

# 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

H. Vitale

J. Walsh

P. Walsh

M. White-Hammond

J. Wolowicz

## **COMMITTEE OF THE WHOLE**

### **HEARINGS ON THE DRAFT FINAL FY2025 CAPITAL**

### **IMPROVEMENT PROGRAM AND CURRENT EXPENSE BUDGET**

Telephone: (617) 242-6000

Fax: (617) 788-4899

TTY: (617) 788-4971

Date: Wednesday, May 22, 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/r7c1bf6e9c60738ef1445782ccde6de25>

Event Number: 2334 489 5150 Password: 52224

## **AGENDA**

- Advisory Board Integrated Comments and Recommendations on the MWRA's Proposed FY2025 CIP and CEB
- MWRA's FY2025 Draft Final Budget Development Update (Presentation)



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## **BOARD OF DIRECTORS' MEETING**

Telephone: (617) 242-6000

Fax: (617) 788-4899

TTY: (617) 788-4971

**Date:** Wednesday, May 22, 2024

**Time:** Immediately Following the Hearings on the Draft Final FY2025  
Capital Improvement Program and Current Expense Budget

**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/r1628e1db6dbde42f12cb78e0f01988a7>

Event number: 2348 991 3101 Password: 41724

## **AGENDA**

**I. APPROVAL OF MINUTES**

**II. REPORT OF THE CHAIR**

**III. REPORT OF THE EXECUTIVE DIRECTOR**

**IV. WATER POLICY AND OVERSIGHT**

**A. Approvals**

1. Approval of Proposed Lead Service Line Replacement Grant Program

**V. ADMINISTRATION, FINANCE AND AUDIT**

**A. Information**

1. MWRA Climate Mitigation Projects Update
2. FY2024 Third Quarter Orange Notebook
3. Delegated Authority Report – April, 2024
4. 2024 Change Order and Amendment Report No. 3
5. FY2024 Financial Update and Summary through April 2024

**B. Approvals**

1. MWRA FY2025 Insurance Program Renewal

**V. ADMINISTRATION, FINANCE AND AUDIT (Continued)**

**C. Contract Awards**

1. Accounts Payable and Payroll Depository Services: Webster Bank, N.A., Citizens Bank, N.A. Contract F278 and F278A
2. MWRA Uniform Services, Action Apparel LLC, Contract A639

**VI. PERSONNEL AND COMPENSATION**

**A. Approvals**

1. May 2024 PCR Amendments

**VII. CORRESPONDENCE TO THE BOARD**

**VIII. OTHER BUSINESS**

**IX. ADJOURNMENT**

## MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

April 17, 2024

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A meeting of the Massachusetts Water Resources Authority (“MWRA”) Board of Directors was held on April 17, 2024 at MWRA’s Headquarters at Deer Island, Boston, and via remote participation.

Chair Tepper presided from MWRA Headquarters. Board Members Flanagan, Foti, Pappastergion, Peña, Taverna, and Jack Walsh also participated at MWRA Headquarters. Board Members Patrick Walsh and Vitale participated remotely. Board Members White-Hammond and Wolowicz were absent.

MWRA Executive Director Frederick Laskey participated remotely. Deputy Chief Operating Officer Rebecca Weidman and Associate Special Assistant for Affirmative Action Tomeka Cribb also participated remotely.

General Counsel Carolyn Francisco Murphy; Chief Operating Officer David Coppes; Director of Finance Thomas Durkin; Director of Administration Michele Gillen; Tunnel Program Director Kathy Murtagh; Human Resources Director Wendy Chu; Director of Wastewater Operations and Maintenance Charles Ryan; Deputy Director of Finance/Treasurer Matthew Horan; Director of Planning and Sustainability Stephen Estes-Smargiassi; Project Manager, Planning, Cory Yarrington; Director of Environmental and Regulatory Affairs Colleen Rizzi; Director of Construction Eleanor Duffy; Construction Coordinator Alejandro Alvarez; MIS Director Paula Weadick; Public Affairs Director Sean Navin; Deputy Deer Island Treatment Plant Director Chad Whiting; Asset Management Analyst Michael Curtis; Chief of Staff Katie Ronan; Associate General Counsels Angela Atchue, Kimberley McMahan and Kristen Schuller-Scammon; and, Assistant Secretary Kristin MacDougall participated at MWRA Headquarters.

Matt Romero, MWRA Advisory Board (“Advisory Board”), also participated at MWRA Headquarters.

Chair Tepper called the meeting to order at 1:01pm.

### 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 Headquarters 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. She also announced that individual roll call votes would be conducted after each motion was made and given an opportunity for discussion.

APPROVAL OF MARCH 13, 2024 MINUTES

**A motion was duly made and seconded to approve the minutes of the Board of Directors' meeting of March 13, 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>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
P. Walsh		

(ref. I)

REPORT OF THE EXECUTIVE DIRECTOR

MWRA Executive Director Fred Laskey reported that staff continue to seek funding for projects, including \$20 million in Climate Mitigation Trust Fund financing and \$5 million in Clean Water Act grant funds. He thanked Secretary Tepper and her staff for their assistance in maximizing available funds, and for issuing the MEPA Certificate for the Metropolitan Water Tunnel Program. Next, Mr. Laskey briefly discussed the Hardwick Landfill. He explained that the landfill is located outside of the Quabbin watershed and MWRA is paying close attention; that it does not pose an immediate threat to MWRA's water supplies; and, that MWRA staff are working with environmental regulators and following the situation closely. Finally, Mr. Laskey noted that staff assisted at the 2024 Boston Marathon by providing MWRA trucks for side-street security; checking and sealing manholes along the route to make sure such were secure; opened MWRA's Commonwealth Avenue Pump Station and placed MWRA's drinking water wagon there and served cold water to runners coming up the hill in Newton. (ref. III)

EXECUTIVE SESSION

Chair Tepper requested that the Board move into Executive Session to discuss Real Estate and Litigation, since discussing such in Open Session could have a detrimental effect on the negotiating and litigating positions of the Authority. She announced the planned topics for Executive Session were an update on external parcel funding on DCR watershed land, and the *Thomas Ryan et. al v. Newark Group Inc., et. al* federal court civil action. She announced 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		
J. Walsh		
P. Walsh		

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

\*\*\* EXECUTIVE SESSION \*\*\*

The meeting entered Executive Session at 1:06pm and adjourned at 1:36pm.

(Board Member Foti temporarily left the meeting during Executive Session.)

\*\*\* CONTINUATION OF OPEN SESSION \*\*\*

#### EXECUTIVE DIRECTOR’S REPORT (Continued)

Mr. Laskey invited Michele Gillen, MWRA Director of Administration, to update Board Members on MWRA’s Diversity, Equity and Inclusion (DEI) initiatives. Ms. Gillen reported that MWRA’s DEI programs continue to grow, with a focus on employee engagement and inclusion. She noted that staff have recently started an internal “Lunch and Learn” speaker series in response to employee requests for events that highlight their colleagues’ work. She further noted that the series debuted in March with a talk highlighting Women in Leadership at MWRA, followed by an April presentation on MWRA’s Commitment to Sustainability and Mitigating the Impacts of Climate Change. She added that upcoming topics will include MWRA’s CSO Control Program

and Environmental Justice, and that staff will participate in an upcoming Earth Day Cleanup in Chelsea with Green Roots.

There was brief discussion about the staff participation in the Lunch and Learn program, and the ongoing external Lunchtime Speaker Series. Mr. Laskey invited Board Members to participate in and view recordings of the talks. (ref. III)

#### PERSONNEL AND COMPENSATION

##### Approvals

##### April 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, discussed three proposed PCR amendments, comprised of title and grade changes to vacant positions to better meet staffing needs. The positions and grades were identified as Finance Division, Treasury Department from a Manager, Deer Island Administration & Finance (Unit 6, Grade 13) to a Treasury Analyst (Unit 6, Grade 8); Operations Division, Engineering and Construction Department from a Senior Program Manager (Unit 9, Grade 30) to a Program Manager (Unit 9, Grade 29); and Operations Division, Western Water Grounds Maintenance Department from a Skilled Laborer (Unit 2, Grade 11) to an OMC Laborer (Unit 2, Grade 13).

Board Member Pappastergion asked how long the Deer Island Administration and Finance Manager position had been vacant. Matthew Horan, MWRA Deputy Director of Finance/Treasurer, explained that it had been vacant for several years. There was brief discussion about the proposed title and grade change for the position, during which Ms. Gillen noted that the proposed PCR amendments are consistent with MWRA's efforts to promote career paths, including the creation of more entry-level positions. There was general discussion about the organizational benefits of entry-level positions.

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		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		

Yes                      No                      Abstain

P. Walsh

(ref. V A.1)

(Mr. Foti returned to the meeting after the roll call vote.)

Appointment of Manager, Wastewater Operations

**A motion was duly made and seconded to approve the appointment of Mr. John Parkhurst to the position of Manager, Wastewater Operations (Non Union, Grade 14), in the Wastewater Operations Department, at an annual salary of \$162,000, commencing on a date to be determined by the Executive Director.**

Ms. Chu described the job duties of the Manager, Wastewater Operations position. She also discussed the position's vacancy history due to promotion; the interview and selection process; and, the recommended candidate's qualifications and work experience.

There was general discussion about the recommended candidate's work experience and qualifications; background on the position's vacancy; the candidate selection process; the applicant's qualifications; the position's responsibilities; and, the benefits of on-the-job training.

Mr. Taverna asked who held the position previously, and inquired about the timeframe for posting the vacant position. Board Member Jack Walsh inquired about the selection of an external candidate, and inquired further about the individual's experience and education. It was noted that there were internal candidates who applied for the position and two were interviewed.

General discussion followed regarding on-the-job training, education, licenses and qualifications. Director of Wastewater Operations and Maintenance Charles Ryan responded and discussed Mr. Parkhurst's professional experience, education and licenses held, as well as consideration of the internal candidates' qualifications.

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

Yes                      No                      Abstain

Tepper

Flanagan

Foti

Pappastergion

Peña

Taverna

Vitale



<u>Yes</u>	<u>No</u>	<u>Abstain</u>
J. Walsh		
P. Walsh		

(ref. V A.2)

Appointment of Director, Water Quality, Operations Division

**A motion was duly made and seconded to approve the appointment of Ms. Kimberly LeBeau to the position of Director, Water Quality, Operations Division (Non-Union Grade 15) at an annual salary of \$168,205, commencing on a date to be determined by the Executive Director.**

Ms. Chu provided background on the Water Quality Director position, which is part of a reorganization discussed at the March 13, 2024 Board of Directors' meeting. She described the position's job duties; the interview and selection process; and, the recommended candidate's work experience and qualifications.

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		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
P. Walsh		

(ref. V A.3)

Appointment of Director, Environmental Quality, Operations Division

**A motion was duly made and seconded to approve the appointment of Mr. David Wu to the position of Director, Environmental Quality, Operations Division (Non-Union, Grade 15) at an annual salary of \$168,205, commencing on a date to be determined by the Executive Director.**

Ms. Chu summarized the responsibilities of the Director of Environmental Quality position, which was created as part of a reorganization discussed at the March 13, 2024 Board of Directors meeting. She described the selection process and the recommended candidate's qualifications and work experience.

There was discussion with questions and answers about the reorganization of the Department

of Environmental Quality into two departments that focus solely on wastewater reporting and compliance, and drinking water reporting and compliance, respectively. There was also brief discussion about the importance of knowledge transfer in preparation for the upcoming retirement of the Director of ENQUAL.

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		
J. Walsh		
P. Walsh		

(ref. V A.4)

## WATER POLICY AND OVERSIGHT

### Information

#### Report on 2023 Water Use Trends and Reservoir Status

Stephen Estes-Smargiassi, MWRA Director of Planning and Sustainability, and Cory Yarrington, MWRA Planning Project Manager, presented an update on FY2023 water use trends and reservoir status. The presentation included an overview of MWRA's source waters, watersheds and water storage; a review of system reliability concepts such as safe yield; critical planning focus for drought; and, current withdrawal rates. Mr. Estes-Smargiassi noted that in his view, MWRA's current combined safe yield of 300 million gallons per day (MGD) may be conservative in light of increased precipitation levels.

The presentation also included an overview of longer-term water use trends in the MWRA service area, including substantial drops in reservoir withdrawals and total water consumption by MWRA communities. Mr. Estes-Smargiassi noted that MWRA's system has remained within safe yield since the 1980s, and that daily withdrawals have trended downward since 2004, despite the addition of new water service communities.

He presented water use highlights for 2023, and briefly discussed the City of Boston's water demand, which has steadily decreased to levels lower than those recorded in 1900.

The presentation also included discussion of base (indoor) versus seasonal (outdoor) water

demand. Mr. Estes-Smargiassi noted that base use continues to show improvements attributable in part to water use efficiency.

Mr. Estes-Smargiassi then presented data on water demand for MWRA's partially-supplied communities, which is more variable than that for fully-supplied communities. He also discussed monthly average rainfall data for Boston, noting that the summer of 2023 was the second-rainiest since 1872, and that 2024 precipitation levels have been approximately 50% higher than MWRA's long-term average.

Finally, Mr. Estes-Smargiassi reported that despite the addition of new communities, MWRA's water demand for 2023 was at its lowest point since 1950, and that the reservoirs stayed within their normal operating ranges for the entire year. He noted that MWRA's water supply is well-situated to provide reliable supplies to existing customers and potential new customer communities.

Board Member Taverna asked if the ongoing Quabbin releases had any impact on downstream rivers. Mr. Estes-Smargiassi explained that MWRA monitors and controls the volume of the releases to mitigate any negative impacts. He added that residents on the Swift River floodplain were notified by mail of potential high river levels.

Secretary Tepper requested more information about possible reasons for the reduction in water use within the MWRA system. Mr. Estes-Smargiassi explained that the reduction could be attributed to a number of factors such as the wider availability of water-efficient toilets and appliances, as well as increased awareness about the importance of indoor and outdoor water conservation. There was brief, general discussion about outdoor water conservation.

Hearing no further discussions or questions from the Board, Committee Chair Vitale moved to the next Information item. (ref. VI A.1)

#### Quabbin Reservoir Watershed Communities System Expansion Evaluation Update

Colleen Rizzi, MWRA Director of Environmental and Regulatory Affairs, presented an update on MWRA's ongoing evaluation of System Expansion for Quabbin Reservoir Watershed Communities. She noted that staff are preparing a feasibility study on water system expansion to 12 Quabbin area communities, and explained that two communities (Phillipston and Ludlow) had been added to the study area since this topic was presented at the October 18, 2024 Board meeting (ref. V A.1, October 18, 2024).

The presentation included discussion on the study's objectives and methodologies. Ms. Rizzi noted that the Quabbin Reservoir Watershed feasibility study will vary slightly from the three already-completed feasibility studies (South Shore, Ipswich River Basin and MetroWest). She explained that the Quabbin study would include the identification of potential water supply alternatives, such as surface water intake and treatment or groundwater supply, because the

Quabbin area has limited access to existing MWRA infrastructure. She further explained that the Quabbin study will include an examination of high level costs and a schedule for alternatives.

Ms. Rizzi also discussed MWRA's ongoing coordination with communities within the Quabbin study area, and a productive information session on April 12, 2024, which was attended by representatives of four of the 12 study communities.

Finally, Ms. Rizzi summarized the next steps in the evaluation process and provided a brief schedule overview. She noted that staff expect to present the final findings to the Board of Directors at the end of 2024.

Mr. Taverna requested clarification on the number of Quabbin study area communities that currently have no existing public water system infrastructure. Ms. Rizzi explained that only five of the 12 study area communities have an existing public water supply. There was brief, general discussion about the challenges of supplying MWRA water to communities without public water system infrastructure.

Chair Tepper relayed that she had heard from a couple of legislators who were hoping to have a broader scope of the study (not just inclusion of watershed communities) given the economies of scale and asked if there was any discussion about the possibility of the study being broader. Ms. Rizzi explained that MWRA has heard from legislators as well, and that staff view the Quabbin study as a first step toward determining the viability and feasibility of expansion to communities surrounding the Quabbin Reservoir before expanding to a larger geography, and briefly noted the linear aspects of expansion. Mr. Laskey discussed the study including noting staff's brief report at the prior board meeting of interest by some in a more expansive study – an economic study; that MWRA's study focuses on water in the Quabbin and perhaps a broader focus would fall under entities such as the Metropolitan Area Planning Council; and that four of the 12 Quabbin communities attended MWRA's information session. Chair Tepper asked if there was anything that would preclude MWRA from adding more communities to the Quabbin expansion study in the future. Mr. Laskey replied that there was not, noting getting a sense of the resources and costs for such a study and MWRA's willingness to cooperate. Chair Tepper recommended that the lines of communication be kept open, and Mr. Laskey agreed.

Hearing no further discussions or questions from the Board, Committee Chair Vitale moved to the next Information item. (ref. VI A.2)

### Approvals

#### Town of Wilmington Renewal of Water Supply Continuation Agreement with Increased Withdrawal and Waiver of Entrance Fee

**A motion was duly made and seconded to authorize the Executive Director, on behalf of the**

**Authority, to approve the Town of Wilmington’s request to increase its withdrawal volume limits up to 450.5 million gallons per year, or 1.23 million gallons per day average daily use, and up to 2.5 million gallons per day maximum day use and to waive the entrance fee associated with such increased withdrawal volume.**

**Further, a motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to execute the Water Supply Continuation Agreement with the Town of Wilmington, substantially in the form included as Attachment A to the April 17, 2024 Staff Summary presented and filed with the records of this meeting.**

Ms. Rizzi provided background on the initial water supply contract with the Town of Wilmington, and described the terms of the proposed water supply continuation agreement, which includes an increase in water withdrawal limits and an entrance fee waiver. She explained that the proposed withdrawal increase for Wilmington is mostly driven by the Town’s concerns about its local water quality and its reliance on the stressed Ipswich River basin. She described the status of Wilmington’s local water supplies, including its groundwater wells, and noted that the MWRA Advisory Board recommends approval of the proposed water supply agreement renewal and entrance fee waiver for Wilmington.

Mr. Taverna asked if Wilmington could potentially join the MWRA system as a fully-supplied water community. Ms. Rizzi explained that the Town is considering this possibility, and provided a brief, general overview of the timeline, steps and requirements for doing so.

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		
J. Walsh		
P. Walsh		

(ref. VI B.1)

Contract Amendments/Change OrdersRehabilitation of Sections 23, 24 and 47 Water Mains – Boston and Newton: Albanese D&S, Inc., Contract 6392, Change Order 4

**A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 4 to Contract 6392, Rehabilitation of Sections 23, 24 and 47 Water Mains – Boston and Newton, with Albanese D&S, Inc. for a not-to-exceed amount of \$1,087,031.50, increasing the contract amount from \$27,385,464.07 to \$28,472,495.57, with no increase in contract term.**

**Further, a motion was duly made and seconded to authorize the Executive Director to approve additional change orders as may be needed to Contract 6392 in an amount not to exceed the aggregate of \$1,000,000 in accordance with the Management Policies and Procedures of the Board of Directors.**

Eleanor Duffy, MWRA Director of Construction, and Alejandro Alvarez, MWRA Construction Coordinator, discussed the reasons for a proposed change order with Delegated Authority for the Sections 23, 24 and 47 Water Mains Project in Boston and Newton contract.

Ms. Duffy provided background on the project to improve water quality and system reliability for the Southern High Pressure Zone areas of Boston, Newton and Watertown. She explained that this project supports two other contracts as part of the larger Intermediate High Pipeline Improvements Program, which will interconnect two geographically distinct and hydraulically unconnected pressure zones.

Next, Ms. Duffy discussed the reasons for the proposed change order. She explained that it would cover costs for quantity overruns for some classifications of soils for disposal, as well as associated transportation and disposal facility fee increases. She added that some classifications of soils have significant underruns in contract quantities that will be captured in the final balancing change order for a credit to MWRA and the City of Newton, and noted that Newton will reimburse MWRA for a portion of the surplus soil disposal costs, under a Memorandum of Understanding (MOU).

Ms. Duffy explained that the proposed change order also included costs for additional water main excavation, and the relocation and replacement of municipal drain and sewer lines for an Emergency Interconnection between MWRA and Newton. She further explained that this work is needed to address a hydraulic shortfall that would affect future construction projects. She added that performing this work will eliminate the need to deactivate, cut and disinfect new Section 23 piping during a future Intermediate High Pipeline construction project and minimize disruption to the surrounding residential areas.

Mr. Alvarez concluded the presentation with a project overview and progress update.

Mr. Taverna complimented MWRA staff and the contractors for their diligent work on this

complex project. Board Member Jack Walsh inquired about increased soil disposal costs. Ms. Duffy explained that cost increases for soil quantity overruns require contractors to renegotiate purchase agreements in a supply and demand environment, which is not uncommon. There was brief, additional discussion about soil disposal costs, and the anticipated soil underrun credits, which will be included by MWRA in a future balancing change order (i.e. amendment to the contract).

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		
J. Walsh		
P. Walsh		

(ref. VI C.1)

#### ADMINISTRATION, FINANCE AND AUDIT

##### Information

##### 2023 Annual Update on New Connections to the MWRA System

Ms. Rizzi presented an annual update on new connections to the MWRA system. She reported that there were no new water or sewer connections since the 2022 Annual Update. She briefly discussed MWRA's System Expansion policies; new system connections since 2002; three completed system expansion studies (Ipswich River Basin, South Shore and MetroWest), and one planned study for Quabbin Reservoir communities. She provided an overview of communities that are in various stages of planning or considering admission to the MWRA system, and noted that MWRA's upcoming study to assess the expansion of MWRA's water system to communities within the Quabbin Reservoir Watershed is expected to be complete in late 2024.

Mr. Jack Walsh asked if MWRA will prioritize the applications for new communities. Ms. Rizzi explained that MWRA does not currently need to prioritize applications for communities within the completed study areas, and that prioritization could be considered in the future if needed. Mr. Walsh expressed support for system expansion. There was brief discussion about the general timeline of a typical admissions process for a new community.

Hearing no further discussion or questions from the Board, Committee Chair Foti moved to the next Information item. (ref. VII A.1)

#### Delegated Authority Report – March 2024

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

With regards to report Item C-1: *Worker's Compensation*, there was brief, general discussion with questions and answers about Worker's Compensation statutes and constraints. There was also general discussion about the health insurance coverage and costs for employees receiving Worker's Compensation benefits.

Hearing no further discussion or questions from the Board, Mr. Foti moved to the next Information item. (ref. VII A.2)

#### FY24 Financial Update and Summary through March 2024

Thomas Durkin, MWRA Finance Director, provided a financial update and summary through March, 2024. He reported that MWRA's budget is progressing well, and that staff continue to develop the FY2025 budget. He discussed the Current Expense Budget (CEB), the variability of some CEB line items such as chemicals (22.2% under budget for FY2024); methods for managing variability; and the impacts of interest rates, inflation and debt on MWRA's budgets. Finally, Mr. Durkin reported that the FY2024 budget is approximately 3% under budget overall.

Hearing no discussion or questions from the Board, Mr. Foti moved to Approvals. (ref. VII A.3)

#### Approvals

##### Approval of the Eighty-Eighth Supplemental Resolution

**A motion was duly made and seconded to adopt the Eighty-Eighth Supplemental Resolution authorizing the issuance of up to \$500,000,000 of Massachusetts Water Resources Authority Tax-Exempt General Revenue Bonds and General Revenue Refunding Bonds and the supporting Issuance Resolution.**

Mr. Horan requested approval to adopt the 88<sup>th</sup> Supplemental Resolution. He described the bonds to be issued under this authorization, which include approximately \$300 million in refunding bonds to permanently finance outstanding short-term borrowings, and \$200 million in new money bonds to complete a refunding of outstanding bonds to achieve interest rate savings.

There was general discussion with questions and answers about the bond market, and the logistics of the proposed issuance. There was also brief, general discussion about Green Bonds and the Green Bond market.

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

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*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/02org/html/bodmtg.htm>*



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

(ref. VII B.1)

#### Contract Awards

Disclosure Counsel Services: Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Contract F277

**A motion was duly made and seconded to approve the recommendation of the Consultant Selection Committee to award Contract F277 to Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. for Disclosure Counsel Services and to authorize the Executive Director, on behalf of the Authority, to execute Contract F277 in an amount not to exceed \$675,260 and for a term of four years from the date indicated in the Notice to Proceed.**

Mr. Horan provided a brief overview of the consultant selection process for the proposed contract for disclosure counsel services. He noted that Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. (“Mintz”) was the recommended contractor.

There were questions and answers about the prior provider, and the point person for Mintz.

Chair Tepper requested more information about the proposals received for the contract. Mr. Horan noted that Mintz, the recommended firm, submitted the second-lowest priced proposal (\$675,260). He explained that Mintz had more direct disclosure experience than the lowest-priced proposer and offered a better value overall.

Hearing no further discussion or questions from the Board. Hearing none, 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		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Vitale		
J. Walsh		
P. Walsh		

(ref. VII C.1)

Contract Amendments/Change Orders

Purchase Order for Data Reporting Analyst (Report Writer): Consultant Mindlance Inc., Bid WRA-5281Q, State Contract ITS77 Category 1A and 1B, Amendment 1

**A motion was duly made and seconded that the Board of Directors, on behalf of the Authority, approve the award of Amendment 1 to WRA-5281Q for a Data Reporting Analyst (Report Writer) Consultant to Mindlance Inc., in the amount of \$168,148.50 and authorize the Director of Administration to execute an amended purchase order, increasing the purchase order amount from \$168,148.50 to \$336,297, and extending the contract term by one year from April 25, 2024 to April 25, 2025.**

Paula Weadick, MWRA MIS Director, explained that the proposed amendment for a Data Reporting Analyst (Report Writer) to the purchase order contract, and further an amendment for a Senior Business Analyst Consultant to Acro Service Corporation (to be discussed in agenda item VII D.2) would extend the terms for consultants who serve in critical roles. She noted that both positions have been difficult to fill with full-time, in-house staff.

In response to a question from Mr. Taverna, Ms. Weadick explained that the purchase order contract for the Report Writer represented one full time equivalent (FTE), for one year. There was brief, general discussion about potential strategies for filling the positions with permanent employees, and the cost. Also, Mr. Peña inquired about employing the persons who are performing the work under the purchase order contracts. Brief discussion followed, and Ms. Weadick noted the positive working relationships with the consultants.

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		
J. Walsh		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
P. Walsh		

(ref. VII D.1)

Purchase Order Contract for Senior Business Analyst Consultant: Acro Service Corporation, Bid WRA-5258Q, State Contract ITS77 Category 1A and 1B, Amendment 1

**A motion was duly made and seconded that the Board of Directors, on behalf of the Authority, approve the award of Amendment 1 to WRA-5258Q for a Senior Business Analyst Consultant to Acro Service Corporation, in the amount of \$163,800 and authorize the Director of Administration to execute an amended purchase order, increasing the purchase order amount from \$163,800 to \$327,600, and extending the contract term by one year from March 31, 2024 to March 31, 2025.**

Ms. Weadick invited Board Members' questions on the proposed amendment to the purchase order contract for a Senior Business Analyst Consultant.

Mr. Taverna asked if the contract represented one FTE for one year. Ms. Weadick responded in the affirmative.

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		
J. Walsh		
P. Walsh		

(ref. VII D.2)

## WASTEWATER POLICY AND OVERSIGHT

### APPROVALS

**A motion was duly made and seconded to approve the addition of one new member, Ms. Christine Bennett of the MWRA Advisory Board, to the Wastewater Advisory Committee.**

Sean Navin, MWRA Public Affairs Director, summarized the professional experience and qualifications of a recommended new member of the Wastewater Advisory Committee (WAC).

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		
J. Walsh		
P. Walsh		

(ref. VIII A.1)

#### Contract Awards

Struvite, Sludge, Scum and Grit Removal Services: Moran Environmental Recovery, LLC,  
Contract WRA-5396

**A motion was duly made and seconded to approve the award of purchase order contract WRA-5396 to provide struvite, scum, sludge and grit removal services at the Deer Island Treatment Plant to the lowest responsive bidder, Moran Environmental Recovery, LLC and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed \$1,616,150 for a period of two years, from July 1, 2024 through June 30, 2026.**

Chad Whiting, MWRA Deputy Deer Island Treatment Plant Director, presented a summary of the scope and terms of a proposed contract for struvite, sludge, scum and grit removal services at the Deer Island Treatment Plant (DITP). He noted that so-called “flushable wipes” are major contributors to buildup and blockages at the plant.

There was general discussion about struvite disposal, and the frequency of struvite, sludge, scum and grit removal operations at Deer Island.

Mr. Whiting presented an overview of how blockages develop in DITP’s processing areas; examples of blockages; and, the impacts of wipes on DITP facilities. He also presented a struvite sample (sealed in a clear plastic bag) to Board Members for further viewing.

There was general discussion about the nation-wide problem of improper wipe disposal; educational campaigns to raise awareness of the problems that wipes cause to sewer treatment facilities and home plumbing systems; and legislative efforts with respect to disclosure language for wipe packaging. Board Member Flanagan noted that some multi-unit

buildings perform monthly maintenance to clear blockages caused by wipes. Mr. Whiting responded in agreement and acknowledged the problems created when wipes are disposed of using low flow water fixtures.

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		
J. Walsh		
P. Walsh		

(ref. VIII B.1)

#### CORRESPONDENCE TO THE BOARD

There was no correspondence to the Board (ref. IX)

#### OTHER BUSINESS

There was no Other Business. (ref. X)

#### 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		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
P. Walsh		

(ref. XI)

The meeting adjourned at 3:05pm.

Approved: May 22, 2024

Attest:

\_\_\_\_\_  
Brian Peña, Secretary

#### LIST OF DOCUMENTS AND EXHIBITS USED

- Draft Minutes of the March 13, 2024 MWRA Board of Directors' Meeting (ref. I)
- April 17, 2024 Staff Summary – April 2024 PCR Amendments (ref. V A.1)
- April 17, 2024 Staff Summary – Appointment of Manager, Wastewater Operations (ref. V A.2)
- April 17, 2024 Staff Summary – Appointment of Director, Water Quality, Operations Division (ref. V A.3)
- April 17, 2024 Staff Summary – Appointment of Director, Environmental Quality, Operations Division (ref. V A.4)
- April 17, 2024 Staff Summary and Presentation – Report on 2023 Water Use Trends and Reservoir Status (ref. VI A.1)
- April 17, 2024 Staff Summary and Presentation – Quabbin Reservoir Watershed Communities System Expansion Evaluation Update (ref. VI A.2)
- April 17, 2024 Staff Summary – Town of Wilmington Renewal of Water Supply Continuation Agreement with Increased Withdrawal and Waiver of Entrance Fee (ref. VI B.1)
- April 17, 2024 Staff Summary and Presentation – Rehabilitation of Sections 23, 24 and 47 Water Mains Boston and Newton: Albanese D&S, Inc., Contract 6392, Change Order 4 (ref. VI C.1)
- April 17, 2024 Staff Summary and Presentation – 2023 Annual Update on New Connections to the MWRA System (ref. VII A.1)
- April 17, 2024 Staff Summary – Delegated Authority Report – March 2024 (ref. VII A.2)
- April 17, 2024 Staff Summary – FY24 Financial Update and Summary through March 2024 (ref. VII A.3)
- April 17, 2024 Staff Summary – Approval of the Eighty-Eighth Supplemental Resolution (ref. VII B.1)
- April 17, 2024 Staff Summary – Disclosure Counsel Services Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. Contract F277 (ref. VII C.1)
- April 17, 2024 Staff Summary –Purchase Order for Data Reporting Analyst (Report Writer): Consultant Mindlance Inc. Bid WRA-5281Q, State Contract ITS77 Category 1A

and 1B, Amendment 1 (ref. VII D.1)

- April 17, 2024 Staff Summary – Purchase Order Contract for Senior Business Analyst Consultant: Acro Service Corporation Bid WRA-5258Q, State Contract ITS77 Category 1A and 1B, Amendment 1 (ref. VII D.2)
- April 17, 2024 Staff Summary – Approval of New Member of the Wastewater Advisory Committee (ref. VIII A.1)
- April 17, 2024 Staff Summary and Presentation – Struvite, Sludge, Scum and Grit Removal Services Moran Environmental Recovery, LLC WRA-5396 (ref. VIII B.1)

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** Proposed Additional Funding for Lead Service Line Replacements




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COMMITTEE: Water Policy & Oversight

INFORMATION  
 VOTE

Kristen M. Hall, Senior Program Manager  
Rebecca Weidman, Deputy Chief Operating Officer  
Stephen Estes-Smargiassi, Dir. Of Planning and Sustainability  
Preparer/Title



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

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### RECOMMENDATION:

To approve a revision to the Lead Service Line Replacement Program to provide an additional \$100 million in funding, and to provide for a 25 percent grant portion on the revised program balance for communities which fully fund replacement of the portion on private property, to encourage and accelerate community lead removal efforts, as further set forth in this Staff Summary.

### DISCUSSION:

On March 16, 2016, the Board approved an enhancement to the Local Water System Assistance Program to provide an additional \$100 million in ten-year interest-free loans to communities solely for efforts to fully replace lead service lines. Under MWRA's Lead Service Line Replacement Loan Program (also known as the Lead Loan Program), each community can develop its own program, tailored to its local circumstances. As currently implemented, the program provides zero-interest loans to communities to create local programs to fully remove lead service lines from the community water main all the way to the home. Partial replacements which remove only the portion in the street, but leave the portion on private property, are not eligible under the program. Each community has the responsibility of developing and managing its own program. To date, MWRA has provided \$43.8 million in loans to 17 communities.

As reported in February 2024, the US Environmental Protection Agency (EPA) has proposed the new Lead and Copper Rule Improvements (LCRI). EPA anticipates issuing the new rule in final form by October 2024, with implementation expected in 2027. One component of that rule is the requirement for all water systems to replace all lead service lines within ten years, regardless of lead sample results. Based on currently available information, at least 20 of MWRA's water communities have some lead service lines, ranging from less than a dozen to several thousand. Current information indicates that system wide there are around 15,400 lead services lines out of the over 525,000 total number of services (2.9 percent). Several communities have more than ten percent, several more have five to ten percent, and more than half have less than one percent. Those with a large number or percentage will have a more challenging time removing all of their lead service lines within the required timeframe.



MWRA's data indicates that the presence of a lead service line substantially increases the likelihood that sampled lead levels will be elevated, thus full replacement provides an important public health benefit. A significant obstacle to fully replacing lead service lines is that a portion of the line is on private property. Communities have found that replacement programs that provide no or limited subsidy of the cost of replacing the private portion have relatively low participation rates. Those whose programs use a single contractor and fully fund the private portion have experienced higher participation rates. For example, the Boston Water and Sewer Commission program was modified to replace the entire service line at no cost to the owners in early 2023, and since then owners have been much more likely to agree to have their service lines replaced.



The proposed LCRI includes changes to the sampling and reporting protocols which will likely result in higher reported lead levels, and also lowers the Lead Action Level from 15 parts per billion (ppb) to 10 ppb, increasing the likelihood that the MWRA system would be forced into changing its corrosion control treatment. Fortunately, the proposed LCRI also contains a specific provision that allows a water system to defer proceeding with changes to its corrosion control treatment if it commits to replacing all of its lead service lines within five years, at a rate of 20 percent per year. As discussed previously, changing corrosion control would be complicated, and potentially involve risks to other aspects of water quality and customer experience.



As discussed at the February Board meeting, staff believe it is in the best interest of the Authority and its member communities to accelerate lead service line replacements before the new rule is in effect. Therefore, staff recommend that the Board of Directors authorize an additional \$100 million for the program, and modify the program guidelines to include a 25 percent grant for the balance of the program for those communities whose programs include fully funding the replacement of the portion of the lead service line on private property. Based on

current estimates of lead service lines and costs, this should provide sufficient resources to complete full lead service line replacement system-wide based on prior survey data provided by our communities. If local water systems are successful in removing all lead by October 2032, MWRA will be able to avoid the approximate \$20 million in capital construction costs and \$3 million per year annual operating costs associated with an additional treatment process at the Carroll Water Treatment Plant, as well as the associated interest costs and inflation of operating costs over time.

MWRA staff made presentations to the Advisory Board Operations and Executive committees on this proposal between January and April 2024. On April 18, 2024, the full MWRA Advisory Board voted to request that the Board of Directors authorize modifications to the existing community assistance Lead Loan Program to offer a 25 percent grant, subject to conditions to be finalized between Advisory Board and MWRA staff. Staff expect the incorporation of a grant portion will help communities get over the hurdle of funding work on private property, and also encourage more homeowners to participate in the Program.

If approved by the Board, staff will include the Program revisions in the Final FY25-27 Capital Improvement Program, and return to the Board at its June meeting regarding changes to the Program guidelines.

**BUDGET/FISCAL IMPACT:**

The proposed modifications to the Lead Loan Program brings the total available funding to \$157 million. Similar to the current community assistance programs, the cost of the interest on the ten-year loan and the principal and interest on the grants will be included in the Current Expense Budget. The estimated first year cost of this Program is \$1.5 million. Based on a 30-year borrowing for the grant component and ten years of interest on the loans, the total Program is estimated to cost \$118 million. The estimated cost for construction and operations (escalated at 3% annually) of the additional corrosion control over 30 years is \$180 million. If approved the additional \$100 million will be included in the final FY25 CIP.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** MWRA Climate Mitigation Projects Update




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**COMMITTEE:** Administration, Finance & Audit

X  INFORMATION  
  VOTE

Kristen Patneau, Manager, Energy  
Rebecca Weidman, Deputy Chief Operating Officer  
Preparer/Title



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

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### RECOMMENDATION:

For information only.

### DISCUSSION:

MWRA has a long-standing and successful commitment to renewable energy and energy savings initiatives with attention to fiscal responsibility, environmental protection, and greenhouse gas emissions reduction and mitigation. In support of the Commonwealth's leadership and the establishment of net zero greenhouse gas emissions targets in 2050, MWRA continues with energy and sustainability efforts, and future plans to improve efficiencies and reduce greenhouse gas emissions. Staff provided an overview of MWRA's greenhouse gas emission reductions to date and plans for further progress at the January 17, 2024 Board meeting. This staff summary provides an overview of anticipated state funding that will support these efforts.

MWRA has identified a number of projects to further reduce greenhouse gas emissions from its operations and business practices. Although many of MWRA's energy initiatives result in energy savings, they do require capital investments, and some of those investments can be significant, even when taking into account the social cost of carbon. Accordingly, MWRA pursues grants, rebates, and other incentives when available to improve project economics and reduce budget impacts.

Over the past several years, the Commonwealth has passed monumental climate and clean energy laws, laying out a roadmap to help clarify how to meet its climate targets. On November 20, 2018, the Secretary of the Executive Office of Energy and Environmental Affairs established the Climate Protection and Mitigation Expendable Trust (Expendable Trust) pursuant to and in furtherance of 310 CMR 7.74: Reducing CO2 Emissions from Electricity Generating Facilities, and 310 CMR 7.75: Clean Energy Standard. Funds from the Expendable Trust may be used for various purposes, including "to further the climate change goals of M.G.L. c. 21N by supporting programs or projects to reduce greenhouse gas emissions in order to mitigate the impacts of climate change, including but not limited to clean energy projects and vehicle electrification projects." The Massachusetts Department of Environmental Protection (MassDEP) Commissioner administers the Expendable Trust.

As reported to the Board of Directors at the April 17, 2024 meeting, MassDEP recently notified the Authority of its intent to make a Best Value Grant Award available to MWRA through the Expendable Trust in the amount of \$20 million, subject to a public comment process. MassDEP must post a Notice of Intent on COMMBUYS for public comment for at least fourteen days, before committing to the issuance of any funding. MWRA intends to propose the following projects to MassDEP for funding through the Expendable Trust. These proposed projects align with MassDEP’s funding goals for the Expendable Trust.

### **Building Electrification**

In Massachusetts and most other states, the building sector is second only to transportation in greenhouse gas emissions. Working toward fossil-fuel-free heating in the future, MWRA’s focus has shifted to electrification, and studying the feasibility of replacing fuel oil heat with air, ground or water source heat pumps. MWRA has installed a geothermal heat pump system at the Wachusett Aqueduct Pump Station and several water source heat pumps at Spot Pond Pump Station. These projects have been a guide for widespread implementation at other MWRA facilities.

Future building electrification efforts include the design and installation of heat pumps at Newton Street Pumping Station, New Neponset Pump Station, Wachusett Lower Gate House, and the Ward Street and Columbus Park Headworks rehabilitation projects. MWRA staff are proposing to fund heat pumps at these facilities along with building electrification efforts at our Norumbega Reservoir site. Staff are also working with MWRA’s utility partners, National Grid and Eversource, and are performing heat pump specific audits at other facilities that utilize fossil fuels for heating. MWRA will move forward with the audit recommendations as they are received. In addition, all new facility construction, renovation, or HVAC replacements or upgrades will include a heat pump evaluation.



### **Renewable Energy**

MWRA continues to seek opportunities to minimize its environmental footprint while maximizing value to its ratepayers. The development of clean energy projects brings together these principles in a way that provides lasting value. MWRA has been on the forefront of energy efficiency and renewable energy since its creation and over the years has built a significant portfolio of renewable energy.

## Solar

With continuing efficiency improvements in technology, solar continues to be a viable low maintenance energy source particularly with the economic support of state and improved federal tax incentives. MWRA is planning for several additional solar developments, including current plans for the Deer Island Treatment Plant (2 megawatt canopy and roof) and Norumbega Covered Storage (4 megawatt ground mount) facilities.



Solar projects such as the Deer Island solar canopy and Norumbega ground mount installation may be procured in accordance with G.L. c. 164, §137<sup>1</sup>, through the PowerOptions solar program. PowerOptions, a membership-based non-profit energy consortium, of which MWRA is a long-standing member, administers its solar program on behalf of the Massachusetts Clean Energy Center. PowerOptions selected Solect Energy Development, LLC to serve as the solar program vendor, through a competitive solicitation in 2022.

