with applicable state and federal laws. Provides support, as needed, in responding to public information requests and legal requests. Serves as the the Human Resources Department Records Management liaison, including ensuring personnel files of terminated staff are sent to the Records Center and requesting files from the Records Center when necessary. May supervise administrative staff in gathering the records, placing materials in boxes, and completing the inventory of the box contents when records are prepared for the Records Center.
- Manages database of participants in the debit card program using the Lawson System and private bank system.
- Manages debit card program participants including ordering and funding of debit card accounts.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelor's degree in Human Resources, Business Administration, Public Administration, Finance or related field; and
- (B) At least five (5) years of human resources and human resources information system experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiencies in the use of personal computers and software applications packages such as Microsoft Office Suite (Word, Excel, and Access).
- (B) Familiarity with Human Resources/Payroll Information Systems (preferably Lawson or Infor).
- (B) Familiarity with data processing and Quality Assurance/Quality Control (QA/QC) concepts and techniques.
- (C) Excellent analytical and computer skills.
- (D) Experience in a union environment is strongly preferred.
- (E) Excellent interpersonal, oral and written communication skills.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License for travel between MWRA work sites.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with a professional office environment, including the use of telephones, personal computers, word processing and other software, email, videoconference applications, copiers, scanners and fax machines.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment or controls and reach with hands and arms. The employee is occasionally required stand and walk. The employee is regularly required to sit and talk or hear.

The employee must occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in an office environment. The noise level in the work environment is moderately quiet.

September 2024

**MWRA
POSITION DESCRIPTION**



POSITION: Senior Human Resources Analyst (Benefits)

DIVISION: Administration

DEPARTMENT: Human Resources

BASIC PURPOSE:

Provides analytical support to the Benefits and HRIS sections. Maintains data and updates HRIS and other systems used in department. Communicates and administers benefit programs. Regularly handles highly confidential information.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Benefits & HRIS.

SUPERVISION EXERCISED:

. Supervises administrative staff as required.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Acts as liaison between the Group Insurance Commission (GIC), Flexible Spending Account (FSA) provider, MWRA employees, and the MWRA Retirement Board. Resolves benefit problems with employees, insurance vendors and Group Insurance Commission. Responds to employee requests for information in the areas of benefits and human resources data. Counsels and enrolls employees in benefits plans. Orders all brochures and supplies required for open enrollment.
- Oversees the MWRA annual open enrollment process for MWRA health insurance, life insurance, disability insurance, and FSA benefits offered by the GIC. Participates in MWRA's multiple benefit fairs, fields employee questions, works with employees prepares all documentation and enrollment forms for the GIC, and works with Manager, Benefits and HRIS to update the MWRA Lawson database.
- Meets with employees considering retirement, surviving spouses of MWRA employees. and current employees. Provides information on health and dental insurance and optional life benefits. Explains timing of accrued benefit payout, SMART plan participation, and first retirement check.
- Investigates and resolves discrepancies on health and dental plan enrollment and changes on a monthly basis. Recommends adjustments and notifies plan personnel and/or

employees as necessary.

- Receives and organizes all documentation received by Human Resources as part of sick leave management. Communicates with managers, employees, and the Manager, Labor Relations and Workers' Compensation in regards to documentation received. Maintains records associated with medical documentation from employees. Prepares and distributes reports and memoranda as required. Assists with leave administration including notifying supervisors of approved leaves.
- Assists department staff in identifying types of personnel action required based on changes in employee status. Researches issues and ensures the quality and timeliness of all data changes.
- Processes requests for change in clothing allocation and submits requests to the Manager, Labor Relations and Workers' Compensation.
- Responds to employment verification requests.
- Processes employee name and address changes. Prepares benefits related memos, letters and reports for all Authority employees. Assists in the creation and maintenance of HRIS project specifications. Maintains and updates the Human Resources database per established standards and procedures.
- Coordinates Department of Unemployment Assistance (DUA) requests for information with payroll for terminated employees. Notifies all terminated employees who resign of their insurance rights and coverage under COBRA.

SECONDARY DUTIES:

Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in Human Resources, Business Administration, Public Administration, Finance or related field; and
- (B) Four (4) to six (6) years of benefits and HRIS experience; and
- (C) Knowledge of personal computers and database administration as acquired through a minimum of three (3) to five (5) years of experience, preferably in Lawson; or
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiency in the use of personal computers and software applications packages such as Microsoft Office Suite (Word, Excel, Access and Outlook). Familiarity with Human Resources/Payroll Information Systems is also required.
- (B) Experience in a union environment is strongly preferred.
- (C) Excellent interpersonal, analytical, oral and written communication skills.
- (D) Ability to maintain confidentiality.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License as occasional travel to other MWRA locations is required.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment or controls and reach with hands and arms. The employee is occasionally required stand and walk. The employee is regularly required to sit and talk or hear.

The employee must occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee

encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in an office environment. The noise level in the work environment is moderately quiet.

April 2019

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Senior Human Resources Analyst (Benefits)

DIVISION: Administration

DEPARTMENT: Human Resources

BASIC PURPOSE:

Provides analytical support in the Benefits and HRIS functions of Human Resources. Maintains data and updates human resources information systems (HRIS), other systems used in department, as well as external systems utilized in the administration of employee benefits. Manages direct billing of Group Insurance Commission (GIC) payments. Regularly handles highly confidential information.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Benefits & HRIS.