Subject to mutually acceptable terms, the Authority intends to sign a non-binding Letter of Intent with Solect so it can begin initial project development activities and, submit an application to the Massachusetts Department of Energy's Solar Massachusetts Renewable Target (SMART) incentive program, an Eversource Interconnection application, and develop a proposals for the projects. MWRA may also elect to authorize Solect to conduct an initial subsurface



investigation for the solar canopy at Deer Island due to the presence of obstructions recently identified in the parking lots that could impact the design of the canopy support structure. It is expected that Solect will ultimately submit a proposal for a purchase and installation agreement and/or power purchase agreement for each of the projects for MWRA's consideration. Any agreement(s) with Solect is subject to, among other things, mutually acceptable costs, terms and conditions and approval of the Board of Directors.

In addition to these larger projects, staff will continue to evaluate the feasibility for solar with any facility rehabilitation, new construction, or roof replacement.

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<sup>1</sup> G.L. Chapter 164 § 137 allows non-profit institutions and government entities to participate in any competitively procured energy program in Massachusetts offered by or on behalf of a public instrumentality.

## Wind



MWRA has optimized siting and installed wind turbines at two locations, Deer Island and the DeLauri Pump Station in Charlestown. There is limited opportunity for additional large-scale wind turbines due to high-density development or height restrictions, and lower wind resources surrounding many MWRA facilities.

As previously reported, one of the Deer Island wind turbines suffered a catastrophic failure in May 2023 and is currently offline. MWRA is planning for the design and construction of a replacement turbine at the same location.

### **BUDGET/FISCAL IMPACTS:**

The FY25 Proposed CIP includes \$10 million for Alternative Energy Initiatives. MWRA will be responsible for any project costs that exceed the proposed \$20 million grant from the Massachusetts Climate Protection and Mitigation Expendable Trust.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** FY2024 Third Quarter Orange Notebook




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**COMMITTEE:** Administration, Finance & Audit

INFORMATION  
 VOTE

Stephen Estes-Smargiassi, Director Planning & Sustainability  
Michael D. O'Keefe, Senior Program Manager, Planning  
Preparer/Title



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

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### 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 third quarter of fiscal year 2024.

#### Staffing Levels

External hires continue to compare favorably with the previous two fiscal years. MWRA completed 74 external hires during the first three quarters of FY24, compared to 40 and 71 external hires during the first three quarters of FY22 and FY23, respectively. While there have been 24 separations during the third quarter, resulting in a slight decrease in total staffing since January, MWRA has had a net increase of six FTEs since the beginning of the fiscal year. At the end of March, staffing stood at 1,056.7, roughly 95 positions below the budget of 1,152 FTEs. (See page 50.)

Lower staffing levels continue to have impacts on operations. 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 7 and 8); several lab services metrics missed internal goals during the third quarter (see page 15); and the maintenance backlog at Deer Island is within industry standards but at the high end of the desired range. The backlog is not affecting critical operations or regulatory compliance (see page 5).

## Precipitation More Than Double Average for the Quarter

Several storms during January and March resulted in rainfall totals more than twice the four-year average for the third quarter (17.23 inches versus 8.10 inches expected), impacting both the wastewater and water system. (See page 1.)

### *Wastewater*

The high levels of precipitation in January and March led to extremely high flows at Deer Island. Total plant flow at Deer Island for the third quarter was 28.4% above the four-year average plant flow (440.0 mgd versus 342.7 mgd expected). (See page 1.) Instantaneous flow during Q3 peaked at 1,312.6 mgd on the morning of January 10, during a two-day storm event that brought 2.47 inches of precipitation to metropolitan Boston. Several January records were set this quarter, including average monthly plant influent flow (514.75 mgd) and total precipitation for the month (7.64 inches). (See page 2.)

The high flow affected operations at Deer Island in several ways, including the following:

- Total power usage, which was 15.3% above target in the third quarter, was mainly driven by pumping and secondary treatment. (See page 1.)
- Total electricity purchased was 9.9% above target. (See page 1.)
- Power generation from the combustion turbine generators (CTGs) was more than 6.6 times the target mostly due to the 141.8 hours of operation in January and March. During these periods, the CTGs were used solely as potential backup power in the event of utility power loss during very high plant flows resulting from significant rain and high wind storms. Because they run on fuel oil, such significant use of the CTGs has a major impact on MWRA's carbon emissions. (See page 1.)
- There were 11 secondary blending events due to high plant flows in January and March alone. These events resulted in nearly 154 hours of blending and a total of 1,272 million gallons of primary-only treated effluent blended with secondary effluent. (See page 2.)

The high precipitation also affected flows at the Clinton Wastewater Treatment Plant. The 12-month rolling average continued to increase to 3.57 mgd, marking six consecutive months of exceeding the plant's National Pollutant Discharge Elimination System (NPDES) permit limit of 3.01 mgd. (See page 31.) Influent flow from the Town of Clinton and the Lancaster Sewer District have exceeded five-year averages for the entirety of FY24.

### *Water*

The watershed similarly experienced much higher than normal precipitation in the third quarter, resulting in the Quabbin Reservoir being over 100% capacity – a 5% increase for the quarter, which represents a gain of more than 21.4 billion gallons of storage. System yield is also well above long-term quarterly averages. With Wachusett Reservoir also at high levels, there were no transfers from Quabbin to the Wachusett and releases into both the Swift and Nashua Rivers were higher than normal in order to sustain safe elevation levels. (See page 28.)

Additionally, winter precipitation events increased the local tributary flows into Wachusett Reservoir, resulting in higher levels of natural organic matter. The combination of lower transfers from Quabbin Reservoir and these higher tributary flows resulted in a decrease in the water quality benefits from Quabbin at the Carroll Water Treatment Plant. This is reflected in high levels of



UV-254, a measure of the reactive natural organic matter in the water, in Wachusett during the third quarter. (See page 22.)

### Toxic Reduction and Control (TRAC)

In order to reduce toxic discharges at their source, TRAC regulates industrial entities that discharge into the sewer system and works to encourage reductions in toxic chemical use. A major part of these efforts are issuing and renewing discharge permits for Significant Industrial Users (SIUs), 90% of which must be issued within 120 days and the remaining 10% within 180 days as per EPA regulation. TRAC has far exceeded this requirement in FY24, with 97% of SIU permits being issued within 120 days and the rest being issued within 180 days. (See page 12.) This reflects a significant improvement from one year ago due to improved staff levels.

### Workplace Safety

MWRA's longstanding commitment to safety continues to be reflected by our workplace injury record. Throughout FY24, the 12-month rolling recordable injury and illness rates, as well as the time lost to injury and illness have been below historical averages. (See page 51.)

### Personal Computer Compliance

Management Information Systems (MIS) continues to make progress toward ensuring that MWRA personal computers and mobile devices are operating with the latest system updates. Daytime patching of mobile devices began in January and compliance with system updates has increased to nearly 80%. Daytime patching, a more robust asset management platform, and a more aggressive patching routine have increased compliance to nearly 80%. (See page 43.)

MASSACHUSETTS WATER RESOURCES AUTHORITY

# Board of Directors Report

on

## Key Indicators of MWRA Performance

Third Quarter FY2024

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director  
David Coppes, Chief Operating Officer  
May 22, 2024



# Board of Directors Report on Key Indicators of MWRA Performance

## 3<sup>rd</sup> Quarter – FY24

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<b>DRINKING WATER QUALITY AND SUPPLY</b>		Cost of Debt	55
Source Water – Microbial Results	22	Investment Income	56
Source Water – Turbidity, pH and Alkalinity	23		
Treated Water – Disinfection Effectiveness	24		
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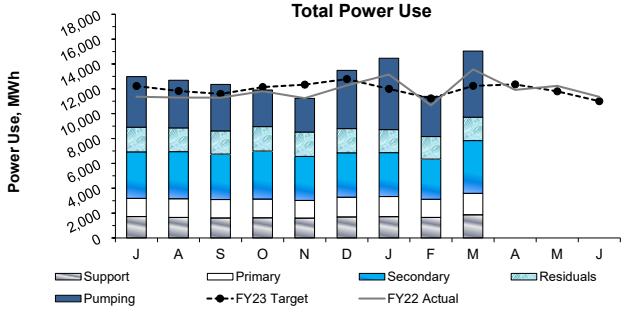
This quarterly report is prepared by MWRA staff to track a variety of performance measures for routine review by the Board of Directors. The content and format of this report is expected to develop as time passes. Information is reported on a preliminary basis as appropriate and available for internal management use and is subject to correction and clarification.

Frederick A. Laskey, Executive Director  
David Coppes, Chief Operating Officer  
May 22, 2024

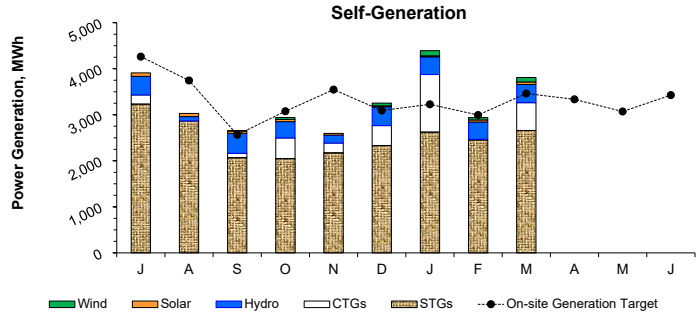
# OPERATIONS AND MAINTENANCE

# Deer Island Operations

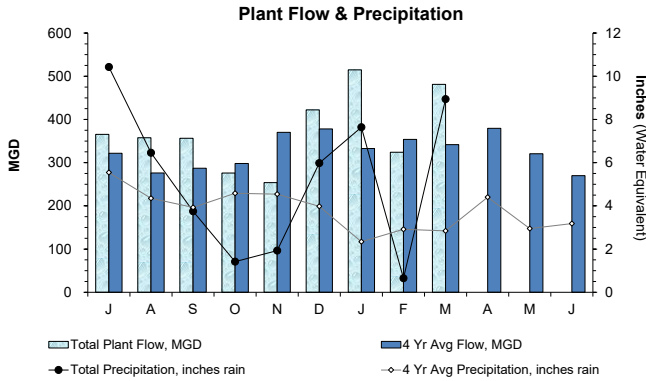
3<sup>rd</sup> Quarter - FY24



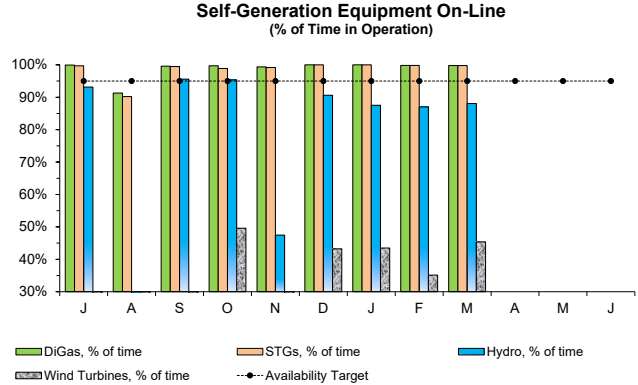
Total power usage in the 3rd Quarter was 15.3% above target as plant flow for this period was 28.4% above target with historical (4 year average) data used to generate the electricity model. Power used in most areas and major treatment processes was similar to target, except for power used for raw wastewater pumping and for secondary treatment, which were 36.1% and 12.7% above target respectively, due to the higher plant flows.



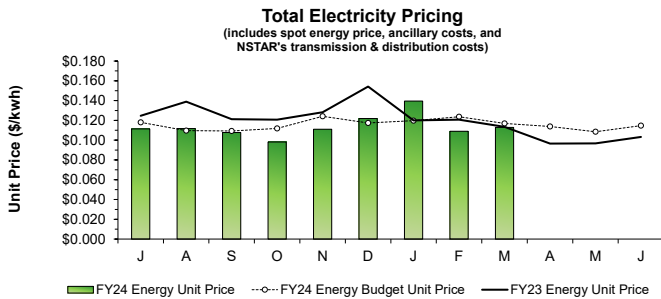
Power generated on-site during the 3rd Quarter was 15.1% above the target due to CTGs operation. CTGs generation was more than 6.6 times the target mostly due to the 141.8 hours of operation in January and March solely as potential backup power in the event of utility power loss during periods of very high plant flows resulting from several significant rain and high wind storms. STGs generation was 8.3% above target as supplemental fuel oil was used to maintain consistent boiler operation during periods of low or unstable digester gas production. Hydro Turbine generation was 22.8% below target due to a wicket gate issue with Turbine #2, as well as high plant flows, combined with high tides, which limited power generation. Solar Panel generation was 18.6% below target as the rooftop array on the Residuals Odor Control Facility remains out of service due to a failed inverter in addition to an abundance of overcast days in the quarter. Wind Turbine generation was 57.5% below target as Turbine #1 remains out of service indefinitely and mechanical issues on Turbine #2 kept the unit out of service from February 15 through February 24. Additionally, turbulent winds blowing through the digesters during several storms caused Turbine #2 to trip and reduced its availability during these periods.



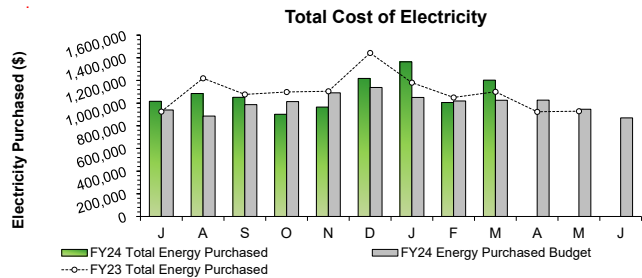
Total Plant Flow for the 3rd Quarter was 28.4% above target with the budgeted 4 year average plant flow (440.0 MGD actual vs 342.7 MGD expected) as precipitation was more than two (2) times higher than target this quarter (17.23 inches actual vs. 8.10 inches expected).



The DiGas System and STGs availability exceeded the 95% availability target in the 3rd Quarter. Hydro Turbine availability was 87.5% due to a wicket gate issue with Turbine #2, as well as multiple periods with high plant flows, combined with high tides, which limited turbine operation. Additionally, Turbine #1 remains offline pending a replacement gearbox and bearings. Wind Turbine availability was well below target as Turbine #1 remains out of service indefinitely and Turbine #2 had a mechanical issue that kept the unit out of service from February 15 through February 24. Additionally, turbulent winds blowing through the digesters reduced Turbine #2 availability during several storm events.



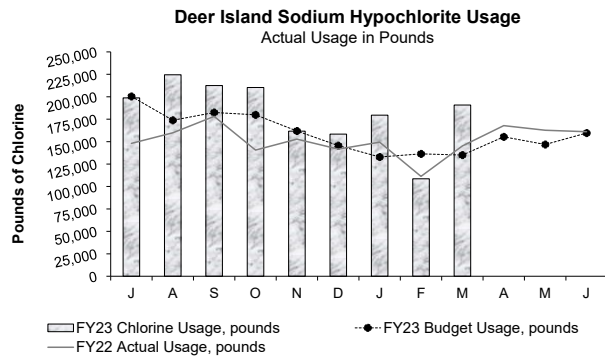
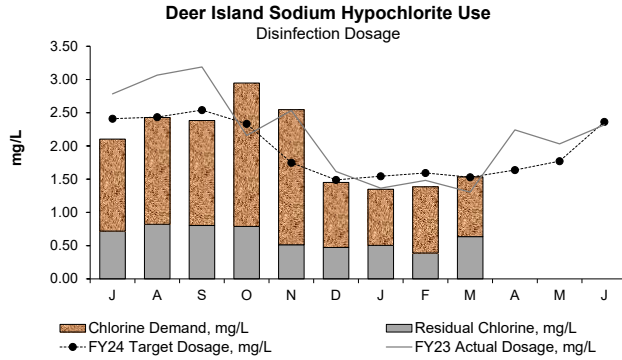
Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The actual Total Energy Unit Price is depicted for July through February (months with the latest available unit prices), while the March unit price is estimated due to a billing delay with Direct Energy (NRG). Overall, the average unit price is estimated to be 2.4% lower than the budgetary estimate through March. 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 \$661,937 (7.2%) higher than budgeted through March. The actual Total Cost of Electricity is depicted for July through February (months with the latest available unit prices), while the March Cost of Electricity is estimated due to a billing delay with Direct Energy (NRG). Even though the estimated Total Energy Unit Price through March was 2.4% lower than target, the Total Volume of Electricity Purchased was 9.9% above target due mainly to higher-than-expected overall power usage due to the higher plant flows.

# Deer Island Operations

3<sup>rd</sup> Quarter - FY24



The disinfection dosing rate in the 3<sup>rd</sup> Quarter was 8.6% below target with budgetary estimates as plant flow was 28.4% higher than expected due to multiple heavy rain events which produces wastewater having a lower chlorine demand as a result of dilution. However, sodium hypochlorite usage in pounds of chlorine was 18.4% higher-than-target due to the higher plant flows. DITP maintained an average disinfection chlorine residual of 0.51 mg/L in the 3<sup>rd</sup> Quarter with an average dosing rate of 1.42 mg/L as chlorine demand was 0.91 mg/L. 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. As a result, the disinfection dosing rate in March was on target with budgetary estimates even though it was 8.6% below target for the quarter.

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

## 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					
May					
June					
<b>Total</b>	<b>27</b>	<b>27</b>	<b>0</b>	<b>98.0%</b>	<b>260.52</b>

96.9% of all flows were treated at full secondary during the 3<sup>rd</sup> Quarter. There were a total of eleven (11) secondary blending events due to high plant flows from heavy precipitation. These blending events resulted in 153.87 hours of blending and a total of 1,271.69 MGal of primary-only treated effluent blended with secondary effluent. The Maximum Secondary Capacity during the entire quarter was 700 MGD.

Secondary permit limits were met at all times during the 3<sup>rd</sup> Quarter.

## Deer Island Operations & Maintenance Report

### Environmental/Pumping:

The plant achieved an instantaneous peak flow rate of 1,312.6 MGD during the morning of January 10. This peak flow occurred during a storm event that brought 2.47 inches of total precipitation to the metropolitan Boston area over the course of two (2) days. While February was the second driest February on record for Massachusetts (0.65 inches of precipitation), the total rainfall that fell during the 3<sup>rd</sup> Quarter was more than two (2) times the 4 year average rainfall target for the quarter, following a series of heavy storms in January and in March.

Several January high plant flow records, since full plant startup in July 1998, were set this past January. These new records include the average daily Total Plant Influent flow to DITP (514.75 MGD), the North System Influent average daily flow (315.68 MGD), and the South System Influent average daily flow (199.07 MGD). The total recorded rainfall for January 2024, as reported by the National Weather Service from their Boston Logan Airport station, was 7.64 water equivalent inches, also a new record for January since plant startup in July 1998.

### January High Plant Flow Records

	Previous January High Flow Records (since plant startup July 1998)	New January High Flow Records (set 2024 highlighted in yellow)	Current All-time Monthly High Flow Records (since plant startup July 1998)
Total Plant Influent Flow	465.84 MGD (2005)	514.75 MGD	725.65 MGD (March 2010)
North System Influent Flow	291.78 MGD (2005)	315.68 MGD	460.80 MGD (March 2010)
South System Influent Flow	173.41 MGD (2005)	199.07 MGD	264.84 MGD (March 2010)
Precipitation	5.63 inches (1999)	7.64 inches	14.87 inches (March 2010)

In December, staff from several departments in the MWRA collaborated to successfully complete the project to install a new fiber communications system between the Ward Street Headworks Facility and DITP. The installation of this new fiber communications system replaced the T1 copper line communications system and was necessary as the copper circuits in the T1 copper line system are in the process of being decommissioned by Verizon. The cutover to the fiber communications system took place before the end of December and was fully completed on January 4 after staff addressed several final issues after the initial system cutover. The new fiber and the backup radio communications systems are both fully functional.

# Deer Island Operations

3<sup>rd</sup> Quarter - FY24

## Deer Island Operations & Maintenance Report (continued)

### 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 residual chlorine target for dry weather was increased from 0.30 mg/L to greater than or equal to 0.50 mg/L. The purpose for adjusting to the higher chlorine residual target (by increasing the sodium hypochlorite dosing) is to continue developing operating strategies for the future more stringent seasonal NPDES permit limits for indicator bacteria prior to the limits coming into effect, an effort that was also undertaken in 2023. Deer Island maintained an average disinfection chlorine residual of 0.64 mg/L this month with an average dosing rate of 1.53 mg/L as chlorine demand was 0.90 mg/L with the adjusted higher target. 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.

### Energy and Thermal Power Plant:

Overall, total power generated on-site accounted for 27.2% of Deer Island's total power use in the 3rd Quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 22.7% of Deer Island's total electrical power use for the quarter.

CTGs generation was more than 6.6 times the target mostly due to 141.8 hours of operation in January and March solely as potential backup power in the event of utility power loss during periods of very high plant flows resulting from several significant rain and high wind storms.

The CTGs were operated a total of 141.8 hours in January and March as a source of potential backup power during several storm events that produced significant rainfall and damaging high winds. These heavy rain events resulted in regional flooding and also lengthy periods of sustained high plant flows at the DITP.

Staff and multiple contractors conducted work over the course of two (2) days in January to troubleshoot a CTG-2B electrical reconnection issue with the Eversource B-side electrical bus. The work included testing all relevant electrical relays individually and recalibrating the CTG-2B synchronizer. Unfortunately, the work and testing that was done only addressed part of the problem as the testing conducted after this effort confirmed the reconnection issue remained unresolved. Troubleshooting by Eversource took place in February under close coordination with DITP staff. Eversource was able to identify a faulty fuse which was replaced and a subsequent successful B-bus resynchronization test was then conducted using CTG-2B following the fuse replacement. DITP was able to return to normal electrical configuration with power being fed by both Eversource A- and B-side distribution buses following this work by Eversource.

The engine heater blower motor on the CTG-1A start air system was replaced by a contractor with support from the DITP electricians on March 18 and the CTG was successfully test operated following this work. There was a short circuit on the blower that did not impact the operation of the CTG but the issue needed to be addressed. After this work was completed, the contractors were able to lock out CTG-2B to devote the remainder of the week on scheduled annual maintenance. The scope of this work consisted of routine maintenance and calibrations for this turbine, and this year, the carbon dioxide cylinders for the fire suppression system were also removed and sent out for inspection and testing. CTG-2B was successfully test operated on Friday afternoon after the scheduled maintenance was completed and the carbon dioxide cylinders were reinstalled. The annual fire protection system testing by a certified contractor needed to be rescheduled for a later date and was successfully completed for CTG-2B on March 28.

Wind Turbine #2 was out of service from February 15 through February 24 due to an issue with failed bolts that connect the traverse to the pitch rod. The turbine was returned to service on the afternoon of February 25.

Wind Turbine #2 was out of service from 8:00pm on March 10 to 2:00pm on March 12 due to a failed electrical contactor. Troubleshooting and replacement of the electrical contactor was delayed to March 12 due to the active wind storm which hampered efforts to conduct the troubleshooting until the wind subsided.

Hydro Turbine #2 was out of service from the afternoon of February 23 to the morning of February 27 due to a wicket gate issue which was resolved by the service contractor. No additional issues have been observed since it was returned to operation.

DITP took delivery of 480,000 gallons of #2 fuel oil, a total of 48 oil tanker trucks, without incident from March 6 through March 15. 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.

## Clinton Operations & Maintenance Report

### Dewatering Building

Maintenance staff replaced the torn buckets on the sludge belt filter press conveyor, a Muffin Monster grinder in the lower dewatering sludge line going to belt filter press, and the suction valve in front of the grinder, and the squeegee on the gravity thickener #1 scum rake arm. The Facilities Specialist completed painting of the polymer platform base.

### Chemical Building

Maintenance staff installed the new #2 bisulfite pump, motor, backflow pressure valve, check valves and they blew out the piping manifold. They also replaced a section of feed piping on the Bisulfite system. The M&O's repaired the feed line water piping on the soda ash machine. The Facilities Specialist pressure washed the upper soda ash mix tank area and fixed a hole in the floor of the Chemical Building.

### Aeration Basins

Operations staff cleaned the pH and Dissolved Oxygen probes. The contractor installed a new pH meter for aeration tank #2.

### Phosphorus Reduction Facility (PRF)

Maintenance staff and the Facilities Specialist removed all the filter sections from disc filter #2 and reinstalled new filters, installed cables to hold up the disc covers on all three (3) discs, and cleaned and repaired the polymer feed line for the disc filters. The PRF was placed into operation in March and will remain online until November 1. Operations staff cleaned and changed the reagents in both CL17 chlorine analyzers and installed a new feed pump for the 5500 Analyzer.

### Headworks Building

The M&O's inspected and greased the lower bearings in the influent screw pumps. The Facilities Specialist and the Maintenance staff cleaned the mechanical bar rack and greased both upper and lower pin racks. The M&O's replaced the shear pin on the #1 bucket elevator and returned it to service. Operations staff put #1 grit chamber on line and took off #2 out of service for maintenance. The contractor installed a second level transducer in the influent lift pump well.

### Digester Building

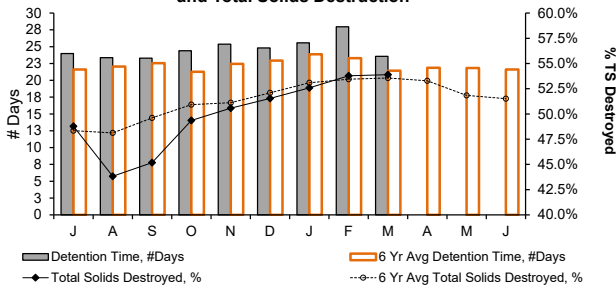
The Maintenance staff checked all equipment for proper operation and greased the Ovivo mixer on the floating digester cover. The contractor installed a new motor for the #2 digester boiler and replaced the transformer on #1 waste gas flare.



# Deer Island Operations and Residuals

3<sup>rd</sup> Quarter - FY24

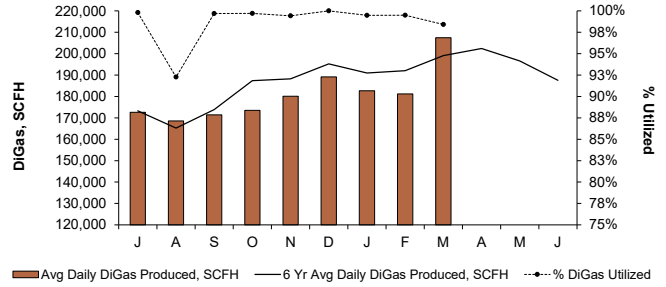
**Sludge Detention Time in Digesters and Total Solids Destruction**



Total solids (TS) destruction following anaerobic sludge digestion averaged 53.4% during the 3rd Quarter, on target (+0.1%) with the 6 year average. Sludge detention time in the digesters was 25.7 days, 12.4% above the 22.9 days detention time target with projected eight (8) digesters in operation.

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.

**Digester Gas Production and % Utilized**

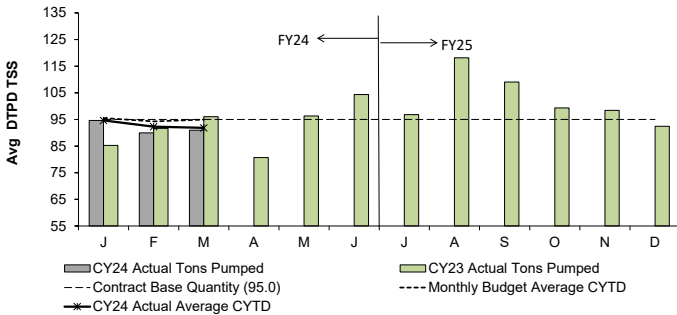


The Avg Daily DiGas Production in the 3rd Quarter was 1.9% below target with the 6 Year Avg Daily DiGas Production as total sludge production was lower than target. 99.1% of the Digas produced was utilized at the Thermal Power Plant.

## Residuals Pellet Plant

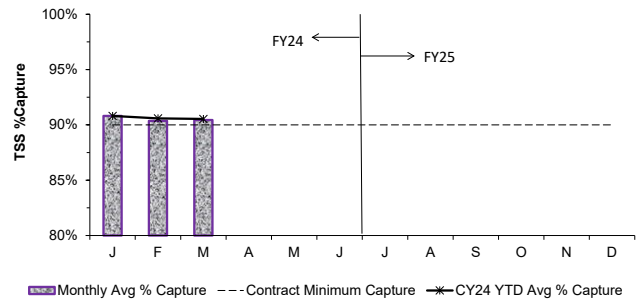
New England Fertilizer Company (NEFCO), a wholly-owned, indirect subsidiary of Synagro Technologies, Inc., operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 95.0 DTPD/TSS as an annual average (for the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



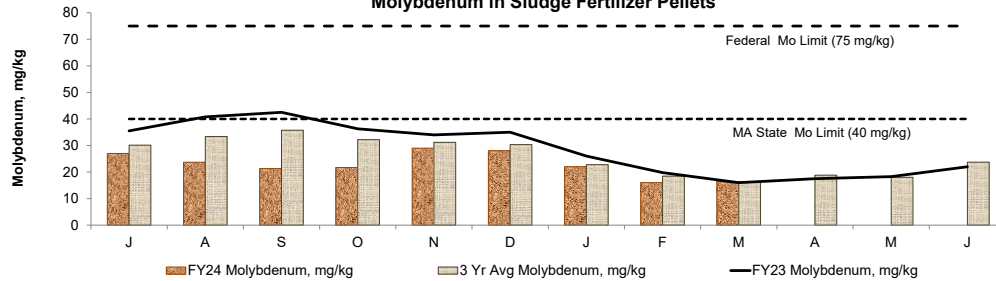
The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 3rd Quarter was 91.8 TSS Dry Tons Per Day (DTPD), 3.3% below target with the FY24 budget of 95.0 TSS DTPD for the same period, due to lower-than-expected sludge production as a result of the higher-than-expected plant flows.

**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 3rd Quarter was 90.54%.

**Molybdenum in Sludge Fertilizer Pellets**



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

Overall, the levels have been below the DEP Type 1 limit for all three (3) metals. For Mo, the level in the MWRA sludge fertilizer pellets during the 3rd Quarter averaged 18.1 mg/kg, 6% below the 3 year average, 55% below target with the MA State Limit, and 76% below the Federal Limit.

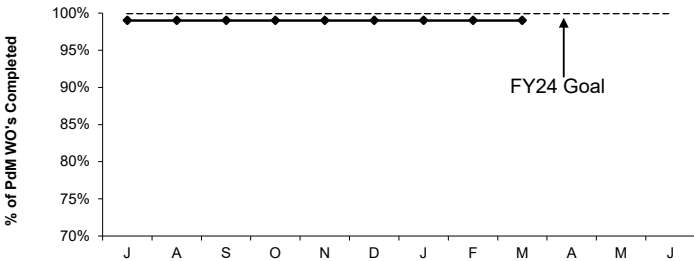
# Deer Island Maintenance

3<sup>rd</sup> Quarter - FY24

## Productivity Initiatives

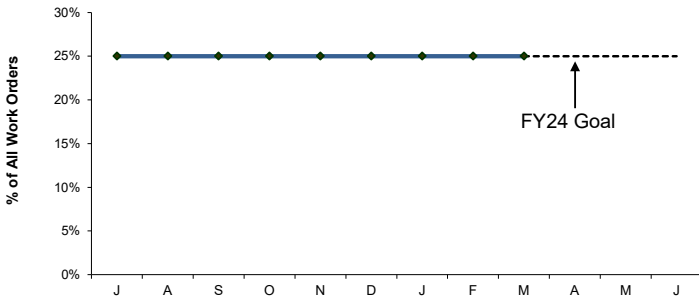
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.

### Predictive Maintenance Compliance



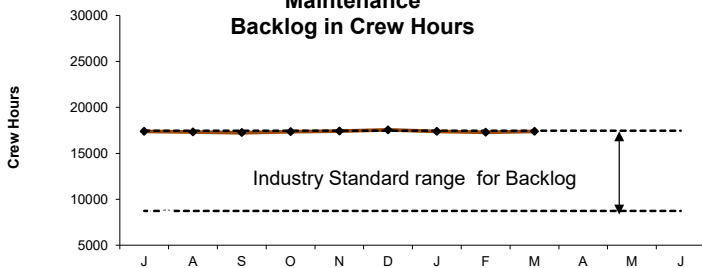
Deer Island's FY24 predictive maintenance goal is 100%. DITP completed 99% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program. Deer Island is slightly below our goal this quarter.

### Predictive Maintenance



Deer Island's increased FY24 predictive maintenance goal is 25% of all work orders to be predictive. 25% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.

### Maintenance Backlog in Crew Hours

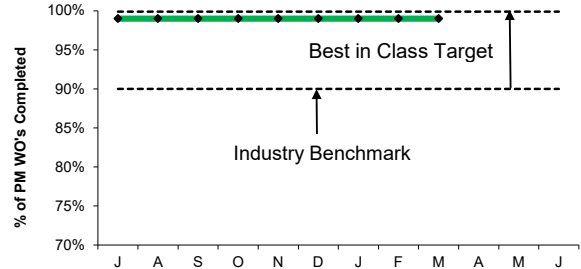


DITP's maintenance backlog at Deer Island is 17,394 hours this quarter. DITP is barely within the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by (6) Vacancies; (1) HVAC Technician and (5) I&C Technicians. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

## Proactive Initiatives

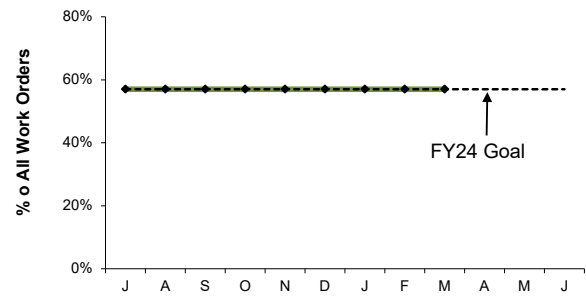
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.

### Preventive Maintenance Compliance



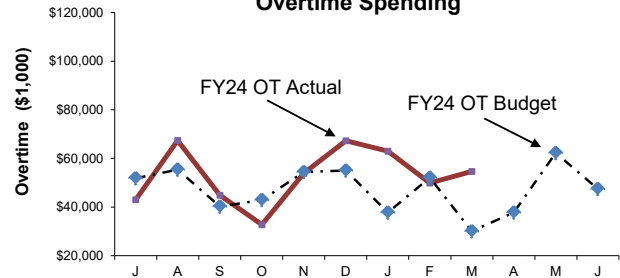
Deer Island's FY24 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 99% of all PM work orders this quarter. Deer Island was slightly below our goal, but within Best in Class Target.

### Maintenance Kitting



Deer Island's increased FY24 maintenance kitting goal is 57% of all work orders to be kitted. 57% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

### Overtime Spending



Maintenance overtime was over budget by \$47K this quarter and \$57k over for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarter's overtime was predominately used for Storm Coverage/High Flows, Pump/Grinder Clogging Issues, WTF Maintenance Support of Bypass Chute, Thermal Power Plant Support for Eversource Outage and Primary Tank Cross Collector Issues.



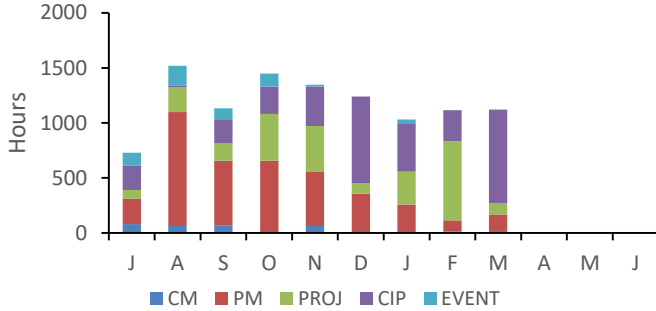
# Water Distribution System Valves

3<sup>rd</sup> Quarter 2024 - FY24

## Background

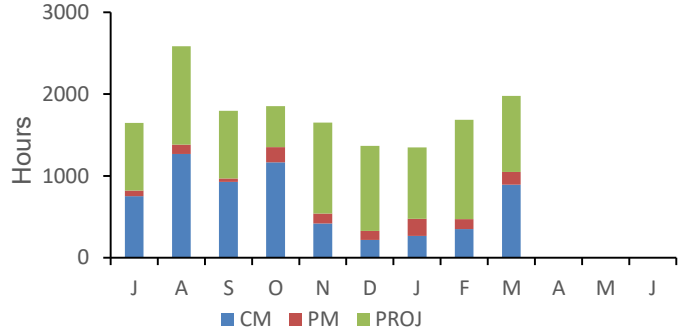
Valves are exercised, rehabilitated, or replaced in order to improve their operating condition. This work occurs year round. Valve replacements occur in roadway locations during the normal construction season, and in off-road locations during the winter season. Valve exercising can occur year round but 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 3rd quarter of FY24 there was a total of 3,267 hours worked. Percentage breakdown; Corrective Maintenance 1%, Preventative Maintenance 16%, Project 34%, Capital Improvement Project 48%, Event - Wtr Fountain

**Water Pipeline Labor Hours**



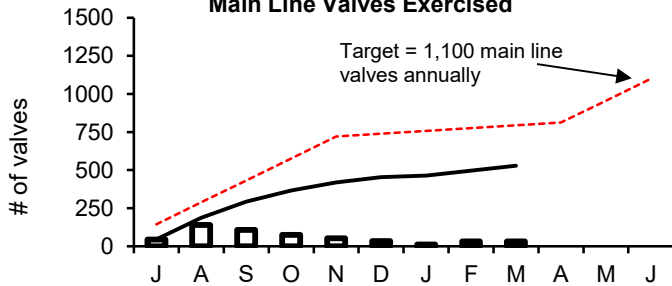
During 3rd quarter of FY24 there was a total of 5,013 hours worked. Percentage breakdown; Corrective Maintenance 30%, Preventative Maintenance 10%, Project 60%

Type of Valve	Inventory #	Operable Percentage	
		FY24 to Date	FY24 Targets
Main Line Valves	2,159	97.2%	95%
Blow-Off Valves	1,682	98.9%	95%
Air Release Valves	1,519	96.5%	95%
Control Valves	49	100.0%	95%

Key to Symbols:

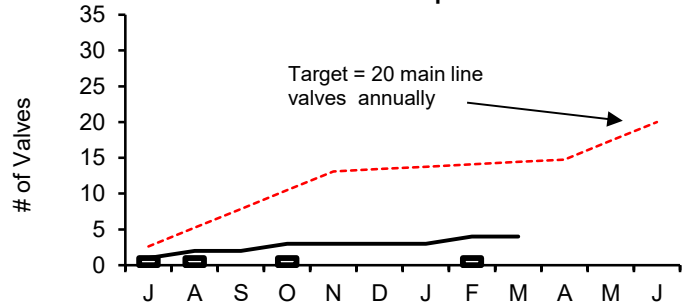
- FY24 Monthly Total
- FY24 Cumulative Total
- FY24 Target

**Main Line Valves Exercised**



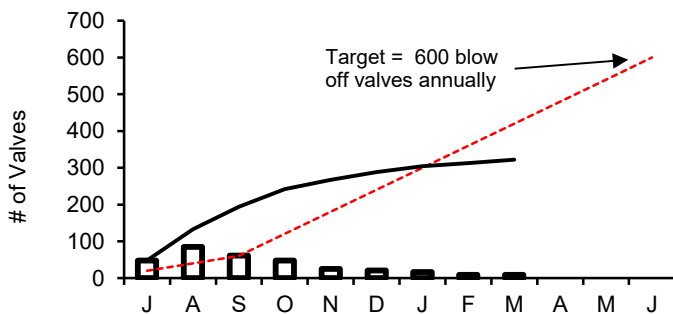
During 3rd quarter of FY24, 75 main line valves were exercised. The total exercised for the fiscal year to date is 529.

**Main Line Valves Replaced**



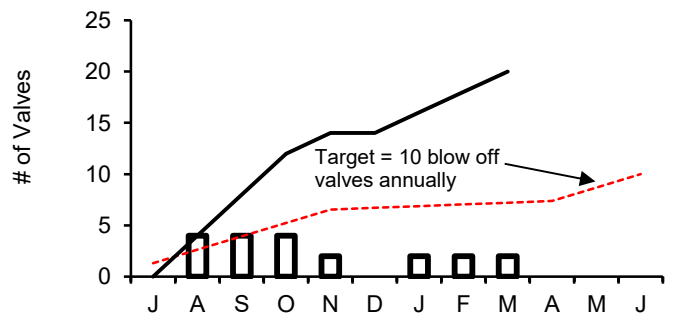
During 3rd quarter of FY24, there was 1 main line valve replaced. The total replaced for the fiscal year to date is 4.

**Blow-Off Valves Exercised**



During the 3rd quarter of FY24, 34 blow off valves were exercised. The total exercised for the fiscal year to date is 322.

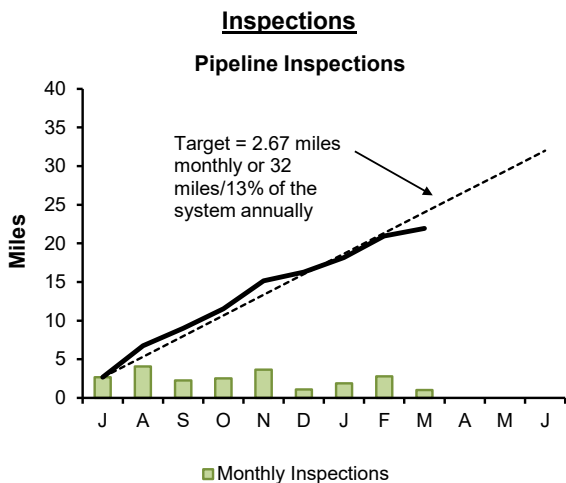
**Blow-Off Valves Replaced**



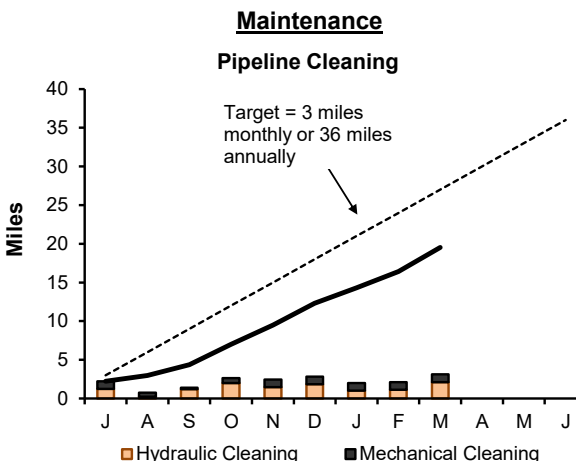
During 3rd quarter of FY24, there were 6 blow off valves replaced. The total replaced for the fiscal year to date is 20.

# Wastewater Pipeline and Structure Inspections and Maintenance

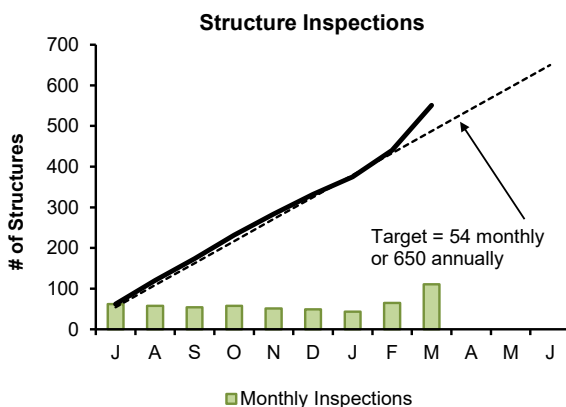
## 3rd Quarter - FY24



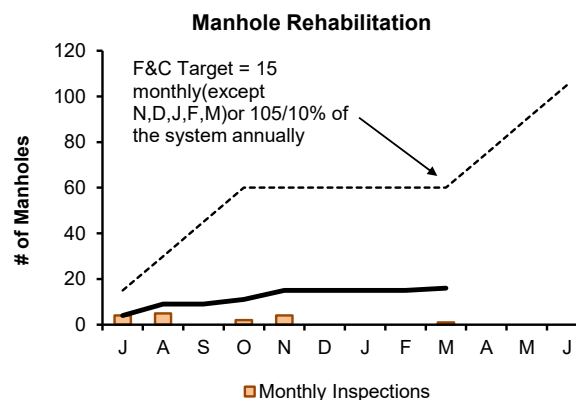
Staff internally inspected 5.67 miles of MWRA sewer pipe during this quarter. The year to date total is 21.94 miles. No Community Assistance was provided.



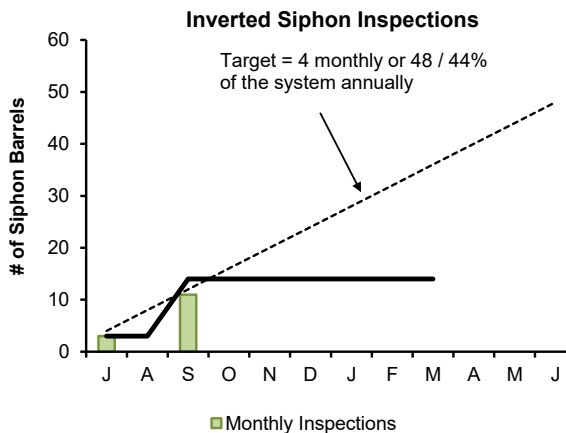
Staff cleaned 4.23 miles of MWRA sewer pipe, and removed 19 yards of grit. The year to date total is 19.53 miles. No Community Assistance was provided.



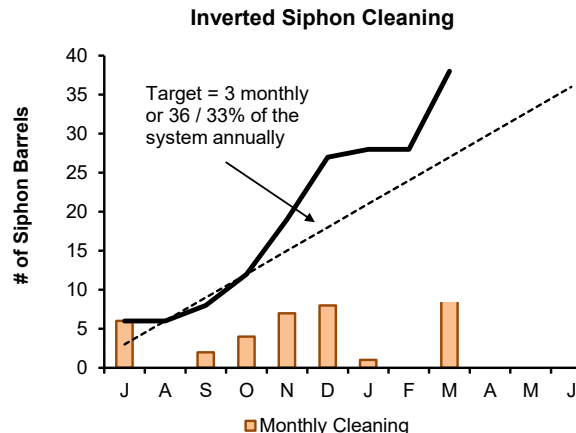
Staff inspected the 36 CSO structures and performed 183 other additional manhole/structure inspections during this quarter. The year to date total is 551 inspections.



Staff replaced 1 frame and cover replacement this quarter. The year to date total is 16.



Staff did not inspect any siphon barrels this quarter. The year total is 14 inspections.

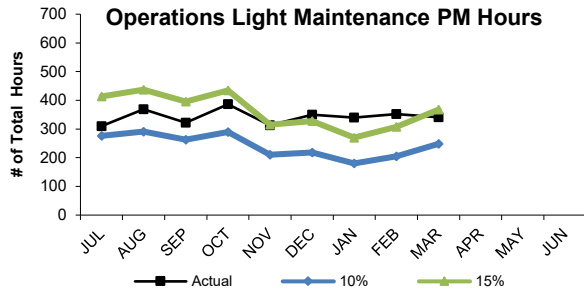


Staff cleaned 11 siphon barrels this quarter.

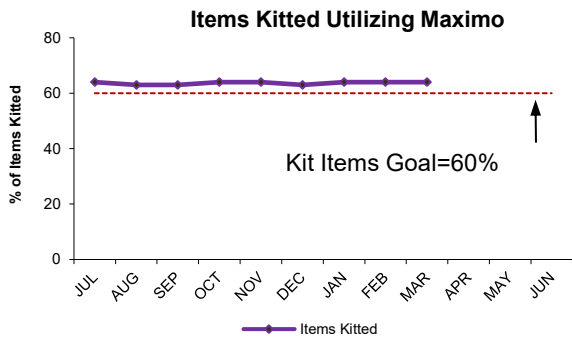
# Field Operations' Metropolitan Equipment & Facility Maintenance

3<sup>rd</sup> Quarter - FY24

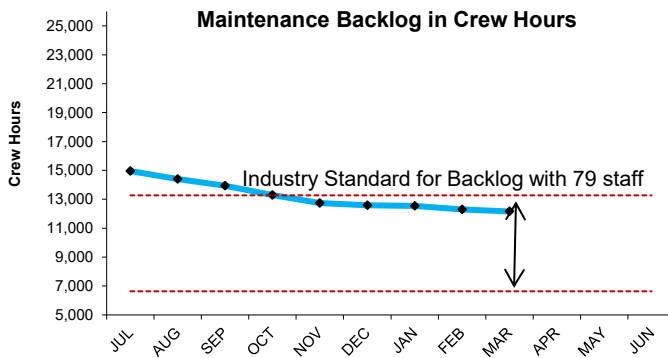
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion is 100%. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog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



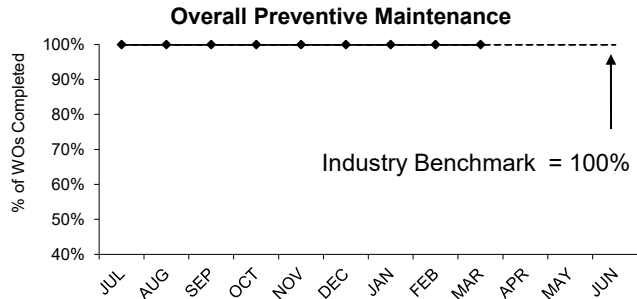
Operations staff averaged 344 hours per month of preventive maintenance during the 3rd Quarter of FY24, an average of 16% of the total PM hours for the 3rd Quarter, which is above the industry benchmark of 10% to 15%.



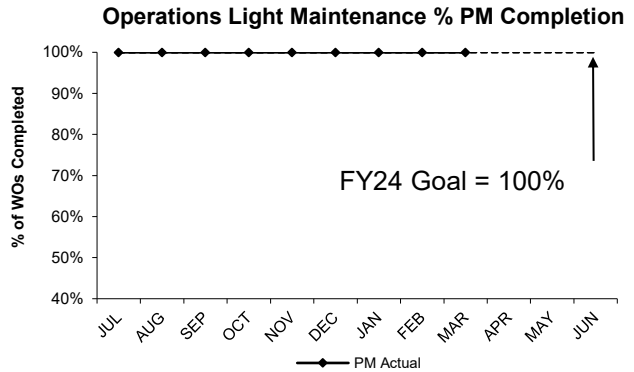
Operations' FY24 maintenance kitting goal has been set at 60% of all work orders to be kitted. Kitting is the staging of parts or material necessary to complete maintenance work. In the 3rd Quarter of FY24, 64% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



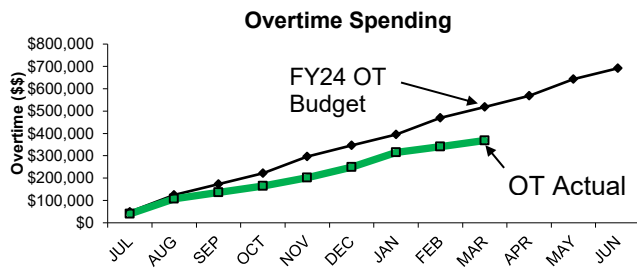
The 3rd Quarter of FY24 backlog average is 12,328 hours. Which is within the industry benchmark of 6,636 to 13,275 hours. The current backlog is due to vacancies and several large maintenance projects.



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 3rd Quarter of FY24.



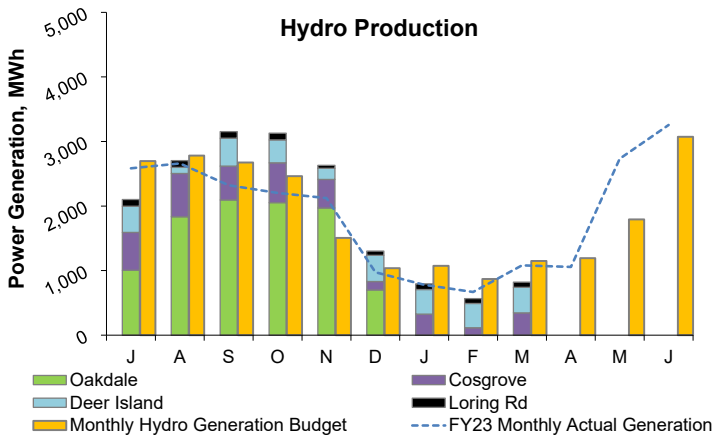
Wastewater Operations complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY24 PM goal is completion of 100% of all PM work orders assigned. Operations completed 100% of PM work orders in the 3rd Quarter of FY24.



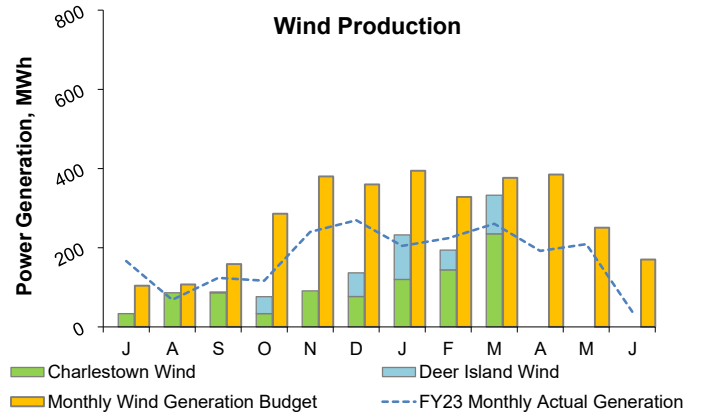
Maintenance overtime was \$17,910 under budget on average, per month, for the 3rd Quarter of FY24. Overtime is used for critical maintenance repairs and wet weather events. The overtime budget through the 3rd Quarter of FY24 is \$518,784. Overtime spending was \$368,471 which is \$150,313 under budget for the fiscal year.

# Renewable Electricity Generation: Savings and Revenue

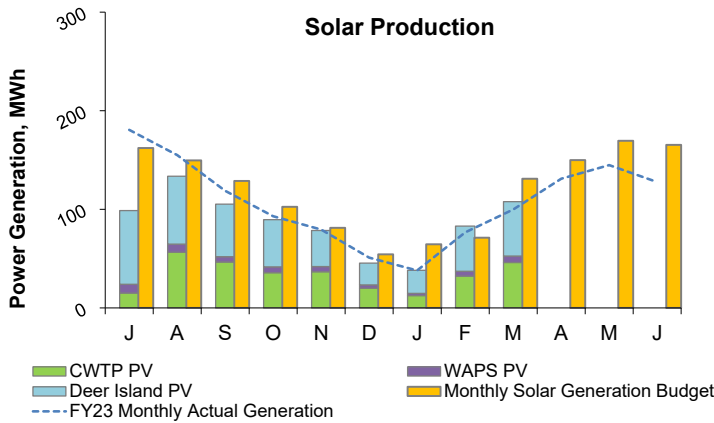
## 3<sup>rd</sup> Quarter - FY24



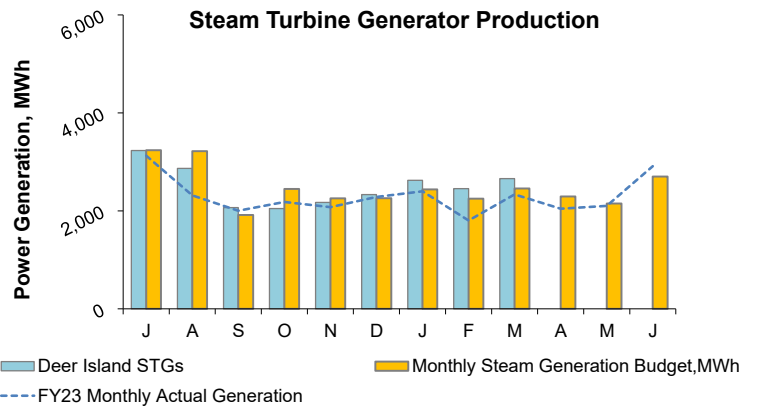
In Quarter 3, the renewable energy produced from all hydro turbines totaled 2,291 MWh; 26% below budget<sup>1</sup>.



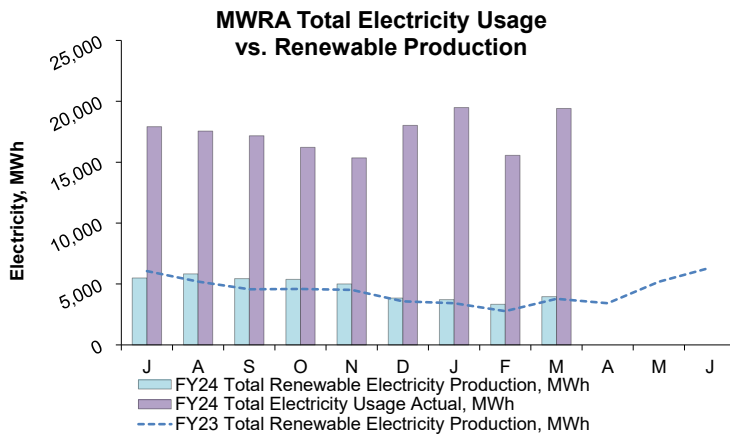
In March, the renewable energy produced from all wind turbines totaled 759 MWh; 31% below budget<sup>1</sup>. Deer Island Turbine #1 has been out of service since April 2022, and was heavily damaged following a braking failure on May 29, 2023.



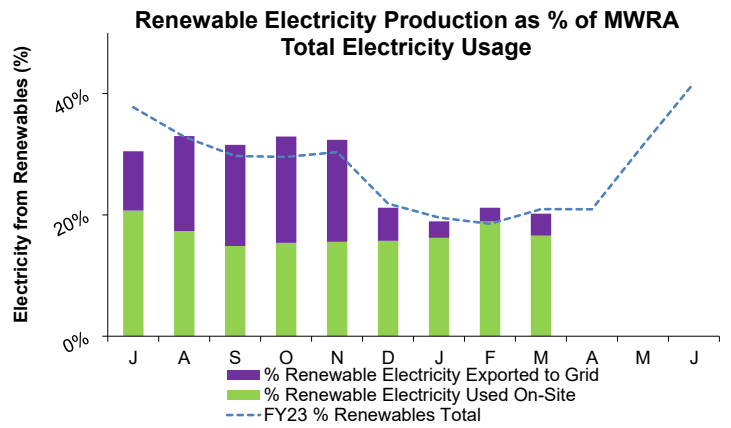
In February, the renewable energy produced from all solar PV systems totaled 229 MWh; 14% below budget<sup>1</sup>. The Deer Island Residuals Odor Control roof mounted array has been offline since September 11, 2022 due to a failed inverter.



In Quarter 3, the renewable energy produced from all steam turbine generators totaled 7,735 MWh; 8% above budget<sup>1</sup>.



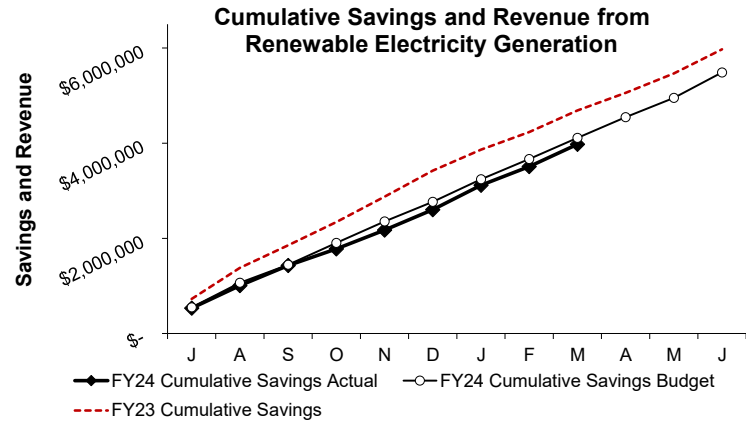
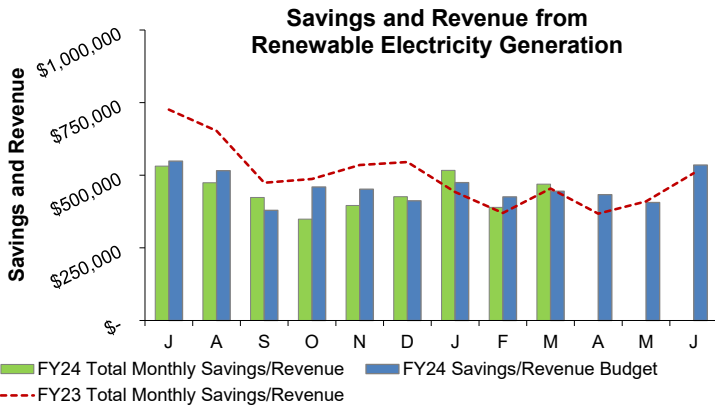
In Quarter 3, MWRA's electricity generation by renewable resources totaled 11,014 MWh, 5% below budget. MWRA's total electricity usage was approximately 54,469 MWh. Renewable resources were 20.2% of total usage. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island 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.

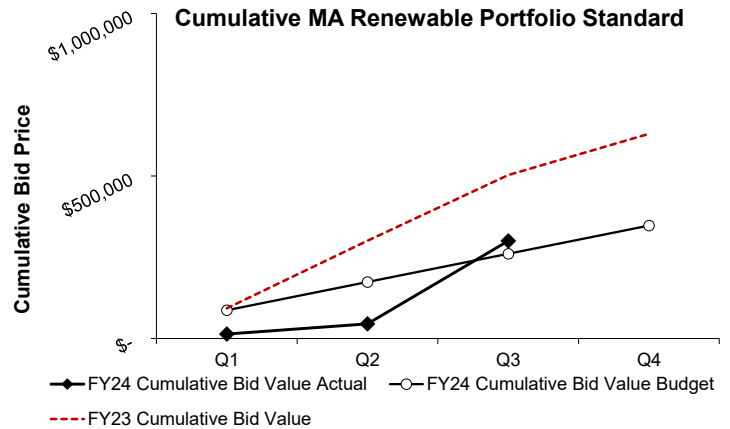
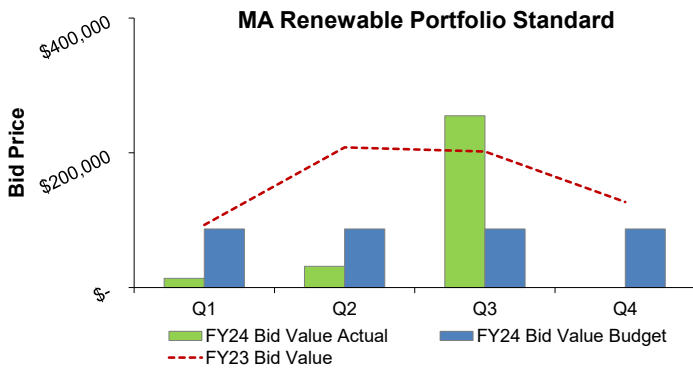
# Renewable Electricity Generation: Savings and Revenue

## 3<sup>rd</sup> Quarter - FY24



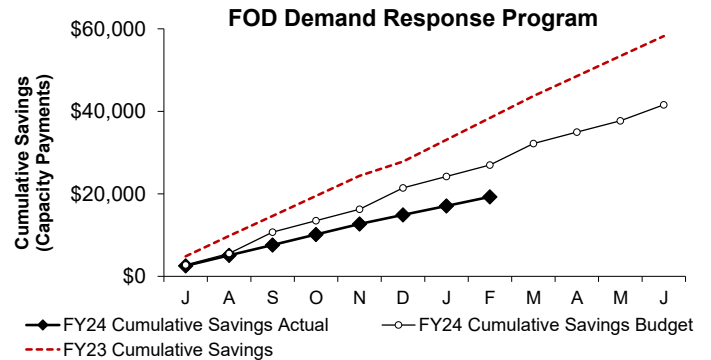
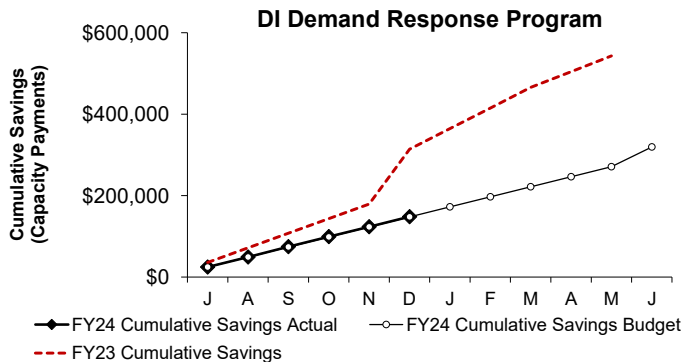
Savings and revenue from renewable energy sources totaled \$1,345,075 in Quarter 3. Cumulative Savings and Revenue is 3% below budget for the fiscal year.

Savings and revenue<sup>1</sup> 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 for heating the plant, equivalent to approximately 5 million gallons of fuel oil per year (not included in charts above).



Bids were awarded during the 3<sup>rd</sup> Quarter<sup>2</sup> 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 budget<sup>3</sup> 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.



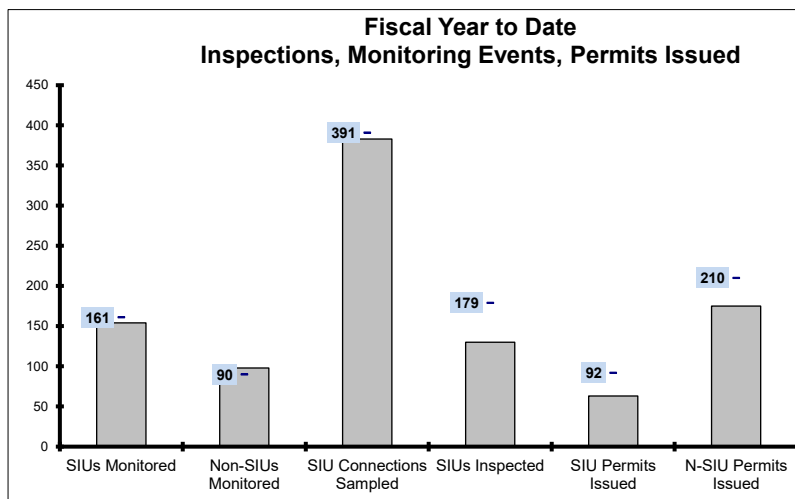
Currently Deer Island, Loring Rd, Brusch Hydro, and JCWTP participate in the ISO-New England Demand Response Programs. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments 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 \$148,230 through September FY24, and payments for FOD total \$19,272 through February.

- 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

3rd Quarter - FY24



EPA Required SIU Monitoring Events for FY24: 161  
YTD : **154**

Required Non-SIU Monitoring Events for FY24: 90  
YTD : **98**

SIU Connections to be Sampled For FY24: 391  
YTD: **383**

EPA Required SIU Inspections for FY24: 179  
YTD: **130**

SIU Permits due to Expire In FY24: 92  
YTD: **63**

Non-SIU Permits due to Expire in FY24: 210  
YTD: **175**

Significant Industrial Users (SIUs) are MWRA's highest priority industries due to their flow, type of industry, and/or their potential to violate limits. SIUs are defined by EPA and require a greater amount of oversight. EPA requires that all SIUs *with flow* be monitored at least once during the fiscal year.

The "SIU Monitored" data above, reflects the number of industries monitored; however, many of these industries have more than one sampling point and the "SIU Connections Sampled" data reflect samples taken from multiple sampling locations at these industries.

EPA requires MWRA to issue or renew 90 percent of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10 percent of SIU permits to be issued within 180 days.

	Number of Days to Issue a Permit						Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	1	3	0	1	0	0	1	4
Aug	5	7	0	1	0	1	5	9
Sep	14	28	0	3	0	0	14	31
Oct	11	34	0	1	0	1	11	36
Nov	15	24	1	2	0	2	16	28
Dec	3	10	0	2	0	0	3	12
Jan	0	0	0	0	0	0	0	0
Feb	0	1	0	0	0	0	0	1
Mar	12	35	1	10	0	10	13	55
Apr								
May								
Jun								
% YTD	97%	81%	3%	11%	0%	8%	63	176

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

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

This is the third quarter of the MWRA fiscal year, FY24.

In this quarter, 69 permits issued.

There were 13 SIUs, of which 12 were issued on time.

There were 56 non-SIUs of which 36 were issued on time, with 10 late beyond 180 days.

All but 1 of the SIU permits were issued within the 120-day timeframe. The SIU was issued after 120 days due to the permit application being submitted before the facility was ready to be permitted and inspected.

In FY24, there have been 68 completely new permits issued: 1-04 SIU 10-DEW, 23-LFLP, 26-02 N-SIUs, 2-Dental, 4-G2s, 2-One Time discharge

For the Clinton Sewer Service area, there was 1 SIU permits issued during the FY24 fiscal year.

# Field Operations Highlights

3<sup>rd</sup> Quarter 2024 – FY24

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## METRO WATER OPERATIONS AND MAINTENANCE

- Valve Program: Valve operations to support in-house work including providing isolations on: Section 91 (Blow Off Replacement), Section 70 (Blow off Replacement), Section 61 (Main Line Valve Installation), Section 87 (Air Valve Replacements). CIP Contractors were 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).
- Water Pipeline Program: Staff completed Blow-Off replacements in Arlington (Section 61) and Melrose (Section 70). A main line valve was replaced in Arlington (Section 61). Leak repairs were completed in Malden (Section 49) and Lynn (Section 87). Leak detection was performed on over 22 miles of MWRA water mains.

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## OPERATIONS ENGINEERING

- Staff continued to provide technical support for Design and Construction Contracts including; Low System PRV Upgrades, Columbus Park and Ward St Headworks, Upgrades, Nut Island Odor Control Improvements, Hayes Pump Station Upgrades, Storage Tank Improvements, Sections 23, 24 and 47 Rehabilitation, Section 56 Saugus River Crossing, Steel Tank Improvements and Section 89 Replacement.
- Hydraulic Model Upgrades: Staff continued to provide an in-depth review of the draft model and review of calibrations and supported the work involved for the refined calibrations.
- Staff provided support for system expansion to the north and south and to the Metro communities.
- Staff continued to support the lead loop study at CWTP
- Staff managed the work involved with the installation of the new effluent couplings at Norumbega Storage facility and for the reactivation of the full facility.
- Staff assisted in several wet weather storm events, compiled and finalized storm reports,

monitored and reported on CSO/SSO activation durations and volumes and provided follow up on operational and SCADA issues.

- Staff provided bi-weekly onsite monitoring of the H2S levels for the Odor Control systems at BWRPS and HNPS and continued to monitor levels at NIHW.

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## SCADA

### Water System Work

- Continued technical support for JCWTP PLC replacement project; configured and hardened SCADA Operating system; continued work on network management improvements in the JCWTP water system; moved some SCADA nodes into new control room at JCWTP; Supported soda ash improvements contractor at JCWTP; Improved control logic at Spot Pond; worked on Radio communication upgrades; supported ozone PLC replacement project; updated Verizon data lines at several facilities.

### Wastewater System Work

- Configured and hardened SCADA Operating system; continued work on Ward/Columbus, Braintree/Weymouth Pump Station Improvements Project; made improvements to Nut Island SCADA tag database; improved alarm settings at Chelsea Creek; supported replacement of WR03 communications; supported replacement of communication line and network improvements at Prison Point; improved Nut Island PLC configuration; updated Verizon data lines at several facilities.

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## TRAC

### Compliance and Enforcement

- TRAC issued 19 Notices of Noncompliance, 49 Notices of Violation, 4 Return to Permit Letters, 1 Demand Letter, 2 Extension Letters and 1 Ruling on Reconsideration of a Non/Order.

### Inspections and Permitting

- TRAC issued 97 MWRA 8(m) Permits allowing companies to work within an easement or other property interest held by the Authority. The total number includes 57 permits issued for work within water infrastructure easements and 40 permits issued for work within sewer

# Field Operations Highlights

3<sup>rd</sup> Quarter 2024 – FY24

infrastructure easements. Permits issued this quarter were issued in an average of 85 days from the date the application.

- TRAC monitored the septage receiving sites a total of 29 times. Staff conducted inspection at 23 new construction gasoline/oil separators and 66 existing gasoline/oil separators.
- TRAC staff conducted 44 Annual SIU Inspections and 255 other inspections.
- 69 MWRA Sewer Use Discharge Permits (Permits) were issued and/or renewed to its sewer users.

## Monitoring

- TRAC completed 14 first time SIU monitoring events, 70 first time NSIU monitoring events and 152 other events including Clinton NPDES sampling, Clinton Local Limits sampling, Metropolitan Local Limits sampling, Clinton and Metropolitan Local Limits PFAS sampling, Special Sulfide sampling, Cosgrove and Oakdale NPDES sampling, CSO NPDES sampling, Sudbury Aqueduct monitoring and CSO Hypochlorite Tank chemical sampling

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## **ENVIRONMENTAL QUALITY- WATER**

- Algae: MWRA's algae monitoring season ended in October. All nuisance algae were below levels of concern.

## Regulatory and Non-Regulatory Sampling

- Regulatory: 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 CWTP NPDES permit related to half plant remediation operations.
- Non-Regulatory: As part of the future EPA Lead & Copper Rule revisions, MWRA voluntarily sampled at locations near residences with lead results over the lead action level.
- Community Support: Staff assisted Boston, Framingham, and Newton and Swampscott with sampling within their distribution systems. Staff

held two coliform sampler-training sessions for samplers from Wakefield, Boston, and MWRA.

- Internal Support: Staff provided a water quality complaint webinar on appropriate response to complaints. The CWTP lead pipe-rig study sample events occurred throughout the quarter.
- Projects: Staff sampled as part of Water Research Foundation research project, WRF 5156. Staff met regarding water quality monitoring associated with Contract 6832 Steel Tank Improvements 90% design review.

## Contaminant Monitoring System (CMS):

- This quarter, staff responded to eight CMS alarms and followed routine response protocols during each event. Staff replaced CMS equipment with newer versions at four locations with rollout occurring as planned.

## Data Management Group

- Staff submitted monthly DEP and DPH reports on schedule and fulfilled six data requests..

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## **ENVIRONMENTAL QUALITY-WASTEWATER**

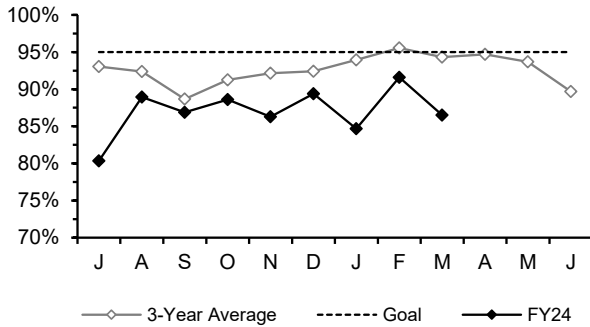
- Ambient Monitoring: The first two water column surveys of 2024 were successfully completed. Convened annual technical workshop for outfall monitoring team.
- Harbor/CSO Receiving Water Monitoring: Biweekly harbor monitoring continues Seasonal CSO receiving water sampling will restart in April.
- Permitting 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. Reported Contingency Plan exceedance for annual average chlorophyll, resulting from a large Gulf of Maine wide algae bloom in late spring/early summer. Submitted annual certifications of annual CSO structure inspections and of Best Management Practices at drinking water facilities. Submitted quality assurance project plan for ambient phosphorus monitoring as required by the Clinton NPDES permit.

# Laboratory Services

## 3<sup>rd</sup> Quarter - FY24

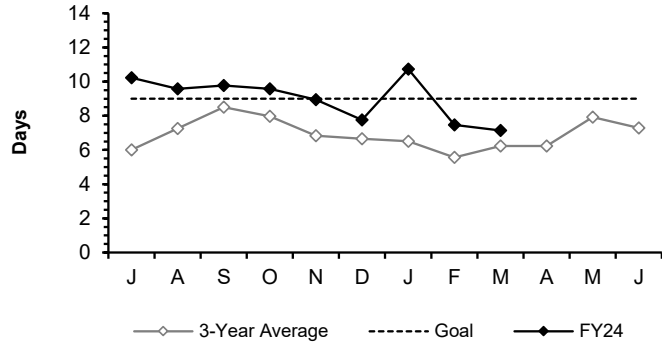
Laboratory Services supports the laboratory sampling, testing, and consulting needs of various client groups primarily in the Operations Division. This includes drinking water transmission and treatment, wastewater collection and treatment, wastewater residuals management, industrial-pretreatment monitoring,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

**Percent On-Time Results**



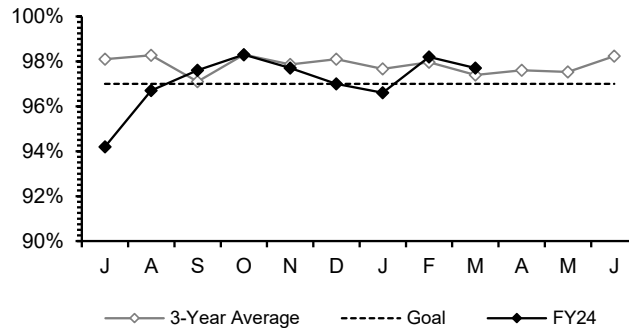
*The Percent On-Time measurement assesses performance against internal client due dates. These due dates are shorter than the compliance reporting requirements to allow for internal review of the data.*

**Turnaround Time**



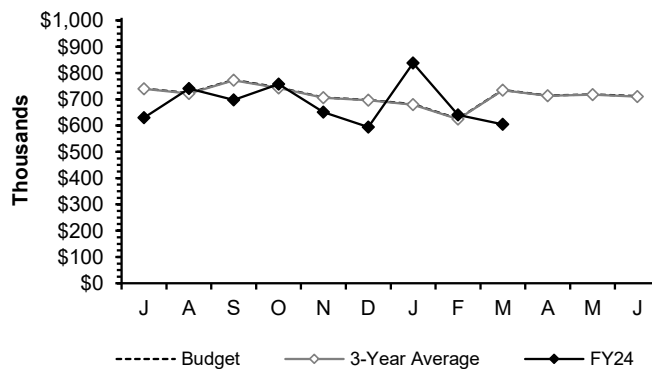
*Turnaround Time measures the average time from sample receipt to sample completion.*

**Percent QC Within Specifications**



*Percent QC Within Specifications measures the fraction of Quality Control tests that met required limits during the month.*

**Value of Services Rendered**



*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.*

**Performance Summary:** Turnaround Time and Percent QC within Specifications met the monthly goals. Department staffing was improved to ~95% of budgeted level, but we are still training new staff, which impacts productivity.

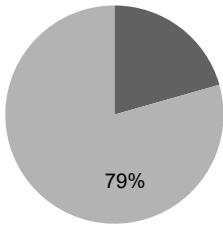
**School Lead Program:** During the 3<sup>rd</sup> quarter of FY24, MWRA's lab completed 1204 tests from 30 schools and childcare facilities in 12 communities. Since 2016, MWRA's Laboratory has conducted over 42,000 tests from 600 schools and daycares in 44 communities. We have also completed 961 home lead tests under the DPH sampling program since 2017.

# CONSTRUCTION PROGRAMS

# Engineering & Construction Projects In Construction

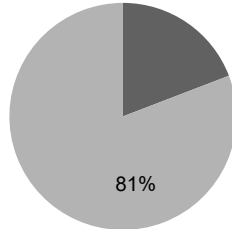
3<sup>rd</sup> Quarter – FY24

## 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.

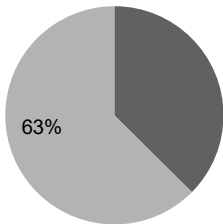
*Contract Amount:* \$13,451,674.07

*Contract Duration:* 1,127 Days

*Notice to Proceed:* 1-Sep-21

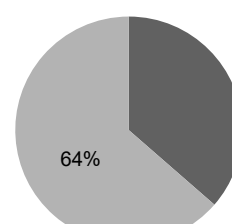
*Contract Completion:* 2-Oct-24

## 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.

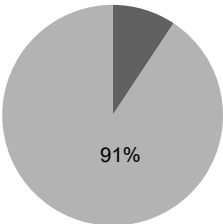
*Contract Amount:* \$35,275,662.11

*Contract Duration:* 1,475 Days

*Notice to Proceed:* 5-Aug-21

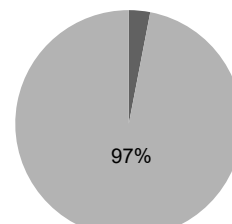
*Contract Completion:* 19-Aug-25

## 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.

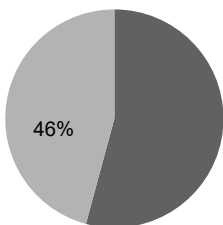
*Contract Amount:* \$12,205,837.64

*Contract Duration:* 990 Days

*Notice to Proceed:* 14-Jul-21

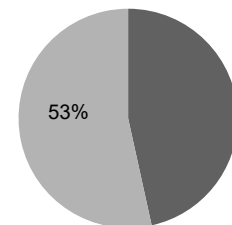
*Contract Completion:* 30-Mar-24

## 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

3<sup>rd</sup> Quarter - FY24

### Cost

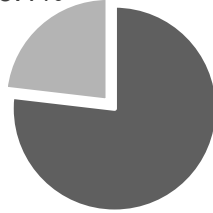
10.2%



- Amount Remaining
- Billed to Date

### Time

23.1%



- 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

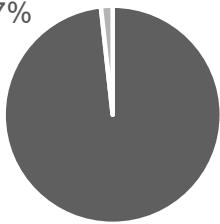
Contract Duration: 1620 Days

Notice to Proceed: 10-Mar-23

Contract Completion: 16-Aug-27

### Cost

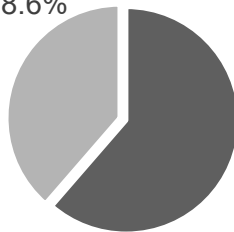
1.7%



- Amount Remaining
- Billed to Date

### Time

38.6%



- 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

## 3rd 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 72 of 86 outfalls meet or materially meet the LTCP goals (6 of the 73 materially meet) 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. **Latest meeting held on 3/28/2024 and the next meeting will be in June.**

### Ongoing Projects as of December 31, 2023

- *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. Work at BOS014, BOS003 is complete and are now meeting LTCP goals. Sewer separations is expected to be completed in spring of 2024. 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 \$1.2M (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. On December 14, 2023 the Commission awarded the contract to P. Gioioso & Sons in the amount \$10.4 million over the engineer's estimate of \$7.3 million. Anticipate completion of construction by December 2024.
- *CAM005 weir raising and lengthening* for reducing CSO activation and frequency volume. The **Scope of Services has been developed for the design.** Cost estimate \$250,000. **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 **5/08/2024**. 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 summer 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 12/20/2023. Next meeting June to go over the April 2024 Annual Report for results based on calendar year 2023 and continued CSO abatement work.



# CIP Expenditures

3<sup>rd</sup> Quarter – FY24

FY24 Capital Improvement Program Expenditure Variances through March by Program - (\$ in thousands)				
Program	FY24 Budget Through March	FY24 Actual Through March	Variance Amount	Variance Percent
Wastewater	\$79,758	\$56,022	(\$23,736)	-30%
Waterworks	\$97,785	\$86,588	(\$11,196)	-12%
Business and Operations Support	\$12,825	\$5,547	(\$7,279)	-57%
<b>Total</b>	<b>\$190,368</b>	<b>\$148,157</b>	<b>(\$42,211)</b>	<b>-22%</b>

## Wastewater:

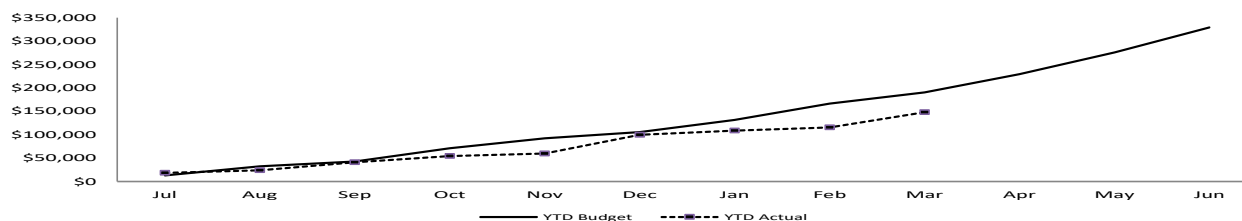
- Spending was less than planned in Wastewater due to timing of community loans and distributions for the I/I Local Financial Assistance program, timing of work, long lead time for equipment and delay in fabrication of structural steel for Braintree/Weymouth Improvements, delay in performing shaft inspections and issuing NTP for Final Design for Ward Street & Columbus Park Headworks Upgrades Design/CA, schedule changes for DITP Roofing Replacement, Somerville Marginal New Pipe Connection, DiStor Membrane Replacements, and Chemical Pipe Replacement, lower than projected task order work for Deer Island As-Needed Design, and work scheduled for FY24 that was completed in FY23 for Chelsea 008 Pipe Replacement.
- This less than planned spending was partially offset by claim settlement for Chelsea Creek Upgrades – Construction, and equipment received ahead of schedule for Clarifier Rehabilitation Phase 2 – Construction.