SUPERVISION EXERCISED:

Provides guidance and training of administrative staff assisting in benefits management as required. May provide direction to an Intern or the Human Resources Specialist (Benefits and Compensation)

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Acts as liaison between MWRA employees and the Group Insurance Commission (GIC), external benefits administrators, and the MWRA Retirement Board. Resolves benefit problems with employees, insurance vendors and Group Insurance Commission. Responds to requests for information in the areas of benefits for current employees or retirees. Counsels and enrolls employees in benefits plans. Responds to any reporting requests related to benefits.
- Oversees the new hire enrollment process and attends New Hire Orientation sessions to provide guidance and respond to questions related to available GIC benefits. Prepares all forms and electronic enrollment for new employees with the GIC. Distributes and collects letters of agreement to new staff as part of the uniform program.
- Oversees the MWRA annual open enrollment process for MWRA health insurance, life insurance, disability insurance, and FSA benefits offered by the GIC. Participates in MWRA's benefit fairs, fields employee/retiree questions, works with employees prepares all necessary forms related to open enrollment changes with the GIC, and works with

Manager, Benefits and HRIS to update the MWRA HRIS system.

- Meets with employees considering retirement, surviving spouses of MWRA employees and current employees to provide information on health and dental insurance and optional life benefits, timing of accrued benefit payouts, SMART plan participation, and initial retirement payment. Completes all forms necessary to make benefit changes and to assist employees in completion of Medicare forms.
- Investigates and resolves discrepancies on health, dental, and other insurance plan enrollments and changes on a monthly basis. Recommends adjustments and notifies plan personnel and/or employees as necessary.
- Tracks and provides reporting to the Payroll and Accounts Receivables departments related to employees in arrears in insurance premiums, as well as first month premium collections from new employees.
- Receives and organizes all documentation sent to Human Resources as part of sick leave management. Communicates with managers and employees in regards to documentation received. Maintains medical documentation from employees. Prepares and distributes reports and memoranda as required.
- Assists department staff in identifying personnel actions required based on changes in employee status. Researches issues and ensures the quality and timeliness of all data changes.
- Manages calendar and fiscal year end activities such as processing health insurance buyouts, implementing new benefit rates in the HRIS, and administering changes to the dependent and medical care flexible spending programs in the HRIS.
- Prepares benefits related memos, letters and reports for all Authority employees. Assists in the creation and maintenance of HRIS project specifications. Maintains and updates the Human Resources database per established standards and procedures.
- Provides information to the Payroll department, GIC, and other benefits administrators about terminated employees. Notifies all terminated employees of their insurance rights and coverage under COBRA.

SECONDARY DUTIES:

Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelor's degree in Human Resources, Business Administration, Public Administration, Finance or related field; and
- (B) At least five (5) years of benefits and human resources information system experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiency in the use of personal computers and software applications packages such as Microsoft Office Suite (Word, Excel, Access and Outlook). Familiarity with Human Resources/Payroll Information Systems is also required (preferably, Infor Lawson).
- (B) Experience in a union environment is strongly preferred.
- (C) Excellent interpersonal, analytical, oral and written communication skills.
- (D) Ability to maintain confidentiality.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License as occasional travel to other MWRA locations is required.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with a professional office environment including the use of telephones, personal computers, word processing and other software, videoconference applications, copiers, scanners and fax machines.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment or controls and reach with hands and arms. The employee is occasionally required stand and walk. The employee is regularly required to sit and talk or hear.

The employee must occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception and the ability to adjust focus.

WORK ENVIRONMENT:


The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in an office environment. The noise level in the work environment is moderately quiet.

September 2024

STAFF SUMMARY


TO: Board of Director
FROM: Frederick A. Laskey, Executive Director
DATE: September 11, 2024
SUBJECT: Extension of Internship/Contract Employment, Internal Audit Division



COMMITTEE: Personnel and Compensation

 INFORMATION
 X VOTE

Wendy Chu, Director of Human Resources
Preparer/Title


for
Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve the extension of employment for Mr. Jack Sicurella, Internal Audit Intern, for three months until November 29, 2024 (37.5 at the hours per current rate of \$22/hour.)

DISCUSSION:

Mr. Jack Sicurella currently serves as an Intern in the Internal Audit Department. He began working as an intern in the summer of 2022, while he was still earning his undergraduate degree. He continued working intermittently throughout his final years of college, during summers and school vacation breaks. As of September 20, 2024, Mr. Sicurella will have been employed as an intern for a total period of one year.

Mr. Sicurella is currently assigned to work on several projects, none of which will be completed by September 20, 2024. In order to ensure completion of these projects with minimal disruption and in a manner that ensures consistency, the Authority seeks to extend Mr. Sicurella's employment contract beyond one year. Pursuant to MWRA's Hiring Policy (HR.10), all contract extensions after the initial year of a contract employee must be approved by the Personnel and Compensation Committee and Board of Directors. It is anticipated that the projects Mr. Sicurella is working on can reasonably be completed by November 29, 2024.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the approved FY25 Wages and Salaries budget for this position.