## Water:

- Spending was less than planned in Waterworks due to timing of consultant work for Metropolitan Tunnel Redundancy Preliminary Design & Massachusetts Environmental Policy Act Review, WASM 3 MEPA/Design/CA/RI, and Geotechnical Support Services, timing of contractor work for CP-1 NEH Improvements and Section 89/29 Replacement, updated schedules for Section 75 Extension, Shaft 5 Improvements Design/CA and Construction, Steel Tank Improvements, and Maintenance Garage/Wash Bay/Storage Building, longer lead time on some larger items and a change in design for the multi-orifice valve for Wachusett Lower Gatehouse Pipe & Boiler Replacement, 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, work scheduled for FY23 that was completed in FY24 for Waltham Water Pipeline and 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 3/20/24	\$77.8million
Unused capacity under the debt cap:	\$2.35 billion
Estimated date for exhausting construction fund without new borrowing:	June 2024
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding:	\$150 million
Commercial paper capacity / Revolving Loan	\$100 million
Budgeted FY24 Cash Flow Expectancy*:	\$246 million

## DRINKING WATER QUALITY AND SUPPLY

# Source Water – Microbial Results and UV Absorbance

3<sup>rd</sup> Quarter – FY24

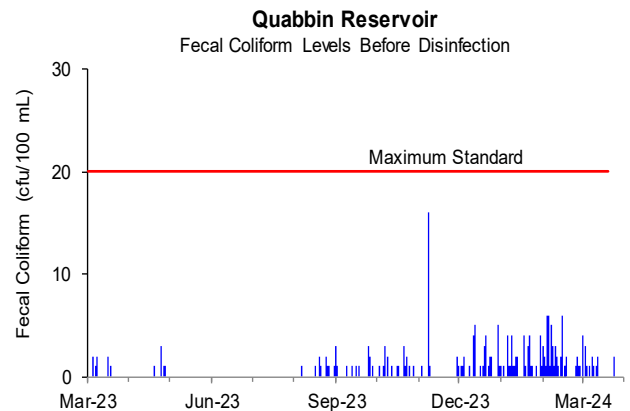
## Source Water – Microbial Results

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.**

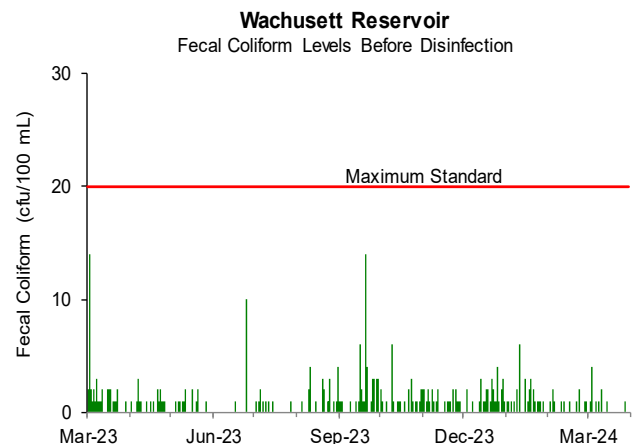


### Sample Site: Wachusett Reservoir

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 3<sup>rd</sup> Quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

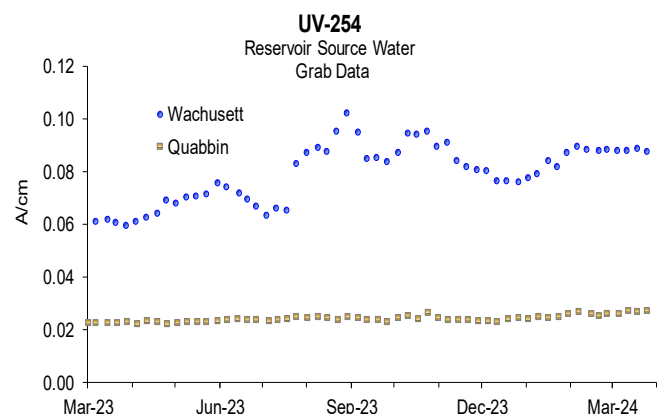


## Source Water – UV Absorbance

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 0.026 A/cm for the quarter.

Wachusett Reservoir UV-254 levels averaged 0.086 A/cm for the quarter.



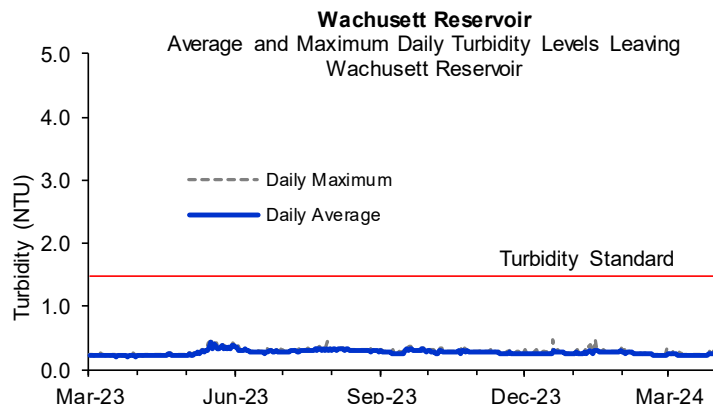
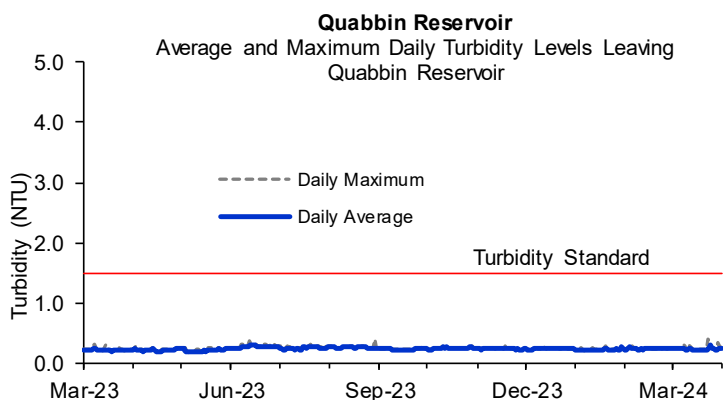
## Source Water – Turbidity

### 3<sup>rd</sup> 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.

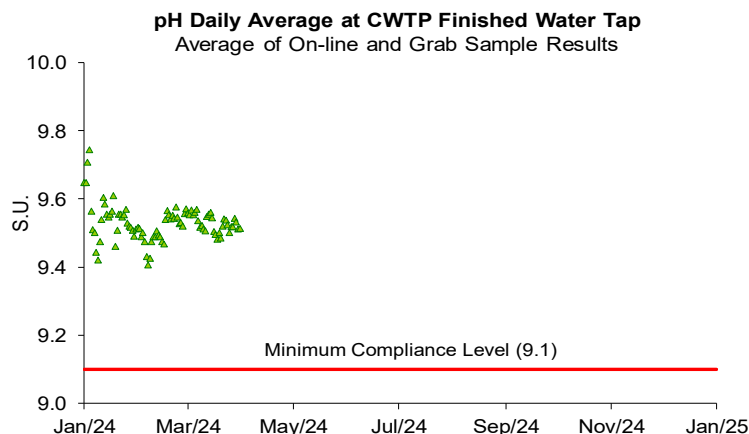
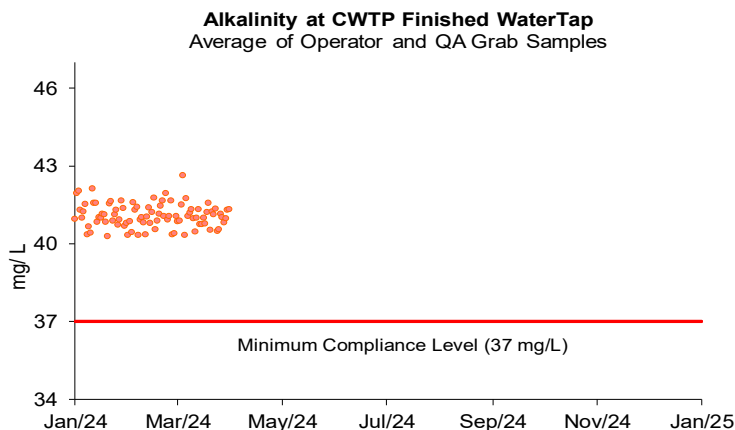


## Treated Water – pH and Alkalinity Compliance

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/2022results/PDFS/CVA.pdf>.

Quarterly distribution system samples were collected over a course of two weeks in March. Distribution system sample pH ranged from 9.5 to 9.7 and alkalinity ranged from 40 to 42 mg/L. No sample results were below DEP limits for this quarter.



# Treated Water – Disinfection Effectiveness

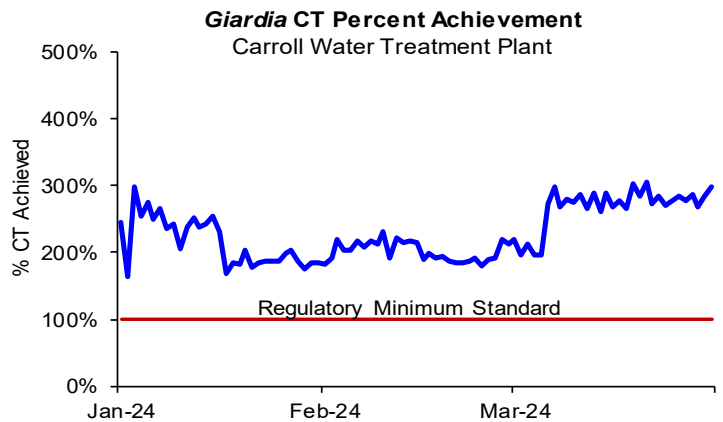
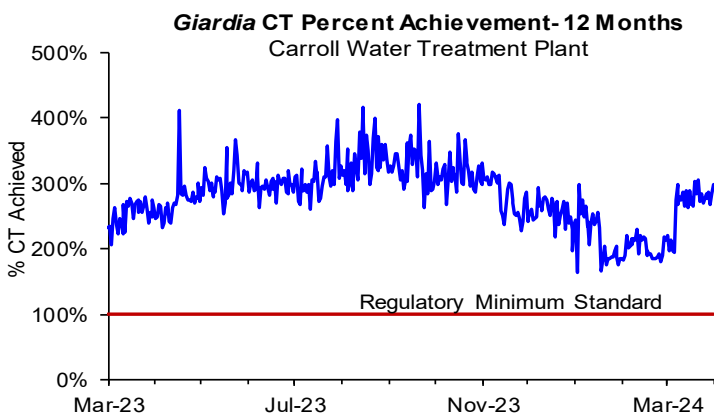
3<sup>rd</sup> Quarter – FY24

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.

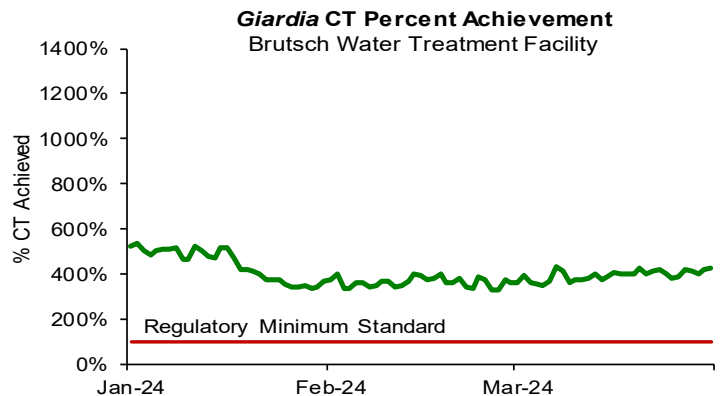
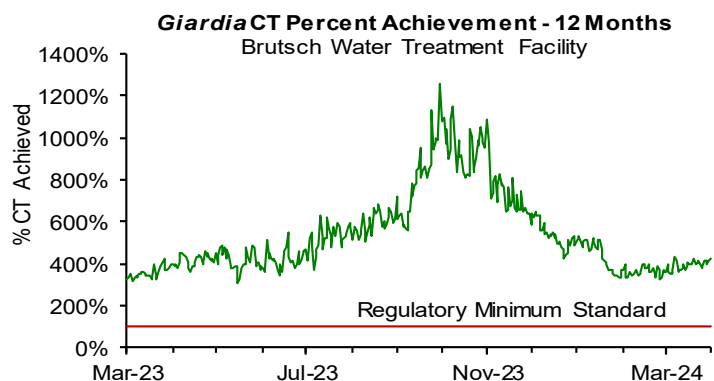
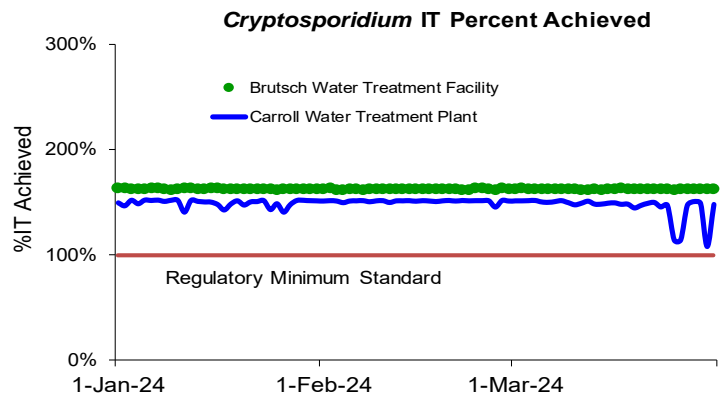
## Wachusett Reservoir – MetroWest/Metro Boston Supply:

- The chlorine dose at the CWTP varied between 3.35 and 3.45 mg/L for the quarter.
- Ozone dose at the CWTP varied between 2.1 to 2.7 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 1.30 to 1.45 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%.



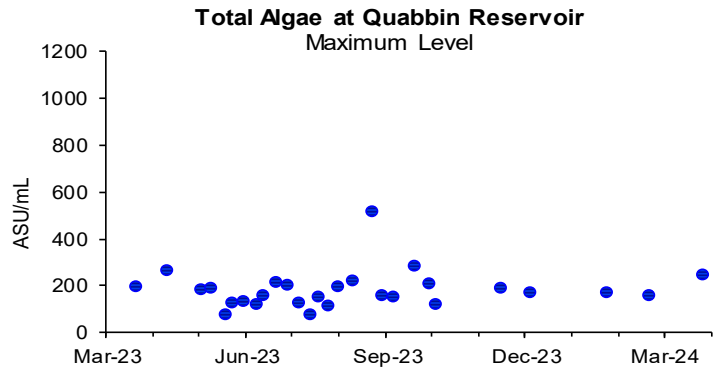
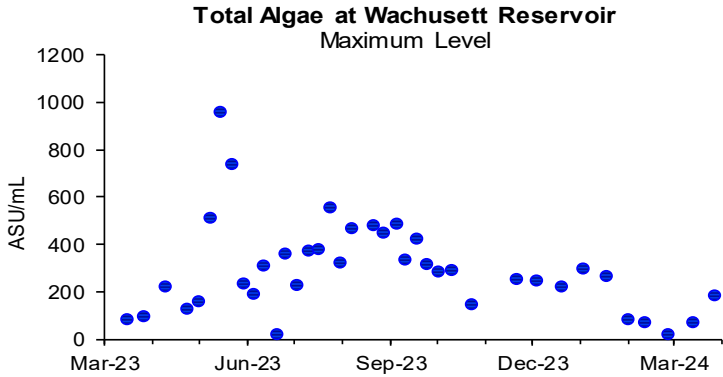
# Source Water - Algae

3<sup>rd</sup> 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 algicide. 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 3<sup>rd</sup> quarter, there were no complaints which may be related to algae reported from the local water departments.



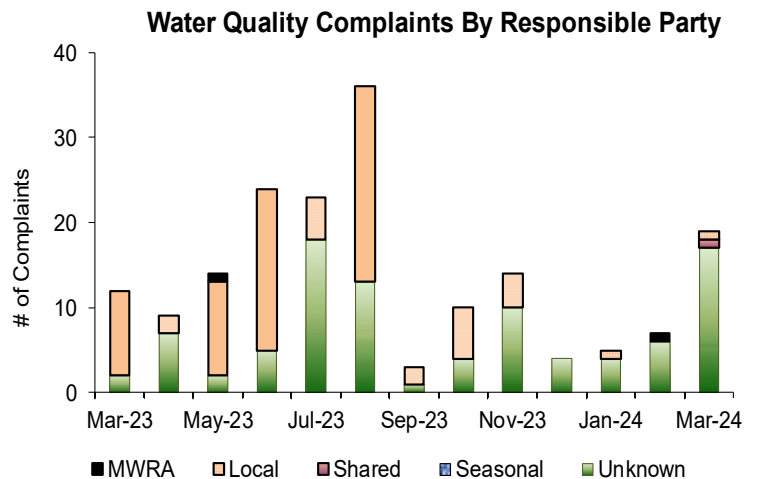
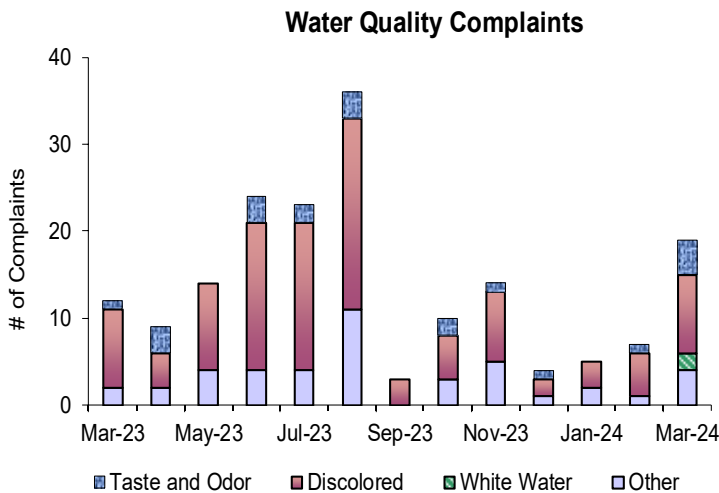
## Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

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 31 complaints during the quarter compared to 29 complaints from 3<sup>rd</sup> Quarter of FY23. Of these complaints, 17 were for “discolored water”, 5 were for “taste and odor”, 2 were for “white water”, and 7 were for “other”. Of these complaints, 2 were local community issues, one was a shared MWRA/community issue, and 27 were unknown in origin.

There were no discolored water complaints due to flushing this quarter.



# Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

## 3<sup>rd</sup> 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

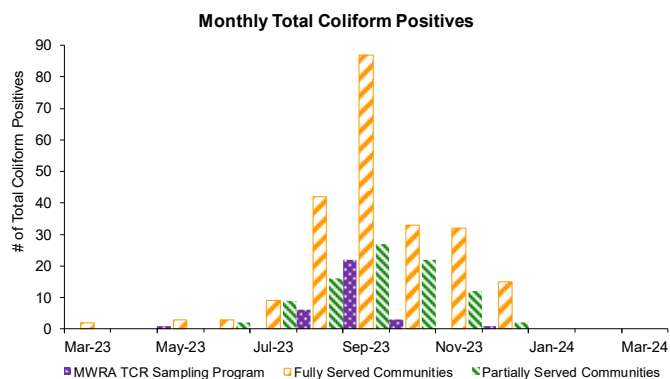
None of the 6,286 fully and partially served samples tested positive for total coliform during the month of March. None of the 1851 Shared Community/MWRA samples tested positive for total coliform during the month of March. None of the 395 CVA/MWRA community samples tested positive for total coliform during the month of March. No samples confirmed for *E.coli*.

0.3% of the Fully Served community quarterly samples had chlorine residuals lower than 0.2 mg/L.

### NOTES:

- MWRA total coliform and chlorine residual results include data from community locations. In most cases these community results are indicative of MWRA water as it enters the community system; however, some are strongly influenced by local pipe conditions. Residuals in the MWRA system are typically between 1.0 and 2.8 mg/L.
- The number of samples collected depends on the population served and the number of repeat samples required.
- These communities are partially supplied, and may mix their chlorinated supply with MWRA chloraminated supply.
- Part of the Chicopee Valley Aqueduct System. Free chlorine system.

	Total Coliform		E.coli Positive	# Assessment Required
	# Samples (b)	# (%) Positive		
MWRA	MWRA Locations	350	0 (0%)	0
	Shared Community/MWRA sites	1501	0 (0%)	0
	<b>Total: MWRA</b>	<b>1851</b>	<b>0 (0.0%)</b>	<b>0</b>
Fully Served	ARLINGTON	156	0 (0%)	0
	BELMONT	104	0 (0%)	0
	BOSTON	780	0 (0%)	0
	BROOKLINE	237	0 (0%)	0
	CHELSEA	169	0 (0%)	0
	DEER ISLAND	52	0 (0%)	0
	EVERETT	169	0 (0%)	0
	FRAMINGHAM	237	0 (0%)	0
	LEXINGTON	120	0 (0%)	0
	LYNNFIELD	18	0 (0%)	0
	MALDEN	234	0 (0%)	0
	MARBLEHEAD	72	0 (0%)	0
	MARLBOROUGH	144	0 (0%)	0
	MEDFORD	214	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	338	0 (0%)	0
	READING	130	0 (0%)	0
	REVERE	195	0 (0%)	0
	SAUGUS	104	0 (0%)	0
	SOMERVILLE	252	0 (0%)	0
	SOUTHBOROUGH	32	0 (0%)	0
	STONEHAM	91	0 (0%)	0
SWAMPSCOTT	57	0 (0%)	0	
WALTHAM	215	0 (0%)	0	
WATERTOWN	143	0 (0%)	0	
WESTON	45	0 (0%)	0	
WINTHROP	66	0 (0%)	0	
<b>Total: Fully Served</b>	<b>5049</b>	<b>0 (0.0%)</b>	<b>0</b>	
Partially Served	BEDFORD	56	0 (0%)	0
	BURLINGTON	136	0 (0%)	0
	CANTON	90	0 (0%)	0
	NEEDHAM	123	0 (0%)	0
	PEABODY	219	0 (0%)	0
	WAKEFIELD	123	0 (0%)	0
	WELLESLEY	114	0 (0%)	0
	WILMINGTON	87	0 (0%)	0
	WINCHESTER	94	0 (0%)	0
	WOBBURN	195	0 (0%)	0
<b>Total: Partially Served</b>	<b>1237</b>	<b>0 (0.0%)</b>	<b>0</b>	
<b>Total: Community Samples No CVA</b>		<b>6286</b>	<b>0 (0.0%)</b>	<b>0</b>
CVA	MWRA CVA Locations	104	0 (0%)	0
	CHICOPEE	186	0 (0%)	0
	SOUTH HADLEY FDI	60	0 (0%)	0
	WILBRAHAM	45	0 (0%)	0
<b>Total: CVA</b>	<b>395</b>	<b>0 (0.0%)</b>	<b>0</b>	



### Chlorine Residuals in Fully Served Communities

	2023												2024		
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
% < 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.3	0.1	0.0	0.0		
% < 0.2	0.1	0.0	0.0	0.0	0.1	0.3	1.8	1.0	1.2	1.0	0.5	0.4	0.1		
% < 0.5	0.5	0.3	0.3	1.0	1.2	3.1	6.2	5.2	5.7	3.2	2.4	1.9	0.6		
% < 1.0	1.3	1.4	1.9	3.4	4.8	12.5	16.0	13.2	14.4	8.4	5.8	3.7	2.6		
% > 1.0	98.7	98.6	98.1	96.6	95.2	87.5	84.0	86.8	85.6	91.6	94.2	96.3	97.4		

# Treated Water Quality: Disinfection By-Product (DBP) Levels in Communities

3<sup>rd</sup> Quarter – FY24

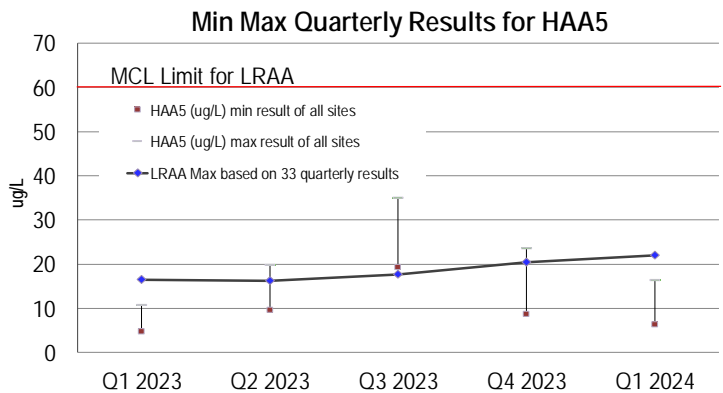
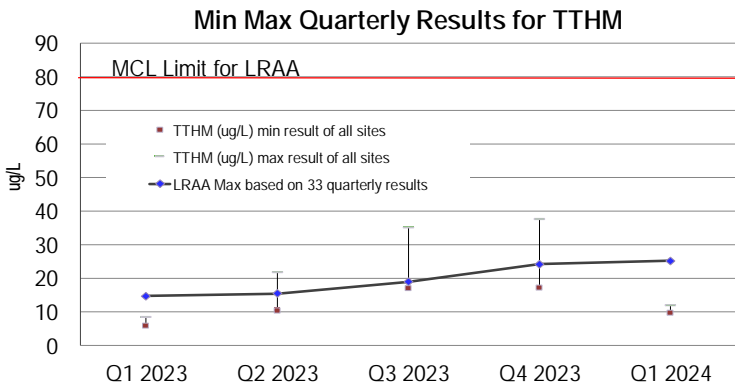
Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. They are of concern due to their potential adverse health effects at high levels. EPA’s locational running annual average (LRAA) standard, using the most recent four quarterly results,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

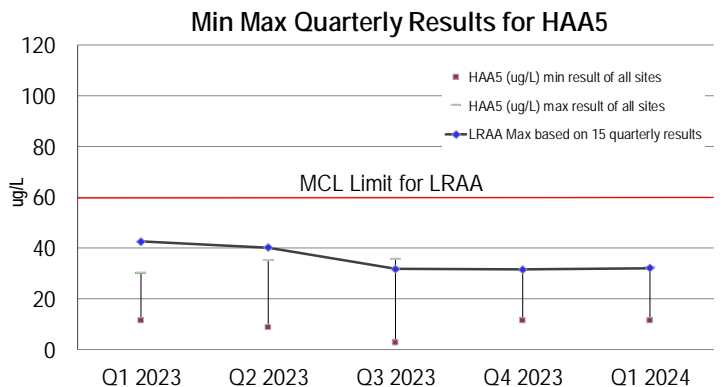
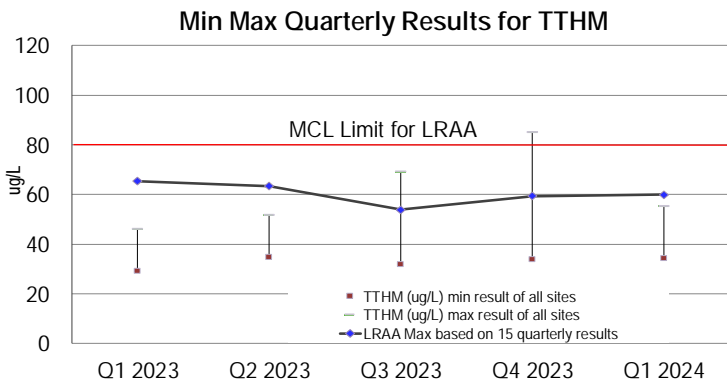
MWRA’s TTHM and HAA5 sampling program includes sampling at 33 MetroWest and Metro Boston communities sites. Partially served and CVA communities are responsible for their own compliance monitoring and are regulated individually.

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 = 25.3 µg/L; HAA5s = 22.1 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

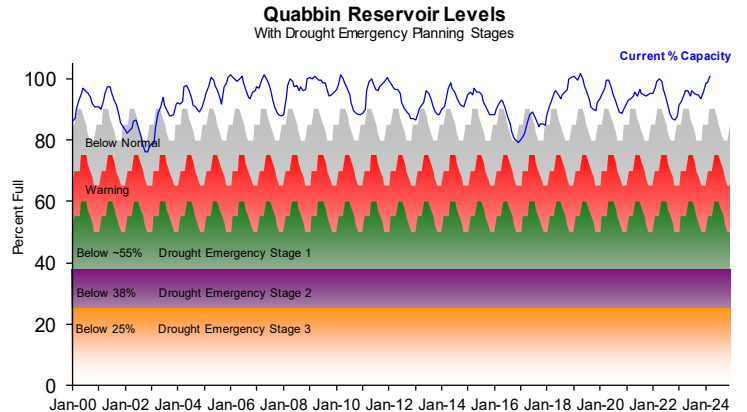
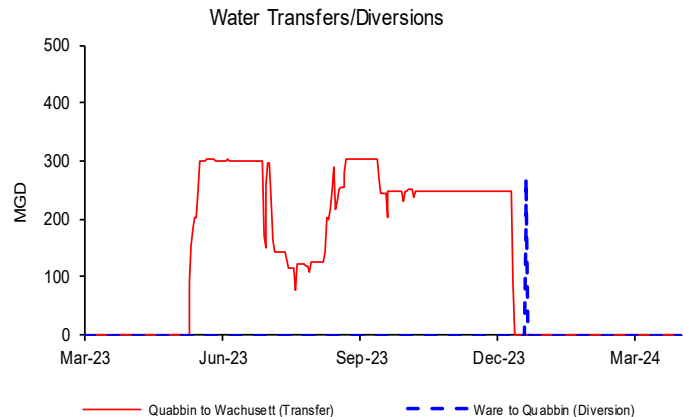
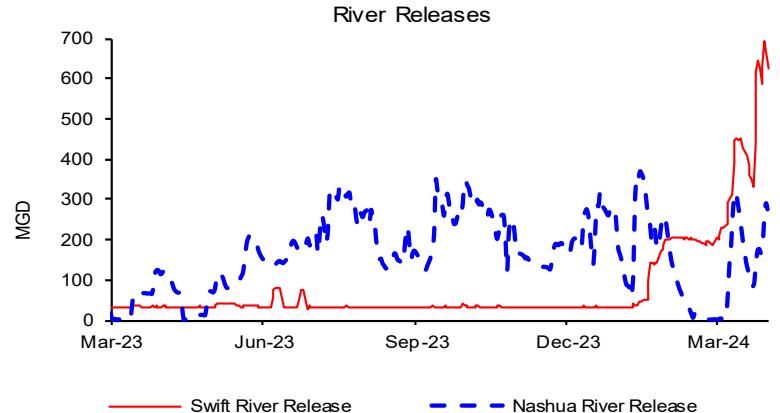
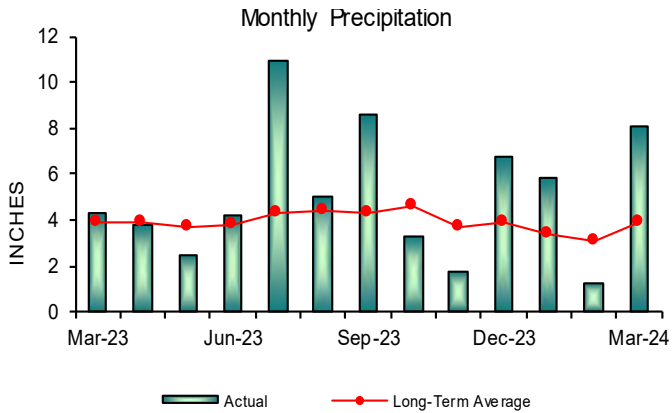
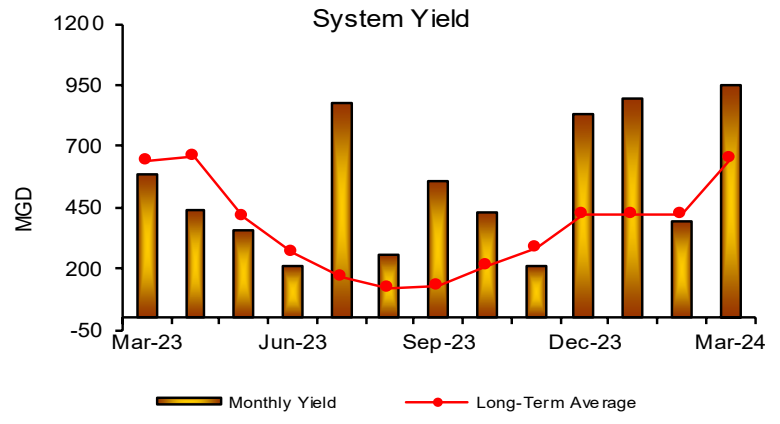
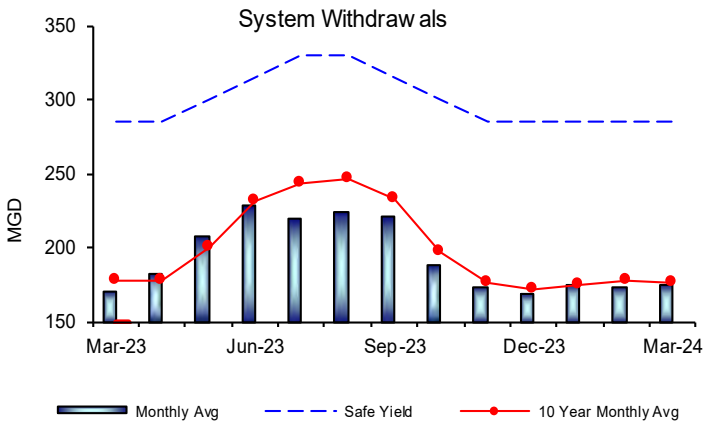
3<sup>rd</sup> Quarter – FY24

## 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 100.9% as of March 31, 2024; a 5.1 % increase for the quarter, which represents a gain of more than 21.4 billion gallons of storage and an increase in elevation of 2.72'. System withdrawal was below its long term quarterly average. Precipitation and Yield quarterly averages were above their respective long term quarterly averages. Quabbin is in Normal Operating Range for this time of year.



## WASTEWATER QUALITY

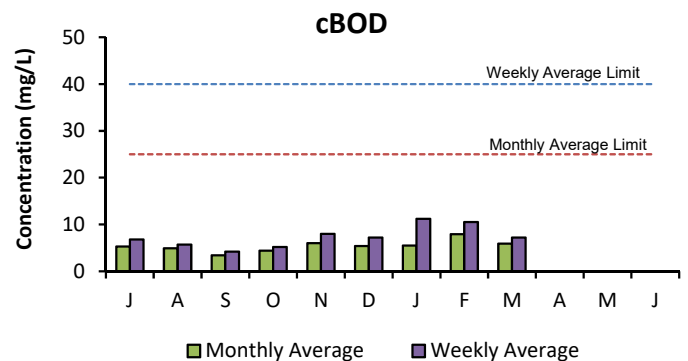
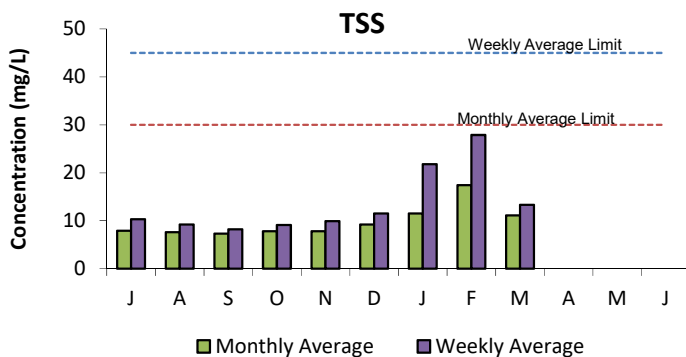
# NPDES Permit Compliance: Deer Island Treatment Plant

3<sup>rd</sup> Quarter - FY24

## NPDES Permit Limits

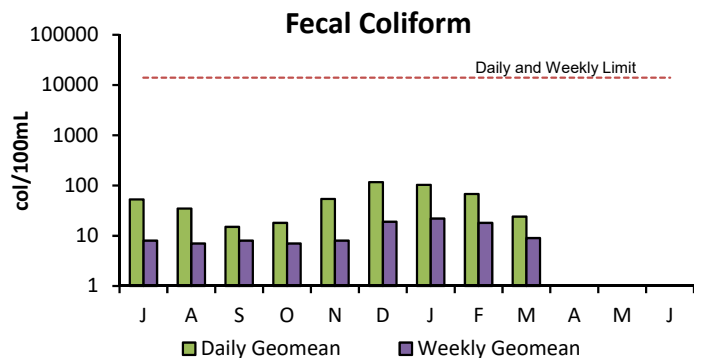
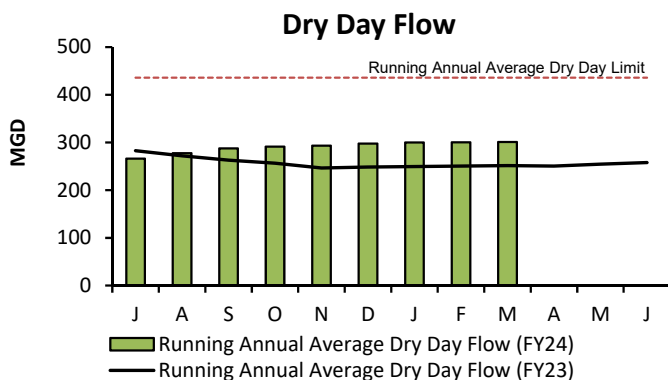
Effluent Characteristics	Units	Limits	January	February	March	3rd Quarter Violations	FY24 YTD Violations	
Dry Day Flow (365 Day Average):	mgd	436	300.1	300.4	301.2	0	0	
cBOD:	Monthly Average	mg/L	5.5	7.9	5.9	0	0	
	Weekly Average	mg/L	11.2	10.5	7.2	0	0	
TSS:	Monthly Average	mg/L	11.5	17.4	11.1	0	0	
	Weekly Average	mg/L	45	27.9	13.3	0	0	
TCR:	Monthly Average	ug/L	2.9	0.0	0.0	0	0	
	Daily Maximum	ug/L	631	90.0	0.0	0	0	
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	103	68	0	0	
	Weekly Geometric Mean	col/100mL	14000	22	18	0	0	
	% of Samples >14000	%	10	0	0	0	0	
	Consecutive Samples >14000	#	3	0	0	0	0	
pH:	SU	6.0-9.0	6.4-6.9	6.4-6.9	6.4-6.8	0	0	
PCB, Aroclors:	Monthly Average	ug/L	UNDETECTED			0	0	
Acute Toxicity:	Inland Silverside	%	≥50	>100	>100	>100	0	0
	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Inland Silverside	%	≥1.5	50	50	50	0	0
	Sea Urchin	%	≥1.5	25	50	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 3<sup>rd</sup> 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 3<sup>rd</sup> 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 3<sup>rd</sup> 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 3<sup>rd</sup> Quarter, all permit conditions for fecal coliform were met.

# NPDES Permit Compliance: Clinton Wastewater Treatment Plant

## 3<sup>rd</sup> Quarter - FY24

### NPDES Permit Limits

Effluent Characteristics		Units	Limits	January	February	March	3rd Quarter Violations	FY24 YTD Violations
Flow:	12-month Rolling Average:	mgd	3.01	3.46	3.48	3.57	3	6
BOD:	Monthly Average:	mg/L	20	1.7	0.8	1.0	0	0
	Weekly Average:	mg/L	20	2.5	1.1	2.1	0	0
TSS:	Monthly Average:	mg/L	20	4.1	2.9	2.9	0	0
	Weekly Average:	mg/L	20	4.6	4.4	4.4	0	0
pH:		SU	6.5-8.3	7-7.5	7.2-7.5	7-7.7	0	0
Dissolved Oxygen:	Daily Average Minimum:	mg/L	6	11.6	11.9	10.8	0	0
E. Coli:	Monthly Geometric Mean:	cfu/100mL	126	5	5	5	0	0
	Daily Geometric Mean:	cfu/100mL	409	13	5	7	0	0
TCR:	Monthly Average:	ug/L	20	0.11	0.14	0.13	0	0
	Daily Maximum:	ug/L	30.4	3.33	4.00	4.00	0	0
Copper:	Monthly Average:	ug/L	11.6	4.98	5.83	6.75	0	0
	Daily Maximum:	ug/L	14.0	6.64	5.83	6.75	0	0
Total Ammonia Nitrogen: November 1st - March 31st	Monthly Average:	mg/L	6.6	0.02	0.05	0.16	0	0
	Daily Maximum:	mg/L	35.0	0.04	0.21	0.32	0	0
Total Phosphorus: November 1st - March 31st	Monthly Average:	mg/L	1.00	0.09	0.07	0.04	0	0
	Daily Maximum:	mg/L	RPT	0.09	0.08	0.07	0	0
Acute Toxicity <sup>+</sup> :	Daily Minimum:	%	≥100	>100	N/A	N/A	0	0
Chronic Toxicity <sup>+</sup> :	Daily Minimum:	%	≥62.5	100.0	N/A	N/A	0	0

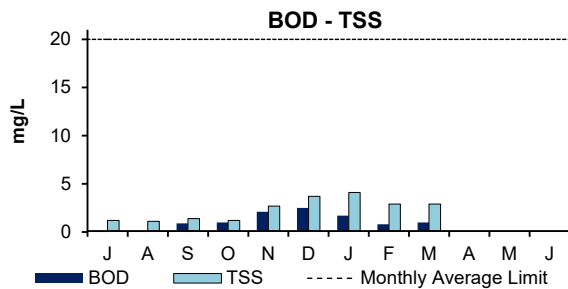
There have been three permit violations in FY24 at the Clinton Treatment Plant.

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

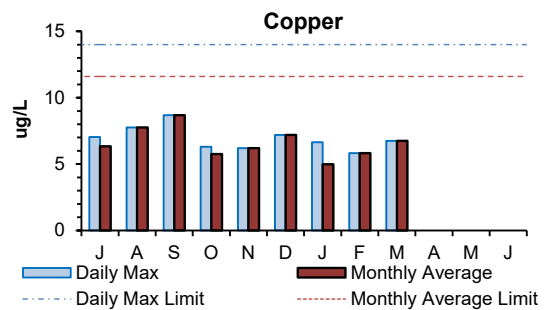
**2nd Quarter:** There were three permit violations in the second quarter, each for 12 month rolling-average flow.

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

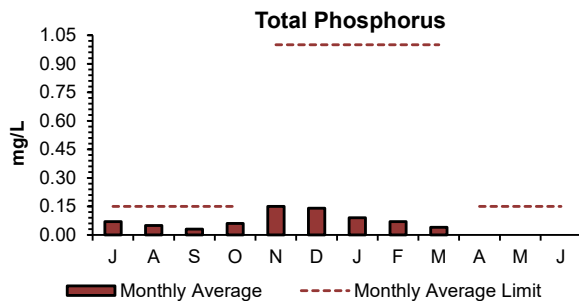
+ Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



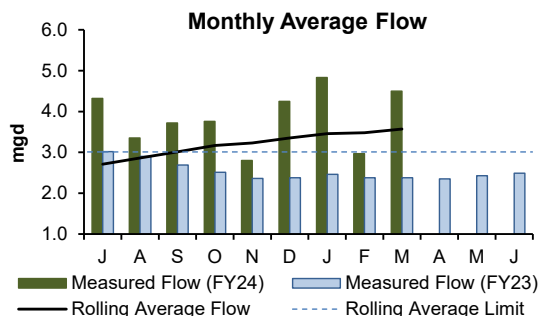
Monthly average concentrations of BOD and TSS were below permit limits in the 3rd Quarter. The permit monthly limit for both parameters is 20 mg/L.



Daily maximum and monthly average concentrations of copper were below permit limits in the 3rd 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 3rd Quarter's monthly average concentrations for total phosphorus were below permit limits.

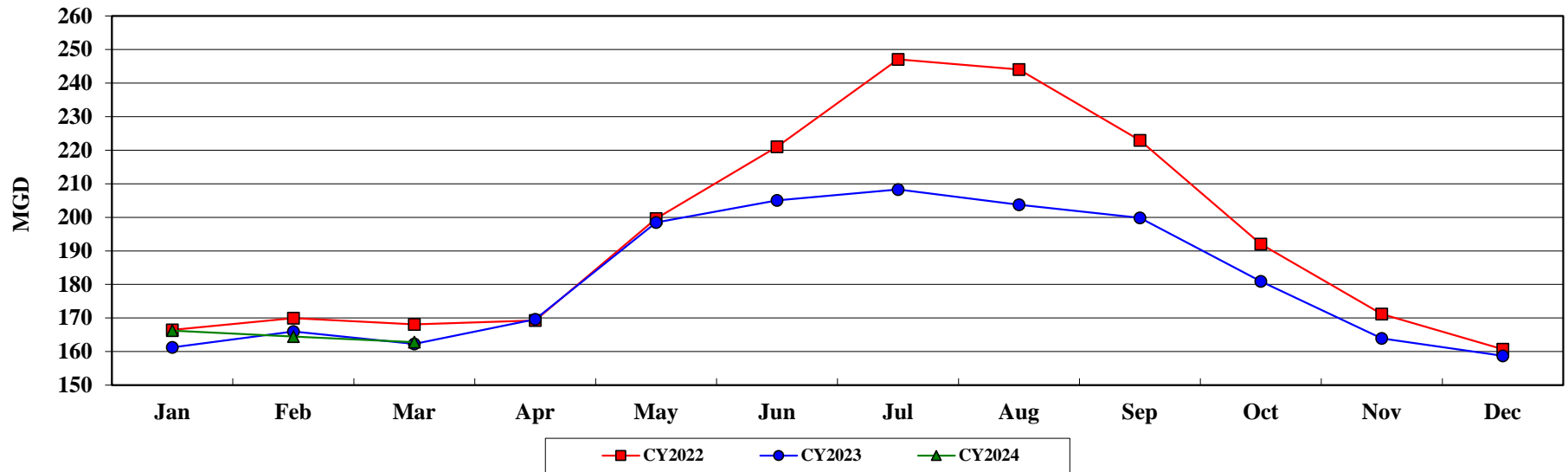


The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant. The 12-month rolling average flows during the 3rd Quarter were above the permit limit.

# COMMUNITY FLOWS AND PROGRAMS

## Customer Water Use 3<sup>rd</sup> 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
<b>CY2022</b>	166.445	169.923	168.101	169.253	199.626	221.002	247.075	244.069	222.906	192.000	171.170	160.697	168.097	194.537
<b>CY2023</b>	161.272	165.989	162.292	169.594	198.499	205.042	208.304	203.762	199.844	180.948	163.937	158.736	163.091	181.612
<b>CY2024</b>	166.238	164.451	162.794	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	164.495	482.874

The March 2023 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.

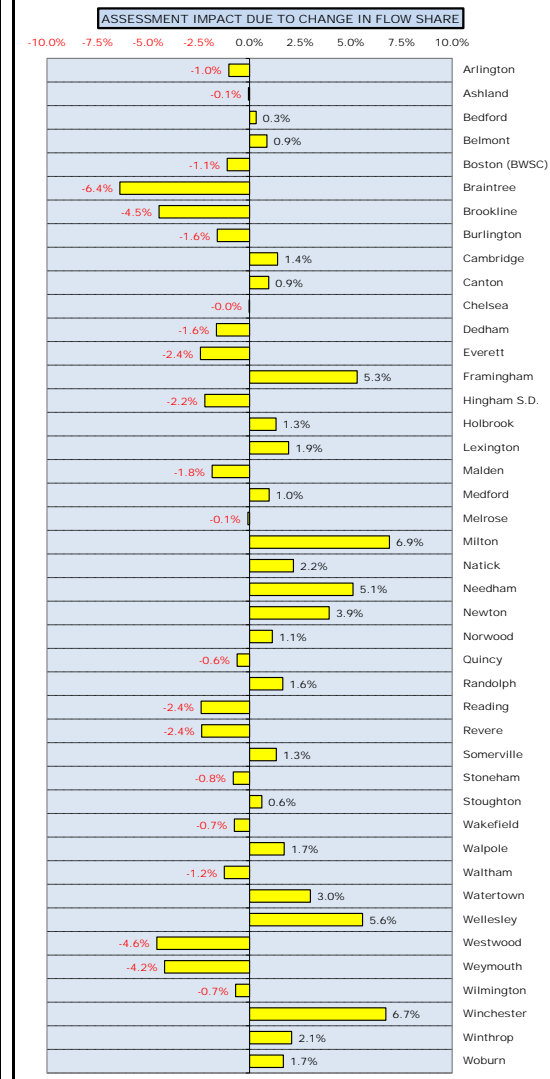
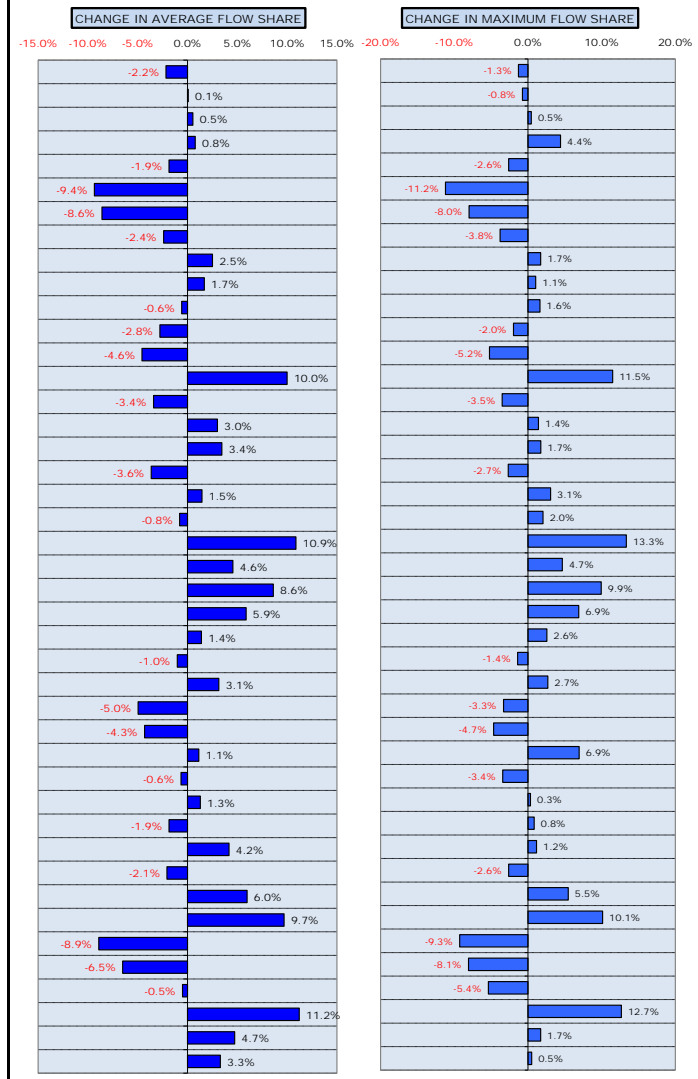
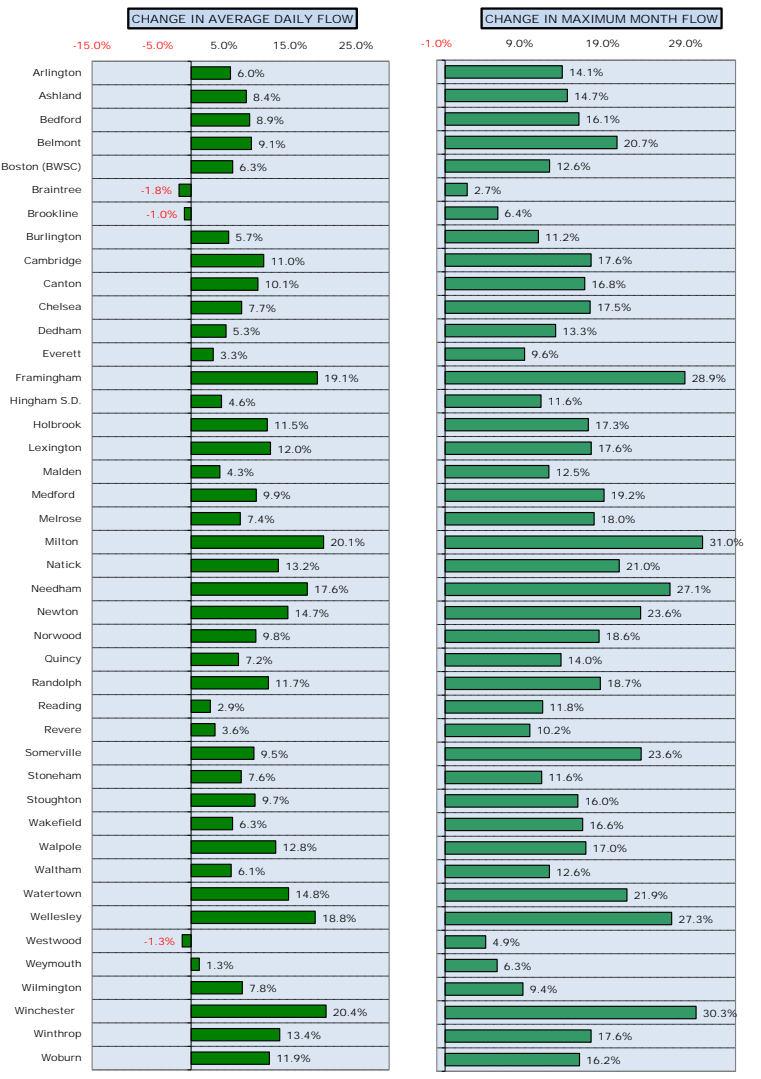
MWRA customers used an average of 164.5 mgd in the 3rd quarter (Jan-Mar 2024) of FY2024. This is an increase of 1.4 mgd or 0.9% compared to the 3rd quarter of FY2023.

# How CY2022-24 Community Wastewater Flows Could Effect FY2026 Sewer Assessments <sup>1,2,3</sup>

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.

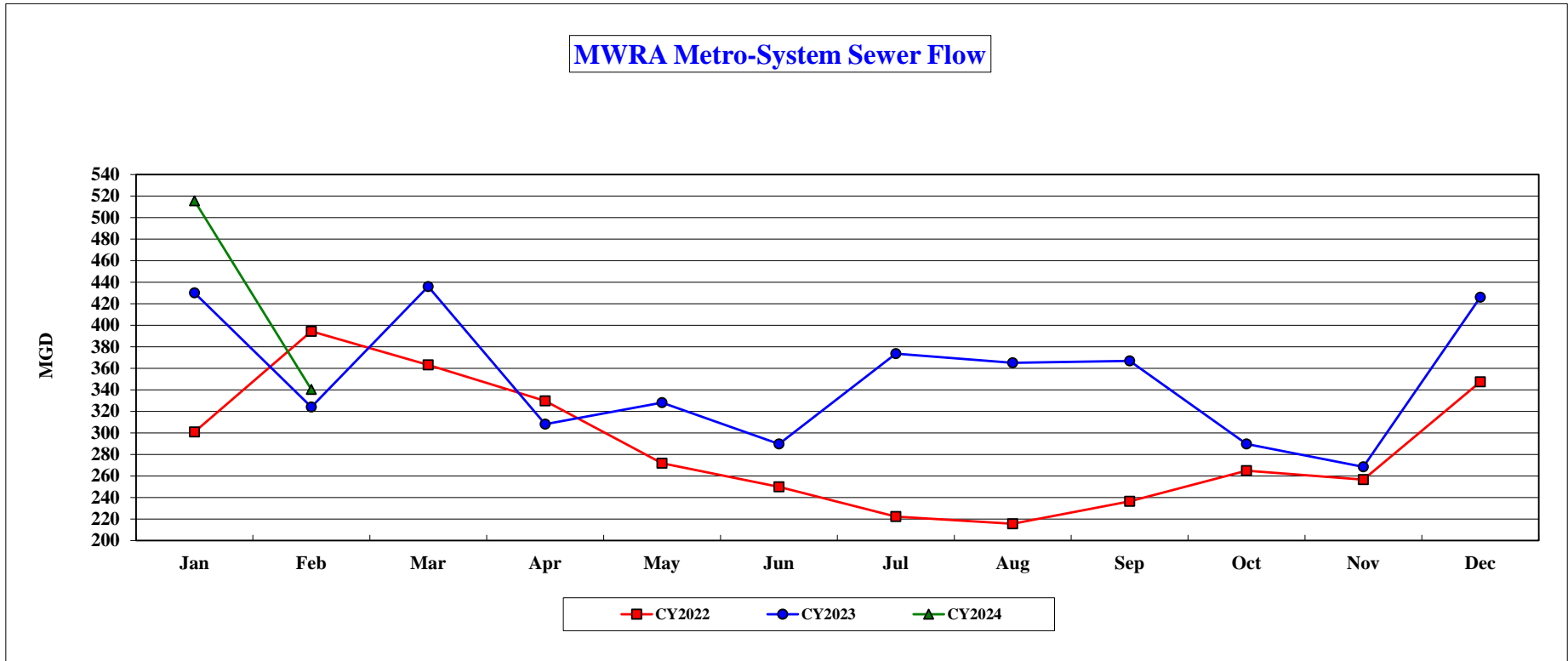
But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2022 to CY2024 flow share compared to CY2021 to CY2023 flow share, compared to all other communities in the system.

The chart below illustrates the change in the TOTAL BASE assessment due to FLOW SHARE CHANGES. <sup>4</sup>



<sup>1</sup> 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.  
<sup>2</sup> Based on actual flows for 2022 through February 2024.  
<sup>3</sup> Flow data is preliminary and subject to change pending additional MWRA and community review.  
<sup>4</sup> Represents ONLY the impact on the total BASE assessment resulting from the changes in average and maximum wastewater FLOW SHARES.

## Community Sewer Flow YTD - FY24



Sewer Flow (million gallons per day)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
<b>CY2022</b>	300.930	394.400	363.110	329.710	271.890	249.840	222.280	215.600	236.380	264.960	256.590	347.420	345.289	287.098
<b>CY2023</b>	430.060	323.980	435.990	308.110	328.160	289.710	373.540	365.130	366.840	289.680	268.470	426.070	379.717	351.159
<b>CY2024</b>	515.680	340.300											430.913	

The 2024 2-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 430.9 mgd in the first two months of FY2024. This is an increase of 52.7 mgd or 13.9% compared to the first two months of CY2023.



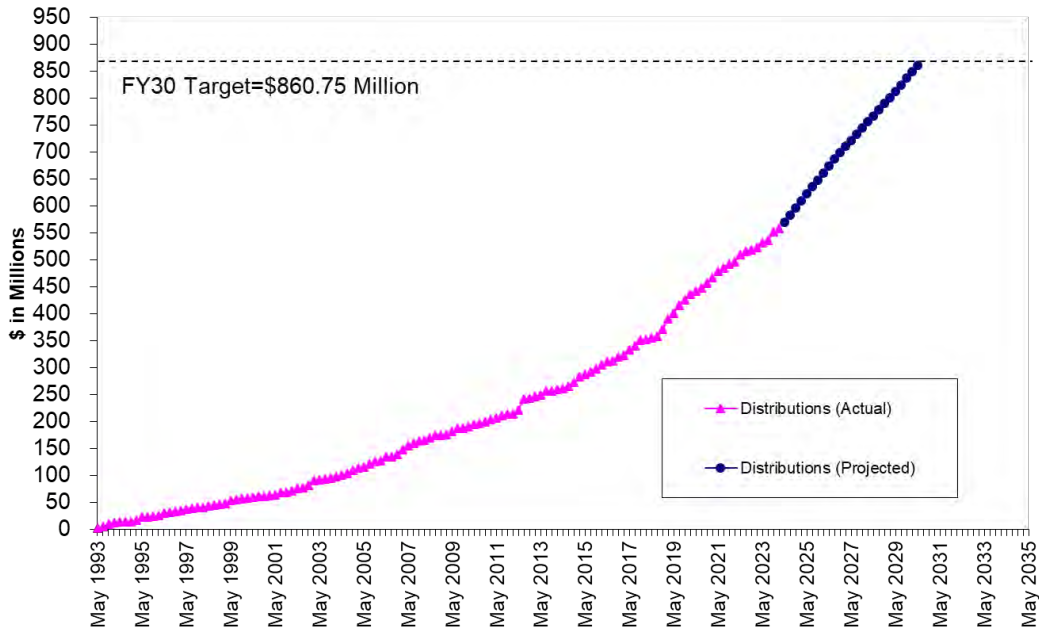
# Community Support Programs

3<sup>rd</sup> Quarter – FY24

## Infiltration/Inflow Local Financial Assistance Program

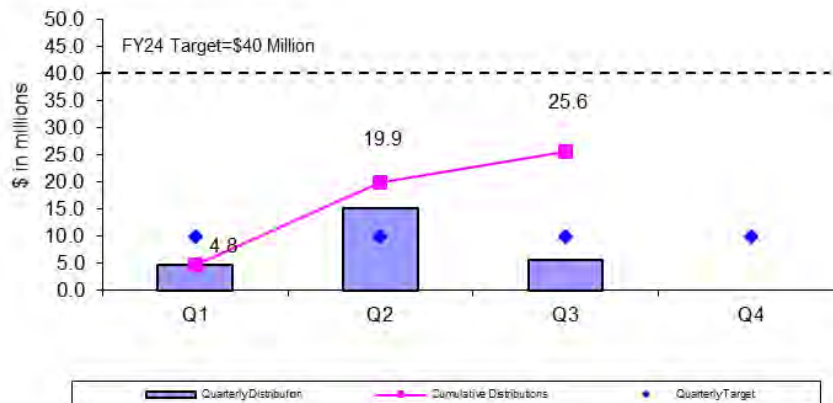
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$860.75 million in grants and interest-free loans (average of about \$22 million per year from FY93 through FY30) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned 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 3<sup>rd</sup> Quarter of FY24, \$5.7 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Arlington, Braintree, Canton, Chelsea and Weymouth. Total grant/loan distribution to date for FY24 is \$25.6 million. From FY93 through the 3<sup>rd</sup> Quarter of FY24, all 43 member sewer communities have participated in the program and \$557 million has been distributed to fund 681 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



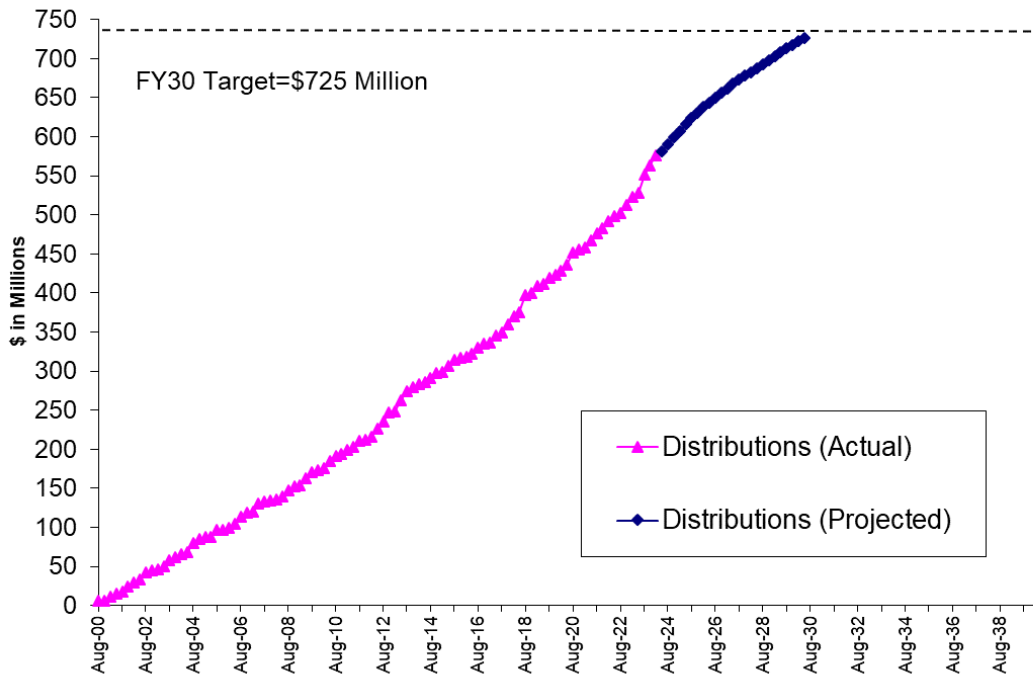
# Community Support Programs

3<sup>rd</sup> Quarter – FY24

## Local Water System Assistance Program

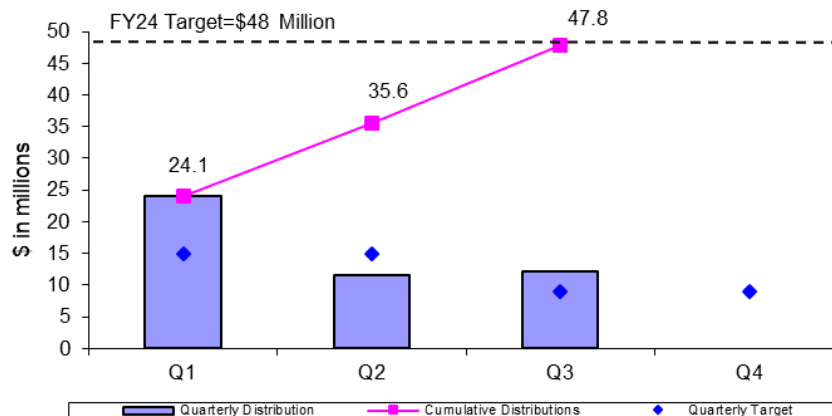
MWRA's Local Water System Assistance Programs (LWSAP) provides \$725 million in interest-free loans (an average of about \$24 million per year from FY01 through FY30) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There 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 3<sup>rd</sup> Quarter of FY24, \$12.2 million in interest-free loans was distributed to fund local water projects in Arlington, Medford, and Waltham. Total loan distribution to date for FY24 is \$47.8 million. From FY01 through the 3<sup>rd</sup> Quarter of FY24, \$575 million has been distributed to fund 533 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

3<sup>rd</sup> 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, \$42.3 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.

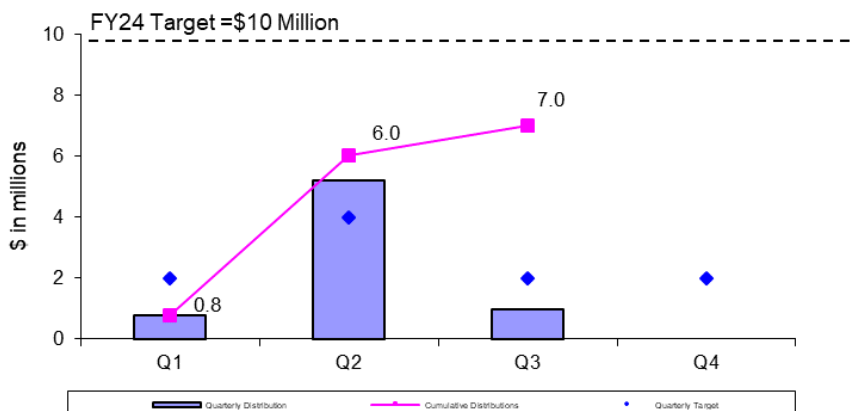
FY23 was the seventh year in the Lead Loan Program - MWRA has made six Lead Loans.

FY24 is the eighth year in the Lead Loan Program - MWRA has made six Lead Loans in the first three quarters.

### Summary of Lead Loans:

Winthrop in FY24	\$0.98 Million	Somerville in FY22	\$1.60 Million	Everett in FY20	\$1.0 Million
Chelsea in FY24	\$0.30 Million	Revere in FY22	\$1.30 Million	Somerville in FY20	\$0.90 Million
Melrose in FY24	\$1.04 Million	Chelsea in FY22	\$0.30 Million	Chelsea in FY20	\$0.30 Million
Lexington in FY24	\$3.88 Million	Watertown in FY21	\$0.60 Million	Marlborough in FY19	\$1.0 Million
Watertown in FY24	\$0.30 Million	Marlborough in FY21	\$2.0 Million	Winthrop in FY19	\$0.50 Million
Malden in FY24	\$0.50 Million	Everett in FY21	\$1.50 Million	Chelsea in FY19	\$0.10 Million
Chelsea in FY23	\$0.50 Million	Boston in FY21	\$2.60 Million	Everett in FY19	\$1.0 Million
Watertown in FY23	\$0.30 Million	Winthrop in FY21	\$0.80 Million	Needham in FY18	\$1.0 Million
Winthrop in FY23	\$0.70 Million	Chelsea in FY21	\$0.30 Million	Winchester in FY18	\$0.50 Million
Reading in FY23	\$1.50 Million	Winchester in FY21	\$0.60 Million	Revere in FY18	\$0.20 Million
Watertown in FY23	\$0.30 Million	Everett in FY20	\$0.50 Million	Winthrop in FY18	\$0.30 Million
Winchester in FY23	\$0.60 Million	Marlborough in FY20	\$1.0 Million	Marlborough in FY18	\$1.0 Million
Everett in FY22	\$1.5 Million	Winchester in FY20	\$0.60 Million	Newton in FY17	\$4.0 Million
Boston in FY22	\$0.90 Million	Winthrop in FY20	\$0.70 Million	Quincy in FY17	\$1.5 Million
Winthrop in FY22	\$0.80 Million	Weston in FY20	\$0.20 Million	Winchester in FY17	\$0.50 Million
				<b>TOTAL</b>	<b>\$42.30 Million</b>

### FY24 Quarterly Distributions of Lead Service Line Replacement Loans

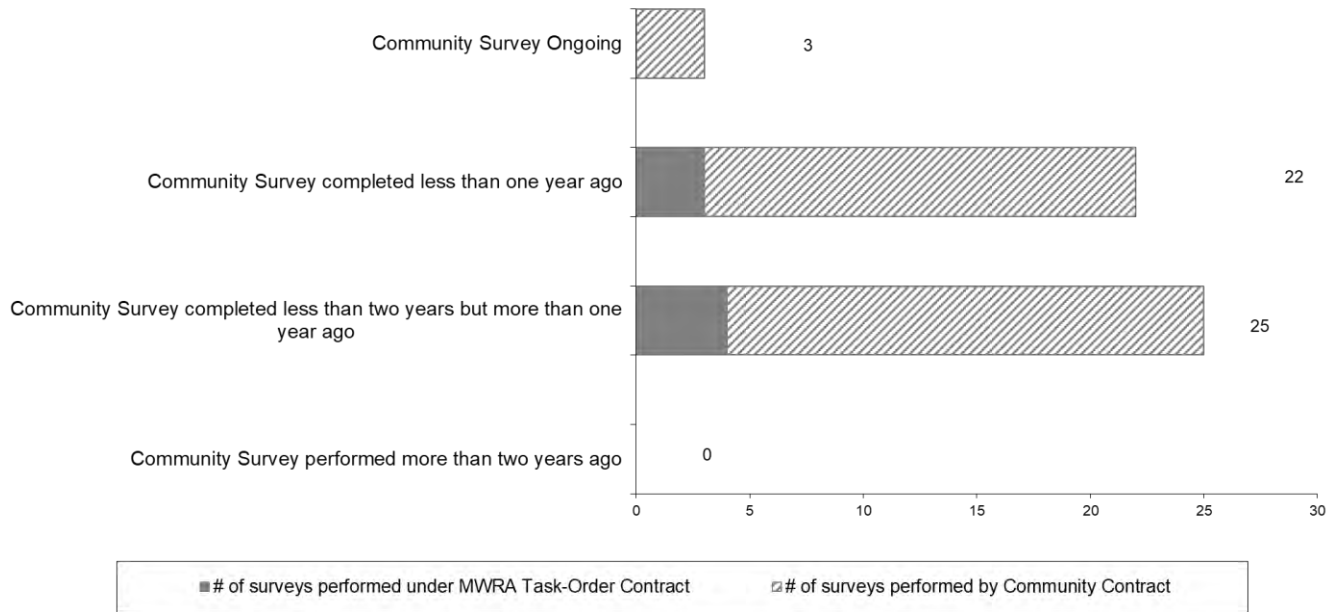


# Community Support Programs

3<sup>rd</sup> 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 3<sup>rd</sup> 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		9,037
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	1,175	796	812		2,783
Toilet Leak Detection Dye Tablets	_____	1,065	193	1,354		2,612

## BUSINESS SERVICES

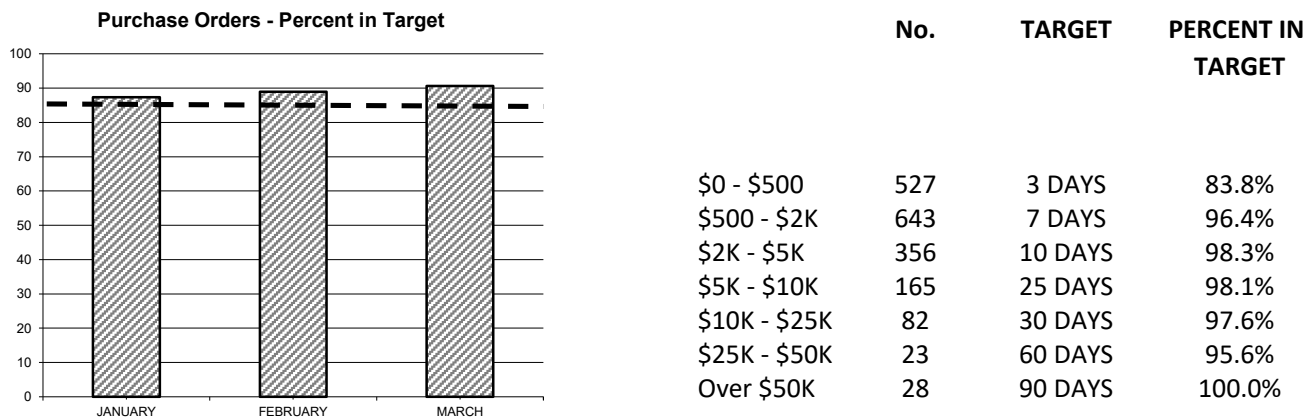
# Procurement: Purchasing and Contracts

3<sup>rd</sup> Quarter - FY24

**Background:** Goal is to process 85% of Purchase Orders and 80% of Contracts within Target timeframes.

**Highlights:** Processed 99% of purchase orders within target; Average Processing Time was 4.14 days vs. 4.82 days in Qtr 3 of FY23. Processed 62% (8 of 13) of contracts within target timeframes; Average Processing Time was 145 days vs. 185 days in Qtr of FY23.

## Purchasing



The Purchasing Unit processed 1824 purchase orders, 38 more than the 1786 processed in Qtr 3 of FY23 for a total value of \$12,290,457 versus a dollar value of \$11,341,237 in Qtr 3 of FY23.

The purchase order processing target was not met for the \$0 - \$500 category due to vendor delays providing quotes.

## Contracts, Change Orders and Amendments

Procurement executed thirteen contracts with a value of \$16,481,011 and four amendments with a value of \$45,025. Five contracts were not executed within the target timeframes. One contract was delayed due to the consultant taking exception to many of the contract terms resulting in a delay in the execution of the contract. Another contract was delayed due to several staff transitions (new staff learning internal processes and retiring staff in related positions) which resulted in a delay in the execution of the contract. A third contract was delayed due to the contractor's unresponsiveness in addressing MWRA concerns regarding safety measures and the decision to deem the contractor ineligible, resulting in a bid protest. Consequently, the execution of the contract to the second lowest bidder was delayed. Another contract was delayed due to the nature of the contract and necessary selection committee meetings. The contract was in place prior to the expiration of the existing contract. The final contract was delayed due to resources and staff summary requirements.

Staff reviewed 70 proposed change orders and 25 draft change orders.

Forty two change orders were executed during the period. The dollar value of all non-credit change orders during Q3 FY24 was \$6,513,073 and the value of credit change orders was (\$432,119).

Note: A credit change order is a change order that results in a decrease in contract value.

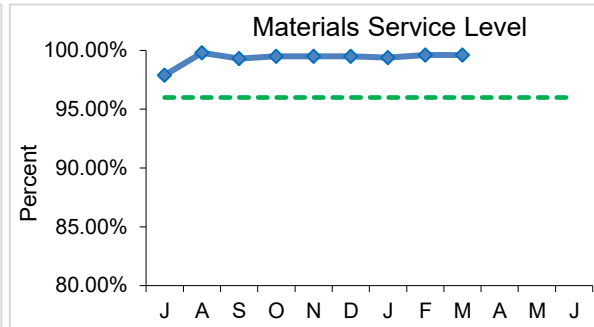
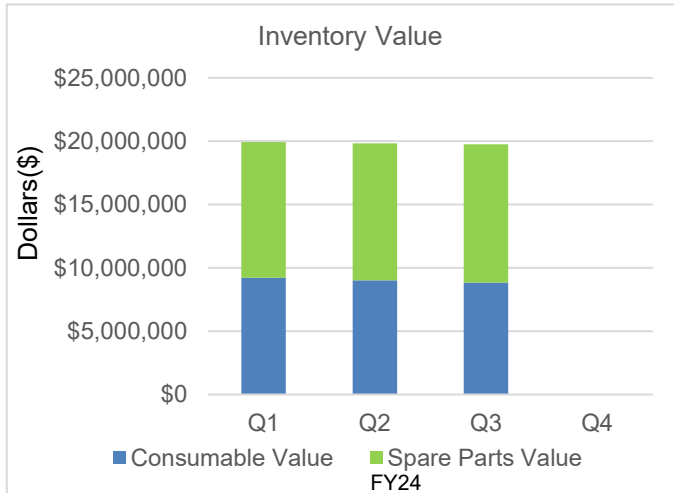
## Materials Management

### 3rd 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:

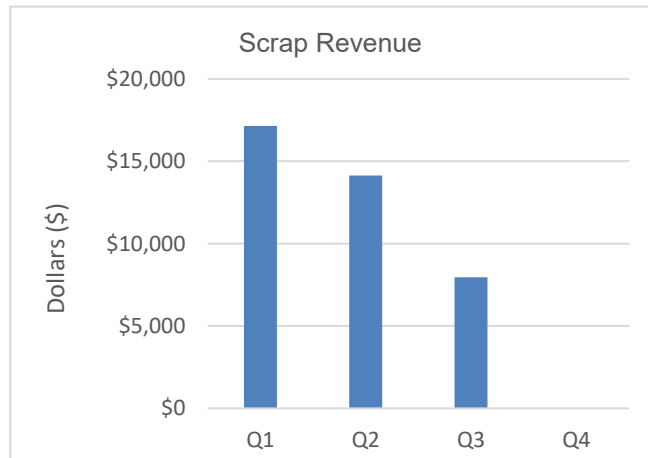
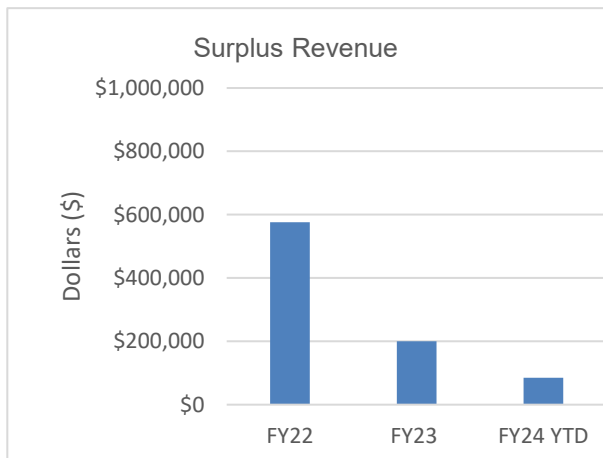
- Maintaining optimum levels of consumables inventory (office supplies, electrical, safety, etc.) and spare parts inventory (critical items such as actuators, motors, muffin monsters, etc.) necessary to support MWRA Operations and Maintenance. Typically spare parts carry longer lead times.
- Adding new 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 7,232 (99.6%) of the 7,263 items requested in Q3 from the inventory locations for a total dollar value of \$2,624,508.

Property Pass Program:

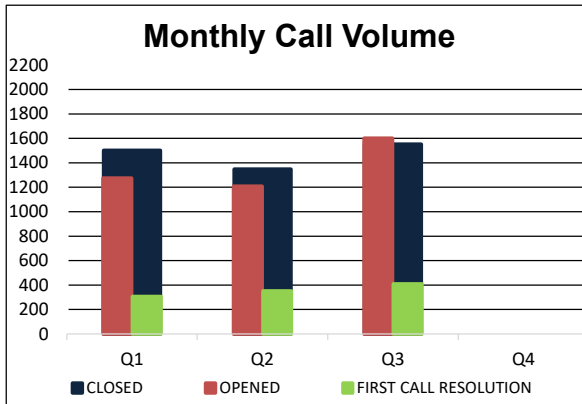
- Conducts audits of tools and equipment to ensure the safeguarding of MWRA assets.
- Manages the disposition and sale of surplus tools and equipment through GovDeals, an online auction site.
- Manages the surplusing of scrap metals and materials generating revenue to the MWRA staff.



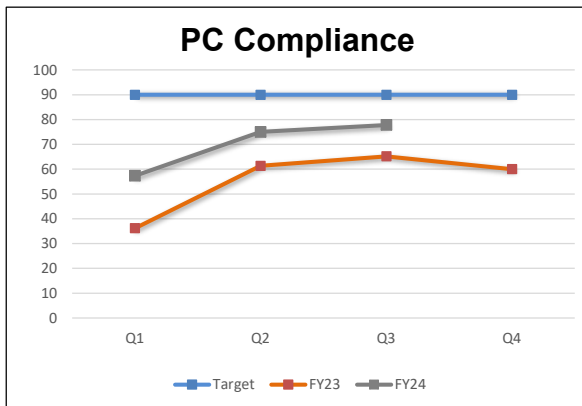
# MIS Program

## Third 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:** SDWAN was implemented at Ward street, Norumbega, Ware and the two Barre sites. Columbus Park is scheduled for April. DITP awaiting cabling to facility.

**VOIP:** Ported 1500 numbers from CNY to Chelsea and Deer Island addresses and removed CNY site from VOIP locations with Verizon. Assigned 400+ unassigned devices to users in CUCM. Assigned devices from CNY into correct Device pool. Removed all references to CNY from CER and CUCM environment.

**Core Switch Hardware Refresh:** New hardware configured. Deployment postponed due to weather and rescheduled for May.

**VMWare Workspace ONE:** 981 devices migrated to WorkspaceONE for device management. Staff working with vendor to optimize deployment process and training. Migration of devices has increased ticket volume.

**Oracle Database Appliance Hardware Refresh:** Equipment received, kick off meeting to be schedule in April.

**Server/Database Version Upgrades:** Staff continue to meet monthly to review and identify migration paths of infrastructure to maintain support.

**IT Kiosk:** A second IT Kiosk was installed on DITP for staff self service.

**Commvault Upgrade:** Completed migration to new Media Agent hardware and version update.

#### Library, Record Center, & Training

**Library:** Undertook 7 research requests, supplied books and reports for circulation. Renewed various library subscriptions. The MWRA Library Portal supported 336 end user searches.

**Record Center (RC):** The Record Center Added 27 new boxes to the RC and handled 138 total boxes. The RC Manager attended 3 virtual RCB meetings. The RC shredded on-site sixteen, 65 gallon and Five, 96-gallon bins of confidential documentation. The RC performed 30 database / physical box searches for various departments. Research included: Invoices, staff summaries, personnel files, Geo samples and engineering project related information. The Record Center staff is involved with an on-going ECM training and testing to upgrade our Record Management database.

**MIS Training:** In Q3, 1 online IT lesson was taken (9 YTD), by 13 employees (137 YTD).

### Applications

**ECM/Electronic Document Management:** Completed User Acceptance Testing and went live with all Engineering and Construction workflows in mid-November. Continued to work with vendor to fix minor issues as they occur. Plan to migrate all DITP drawings into production in January. Change order to make updates to the document search functionality within the website approved in March. Work on these updates will likely begin in May, with a tentative website go-live date scheduled in late summer/early fall

**MWRA Website Refresh:** Staff continue to work with the vendor to resolve identified bug. Contract Amendment 1 routing for approval to provide more robust search capabilities.

**Infor Upgrade/Migration:** MIS and end users performed data scrubbing on the Lawson Infor data in preparation for data migration. The Lawson ERP data has been migrated to the Infor CloudSuite test environment in the cloud; functional training has been performed; functional design workshops are in progress and a change readiness assessment has been completed. Once the design workshops are complete the functional specifications will be finalized and the development phase of the project will begin.

**Maximo/Lawson Interface:** MIS, Procurement and Operations are currently performing user acceptance testing on the upgraded interfaces between these two enterprise applications with an expected completion in early April and a production implementation to shortly follow.

**Library Portal Upgrade (GeniePlus):** MIS staff has completed the data migration, user acceptance testing and configuration work for the upgraded Library Portal with an expected implementation to the production environment planned for April.

**Maximo Version Upgrade:** MIS finalized and released upgraded versions of Maximo to the Development, Test and Pre-Production environments. User Acceptance testing is almost complete and implementation planning is now underway with the intent to release the upgrade in April. MIS is also working with the vendor (IBM) to resolve user entitlement and configuration issues that are impacting our licensing compliance.



# Legal Matters

3<sup>rd</sup> Quarter - FY24

## PROJECT ASSISTANCE

### Real Estate, Contract, Energy, Environmental and Other Support:

- **8(m) Permits and License Agreements:** Reviewed ninety-seven (97) 8(m) permits, including any related MEPA Section 61 Findings. Reviewed three (3) Direct Connection Permits. Drafted three (3) one-day licenses related to public access on Deer Island.
- **Real Property:** Reviewed Quabbin Watershed WPR Acquisition W-001247 package for parcel in Wendell, MA and Quabbin Watershed WPR Acquisition W-001249 package for parcel in New Salem, MA. Prepared Eminent Domain Order of Taking for water easement rights on one property and acquired water easement rights on two properties in Winchester for MWRA Contract 7117 - Northern Intermediate High Section 89 Pipeline. Finalized Quincy Housing Authority and Town of Lexington licenses related to the use of certain property rights and needed for MWRA Contract 6224/6225 - Siphon and Junction Rehabilitation Phase I. Drafted terms related to water easement at 352 Broadway in Saugus, MA and acquired sewer access easement on parcel of land located at 1151-1177 Boston-Providence Turnpike. Reviewed language related to Article 97 in SEIR for Contract 7454, Section 56 Replacement of Saugus River Crossing. Drafted sewer access easement for parcel located at 1151-1177 Boston-Providence. Finalized electric service pole license for Hultman Aqueduct property interest at 281 Main Street, Wayland, Massachusetts. Finalized second amendment to MIT license. Revised revocable permit agreement template for Turkey Hill water tank. Reviewed Records Center second amendment to lease. Drafted license agreement with Town of Weston for its access and use of designated areas at Norumbega property on the microwave tower and at the base of the tower. Revised proposed sewer easements and plan related to Hingham Pump Station. Conveyed deed and recordable instruments for 12 Cleverly Court, Quincy. Reviewed property interests for Metropolitan Water Tunnel Program. Revised access letter for survey and boring work to support the Tunnel Program. Reviewed property rights for a parcel of land along Main Street in Somerville. Drafted grant of easement from MBTA to MWRA related MWRA Contract 7725 related to Sections 45/63 along Minuteman Bike Path in Lexington.
- **Environmental:** Assisted TRAC with potential revisions to the Sewer Use Regulations, 360 CMR 10. Prepared and finalized the Second Amendment to the Memorandum of Understanding and Financial Assistance Agreement with the Boston Water and Sewer Commission for the implementation of Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control Projects.

Reviewed Notices of Proposed Activity and Use Limitation. Assisted Environmental and Deer Island teams in support of Termination of the Post Closure Period for the closed grit and screening landfill on Deer Island. Assisted Environmental Team with Cottage Farm PCB Interim Measure Status Report No. 3. Reviewed EPA's final Clean Water Act Hazardous Substance Facility Response Plans Rule.

- **Energy:** Assisted energy team with new power purchase and/or interconnection service agreements with National Grid regarding three of the authority's renewable energy facilities. Reviewed March 2024 U.S. DOE application guidance and solicitation materials for the Hydroelectric Production Incentives (EPAct 2005 Section 242) for the electricity generated and sold in calendar year 2023
- **Miscellaneous:** Reviewed documents for submission to Records Conservation Board for disposition. Reviewed and finalized revisions to various MWRA policies including ADM #39 Video Surveillance System Policy, Physical Security Incident Response Plan, MWRA Security and Contractor Access Policy and Physical Security Program. Drafted First Amendment to Memorandum of Agreement with City of Newton regarding MWRA Contract 6392 Sections 23, 24 and 47 Water Mains.
- **Public Records Requests:** During the months of January, February and March 2024, MWRA received and responded to **One Hundred Fifty Eight (158)** public records requests.

## LITIGATION /TRAC - 3rd Quarter FY24

### New Lawsuits:

- There are no new lawsuits in Third Quarter 2024.

### New Claims:

- There are no new claims in Third Quarter 2024.

### Significant Developments:

- Unified Contracting, Inc. v. MWRA; Suffolk Super Court C.A. No. 2384CV00927-BLS2. Discovery requests were served on MWRA in February. The parties participated in mediation in March.
- Massachusetts Water Resources Authority v. National Association of Government Employees (NAGE), Local R1-168, Suffolk Superior Court C. A. No. 2284CV02453. Hearing on Motion for Judgment on the Pleadings took place in March.
- The Authority's Motion to Enforce Settlement Agreement was allowed and a Judgment of Dismissal was entered in Suffolk Super Court C.A. No. 2186CV01434.
- The Authority received a draft motion by The Newark Group, Otter Farm, Inc. and Seaman Paper Company of Massachusetts, Inc. seeking to join the Authority, and other entities, in the action Thomas Ryan et al. v. The Newark Group, Inc. et al., USDC No. 4:22-cv-40089-MRG and assert claims against the Authority of indemnity, contribution and reimbursement and contribution under Chapter 21E.

### Closed Cases:

- There is one closed case to report:

Teneo Funds SPVi LLC vs. Ermont Inc.; Suffolk Superior Court C.A. No. 2184CV01563. This matter relates to a notice of receivership for Ermont, Inc., a marijuana dispensary in Quincy. As of January 2024, the permit has been transferred from Ermont, Inc. to Panacea Wellness. The revised permit has been reviewed and is up to date.

### Closed Claims:

- There are no closed claims to report in Third Quarter 2024.

### Subpoenas:

- During the Third Quarter FY 2024, no new subpoenas were received and one subpoena is pending.

### Wage Garnishments

- There is one wage garnishment matter that is active and monitored by Law Division

**SUMMARY OF PENDING LITIGATION MATTERS**

<b>TYPE OF CASE/MATTER</b>	<b>As of March 2024</b>
Construction/Contract/Bid Protest	1
Tort/Labor/Employment	3
Environmental/Regulatory/Other	3
Eminent Domain/Real Estate	0
<b>TOTAL</b>	<b>7</b>
Other Litigation matters (restraining orders, etc.) - Class Action suits	3
<b>TOTAL – all pending lawsuits</b>	<b>10</b>
Claims not in suit	0
Bankruptcy	4
Wage Garnishment	1
TRAC/Adjudicatory Appeals	3
Subpoenas	1
<b>TOTAL – ALL LITIGATION MATTERS</b>	<b>19</b>

**TRAC/MISC. ADMIN. APPEALS**

**Appeals Pending:**

- There are three pending TRAC appeals in Third 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

**Settlement by Agreement of Parties**      No Settlements by Agreement of the Parties during the 3<sup>rd</sup> Quarter FY 2024.

**Stipulation of Dismissal**      No Stipulations of Dismissal in 3<sup>rd</sup> Quarter FY 2024.

**Notice of Dismissal  
Fine paid in full**      No Notices of Dismissal, Fines Paid in Full in 3<sup>rd</sup> Quarter FY 2024.

**Tentative Decisions**      No Tentative Decisions were issued in 3<sup>rd</sup> Quarter FY 2024

**Final  
Decisions**

No Final Decisions were issued in 3rd Quarter FY 2024.

**LABOR AND EMPLOYMENT – 3rd Quarter FY24**

**New Matters**

- A Union filed a request for arbitration because a member was denied a promotional opportunity.
- A Union filed a request for arbitration because a member was denied a promotional opportunity.
- A Union filed a request for arbitration disputing a member's promotional bypass.
- A Union filed a request for arbitration asserting that the MWRA violated the Collective Bargaining Agreement when it did not call members in for overtime on 2 occasions.
- 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 deliberate misconduct in willful disregard of the employing unit's interests.

**Significant Developments**

- The MCAD allowed an employee to amend a previously filed complaint to include additional allegations of disability discrimination and retaliation.

**Matters Concluded**

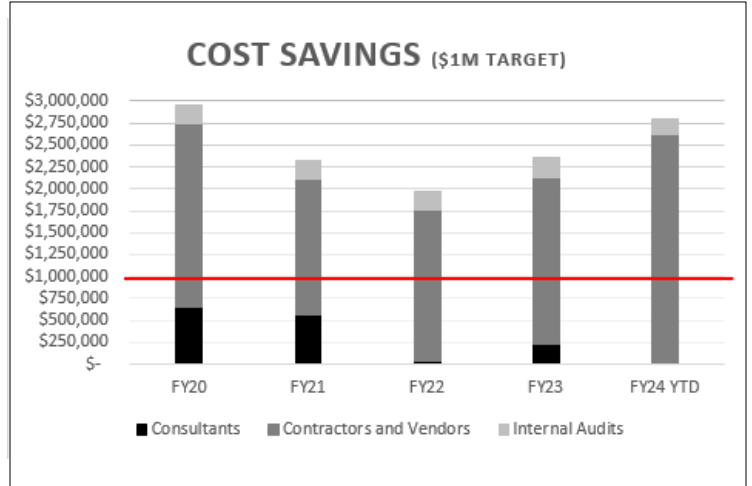
- A Union withdrew a request for arbitration because a member was denied a promotional opportunity.
- A Union withdrew a request for arbitration because a member was denied a promotional opportunity.
- Received an arbitrator's decision in favor of the MWRA for a grievance alleging that the Authority discriminated against an employee who did not receive a promotion.
- Received an arbitrator's decision in favor of the MWRA for a grievance alleging that the Authority reclassified an employee.

## INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES 3<sup>rd</sup> 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	\$2,605,556
Internal Audits	\$178,596
Total	\$2,792,454



### Highlights

During the 3rd quarter FY24, an audit of Accounts Payable Process controls and procedures was completed. Recommendations included enhancing documented policies and procedures, promoting sufficient segregation of duties, deploying vendor master management best practices and designing internal controls to reduce the risk of accounts payable error and/or fraud. Secondly, an audit of Payroll Process controls and procedures was completed. Recommendations included enhancing documented policies and procedures, and establishing enhanced management review and reconciliation procedures related to less frequent, non-standard payroll transactions. A review of travel reimbursement (employee owned car usage) is nearing completion and an internal review of MIS assets is nearing completion.

In addition, IA completed 1 incurred cost audits, 3 labor burden reviews, and 1 consultant preliminary reviews. There are 4 incurred cost audits, 2 labor burden reviews, and 1 consultant review in process. IA also issued 38 indirect cost rate letters to consultants following a review of their consultant disclosure statements.

Internal Audit also supported the creation of 5 new policies and updates related to 2 existing policies.

### Status of Recommendations

During FY24, 3 recommendations were closed.

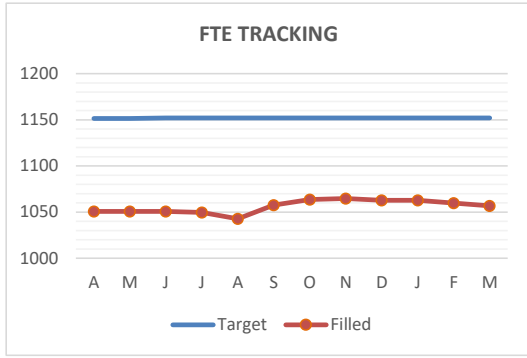
IA follows-up on open recommendations on a continuous basis. All open recommendations have target dates for implementation and are generally targeted to be closed within 12 months of the audit report issue date.

Report Title (issue date)	Audit Recommendations		
	Open	Closed	Total
Accounts Payable Process (3/14/2024)	6	0	6
MWRA Payroll (3/19/2024)	2	1	3
<b>Total Recommendations</b>	<b>8</b>	<b>1</b>	<b>9</b>

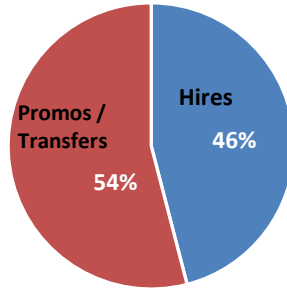
## OTHER MANAGEMENT

# Workforce Management

3<sup>rd</sup> Quarter - FY24



## Position Filled by Hires/Promos & Transfer for YTD



	<u>Pr/Trns</u>	<u>Hires</u>	<u>Total</u>
FY22	138 (68%)	65 (32%)	203
FY23	133 (59%)	91(41%)	224
<b>FY24</b>	<b>87 (54%)</b>	<b>74 (46%)</b>	<b>161</b>

FY24 Budget for FTE's = 1152

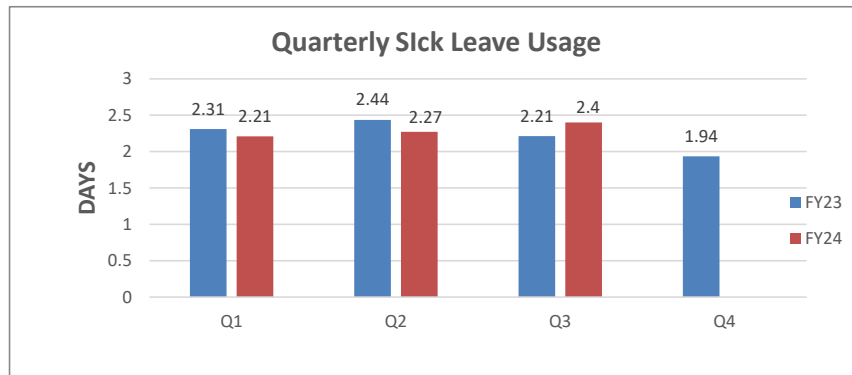
FTE's as of March = 1056.7

Tunnel Redundancy as of Mar 2024 = 11

## POSITION CHANGE by FY

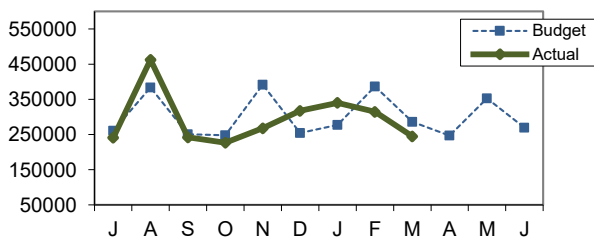
FY	HIRES	PROMOS	TRANSFER	RETIRE	RESIGN	DISMISS	DECEASED
FY20	58	70	14	38	23	2	1
FY21	64	66	15	58	15	2	2
FY22	65	108	30	82	45	2	3
FY23	91	118	15	46	31	5	5
<b>FY24*</b>	<b>74</b>	<b>73</b>	<b>14</b>	<b>40</b>	<b>22</b>	<b>4</b>	<b>3</b>

\* as of 3/31/2024



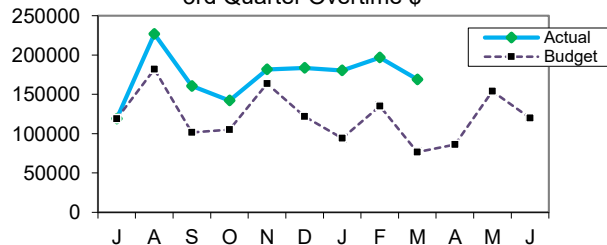
Average quarterly sick leave for the 3rd Quarter of FY24 has increased as compared to the 3rd Quarter of FY23. (2.21 to 2.4)

### Field Operations 3rd Qtr Overtime \$



Total Overtime for FOD for 3rd Quarter FY24 was \$899k which is \$50k under budget, or 5%. Emergency overtime was \$421k, or 47% of total 3rd Qtr expended OT, primarily because of numerous rain/weather events. Rain events totaled \$274k and Emergency Maintenance was \$77k. Coverage overtime was \$198k, which is 19.3% over the 3rd Qtr OT budgeted amount, primarily due to numerous vacant shift coverage requirements. Planned overtime was \$299k, \$25k, or 9% over for the 3rd Quarter of FY24.

### Deer Island Treatment Plant 3rd Quarter Overtime \$

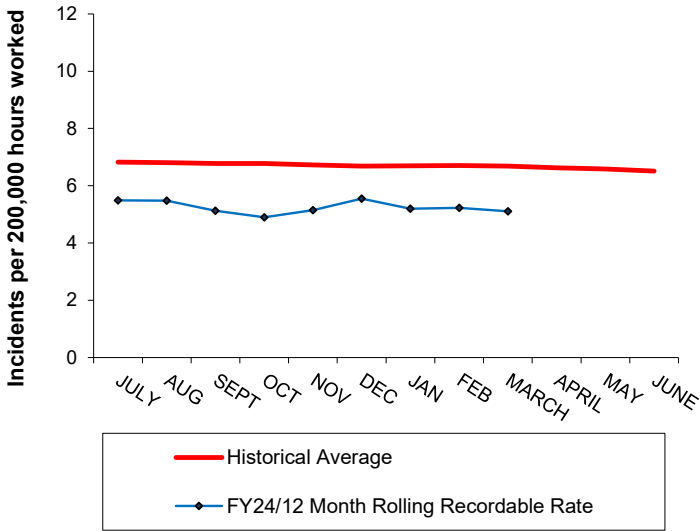


Deer Island's total overtime expenditure for the 3rd Quarter was \$546K, which is \$240K or 78.6% over budget due to higher than anticipated shift coverage of \$185K - driven by Wastewater Ops \$205K - offset by Thermal (\$21K). Planned/Unplanned overtime of \$45K. Storm Coverage of \$10K.

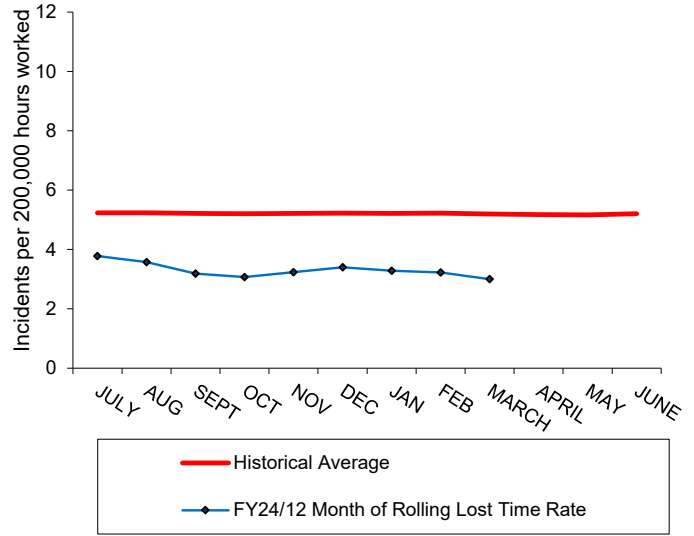
# Workplace Safety

3<sup>rd</sup> Quarter - FY24

**Recordable Injury & Illness Rates**



**Lost Time Injury & Illness Rates**

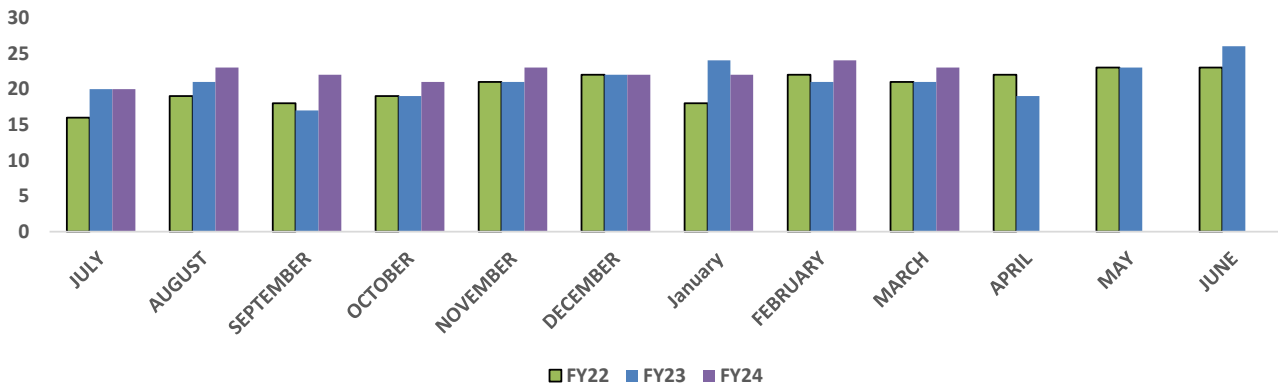


- 1 "Recordable" incidents are all work-related injuries and illnesses which result in death, loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid. Each month this rate is calculated using the previous 12 months of injury data.
- 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

	3rd Quarter Information		
	New	Closed	Open Claims
Lost Time	2	0	27
Medical Only	5	0	105
Report Only	10	0	
	QYTD		FYTD
Regular Duty Returns	3		12
Light Duty Returns	0		1
Indemnity payments as of March 2024 included in open claims listed			23

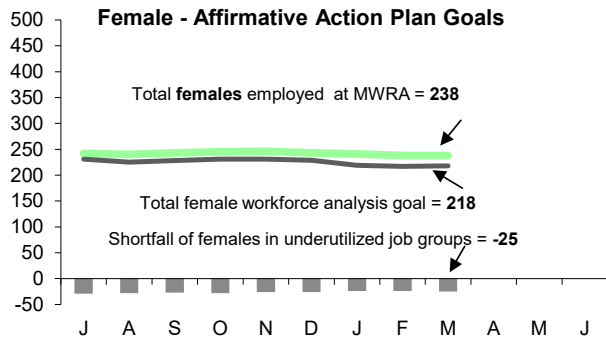
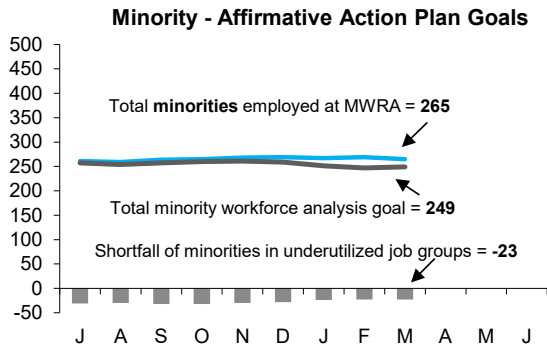
**Worker Compensation Settlements by FY**





# MWRA Job Group Representation

3<sup>rd</sup> Quarter - FY24



### Highlights:

At the end of Q3 FY24, 5 job groups or a total of 23 positions are underutilized by minorities as compared to 6 job groups for a total of 33 positions at the end of Q3 FY23; for females 7 job groups or a total of 25 positions are underutilized by females as compared to 7 job groups or a total of 29 positions at the end of Q3 FY23. During Q3, 3 minorities and 4 females were hired. During this same period

### Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 3/31/2024	Minorities as of 3/31/2024	Achievement Level	Minority Over or Underutilized	Females As of 3/31/2024	Achievement Level	Female Over or Underutilized
Administrator A	23	4	3	1	9	6	3
Administrator B	25	4	6	-2	8	10	-2
Clerical A	23	8	5	3	19	17	2
Clerical B	22	6	3	3	3	6	-3
Engineer A	83	18	21	-3	19	23	-4
Engineer B	61	21	15	6	17	12	5
Craft A	117	20	24	-4	0	4	-4
Craft B	125	25	25	0	0	5	-5
Laborer	58	15	15	0	5	2	3
Management A	88	19	20	-1	34	26	8
Management B	38	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	28	8	7	1	14	13	1
Professional B	163	51	49	2	71	56	15
Para Professional	42	14	10	4	19	12	7
Technical A	49	16	12	4	7	7	0
Technical B	5	3	1	2	1	1	0
<b>Total</b>	<b>1072</b>	<b>265</b>	<b>249</b>	<b>39/-23</b>	<b>238</b>	<b>218</b>	<b>39/-25</b>

### 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
Clerical B	Inventory Control Specialist	1	Int.	1	1	PROMO= HM
Engineer A	Proj Mgr, Marine Info Analyst	1	Ext.	0	0	NH= WF
Engineer A	Sr Program Manager	1	Int./Ext.	1	0	PROMO= WM
Engineer A	Sr Engr Reservoir Operations	1	Int.	1	0	PROMO= WM
Engineer A	Sr Engineer	1	Int./Ext.	1	0	PROMO= WM
Craft A	Asst Auto Tech in Training	1	Int./Ext.	0	0	NH = WM
Craft A	WSS Foreman	2	Int./Ext.	2	0	PROMO= 1WM, 1HM
Craft A	Sewer Maint Supervisor	1	Int./Ext.	1	0	PROMO=WM
Craft B	Plumber/Pipefitter	1	Ext.	0	0	NH= WM
Craft B	Construction Pipelayer	1	Int.	1	0	PROMO = WM
Craft B	Heavy Equipment Operator I	1	Int.	1	0	PROMO = WM
Management B	Project Manager	1	Int.	1	0	PROMO = WM
Management B	Shift Operations Manager	1	Int.	1	0	PROMO = WM
Management B	Operations Supervisor	1	Int.	1	0	PROMO = WM
Operator A	Transmission & Treatment Oper	1	Ext.	0	0	NH= WM

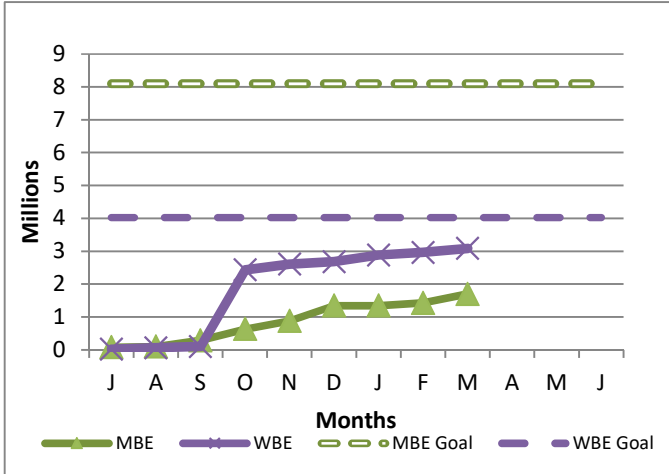
# MBE/WBE Expenditures

3<sup>rd</sup> Quarter - FY24

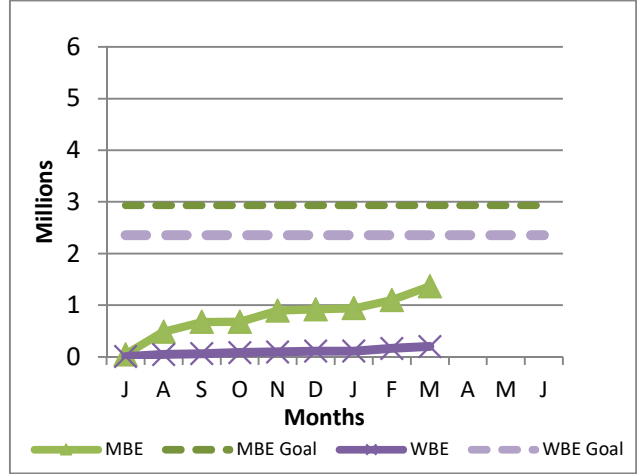
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The spending goals for FY24 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects that do not meet the established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

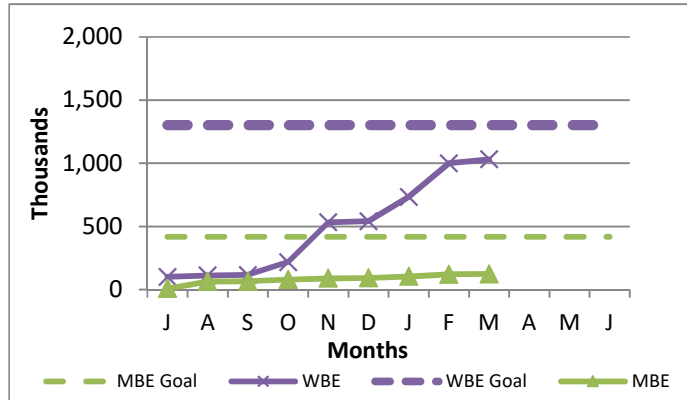
## Construction



## 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
1,701,938	22.1%	2,808,124	34.7%
1,366,350	29.7%	2,794,126	95.3%
123,536	30.3%	69,250	16.6%
<b>3,191,824</b>	<b>25.1%</b>	<b>5,671,500</b>	<b>49.6%</b>

WBE			
FY23 YTD		FY23	
Amount	Percent	Amount	Percent
3,086,463	80.5%	4,927,964	95.3%
201,066	5.4%	1,220,172	51.8%
1,031,507	75.7%	174,521	13.4%
<b>4,319,036</b>	<b>48.6%</b>	<b>6,322,657</b>	<b>82.3%</b>

Construction  
Prof Svcs  
Goods/Svcs  
**Totals**

FY23 MBE/WBE dollar totals do not include MBE and WBE payments to prime contractors and consultants.

# MWRA FY24 CEB Expenses

## 3<sup>rd</sup> Quarter – FY24

As of March 2024, total expenses are \$601.9 million, \$18.3 million or 3.0% lower than budget, and total revenue is \$662.2 million, \$7.3 million or 1.1% over the estimate, for a net variance of \$25.7 million.

### Expenses –

**Direct Expenses** are \$210.3 million, \$17.0 million or 7.5% under budget.

- **Wages & Salaries** are \$9.9 million under budget or 10.7%. Regular pay is \$10.2 million under budget, due to lower head count, and timing of backfilling positions. YTD through March, the average Full Time Equivalent (FTE) positions were 1,067 or 101 below the 1,168 FTE's budgeted.
- **Chemicals** were lower than budget by \$4.4 million or 22.2%. Lower than budgeted spending on Sodium Hypochlorite of \$2.4 million was driven by Water Operations of \$1.5 million and Wastewater Operations of \$147,000 primarily due to contract pricing, and DITP of \$685,000 due to lower pricing for the new contract, which is offset by additional usage for disinfection due to higher flows earlier in the fiscal year. Lower Ferric Chloride of \$879,000 was due to decreased usage to maintain digested sludge orthophosphate levels within the target range. Lower Carbon Dioxide of \$539,000 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 \$276,000 was due to lower price and lower flows. Lower Sodium Bisulfite of \$172,000 was primarily driven by Water Operations of \$118,000 due to lower dose and volume due to lower flows, lower price and volume at Clinton Wastewater Treatment Plant of \$48,000, and lower volume at DITP of \$15,000 due to lower quantities to dechlorinate the effluent. DITP flows are 12.1% greater than estimated and the CWTP flows are 2.7% less than estimated through March. 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.
- **Other Services** are lower than budget by \$4.4 million or 16.4% driven lower palletization spending of \$3.0 million due to lower potential landfill costs due to anticipated PFAS regulations that were budgeted in the second half of FY24, Telecommunications of \$844k due to updated and less than anticipated costs, and Grit & Screenings Removal of \$262k due to lower quantities.
- **Professional Services** expenses are \$1.5 million under budget or 19.1%, primarily due to lower than anticipated spending on Other Professional Services of \$591k, Legal Services of \$313k, Lab Testing & Analysis of \$305k, and lower Security expense of \$204k.
- **Ongoing Maintenance** expenses are \$1.7 million over budget or 6.2% primarily due to the actual timing of projects.
- **Fringe Benefits** expenses are \$1.1 million under budget or 5.9%, primarily due to under spending for Health Insurance of \$1.2 million, reflecting the lower than budget head count. As of March, FTEs were 101 below budget.
- **Utilities expenses** are over budget by \$1.6 million or 6.7%, reflecting higher electricity spending \$1.9 million over budget. This overspending primarily at DITP of \$1.1 million is driven by new pass through cost associated with the Mystic Power Station and higher demand usage charges due to the many rain events. Electricity in Field Operations was greater than budget by \$800k due to pumping for the many rain events. Diesel spending is \$309k under budget due to favorable pricing.

**Indirect Expenses** are \$55.0 million, \$1.3 million or 2.3% under budget due to lower Watershed Reimbursement of \$1.8 million.

**Capital Finance Expenses** totaled \$336.6 million, matching budget after the transfer of \$4.7 million to the Defeasance account. The transfer reflects lower variable rate debt expense due to lower than budget interest expense of \$3.3 million as a result of lower interest rates, savings from the swap terminations, and lower SRF spending of \$1.3 million due to timing.

### Revenue and Income –

**Total Revenue and Income** is \$662.2 million, \$7.3 million or 1.1% over the estimate. The favorable variance was driven by Investment Income of \$22.5 million, \$6.4 million or 39.8% over the budget due to higher than budget interest rates and higher average balances.

	Mar 2024 Year-to-Date			
	Period 9 YTD Budget	Period 9 YTD Actual	Period 9 YTD Variance	%
<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 91,928,496	\$ 82,077,715	\$ (9,850,781)	-10.7%
OVERTIME	4,323,161	4,585,095	261,934	6.1%
FRINGE BENEFITS	19,042,961	17,911,013	(1,131,948)	-5.9%
WORKERS' COMPENSATION	1,608,296	1,857,299	249,003	15.5%
CHEMICALS	20,004,687	15,563,785	(4,440,902)	-22.2%
ENERGY AND UTILITIES	23,269,619	24,839,862	1,570,243	6.7%
MAINTENANCE	28,370,393	30,117,995	1,747,602	6.2%
TRAINING AND MEETINGS	382,148	259,247	(122,901)	-32.2%
PROFESSIONAL SERVICES	7,626,260	6,170,024	(1,456,236)	-19.1%
OTHER MATERIALS	3,950,408	4,527,131	576,723	14.6%
OTHER SERVICES	26,844,244	22,430,953	(4,413,291)	-16.4%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 227,350,673</b>	<b>\$ 210,340,119</b>	<b>\$ (17,010,556)</b>	<b>-7.5%</b>
INSURANCE	\$ 3,049,035	\$ 3,309,022	\$ 259,987	8.5%
WATERSHED/PILOT	24,167,546	22,378,672	(1,788,874)	-7.4%
HEEC PAYMENT	5,866,407	6,091,071	224,664	3.8%
MITIGATION	1,334,315	1,334,315	-	0.0%
ADDITIONS TO RESERVES	5,895,776	5,895,776	-	0.0%
RETIREMENT FUND	15,972,804	15,972,804	-	0.0%
POST EMPLOYEE BENEFITS	-	-	-	---
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 56,285,883</b>	<b>\$ 54,981,659</b>	<b>\$ (1,304,224)</b>	<b>-2.3%</b>
STATE REVOLVING FUND	\$ 63,488,301	\$ 62,139,283	\$ (1,349,018)	-2.1%
SENIOR DEBT	219,794,858	219,794,858	-	0.0%
DEBT SERVICE ASSISTANCE	(1,187,297)	(1,187,297)	-	0.0%
CURRENT REVENUE/CAPITAL	-	-	-	---
SUBORDINATE MWRA DEBT	52,111,106	52,111,106	-	0.0%
LOCAL WATER PIPELINE CP	-	-	-	---
CAPITAL LEASE	2,412,795	2,412,795	-	0.0%
VARIABLE DEBT	-	(3,323,652)	(3,323,652)	---
DEFEASANCE ACCOUNT	-	4,672,671	4,672,671	---
DEBT PREPAYMENT	-	-	-	---
<b>TOTAL CAPITAL FINANCE EXPENSE</b>	<b>\$ 336,619,763</b>	<b>\$ 336,619,764</b>	<b>\$ -</b>	<b>0.0%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 620,256,319</b>	<b>\$ 601,941,542</b>	<b>\$ (18,314,780)</b>	<b>-3.0%</b>
<b>REVENUE &amp; INCOME</b>				
RATE REVENUE	\$ 625,701,000	\$ 625,701,000	\$ -	0.0%
OTHER USER CHARGES	7,784,470	7,967,352	182,882	2.3%
OTHER REVENUE	5,029,611	5,776,981	747,370	14.9%
RATE STABILIZATION	229,112	229,112	-	0.0%
INVESTMENT INCOME	16,087,129	22,492,370	6,405,241	39.8%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 654,831,322</b>	<b>\$ 662,166,816</b>	<b>\$ 7,335,493</b>	<b>1.1%</b>

# Cost of Debt

## 3<sup>rd</sup> Quarter – FY24

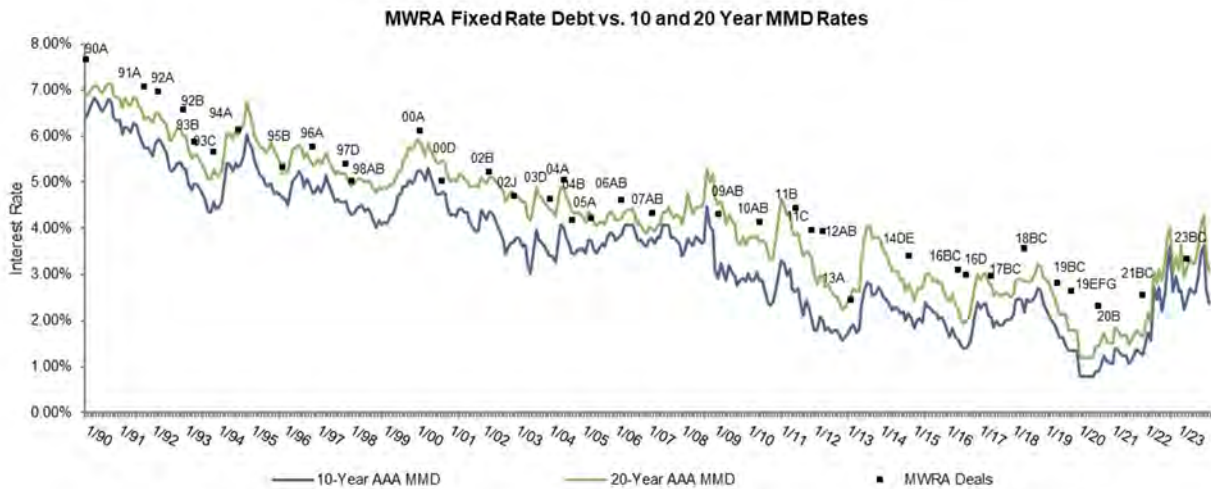
MWRA borrowing costs are a function of the fixed and variable tax exempt interest rate environment, the level of MWRA's variable interest rate exposure and the perceived creditworthiness of MWRA. Each of these factors has contributed to decreased MWRA borrowing costs since 1990.

### Average Cost of MWRA Debt FYTD

Fixed Debt (\$2.91 billion)	3.12%
Variable Debt (\$382.4 million)	4.04%
SRF Debt (\$808.83 million)	1.70%
<b>Weighted Average Debt Cost (\$4.11 billion)</b>	<b>2.93%</b>

### Most Recent Senior Fixed Debt Issue April 2023

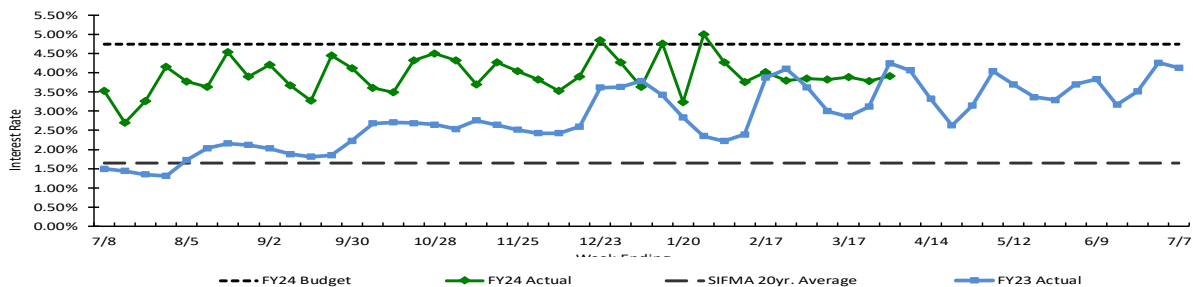
2023 Series B and C (\$234.3 million) 3.35%



Bond Deal	1997D	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B	2005A	2006AB	2007AB	2009AB	2010AB
Rate	5.40%	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%
Avg Life	21.6 yrs	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
Bond Deal	2011B	2011C	2012AB	2013A	2014D	2016BC	2016D	2017BC	2018BC	2019BC	2019EFG	2020B	2021BC	2023BC
Rate	4.45%	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%
Avg Life	18.8 yrs	16.5 yrs	17.9 yrs	9.9 yrs	15.1 yrs	17.4 yrs	18.8 yrs	11.2 yrs	11.7 yrs	11.9 yrs	9.73 yrs	15.6 yrs	12.2 yrs	10.45 yrs

### Weekly Average Variable Interest Rates vs. Budget

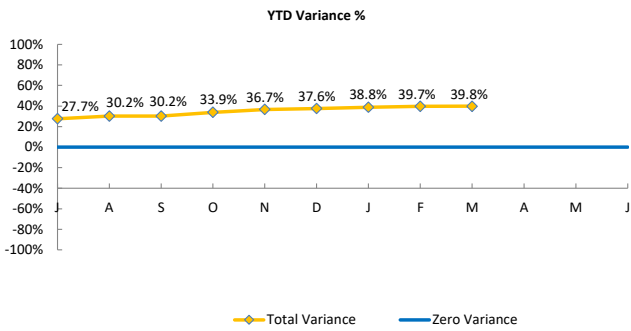
MWRA currently has eight variable rate debt issues with \$382.4 million outstanding, excluding commercial paper. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In March, the Securities Industry and Financial Markets Association rate ranged from a high of 3.64% to a low of 3.30% 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

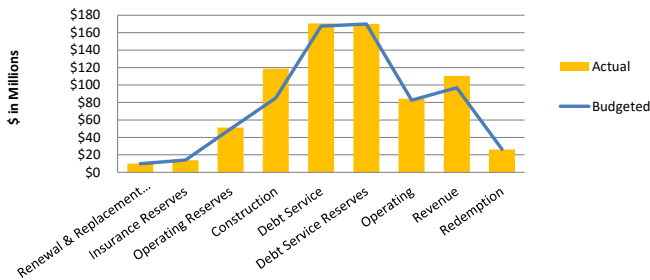
## 3<sup>rd</sup> Quarter – FY24

➤ YTD variance is 39.8%, \$6.4 million, over budget due to higher than budgeted interest rates and higher than budgeted average balance.



	YTD BUDGET VARIANCE			
	(\$000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Renewal & Replacement Reserves	\$0	\$238	\$238	141.2%
Insurance Reserves	\$0	\$165	\$165	112.6%
Operating Reserves	\$15	\$1,075	\$1,089	208.1%
Construction	\$1,036	-\$224	\$812	30.6%
Debt Service	\$96	\$1,614	\$1,710	32.8%
Debt Service Reserves	\$1	\$176	\$177	8.8%
Operating	\$50	\$759	\$810	33.1%
Revenue	\$397	\$1,007	\$1,404	50.5%
Redemption	\$0	\$0	\$0	0.1%
<b>Total Variance</b>	<b>\$1,595</b>	<b>\$4,810</b>	<b>\$6,406</b>	<b>39.8%</b>

**YTD Average Balances Budgeted vs. Actual**

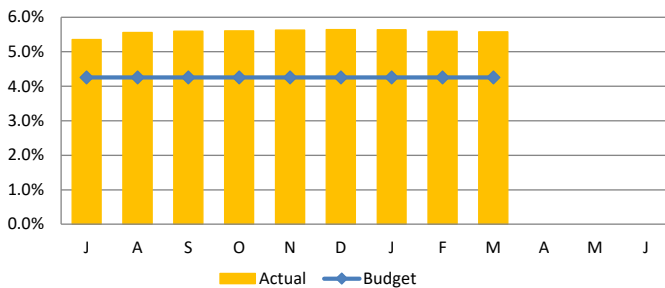


**YTD Average Interest Rate Budgeted vs. Actual**

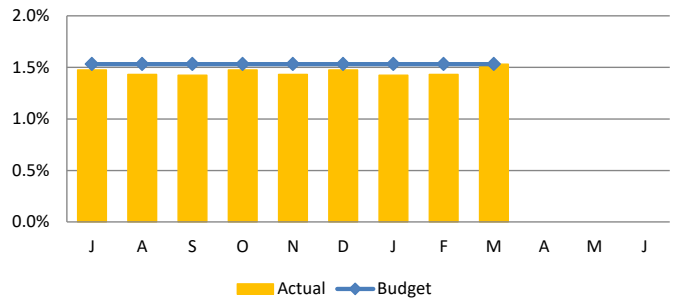


### Monthly

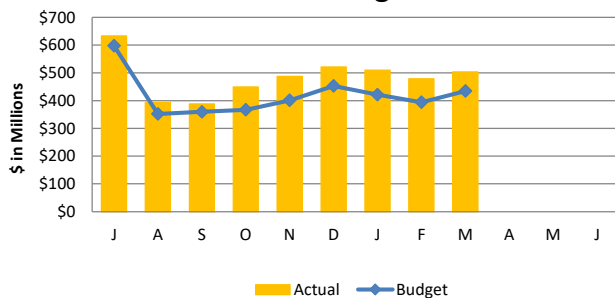
**Short -Term Interest Rates**



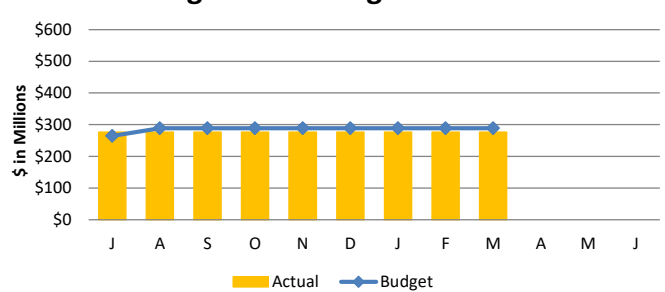
**Long -Term Interest Rates**



**Short-Term Average Balances**



**Long-Term Average Balances**



**STAFF SUMMARY**



**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** Delegated Authority Report – April 2024

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**COMMITTEE:** Administration, Finance & Audit

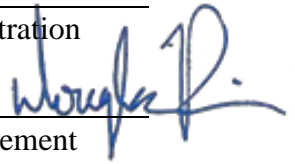
INFORMATION  
 VOTE



Michele S. Gillen  
Director, Administration

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

Douglas J. Rice  
Director of Procurement



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**RECOMMENDATION:**

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period April 1 - 30, 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 \$25,000; 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.

**Purchasing Delegated Authority Items April 1-30, 2024**

No.	Date of Award	Title and Explanation	Company	Value
P-1	04/05/24	<p><b>Sole Source Purchase Order for One Year of Maintenance and Support for the Cumulus Cloud Subscriptions.</b></p> <p>This recommendation is for the purchase of a one-maintenance and support renewal of twelve Cumulus cloud subscriptions. This software allows users to catalog their digital images, categorize them appropriately, add the necessary metadata, and offer full or partial catalogs through a web-based application where images are easily downloaded and shared throughout the MWRA. Canto Software, Inc. is the sole provider of the Cumulus Cloud subscriptions. Under the current contract with Canto Software, Inc., which expires on May 31, 2024 MWRA is paying \$23,900.</p>	Canto Software	<b>\$26,050.00</b>
P-2	04/05/24	<p><b>Sole Source Purchase Order for Eight Drums of Digester Mixer Grease</b></p> <p>A key operational component common to all of the digesters is the central draft tube mixer. The requested mixer grease contains additives for rust and oxidation protection, adhesive power and pressure-absorbing capacity of the lubricating film. Aqua Solutions, Inc. has been identified as Flowserve's exclusive regional distributor and the sole source provider of the requested digester mixer grease.</p>	Aqua Solutions, Inc	<b>\$34,000.00</b>
P-3	04/08/24	<p><b>Sole Source Purchase Order Contract with Bowdoin College for Continuous Monitoring of Chlorophyll from the Cape Ann Buoy</b></p> <p>MWRA's Ambient Monitoring Plan for the Deer Island outfall, which is included in the NPDES discharge permit by reference, requires the continuous measurement of biological parameters. The requested purchase order is for the continuation of work performed in previous fiscal years and will provide for chlorophyll measurements through the end of fiscal year 2025. The purchase order amount comprises all costs for Bowdoin College's project efforts, including maintenance, calibration, and programming of the sampling system; coordinating with the scientists responsible for deploying and recovering the buoy; replacing electronic cables; downloading, processing, and archiving the data; and interpreting and reporting the results.</p>	Bowdoin College	<b>\$35,000.00</b>
P-4	04/05/24	<p><b>Purchase Order for a One-Year Maintenance Agreement for the Multistack Chilled Water System for the Deer Island Treatment Plant</b></p> <p>The Deer Island Treatment Plant has a network of Air Handling Units (AHUs) that heat and cool personnel work areas, electric equipment rooms and other process areas. A central Energy Management System (EMS) that allows HVAC staff to schedule AHU on and off times</p>	MECS, Inc.	<b>\$39,800.00</b>



No.	Date of Award	Title and Explanation	Company	Value
		<p>and adjust temperature settings as needed controls the heating and cooling systems. Under the previous contract with MECS, Inc., MWRA paid \$27,400 for similar services. Under that contract, staff paid \$8,600 for preventative maintenance, \$165.00 per hour for up to 80 hours of services and included an allowance of \$5,600 for as needed parts. Under the new contract, the costs have increased to \$10,000 for preventive maintenance and \$185.00 per hour, and the allowance for parts has increased to \$15,000</p>		
P-5	04/08/24	<p><b>Sole Source Purchase Order Contract with the University of Maine for Cape Ann Buoy Continuous Monitoring</b>            Since 2006, MWRA has supported continuous monitoring of ocean water properties and currents at a buoy located off Cape Ann. Measurements made at the buoy are used as part of MWRA's outfall monitoring program to help detect potential outfall effects and monitor regional trends in the Gulf of Maine that may affect Massachusetts Bay. This purchase order covers multiple measurements, with the exception of chlorophyll.</p>	University of Maine	\$50,000.00
P-6	04/11/24	<p><b>One-Year Purchase Order Contract for Lawn Care Services</b>            For safe, clean and efficient management of this facility, the MWRA requires a contract for Grounds/Landscape Maintenance. These services include Spring &amp; Fall cleanups, mulching, weeding, weekly mowing, trimming, and application of weed killers and fertilizers. Under the previous contract with Kilbourn Corporation, MWRA paid \$36,800 for similar service. The number of grass mowing increased in this year's contract from 25 to 30, and is reflected in the cost increase from 2023.</p>	Kilbourn Corporation	\$43,800.00
P-7	04/11/24	<p><b>Three-Year Purchase Order Contract for Janitorial Services at the Walpole Record Center – State Contract FAC114</b>            The Walpole Records Center consists of approximately 10,000 square feet of workable space that requires a janitorial service contract for the safe, clean and efficient management of the facility. Under the existing three-year contract with Facilities Management and Maintenance, Inc., that is set to expire on September 30, 2024, MWRA is paying \$45,707.42 for similar services. Work performed under this contract requires the payment of prevailing wage rates established by the Department of Labor Standards.</p>	Star Building Service, Inc.	\$48,017.40
P-8	04/11/24	<p><b>Sole Source Purchase Order for the Repair of 35 Badger Meter RU-35-LIV Loggers</b>            The Metering and Monitoring Department maintains flow meters throughout the metropolitan water and wastewater systems. Badger Meter data recorders are installed in close proximity to the meters in order to record the data and transmit it back to a central database via Verizon wireless communication. Approximately 500 data recorders are now in</p>	Badger Meter Inc.	\$56,040.00

No.	Date of Award	Title and Explanation	Company	Value
		service throughout the MWRA. This purchase order will cover the repair of 35 data loggers so that they can be rotated back into service as needed while others are removed for repair or replacement.		
P-9	04/11/24	<p><b>Sole Source Purchase Order Contract to Upgrade the PIMS application Subcomponents to support 64-bit Architecture</b></p> <p>The PIMS application is currently due for an architectural upgrade. The current application has a 32-bit architecture and needs to be upgraded to a 64-bit architecture to mitigate compatibility and security issues associated with the 32-bit application. Staff have reviewed Inflection Point Solutions, LLC's proposed cost for these professional services and determined it is reasonable. Therefore, staff recommend the award of this sole source purchase order to Inflection Point Solutions, LLC, for a term of 18 months, in the amount of \$82,960</p>	Inflection Point Solutions, LLC	\$82,960.00
P-10	03/28/24	<p><b>Sole Source Purchase Order for Two Fairbanks Morse Rotating Pump Assemblies</b></p> <p>Staff determined that replacing the entire rotating assemblies and casing was the most cost effective solution and provided better equipment reliability over replacement of failed parts. Deer Island staff will perform all labor associated with isolation, removal and the reinstallation of the rotating assemblies. Staff reviewed the quote submitted by Hayes Pump, Inc. and determined that it is reasonable.</p>	Hayes Pump, Inc	\$92,405.00
P-11	03/26/24	<p><b>Purchase Order Contract to Provide Diver Assisted Suction Harvesting of Invasive Aquatic Plants at Sudbury Reservoir and Expanded Control Weston Reservoir</b></p> <p>While the 2023 DASH program made some progress, both the DASH Contractor (AE Commercial Diving Services, Inc.) and the Quality Control Diving inspection team (Fathom, LLC), reported sizeable expansion to new areas of the reservoir where the plant had not previously been found. Therefore, a much higher level of effort is planned for the 2024 season to address these areas, including deploying a smaller DASH barge to focus in the open channel.</p>	AE Commercial Diving Services, Inc.	\$192,400.00
P-12	04/19/24	<p><b>Sole Source Purchase Order for the Replacement of Two Wash Press Replacement Valves for the Winthrop Terminal Facility at the Deer Island Treatment Plant</b></p> <p>The wash press system is designed to reduce the water content of the screenings using a pressing action. This purchase is to replace one failed valve on the vacuum ejection system and one failed valve on screenings system. MWRA labor will remove and replace the failed valves.</p>	Huber Technology, Inc	\$38,891.84

No.	Date of Award	Title and Explanation	Company	Value
P-13	04/18/24	<p><b>Purchase Order Contract for a Three-Year Subscription Renewal of Cisco Umbrella DNS Security Essentials – State Contract ITT72 Category 2-9</b></p> <p>Cisco Umbrella is a robust DNS-layer cyber security solution that provides MWRA staff computing devices with a layer of real-time protection both on and off MWRA computer networks. The Domain Name System (DNS) is an address book, of sorts, for all the locations within the Internet. Umbrella protects MWRA staff by looking up the security disposition of a requested website and blocking any that are either malicious or disapproved by MWRA policy. Cisco Umbrella resolves more than 620 billion DNS requests each day, blocking more threats faster with fewer false positives.</p>	NWN Corporation, LLC	\$61,835.40
P-14	04/22/24	<p><b>Purchase Order Contract for Invasive Plant Control at Ware River Shaft 8 Intake Pool</b></p> <p>The presence of variable-leaf milfoil in the Shaft 8 Intake Pool on the Ware River in Barre, Massachusetts could result in spread across the entire intake pool area, adversely affecting the quality of water diverted to the Quabbin Reservoir and cause operational problems by accumulating plant matter on the intake screens at Shaft 8. Maintenance-level efforts to control this invasive plant will continue in 2024 with manual removal of exposed beds of the milfoil in the Ware River Shaft 8 Intake Pool from the area of the Intake to approximately one mile upstream, just beyond the Rt. 122 bridge. Staff was very pleased with the performance by Davey Resource Group on the 2023 contract including the fieldwork, reporting and communications.</p>	Davey Resource Group, Inc.	\$59,310.00
P-15	04/02/24	<p><b>Assignment and Assumption of a Purchase Order Contract for the Supply and Installation of Two Air Handling Units from Cooling &amp; Heating Specialists, Inc., and Issuance of a New Purchase Order Contract to American Refrigeration</b></p> <p>In May 2023, after a competitive bid process, MWRA awarded Bid WRA-5215Q for the supply and installation of two air handling units for the Union Park Pump Station/CSO Facility in an amount not to exceed \$94,322 to Cooling and Heating Specialists, Inc. On July 27, 2023 American Refrigeration Company, LLC, DBA ARC Mechanical completed a transaction and successfully acquired Cooling and Heating Specialists, Inc. Under this assignment, all terms, conditions, price, liabilities, and performance obligations of the original contract will remain full force and effect.</p>	Company, LLC, DBA ARC Mechanical	\$94,322.00

No.	Date of Award	Title and Explanation	Company	Value
P-16	03/27/24	<p><b>One-Year Purchase Order Contract for the Supply and Delivery of Sodium Hydroxide</b></p> <p>Standard grade sodium hydroxide is used for pH correction in the wet scrubber systems to control hydrogen sulfide emissions in accordance with Deer Island’s Title V Air Permit. Staff estimate that approximately 78,500 gallons (or 250 dry short tons) of standard grade 50% solution and 23,530 gallons (or 75 dry short tons) of rayon grade will be required during the term of this one-year contract. These quantities are estimates and MWRA will pay only for product delivered and received.</p>	<p><b>Borden &amp; Remington Corporation</b></p>	<p><b>\$263,837.50</b></p>
P-17	04/23/24	<p><b>Sole Source Purchase for 10 Weil Sump Pumps and Control Systems for Residuals Treatment Complex at the Deer Island Treatment Plant</b></p> <p>Deer Island Treatment Plant’s Residuals Complex has a network of floor drains, scuppers and underground piping that removes water from maintenance and cleaning activities to sump pits located throughout Digester Modules 1, 2, &amp; 3. Each sump pump is equipped with two (2) sump pumps on a lead-lag system. The control system monitors the liquid level within the sump pit and activates the lead sump pump to pump down the sump pit. This purchase is to replace the original pumps and control systems in Digester Modules 1 &amp; 2 that were installed under the Boston Harbor Project and at the end of their useful life. Staff reviewed Gustavo Preston Company, Inc.’s proposed cost and have determined that they are reasonable. Along with the pumps, this purchase includes bracket assemblies, control panels, transmitters, flange kits, and brackets as needed accessories.</p>	<p><b>Gustavo Preston Company, Inc.</b></p>	<p><b>\$80,350.00</b></p>

**Construction & Professional Services Delegated Authority Items April 1 – 30, 2024**

<b>No.</b>	<b>Date of Award</b>	<b>Title and Explanation</b>	<b>Contract</b>	<b>Amend/CO</b>	<b>Company</b>	<b>Value</b>
<b>C-1</b>	<b>04/01/24</b>	<b>Employee Assistance Program Services</b> Extend contract term by 12 months from April 1, 2024 through March 31, 2025 to ensure continuity of services while staff prepare for another full procurement of EAP services.	<b>A625</b>	<b>2</b>	<b>AllOne Health EAP, LLC</b>	<b>\$26,000.00</b>
<b>C-2</b>	<b>04/05/24</b>	<b>Fuel Storage and Day Tank System Replacement at the Gillis, Lexington Street and Hayes Pumping Stations</b> Final balancing change order to decrease the following bid items: Stoneham, Wakefield, Waltham Fire Watch Services Allowance, Waltham Police Department Allowance, Reconstruct existing walls and roof slab for two reinforced concrete vaults at the Gillis Pump Station,	<b>7554</b>	<b>5</b>	<b>NRC East Environmental Services, Inc.</b>	<b>(\$57,916.04)</b>
<b>C-3</b>	<b>04/05/24</b>	<b>Community Leak Detection Survey Task Order Services</b> Award of a contract to the highest ranked proposer for community leak detection survey task order services for a term of May 1, 2024 through April 30, 2027.	<b>W347</b>	<b>Award</b>	<b>Liston Utility Services</b>	<b>\$600,000.00</b>
<b>C-4</b>	<b>04/10/24</b>	<b>MWRA Internet Website Replacement</b> Increase level of effort to complete and build out of a more robust searching capability using MWRA specified criteria/terms; Increase in the three year maintenance and support fee for the enhancements to be used with this design.	<b>A634</b>	<b>1</b>	<b>UpanUP Studios, Inc.</b>	<b>\$40,000.00</b>
<b>C-5</b>	<b>04/24/24</b>	<b>HVAC Systems Maintenance</b> Final balancing change order to decrease the following bid items: boiling and hot water system repairs, fan drive belt and component replacements, AC, dehumidifier and heat pump system repairs, Wachusett Aqueduct Pump Station Interim Corrosion Control Facility and Water Quality Lab Systems repairs, Unspecified maintenance/repair, replacement parts with markup and factory authorized services representative.	<b>OP-436</b>	<b>2</b>	<b>N.B. Kenney Company, Inc.</b>	<b>(\$244,389.35)</b>
<b>C-6</b>	<b>04/24/24</b>	<b>John J. Carroll Water Treatment Plant Chemical Feed Systems Improvements</b> Remove and dispose additional fluoride solution; Furnish and install new fluoride system valve actuators that are capable of providing local and remote status and control; Install two-pole pressure fluoride feed line pressure switches in lieu of specified single-pole pressure switches; Furnish and install additional wire for fluoride control panels	<b>7598</b>	<b>2</b>	<b>Walsh Construction Company II, LLC</b>	<b>\$46,597.85</b>

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<b>C-7</b>	<b>04/24/24</b>	<b>Intermediate High Pipeline Improvements CP2 Materials Pre-Purchase, Watertown</b>	<b>6956A</b>	<b>1</b>	<b>Ferguson Waterworks</b>	<b>\$73,414.93</b>
<p>Increase in lump sum and unit price items; 20-inch and small diameter pipe, fittings and valves to support the installation of new MWRA pipeline and meter work in addition to moving some Watertown utilities within the Mount Auburn Street limits.</p>						

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### STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** Change Orders and Amendments Update No. 3



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**COMMITTEE:** Administration, Finance and Audit

X  INFORMATION  
  VOTE

  
Michele S. Gillen

Director, Administration

Brian L. Kubaska, P.E., Chief Engineer  
Martin E. McGowan, Director, Construction  
Preparer/Title

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

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### RECOMMENDATION:

For information only. In January 2022 and April 2023, staff provided an update to the Board on construction project change orders and professional services amendment percentages in context with other contracts. This staff summary provides a review of the various reasons for change orders and amendments, and provides an update from last year.

### DISCUSSION:

Professional engineering services design contracts and construction contracts are awarded respectively to consultants and contractors as part of the overall Capital Improvement Program to support MWRA's mission and operations.

MWRA has a long-established internal review process for handling both construction change orders and professional services contract amendments. Construction changes are governed by the policies set forth in ADM.03 – Change Order Process. This policy lays out the permitted basis for change orders, and the process for initiating, negotiating and documenting all changes in price and duration of a construction contract. The policy includes the following eight allowable reasons for a change order: (i) differing subsurface or latent site conditions; (ii) Authority-ordered suspension or delay in the work; (iii) changed site conditions; (iv) unforeseen conditions or circumstances; (v) design changes; (vi) scope reduction; (vii) overruns or underruns in quantities; and (viii) schedule changes. Professional services contract amendments are governed by ADM.25 - Contract Amendments - Professional Services, which describes the process for developing, approving and executing a contract amendment, including for time extensions, changes in services and changes in contract sums. These polices ensure that both change orders and amendments are thoroughly vetted by multiple departments and at multiple levels before either is executed or recommended to the Board or the Executive director for approval.

## Construction Contract Change Order Analysis

A review of all change orders issued in the past ten years (March 1, 2014 through March 1, 2024) was completed to determine the Chapter 30 (horizontal construction, such as pipeline projects) and Chapter 149 (vertical construction, such as new buildings or facility rehabilitations) change order percentages of the overall construction contract values.

### **Overall Change Order Percentages**

	<b>Total Contracts</b>	<b>Chapter 30</b>	<b>Chapter 149</b>
Number of Contracts	142	63	79
Contracts w/change orders	89	35	54
Original Contract Value	\$1,048,214,410	\$320,875,340	\$727,339,070
Change Order Amount	\$48,763,423	\$20,790,868	\$27,972,555
Overall Change Order %	4.7%	6.5%	3.8%
Median Change Order %	2.5%	1.6%	3.0%

Of the 142 construction contracts, 119 had a change order percentage of less than 10% and of those, 53 did not have any change orders at all. The contracts with the ten highest change order amounts account for \$30,712,112, or 63% of total change order cost. The overall change order percentage is higher for Chapter 30 projects than for Chapter 149 projects. See attached Figure 1.

The ten-year overall percentage for change orders has decreased since last reporting in April 2023 from 5.6% to 4.7%, as compared to 5.9% in 2022. The Chapter 30 overall change orders has increased from 4.7% to 6.5% and Chapter 149 overall change orders has decreased from 6.1% to 3.8%. The overall decrease in change orders, for example, can be attributed to the award of Contract 7395, Deer Island Treatment Plant Clarifier Rehabilitation Phase II, in February 2023 in the amount of \$289,359,690. This one project has significantly increased the total contract amount and there have been no change orders executed during this reporting period. If this contract were removed from the analysis, the overall change order percentage would be 6.5%, or a 0.9% increase since the April 2023 update. The median change order percentage is 2.5%, with 71 projects above this level and 71 projects below. This highlights how a handful of outlier projects can shift the overall percentage up or down.



*Ledge Removal*



*Material Supply Chain Delays*

A major challenge in MWRA construction contracts is the necessity to maintain continuity of service while building or rehabilitating water and sewer facilities. Renovations can be difficult and project requirements can be complex. Some facilities are old and code requirements may have changed over time. Change orders can arise from unforeseen conditions that cannot be identified



during design. Some examples of unforeseen conditions include additional rock or hazardous soils found during a pipeline installation, utilities interfering with installations that were not shown on record drawings, and revised work hours dictated by local communities after bid. Due to ongoing material supply chain delays, change orders have resulted in additional time being added to contracts at no additional cost.

Change orders can also be associated with designer errors and omissions identified during construction that require correction or changes by the contractor. All error and omission change orders and costs are tracked by MWRA staff. The MWRA Consultant Performance Review Committee meets after project substantial completion to review consultant errors and omissions to determine whether cost recovery should be pursued.

There are also situations where the Authority initiates change orders based on design changes, if after commencement of the contract, the method of construction or materials specified are found to be in error, unsuitable to produce the desired result, unavailable or obsolete. For example, recently, staff directed the contractor to furnish and install four multi-orifice valves at the Wachusett Lower Gate House with hardened stainless steel orifice plates in lieu of the fluoropolymer-coated valves supplied by one of the specified manufacturers as it was staff’s opinion that utilizing valves without a PFAS coating was preferable. Another example of a design change was the installation of a new interconnection on Section 23 in the City of Newton to support the construction of a future project.

Professional Engineering Services Design Contract Amendment Analysis

A review of all design contract amendments for contracts awarded with start dates in the past ten years was completed. The analysis included Chapter 30 horizontal construction, and Chapter 149 vertical facility professional services design contract amendments as percentages of the overall design contract values.<sup>1</sup>

	<b>Overall Amendment Percentages</b>		
	<b>Total Contracts</b>	<b>Chapter 30</b>	<b>Chapter 149</b>
Number of Contracts	61	32	29
Contracts w/amendments	25	14	11
Original Contract Value	\$202,668,381	\$77,907,421	\$124,760,960
Amendments Amount	\$15,187,757	\$6,281,683	\$8,906,074
Overall Amendment %	7.5%	8.1%	7.1%
Median Amendment %	0.0%	0.0%	0.0%

Of the 61 professional engineering services design contracts, 36 did not have any amendments. The contracts with the 10 highest design contract amendment amounts account for \$7,264,120 or 47.8% of the total amendment cost. See attached Figure 2.

Although the ten-year overall amendment percentage of the contract award amount has increased since last year’s report, the percentage is below the percentage reported in 2022. These reported ten-year overall amendment percentages included 9.1% in 2022, 5.5% in 2023 and the current 7.5%. For professional services contracts supporting Chapter 30 contracts, the overall amendment percentage increased from 5.7% to 8.1%, and for professional services contracts supporting Chapter 149 contracts, the overall amendment percentage also increase from 5.9% to 7.1%. The increase in Chapter 30 percentage is attributed to older projects, such as the Section 111 Southern Extra High project (\$7.7M Contract) with no amendments, no longer being within the ten-year

period coupled with significant amendments to support complex design and planning efforts including the Section 56 Replacement – Saugus River Crossing (\$1M Amendment) and CSO Planning efforts (\$0.3M). The increase in the overall amendment percentages for designs supporting Chapter 149 contracts is attributed to several significant amendments required to support complex construction efforts through larger than anticipated submittal reviews and requests for information, and alterations to the required programming services at the CWTP during the SCADA upgrade project. The median amendment percentage is 0%, with 25 projects above this percentage and 36 projects at or below this percentage. This highlights how a handful of contracts can influence the overall amendment percentage and that many contracts have few to no amendments, or a low percentage.

Design contracts generally account for between 15%-25% of the construction contract value, depending on the complexity of the project. Rehabilitation projects (Chapter 149) for operational facilities are more complex to design and to replace equipment, while keeping the facilities operational with minimal redundancy. It can be difficult at the project concept stage to determine the extent of all of the constraints necessary to keep the facility operational while under construction. During construction, issues invariably arise that require addressing. Recent construction projects have had a greater number of submittals than included in the design contract, requiring consultant review to ensure the contractor's plans or equipment to be installed meet the contract specification and request for information. This can result in higher costs for additional design services.



*Saugus River Crossing*

Professional engineering services design contract amendments are approved for various reasons. MWRA may request additional design, analysis or planning services after the contract is awarded. These include incorporation of MWRA programmatic changes, such as climate change improvements, the implementation of high performance SCADA graphics, and energy improvements. In addition, scope may be added during preliminary design as a result of condition assessment activities, permitting, code reviews, testing for hazardous materials, and changes



requested from feedback through community meetings. In some situations, given a consultant's experience on a particular effort and changing requirement which build on the work performed, the appropriate course of actions is to amend the existing contract to add additional scope. One notable example is the addition of scope to the CSO Post Construction Monitoring and Performance Assessment project. This project has a very high amendment percentage near 145%. In part,

this increase has been the result of additional obligations of the Authority in connection with the Boston Harbor case and new variance requirements, including an updated CSO control plan. Each change is reviewed and a decision is made to determine if additions to the contract, using the existing consultant, are the best or most efficient method to add work.

Design contract amendments can also arise from project delays or time extensions, which have many causes. For example, schedule delays may result from additional time required to obtain permits from regulatory agencies or communities. Construction projects can extend beyond the projected substantial completion date for a variety of reasons, including material delivery supply chain issues. During design, resolution of facility constraints in construction bid documents can extend the amount of time to construct the project beyond the assumptions made at the concept stage before the designer was hired. These factors can lead to additional costs for resident engineering and inspection, engineering services during construction and salary escalation.

Recently, the number of requests for information has increased from construction contractors. Consequently, additional engineering design time is required for consultants to review and respond to these requests.

Finally, as discussed above for change orders, unforeseen site conditions may require engineering design consultants to provide new or revised designs to the contractor to resolve unexpected field or facility conditions.

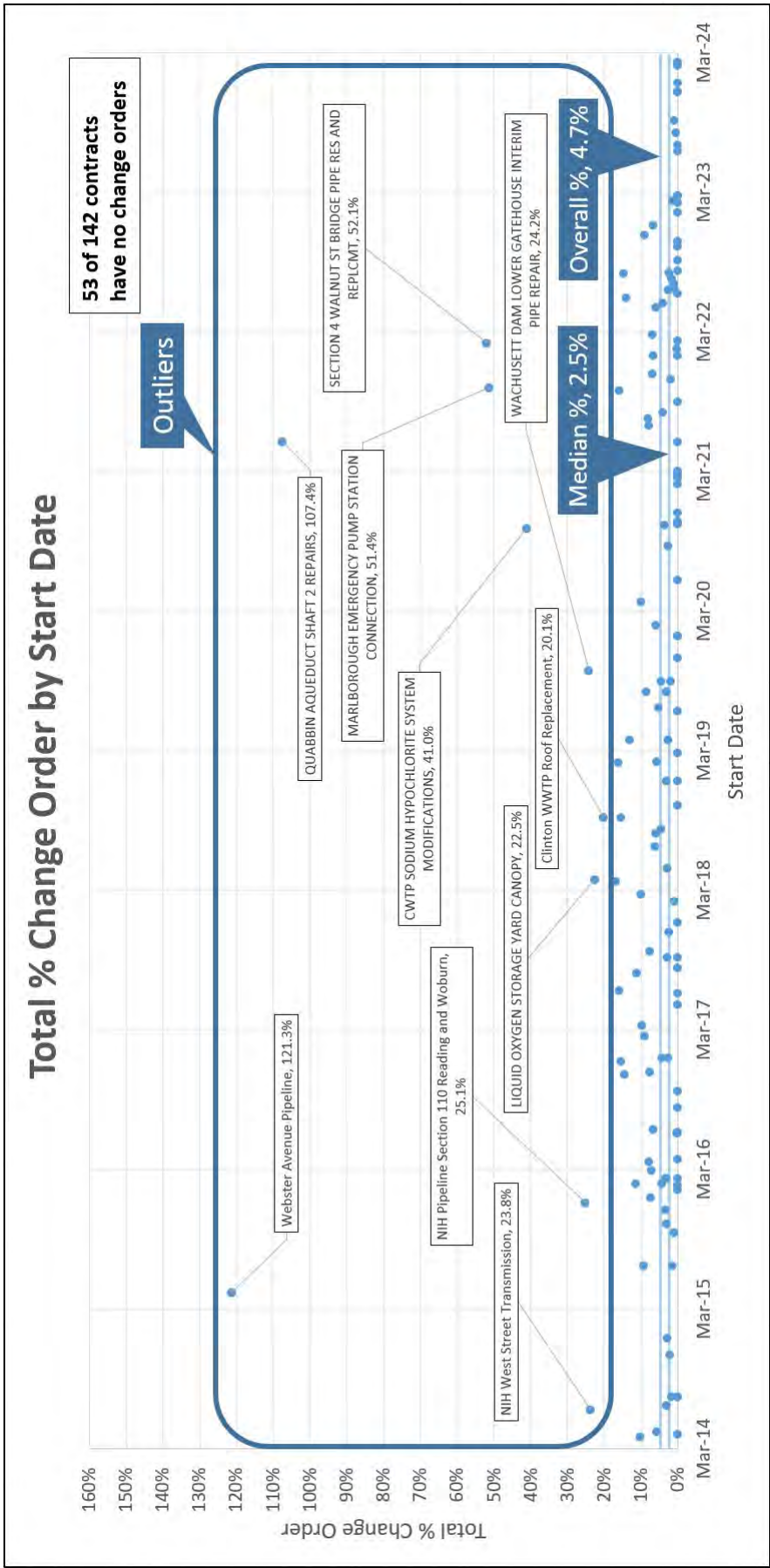
#### **BUDGET/FISCAL IMPACT:**

The cost of change orders and amendments as identified are included in the Capital Improvement Program spending plan.

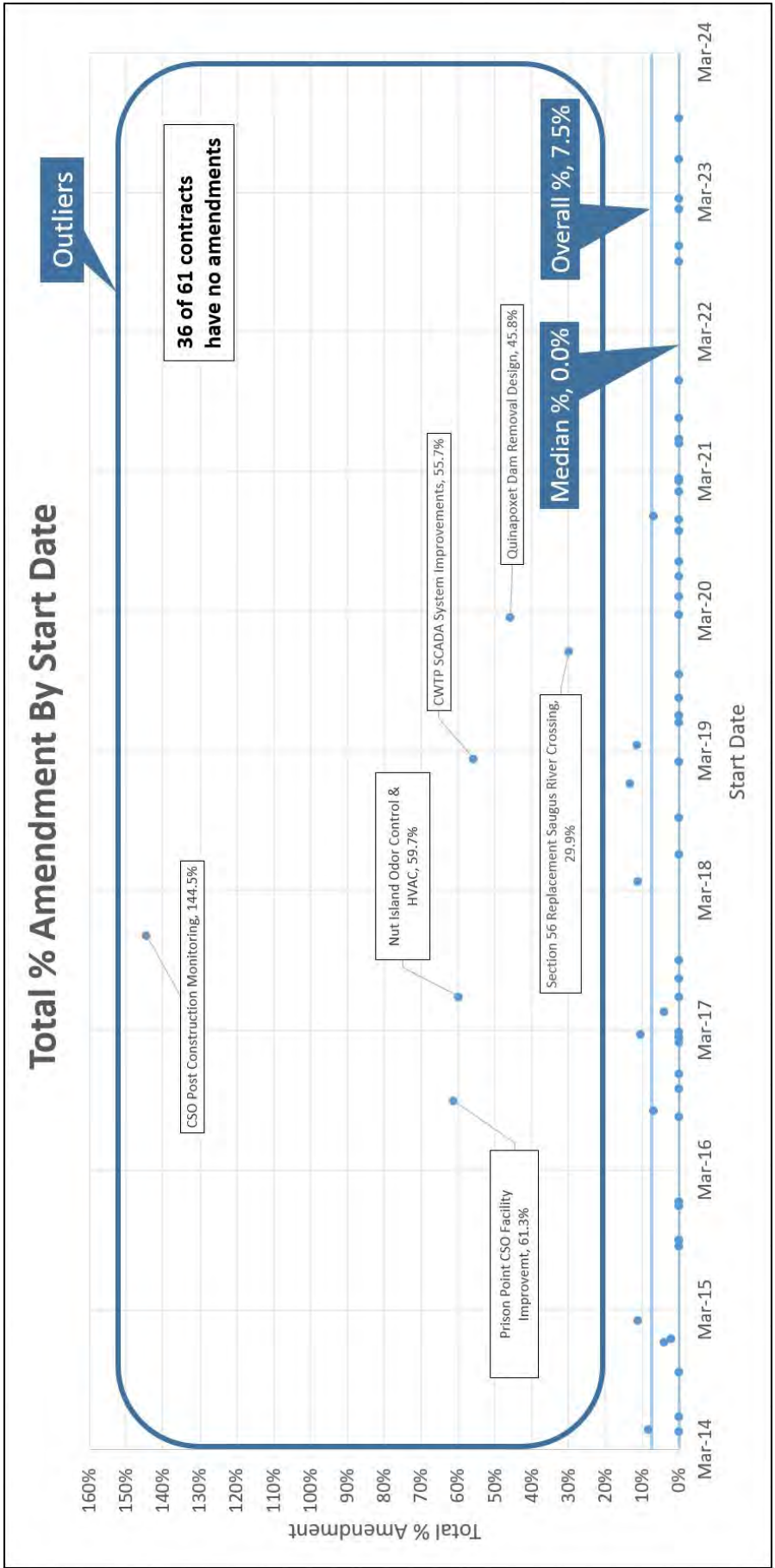
#### **ATTACHMENTS:**

Figure 1 - Total % Change Orders for Construction Contracts

Figure 2 - Total % Amendments for Professional Design Contracts



**Figure 1**



**Figure 2**

## STAFF SUMMARY




**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** FY24 Financial Update and Summary through April 2024

**COMMITTEE:** Administration, Finance & Audit

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

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 through April 2024, comparing actual spending to the budget, and includes a projection to June 30, 2024.

### DISCUSSION:

MWRA is continuing the practice of setting aside favorable Capital Finance variances into the Defeasance Account with the intention of recommending Board approval to use these funds to defease debt and provide rate relief in future years. Targeted defeasances are a critical component of the Authority's multi-year rate management strategy. As such, in April the year-to-date debt related savings of \$7.0 million was transferred to the Defeasance Account. This variance is primarily due to lower than budgeted variable interest expense, swap termination savings, and lower SRF spending due to timing.

The total Year-to-Date variance for the FY24 CEB is \$30.6 million, due to lower direct expenses of \$20.3 million, indirect expenses of \$1.6 million, and higher revenue of \$8.7 million. The year-end favorable variance is projected at \$51.7 million, of which \$16.1 million is related to debt service. Beyond debt service savings, staff project a favorable variance of approximately \$35.6 million at year-end of which \$25.8 million would be from lower direct expenses, \$1.9 million from lower indirect expenses, and \$7.9 million from greater than budgeted revenues.

As the year progresses and more actual spending information becomes available, staff will continue to refine the year-end projections and update the Board accordingly.

### FY24 Current Expense Budget

The CEB expense variances through April 2024 by major budget category were:

- Lower Direct Expenses of \$20.3 million or 8.0% under budget. Spending was lower for Wages & Salaries, Other Services, Chemicals, Professional Services, Fringe Benefits, and

Training & Meetings. Spending was higher than budget for Utilities, Maintenance, Other Materials, Overtime, and Workers' Compensation.

- Lower Indirect Expenses of \$1.6 million or 2.7% was under budget due primarily to lower Watershed Reimbursement and PILOT.
- Debt Service expenses were on budget after the transfer of \$7.0 million to the defeasance account.
- Revenue was \$8.7 million or 1.2% over budget driven by higher Investment Income of \$7.1 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	\$252.4	\$232.1	-\$20.3	-8.0%
Indirect Expenses	\$59.5	\$57.9	-\$1.6	-2.7%
Capital Financing	\$373.8	\$373.8	\$0.0	0.0%
<b>Total</b>	<b>\$685.7</b>	<b>\$663.8</b>	<b>-\$21.9</b>	<b>-3.2%</b>

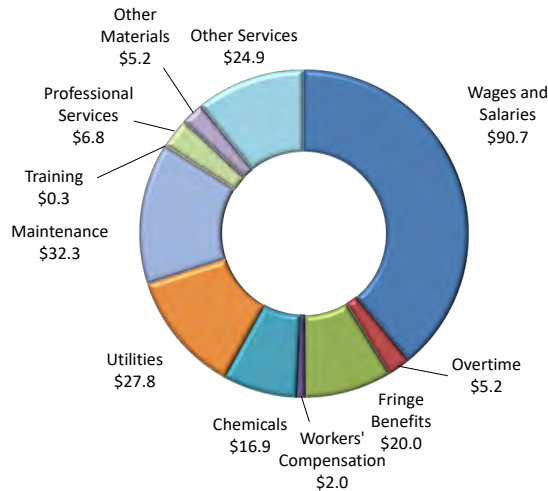
*Totals may not add due to rounding*

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

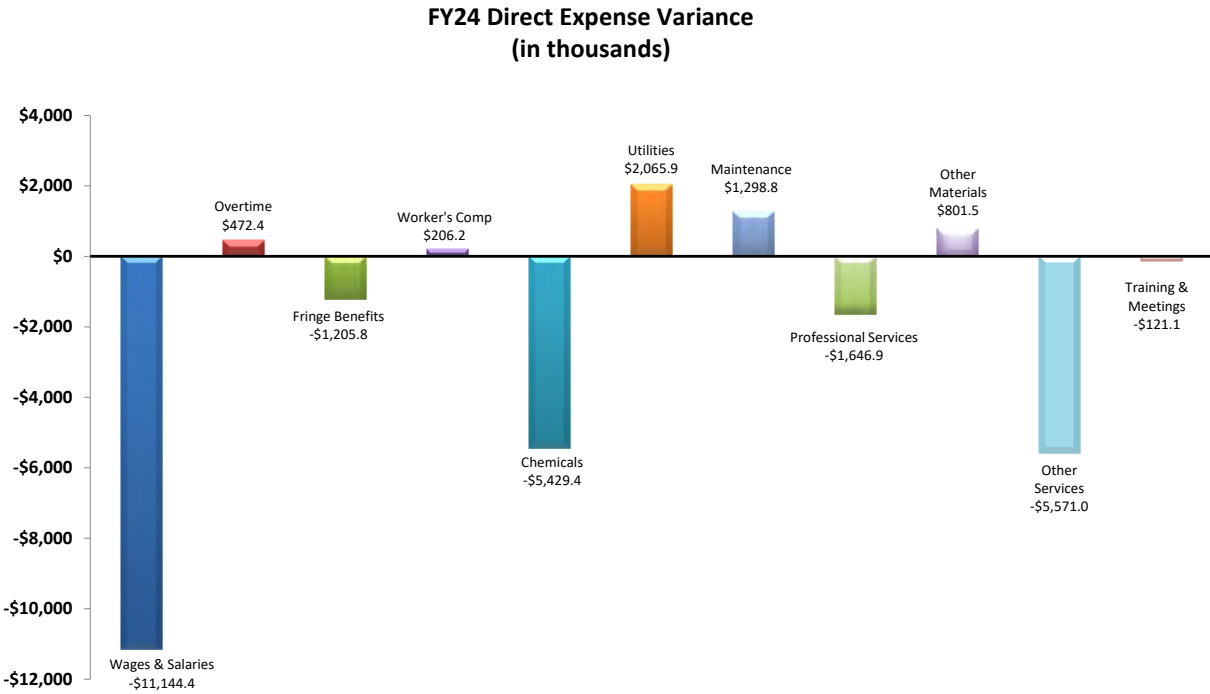
**Direct Expenses**

FY24 Direct Expenses through April totaled \$232.1 million, which was \$20.3 million or 8.0% less than budgeted.

**FY24 Direct Expenses  
(in millions)**

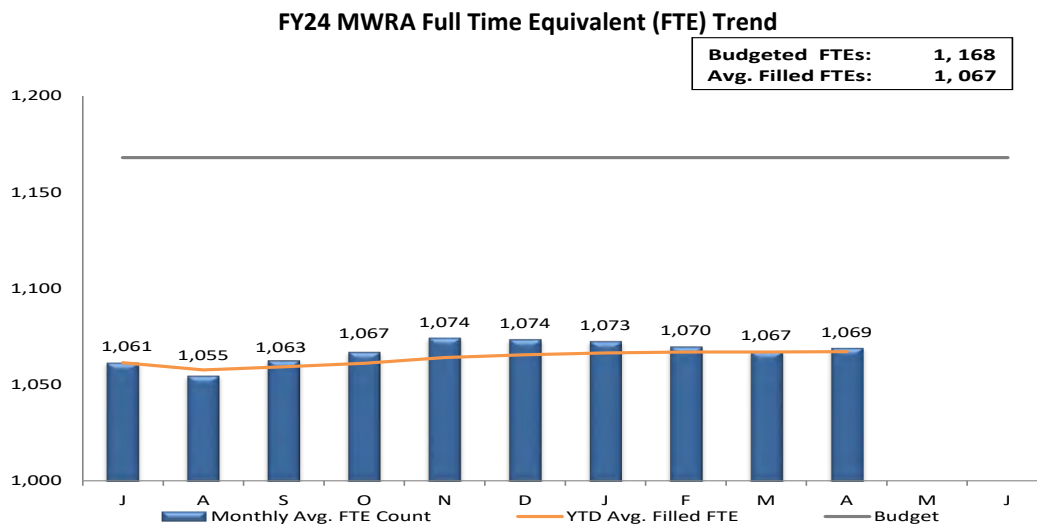


Spending was lower than budget for Wages & Salaries, Other Services, Chemicals, Professional Services, Fringe Benefits, and Training & Meetings. These were partially offset by higher than budgeted spending for Utilities, Maintenance, Other Materials, Overtime, and Workers' Compensation.



### Wages and Salaries

Wages and Salaries were under budget by \$11.1 million or 10.9%. Through April, there were 101 fewer average FTEs (1,067 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 \$5.6 million or 18.3% driven by Sludge Pelletization of \$4.0 million primarily due to no spending on landfill costs related to potential PFAS regulation changes that were budgeted in the second half of FY24 and inflation savings in the contract, lower Telecommunications costs of \$910,000 due to less than anticipated costs, and lower Grit & Screenings Removal of \$261,000 due to lower quantities.

## **Chemicals**

Chemicals were lower than budget by \$5.4 million or 24.3%. Lower than budget spending on Sodium Hypochlorite of \$2.8 million driven by Water Operations of \$1.7 million and Wastewater Operations of \$160,000 primarily due to contract pricing, and DITP of \$904,000 due to lower pricing for the new contract, which is offset by additional usage for disinfection due to higher flows earlier in the fiscal year. Lower Ferric Chloride of \$1.1 million primarily due to lower pricing. Lower Carbon Dioxide of \$585,000 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 \$314,000 was due to lower price and lower flows. Lower Sodium Bisulfite of \$214,000 was primarily driven by Water Operations of \$132,000 due to lower dose and volume due to lower flows, lower price and volume at Clinton Wastewater Treatment Plant of \$49,000, and lower volume at DITP of \$24,000 due to lower quantities to dechlorinate the effluent. DITP flows are 15.6% greater than the budget and the CWTP flows are 2.2% less than the budget through April. 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**

Utilities were greater than budget by \$2.1 million or 8.0%. Overspending in Electricity of \$2.3 million primarily at Deer Island Treatment Plant of \$1.3 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 costs. Electricity in Field Operations was greater than budget by \$911,000 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 \$331,000 primarily in field Operations is due to the less than projected cost of diesel.

## **Professional Services**

Professional Services were less than budget by \$1.6 million or 19.5% driven by lower Other Services of \$683,000 due to timing of services including the Disparity Study, Legal Services of \$363,000, and Lab & Testing Analysis of \$285,000 all due to the timing of spending through April.

## **Maintenance**

Maintenance was greater than budget by \$1.3 million or 4.2%. Maintenance Materials were higher than budget by \$1.2 million driven by Plant & Machinery Materials of \$1.2 million due to timing of spending and higher costs for glass lined pipe/fittings, seals, grinder cartridges, rotating assemblies for pump and end caps for tubes for the residual heat exchangers, and Warehouse Inventory of \$797,000 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 \$547,000 due to later than anticipated purchase of hatch covers at Loring Road, Computer Materials of \$162,000 and HVAC Materials of \$50,000, both due to less than anticipated purchases through April. Maintenance Services were higher than budget by \$62,000 driven by Plant & Machinery Services of \$1.4 million primarily due to the early purchase of parts related to the Combustion Turbine Generator (CTG) control system upgrade, Computer Software-Licenses/Upgrades of \$771,000 due primarily to timing of spending related to SQL Server Enterprise, and HVAC Services of \$148,000 due to purchase of a temporary air handler unit at Columbus Park Headworks. This higher than budgeted spending was partially offset by lower Electrical Services of \$1.1 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 \$810,000 due to less than anticipated spending through April due to a delay on the Deer Island Treatment Plant door replacement project.

### **Fringe Benefits**

Fringe Benefit spending was lower than budget by \$1.2 million or 5.7%. Spending was lower than budget for Health Insurance of \$1.2 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.

### **Other Materials**

Other Materials were greater than budget by \$801,000 or 18.1% driven by necessary Computer Hardware of \$742,000 primarily due to additional purchases for printers, audiovisual equipment and equipment kiosks. Higher Vehicle Purchases of \$656,000 is due to timing of purchases. These were partially offset by lower than budgeted spending for Other Materials of \$365,000 primarily due to timing of spending related to Phase 3 of the Office Consolidation to Chelsea and DITP through April, and Equipment/Furniture of \$362,000 due to timing of purchases including the Operations Control Center (OCC) furniture and other miscellaneous items.

### **Overtime**

Overtime expenses were greater than budget by \$472,000 or 10.0%. Greater than budget spending at Deer Island of \$577,000 and Field Operations of \$23,000 were due to shift coverage and the many rain events, partially offset by Engineering & Construction of \$41,000. Year-to-date rainfall was a major contributor for the increased overtime.

### **Worker's Compensation**

Worker's Compensation expenses were greater than budget by \$206,000 or 11.5%. The higher than budgeted expenses were due to Compensation Payments of \$188,000 and Medical Payments of \$63,000, partially offset by lower Administrative Expenses of \$45,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

## Training & Meetings

Training & Meetings was lower than budget by \$121,000 or 30.8% due to less than anticipated spending.

## Indirect Expenses

Indirect Expenses totaled \$57.9 million, which is \$1.6 million or 2.7% lower than budget. The variance is driven by lower Watershed Reimbursements and PILOT.

Based on FY24 operating activity only, the Watershed Division is \$1.6 million or 9.5% under budget. Lower spending on Wages and Salaries, Maintenance, 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 \$1.8 million or 10.4% below budget through April.

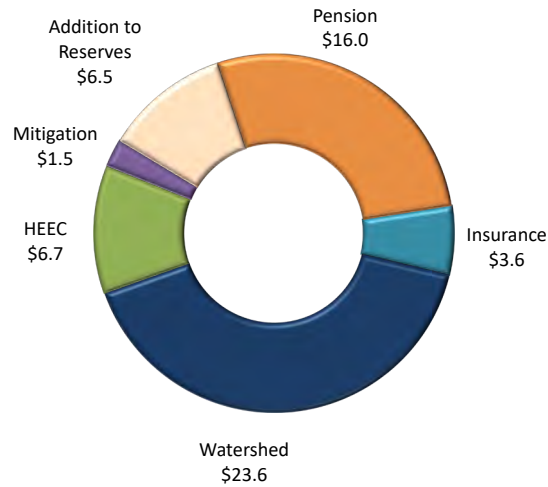
**FY24 Watershed Protection Variance  
(in millions)**

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	17.7	16.0	-1.8	-10.1%
Operating Revenues - Offset	0.9	0.7	-0.2	-21.6%
<b>FY24 Operating Totals</b>	<b>16.9</b>	<b>15.3</b>	<b>-1.6</b>	<b>-9.5%</b>
DCR Balance Forward (FY23 year-end accrual true-up)	0.0	-0.2	-0.2	
<b>FY24 Adjusted Operating Totals</b>	<b>16.9</b>	<b>15.1</b>	<b>-1.8</b>	<b>-10.4%</b>
PILOT	8.9	8.5	-0.4	-4.5%
<b>Total Watershed Reimbursement</b>	<b>25.8</b>	<b>23.6</b>	<b>-2.2</b>	<b>-8.4%</b>

*Totals may not add due to rounding*

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 April was 148 (and 145.9 on a year-to-date basis) vs. a budget assumption of 150.

**FY24 Indirect Expenses  
(in millions)**

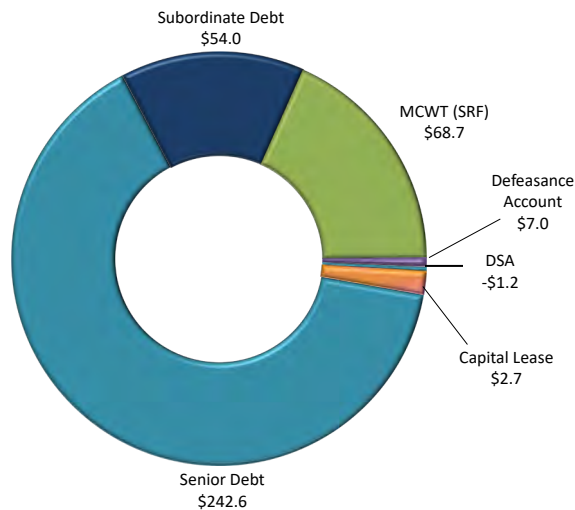


**Capital Financing**

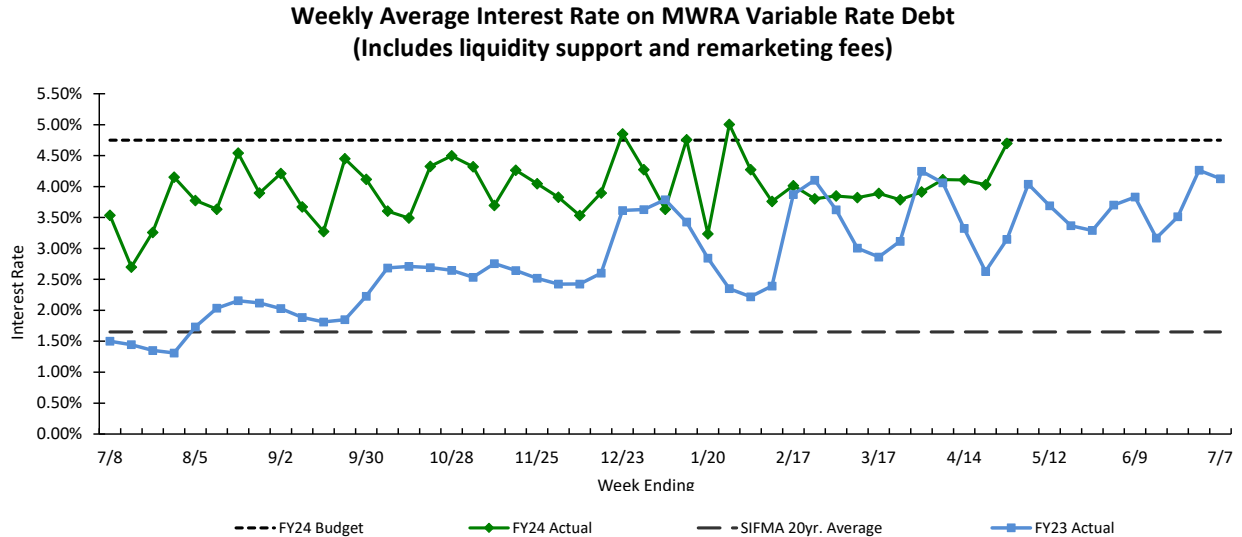
Capital Financing expenses include the principal and interest payments for fixed senior debt, the variable subordinate debt, the Massachusetts Clean Water Trust (SRF) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, Optional Debt Prepayment,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

Capital Financing expenses for FY24 through April totaled \$373.8 million, which is at budget after the transfer of \$7.0 million year-to-date to the Defeasance account. The transfer reflects lower variable rate debt expense due to lower than anticipated interest rates, swap termination savings, and lower SRF spending due to timing.

**FY24 Capital Finance  
(\$ in millions)**



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



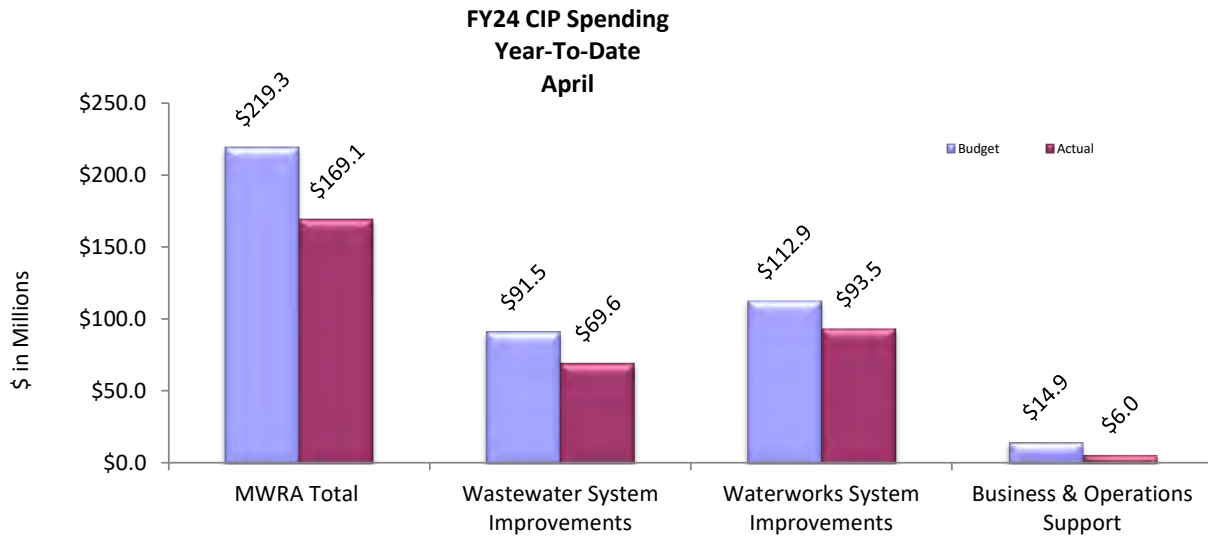
**Revenue & Income**

Revenues of \$731.6 million were \$8.7 million or 1.2% greater than the estimate driven by Investment Income which was \$7.1 million or 39.5% over the estimate due to higher than anticipated interest rates and higher average balances.

**FY24 Capital Improvement Program**

Capital expenditures in Fiscal Year 2024 through March total \$169.1 million, \$50.2 million or 22.9% under planned spending.

After accounting for programs which are not directly under MWRA’s control, most notably 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 \$107.2 million, \$62.0 million or 36.7% under planned spending.



Overall, CIP spending reflects under planned spending in Wastewater Improvements (\$21.9 million), Waterworks (\$19.4 million) and Business and Operations Support (\$8.9 million). Major variances in Wastewater are primarily due to timing of community grants and loans for the I/I Local Financial Assistance Program, timing of work and construction delays for Braintree/Weymouth Improvements – Construction, schedule changes for Siphon Structure Rehabilitation Construction, DITP Roofing Replacement and DiStor Membrane Replacements, delay in performing shaft inspections and issuing NTP for Final Design for the Ward Street & Columbus Park Headworks Upgrades - Design/CA contract, lower than projected task order work for DITP As-Needed Design contracts, and work scheduled for FY24 that was completed in FY23 for Chelsea 008 Pipe Replacement. This was partially offset by equipment received ahead of schedule for the Clarifier Rehabilitation Phase 2 – Construction contract.

Waterworks variances are primarily due to schedule changes for Section 75 Extension, timing of consultant’s work for Tunnel Redundancy Preliminary Design and Massachusetts Environmental Policy Act (MEPA) Review, less than anticipated contractor progress for Section 89/29 Replacement, timing of final work for CP-1 NEH Improvements, and timing of services for Program and Geotechnical Support. This was partially offset by timing of community loan distributions for the Water Loan Program, contractor progress for CP-2, Sections 25 & 24 – Construction contract, work scheduled in FY23 that was completed in FY24 for the CWTP Chemical Feed System Improvements – Construction and Waltham Water Pipeline contracts.

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
<b>Wastewater System Improvements</b>				
Interception & Pumping	25.2	17.5	(7.8)	-30.8%
Treatment	29.9	21.5	(8.4)	-28.0%
Residuals	0.0	0.0	0.0	0.0%
CSO	4.3	10.1	5.8	134.8%
Other	32.0	20.5	(11.6)	-36.1%
<b>Total Wastewater System Improvements</b>	<b>\$91.5</b>	<b>\$69.6</b>	<b>(\$21.9)</b>	<b>-23.9%</b>
<b>Waterworks System Improvements</b>				
Drinking Water Quality Improvements	3.2	1.7	(1.5)	-46.7%
Transmission	47.8	28.8	(19.0)	-39.7%
Distribution & Pumping	37.4	25.1	(12.3)	-33.0%
Other	24.5	38.0	13.4	54.7%
<b>Total Waterworks System Improvements</b>	<b>\$112.9</b>	<b>\$93.5</b>	<b>(\$19.4)</b>	<b>-17.2%</b>
<b>Business &amp; Operations Support</b>	<b>\$14.9</b>	<b>\$6.0</b>	<b>(\$8.9)</b>	<b>-59.8%</b>
<b>Total MWRA</b>	<b>\$219.3</b>	<b>\$169.1</b>	<b>(\$50.2)</b>	<b>-22.9%</b>

### FY24 Spending by Program:

The main reasons for the project spending variances in order of magnitude are:

#### **Waterworks Transmission:** Net under planned spending of \$19.0 million

- \$3.2 million for Tunnel Redundancy Preliminary Design & MEPA Review, \$1.0 million for WASM 3 MEPA/Design/CA/RI, and \$0.5 million for WASM/SPSM Pressure Reducing Valves (PRVs) Design/CA due to timing of consultant work.
- \$2.8 million for CP3 Shafts 7, 7B, 7C & 7D, \$2.0 million for Shaft 5 Improvements Design/CA and Construction, and \$1.9 million for Maintenance Garage/Wash Bay/Storage Building – Construction all due to schedule changes.
- \$2.4 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.
- \$1.4 million for Administration, Legal & Public Outreach due to timing of costs
- \$1.2 million for WASM 3 Rehabilitation CP-1 due to work scheduled for FY24 performed in FY23.
- \$0.7 million for Program Support Services and \$0.5 million for Geotechnical Support Services due to timing of support services.
- This under planned spending was partially offset by greater than planned spending of \$0.8 million for CWTP Chemical Feed System Improvements – Construction, and \$0.4 million for Waltham Water Pipeline due to work scheduled in FY23 that was performed in FY24.

#### **Other Waterworks:** Net greater than planned spending of \$13.4 million

- \$16.1 million for Local Financial Assistance due to timing of community loan distributions.
- This over planned spending was partially offset by less than planned spending of \$2.7 million for Steel Tank Improvements due to updated schedule.

#### **Water Distribution and Pumping:** Net under planned spending of \$12.3 million

- \$4.2 million for Section 75 Extension - Construction CP-1 due to updated schedule.

- \$2.8 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.
- \$0.7 million for CP-2 NEH Improvements due to updated schedule.

**Other Wastewater:** Net under planned spending of \$11.6 million

- \$11.6 million for Community I/I due to timing of community distributions of grants and loans.

**Business & Operations Support:** Net under planned spending of \$8.9 million

- \$2.1 million for As-Needed Design Contracts due to lower than projected task order work.
- \$1.5 million for Security Equipment & Installation due to timing of security initiatives.
- \$1.3 million for Cabling, \$0.9 million for Lawson Upgrade, and \$0.5 million for MAXIMO Interface Enhancements due to timing and scheduling of work.

**Wastewater Treatment:** Net under planned spending of \$8.4 million

- \$2.5 million for DITP Roofing Replacement, \$1.7 million for DiStor Membrane Replacements, \$0.6 million for Chemical Pipe Replacement – Construction, and \$0.5 million for Combined Heat and Power Design/ESDC/REI, \$0.4 million for Clinton Wastewater Treatment Plant, and \$0.4 million for Gas Protection System Replacement, all due to schedule changes.
- \$1.3 million for Deer Island As-Needed Design contracts due to lower than projected task order work, and \$1.0 million for South System Pump Station VFD Replacement Design due to Design Report phase being more complicated than originally anticipated.
- This under planned spending was partially offset by greater than planned spending of \$1.3 million for Clarifier Rehabilitation Phase 2 – Construction due to equipment received ahead of schedule and \$0.4 million for Miscellaneous VFD Replacements due timing of work.

**Interception & Pumping:** Net under planned spending of \$7.8 million

- \$3.2 million for Braintree/Weymouth Improvements – Construction due to timing, long lead time for equipment and delay in fabrication of structural steel.
- \$2.4 million for Ward Street & Columbus Park Headworks Upgrades - Design/CA due to delay in performing shaft inspections and issuing NTP for Final Design.
- \$2.2 million for Siphon Structure Rehabilitation and \$1.5 million for Hayes Pump Station Rehabilitation – Construction due to updated schedules.
- This under planned spending was partially offset by greater than planned spending of \$2.2 million for Prison Point Construction 2 - Discharge Piping Rehab due to the contract award being greater than amount in the CIP.

**Combined Sewer Overflow:** Net greater than planned spending of \$5.8 million

- \$7.3 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 \$0.7 million for Somerville Marginal New Pipe Connection due to schedule change, 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 \$1.5 million

- \$1.8 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.
- This greater than planned spending was partially offset by under planned spending of \$0.5 million for Carroll Water Treatment Plant Parapet Wall Repair due to contract award was later than originally anticipated.

**Construction Fund Balance**

The construction fund balance was \$109.1 million as of the end of April. Commercial Paper/Revolving Loan available capacity was \$70.0 million.

**ATTACHMENTS:**

Attachment 1 – Variance Summary April 2024

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanation

Attachment 4 – Year-End Current Expense Projections vs. Budget

ATTACHMENT 1  
FY24 Actuals vs. FY24 Budget

	Apr 2024 Year-to-Date				
	Period 10 YTD Budget	Period 10 YTD Actual	Period 10 YTD Variance	%	FY24 Approved
	<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 101,830,559	\$ 90,686,124	\$ (11,144,435)	-10.9%	\$ 127,828,242
OVERTIME	4,708,547	5,180,910	472,363	10.0%	5,727,593
FRINGE BENEFITS	21,164,634	19,958,859	(1,205,775)	-5.7%	25,823,383
WORKERS' COMPENSATION	1,786,996	1,993,218	206,222	11.5%	2,144,395
CHEMICALS	22,357,724	16,928,303	(5,429,421)	-24.3%	28,269,124
ENERGY AND UTILITIES	25,751,184	27,817,082	2,065,898	8.0%	31,064,890
MAINTENANCE	31,009,939	32,308,719	1,298,780	4.2%	38,574,256
TRAINING AND MEETINGS	393,588	272,447	(121,141)	-30.8%	498,597
PROFESSIONAL SERVICES	8,456,570	6,809,658	(1,646,912)	-19.5%	10,410,484
OTHER MATERIALS	4,431,289	5,232,760	801,471	18.1%	7,167,400
OTHER SERVICES	30,496,769	24,925,733	(5,571,036)	-18.3%	38,494,660
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 252,387,799</b>	<b>\$ 232,113,813</b>	<b>\$ (20,273,986)</b>	<b>-8.0%</b>	<b>\$ 316,003,024</b>
INSURANCE	\$ 3,361,756	\$ 3,612,143	\$ 250,387	7.4%	\$ 4,065,380
WATERSHED/PILOT	25,791,672	23,615,389	(2,176,283)	-8.4%	30,358,187
HEEC PAYMENT	6,411,155	6,703,927	292,772	4.6%	7,500,650
MITIGATION	1,471,167	1,471,167	-	0.0%	1,779,086
ADDITIONS TO RESERVES	6,500,472	6,500,472	-	0.0%	7,861,035
RETIREMENT FUND	15,972,804	15,972,804	-	0.0%	15,972,804
POST EMPLOYEE BENEFITS	-	-	-	---	2,849,365
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 59,509,026</b>	<b>\$ 57,875,902</b>	<b>\$ (1,633,124)</b>	<b>-2.7%</b>	<b>\$ 70,386,507</b>
STATE REVOLVING FUND	\$ 71,891,366	\$ 68,668,151	\$ (3,223,215)	-4.5%	\$ 90,798,263
SENIOR DEBT	242,644,331	242,644,331	-	0.0%	294,055,644
DEBT SERVICE ASSISTANCE	(1,187,297)	(1,187,297)	-	0.0%	(1,187,297)
CURRENT REVENUE/CAPITAL	-	-	-	---	19,200,000
SUBORDINATE MWRA DEBT	57,760,270	57,760,270	-	0.0%	69,931,072
LOCAL WATER PIPELINE CP	-	-	-	---	7,744,625
CAPITAL LEASE	2,660,261	2,660,261	-	0.0%	3,217,060
VARIABLE DEBT	-	(3,769,329)	(3,769,329)	---	-
DEFEASANCE ACCOUNT	-	6,992,545	6,992,545	---	-
DEBT PREPAYMENT	-	-	-	---	4,000,000
<b>TOTAL CAPITAL FINANCE EXPENSE</b>	<b>\$ 373,768,932</b>	<b>\$ 373,768,932</b>	<b>\$ -</b>	<b>0.0%</b>	<b>\$ 487,759,367</b>
<b>TOTAL EXPENSES</b>	<b>\$ 685,665,757</b>	<b>\$ 663,758,647</b>	<b>\$ (21,907,110)</b>	<b>-3.2%</b>	<b>\$ 874,148,898</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$ 689,875,461	\$ 689,875,461	\$ -	0.0%	\$ 834,268,000
OTHER USER CHARGES	9,484,555	10,320,002	835,447	8.8%	10,390,434
OTHER REVENUE	5,258,843	5,975,431	716,588	13.6%	5,838,903
RATE STABILIZATION	252,610	252,610	-	0.0%	305,482
INVESTMENT INCOME	18,047,788	25,174,591	7,126,803	39.5%	23,346,079
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 722,919,257</b>	<b>\$ 731,598,095</b>	<b>\$ 8,678,839</b>	<b>1.2%</b>	<b>\$ 874,148,898</b>

**ATTACHMENT 2**  
**Current Expense Variance Explanations**

Total MWRA	FY24 Budget YTD April	FY24 Actuals April	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
<b>Direct Expenses</b>					
Wages & Salaries	101,830,559	90,686,124	(11,144,435)	-10.9%	Wages and Salaries are under budget by \$11.1 million or 10.9%. Year to date, there have been 101 fewer average FTEs (1,067 versus 1,168 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	4,708,547	5,180,910	472,363	10.0%	Overtime expenses were greater than budget by \$472,000 or 10.0%. Greater than budget spending at Deer Island of \$577,000 and Field Operations of \$23,000 were due to shift coverage and the many rain events, partially offset by Engineering & Construction of \$41,000. Year-to-date rainfall was a major contributor for the increased overtime.
Fringe Benefits	21,164,634	19,958,859	(1,205,775)	-5.7%	Fringe Benefit spending was lower than budget by \$1.2 million or 5.7%. Spending was lower than budget for <b>Health Insurance</b> of \$1.2 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	1,786,996	1,993,218	206,222	11.5%	Worker's Compensation expenses were greater than budget by \$206,000 or 11.5%. The higher than budgeted expenses were due to <b>Compensation Payments</b> of \$188,000 and <b>Medical Payments</b> of \$63,000, partially offset by lower <b>Administrative Expenses</b> of \$45,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

**ATTACHMENT 2**  
**Current Expense Variance Explanations**

Total MWRA	FY24 Budget YTD April	FY24 Actuals April	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Chemicals	22,357,724	16,928,303	(5,429,421)	-24.3%	Chemicals were lower than budget by \$5.4 million or 24.3%. Lower than budget spending on <b>Sodium Hypochlorite</b> of \$2.8 million was driven by Water Operations of \$1.7 million and Wastewater Operations of \$160,000 primarily due to contract pricing, and DITP of \$904,000 due to lower pricing for the new contract, which is offset by additional usage for disinfection due to higher flows earlier in the fiscal year, <b>Ferric Chloride</b> of \$1.1 million primarily due to lower pricing, <b>Carbon Dioxide</b> was lower than budget by \$585,000 primarily due to lower volume, lower contract price, and lower dose required to meet target residual levels in finished water, <b>Aqua Ammonia</b> of \$314,000 due to lower price and lower flows, <b>Sodium Bisulfite</b> of \$214,000 primarily driven by Water Operations of \$132,000 due to lower dose and volume due to lower flows, lower price and volume at Clinton Wastewater Treatment Plant of \$49,000, and lower volume at DITP of \$24,000 due to lower quantities to dechlorinate the effluent, <b>Other Oxidizers</b> (Bioxide) at Framingham PS was lower than budget by \$118,000 due to lower price and less deliveries, partially offset by higher <b>Hydrogen Peroxide</b> of \$186,000 which is added to the DITP influent to reduce elevated H2S levels for odor pretreatment and corrosion control, and allows staff to perform maintenance activities more safely within the tanks. DITP flows are 15.6% greater than the budget and the CWTP flows are 2.2% less than the budget through April. 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	25,751,184	27,817,082	2,065,898	8.0%	Utilities were greater than budget by \$2.1 million or 8.0%. Overspending in <b>Electricity</b> of \$2.3 million primarily at DITP of \$1.3 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 \$911,000 primarily due to higher use as a result of the many rain events for pumping and fan use for odor control. Underspending in <b>Diesel Fuel</b> of \$331,000 primarily in field Operations due to less than projected cost of diesel.

**ATTACHMENT 2**  
**Current Expense Variance Explanations**

Total MWRA	FY24 Budget YTD April	FY24 Actuals April	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Maintenance	31,009,939	32,308,719	1,298,780	4.2%	Maintenance was greater than budget by \$1.3 million or 4.2%, largely driven by the timing of projects. Maintenance Materials were higher than budget by \$1.2 million driven by <b>Plant &amp; Machinery Materials</b> of \$1.2 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 <b>Warehouse Inventory</b> of \$797,000 due to need for spare parts as well as purchasing of materials early due to supply chain delays. These are partially offset by lower <b>Special Equipment Materials</b> of \$547,000 due to later than anticipated purchase of hatch covers at Loring Road, <b>Computer Materials</b> of \$162,000 and <b>HVAC Materials</b> of \$50,000, both due to less than anticipated purchases through April. <i>Maintenance Services</i> were higher than budget by \$62,000 driven by <b>Plant &amp; Machinery Services</b> of \$1.4 million primarily due to the earlier purchase of parts related to the Combustion Turbine Generator (CTG) control system upgrade, <b>Computer Software-Licenses/Upgrades</b> of \$771,000 due primarily to timing of licenses/upgrades including SQL Server Enterprise, and <b>HVAC Services</b> of \$148,000 due to purchase of a temporary air handler unit at Columbus Park Headworks. This higher than budgeted spending was partially offset by <b>Electrical Services</b> of \$1.1 million due to timing of work including JCWTP Ozone generator PLC replacement, JCWTP emergency generator emissions monitoring PLC repair, and JCWTP Switchgear PLC Replacement, <b>Building &amp; Grounds Services</b> of \$810,000 due to less than anticipated spending through April as well as timing of DI Door replacements.
Training & Meetings	393,588	272,447	(121,141)	-30.8%	Training & Meetings was lower than budget by \$121,000 or 30.8% primarily due to less than anticipated spending on meetings and conferences driven by MIS (\$77,000), Water Redundancy (\$25,000), Engineering & Construction (\$10,000), Deer Island Treatment Plant (\$10,000), and Procurement (\$10,000), partially offset by higher spending in Operations Administration of \$19,000 and Laboratory Services of \$13,000.
Professional Services	8,456,570	6,809,658	(1,646,912)	-19.5%	Professional Services were less than budget by \$1.6 million or 19.5% driven by lower <b>Other Services</b> of \$683,000 due to timing of services including the Disparity Study, <b>Legal Services</b> of \$363,000, and <b>Lab &amp; Testing Analysis</b> of \$285,000 all due to the timing of spending through April.
Other Materials	4,431,289	5,232,760	801,471	18.1%	Other Materials were greater than budget by \$801,000 or 18.1% driven by <b>Computer Hardware</b> of \$742,000 million primarily due additional purchases for printers, audiovisual equipment and equipment kiosks, <b>Vehicle Purchases</b> of \$656,000 due to timing of purchases, and <b>Health/Safety</b> of \$127,000 due to additional safety materials purchases than originally planned through April. These were partially offset by lower than budgeted spending for <b>Other Materials</b> of \$365,000 primarily due to timing of purchases for Phase 3 Office Consolidation to Chelsea and DITP as well as timing of purchases of miscellaneous materials, and less than anticipated gravel purchases at Clinton through April and <b>Equipment/Furniture</b> of \$362,000 due to timing of purchases including the Operations Control Center (OCC) furniture and miscellaenous purchases.

**ATTACHMENT 2**  
**Current Expense Variance Explanations**

Total MWRA	FY24 Budget YTD April	FY24 Actuals April	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Other Services	30,496,769	24,925,733	(5,571,036)	-18.3%	Other Services were lower than budget by \$5.6 million or 18.3% driven by <b>Sludge Pelletization</b> of \$4.0 million primarily due to \$3.9 million of the \$6.2 million of potential landfill costs due to anticipated PFAS regulations that were budgeted in the second half of FY24 as well as lower inflation of \$794,000 on the fixed portion of the contract, <b>Telecommunications</b> of \$910,000 due to updated and less than anticipated costs, and <b>Grit &amp; Screenings Removal</b> of \$261,000 due to lower quantities.
<b>Total Direct Expenses</b>	<b>252,387,799</b>	<b>232,113,813</b>	<b>(20,273,986)</b>	<b>-8.0%</b>	
<b>Indirect Expenses</b>					
Insurance	3,361,756	3,612,143	250,387	7.4%	Higher Payments/Claims of \$241,000 and higher Premiums of \$9,000 than budgeted
Watershed/PILOT	25,791,672	23,615,389	(2,176,283)	-8.4%	Lower Watershed Reimbursement of \$2.2 million driven by lower spending on Wages & Salaries, Equipment/Maintenance, and Fringe Benefits.
HEEC Payment	6,411,155	6,703,927	292,772	4.6%	HEEC Revenue Requirement of \$299,000.
Mitigation	1,471,167	1,471,167	-	0.0%	
Addition to Reserves	6,500,472	6,500,472	-	0.0%	
Pension Expense	15,972,804	15,972,804	-	0.0%	
Post Employee Benefits	-	-	-		
<b>Total Indirect Expenses</b>	<b>59,509,026</b>	<b>57,875,902</b>	<b>(1,633,124)</b>	<b>-2.7%</b>	
<b>Debt Service</b>					
Debt Service	374,956,229	374,956,229	-	0.0%	Capital Financing was on budget after the transfer of \$7.0 million to the Defeasance account. The transfer reflects lower variable rate debt expense due to lower than budget variable interest expense of \$3.8 million as a result of lower interest rates, savings from the swap terminations, and lower SRF spending of \$3.2 million due to timing.
Debt Service Assistance	(1,187,297)	(1,187,297)	-	0.0%	
<b>Total Debt Service Expenses</b>	<b>373,768,932</b>	<b>373,768,932</b>	<b>-</b>	<b>0.0%</b>	
<b>Total Expenses</b>					
<b>Total Expenses</b>	<b>685,665,757</b>	<b>663,758,647</b>	<b>(21,907,109)</b>	<b>-3.2%</b>	

**ATTACHMENT 2**  
**Current Expense Variance Explanations**

Total MWRA	FY24 Budget YTD April	FY24 Actuals April	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
<b>Revenue &amp; Income</b>					
Rate Revenue	689,875,461	689,875,461	-	0.0%	
Other User Charges	9,484,555	10,320,002	835,447	8.8%	Clinton charge paid earlier than anticipated and water usage by Cambridge.
Other Revenue	5,258,843	5,975,431	716,588	13.6%	Other Revenue was \$717,000 or 13.6% greater than budget due to <b>Energy Rebates</b> of \$270,000, <b>Permit Fees</b> of \$241,000, <b>Miscellaneous Revenue</b> of \$204,000, <b>Energy Revenue</b> of \$149,000, and <b>Penalties</b> of \$105,000, partially offset by <b>Profit and Loss on Disposal of Equipment</b> of \$255,000.
Rate Stabilization	252,610	252,610	-	0.0%	
Investment Income	18,047,788	25,174,591	7,126,803	39.5%	Investment Income is over budget due to higher than budgeted interest rates and higher average balances.
<b>Total Revenue</b>	<b>722,919,257</b>	<b>731,598,095</b>	<b>8,678,838</b>	<b>1.2%</b>	
<b>Net Revenue in Excess of Expenses</b>	<b>37,253,500</b>	<b>67,839,448</b>	<b>30,585,947</b>		

**ATTACHMENT 3**  
**FY24 CIP Variance Report (\$000s)**

	FY24 Budget April	FY24 Actuals April	Actuals vs. Budget		Explanations
			\$	%	
<b>Wastewater</b>					
Interception & Pumping (I&P)	\$25,244	\$17,469	(\$7,775)	-30.8%	<u>Less than planned spending</u> Braintree/Weymouth Improvements - Construction: \$3.2M (timing of work, long lead time for equipment and delay in fabrication of structural steel) Ward Street & Columbus Park Headworks Upgrades - Design/CA: \$2.4M (delay in performing shaft inspections and issuing NTP for Final Design) Siphon Structure Rehabilitation Construction: \$2.2M, and Hayes Pump Station Rehabilitation - Construction: \$1.5M (updated schedules) <u>Greater than planned spending</u> Prison Point Construction 2 - Discharge Piping Rehab: \$2.2M (award greater than budget) Nut Island Odor Control & HVAC Improvements Construction Phase 2: \$765K (work scheduled for FY23 performed in FY24)
Treatment	\$29,894	\$21,524	(\$8,370)	-28.0%	<u>Less than planned spending</u> DITP Roofing Replacement: \$2.5M, DiStor Membrane Replacements: \$1.7M, Chemical Pipe Replacement - Construction: \$625k, Combined Heat and Power Design/ESDC/REI: \$476k, Clinton Treatment Plant Digester Covers: \$400k, and Gas Protection System Replacement: \$375k (updated schedules) DITP As-Needed Design: \$1.3M (lower than projected task order work) SSPS VFD Replacement - Design/ESDC/REI: \$998k (Design Report phase more complicated than originally anticipated) Clinton Clariflocculator Valve Replacement: \$367k (work will be incorporated into Clinton Rehabilitation contract) <u>Greater than planned spending</u> Clarifier Rehabilitation Phase 2 - Construction: \$1.3M (equipment received ahead of schedule) Miscellaneous VFD Replacements: \$352k (FY23 planned work completed in FY24) Radio Repeater System Upgrade 2: \$257k (contractor progress)
Residuals	\$0	\$0	\$0	0.0%	



**ATTACHMENT 3**  
**FY24 CIP Variance Report (\$000s)**

	FY24 Budget April	FY24 Actuals April	Actuals vs. Budget		Explanations
			\$	%	
CSO	\$4,319	\$10,141	\$5,822	134.8%	<u>Greater than planned spending</u> Fort Point Channel & Mystic: \$7.3M (timing of Community Managed CSO payments) <u>Less than planned spending</u> Somerville Marginal New Pipe Connection: \$667k (updated schedule) Chelsea 008 Pipe Replacement: \$427k (work scheduled for FY24 performed in FY23)
Other Wastewater	\$32,020	\$20,468	(\$11,552)	-36.1%	<u>Less than planned spending</u> I/I Local Financial Assistance: \$11.6M (timing of community distributions of grants and loans)
<b>Total Wastewater</b>	<b>\$91,478</b>	<b>\$69,603</b>	<b>(\$21,875)</b>	<b>-23.9%</b>	
<b>Waterworks</b>					
Drinking Water Quality Improvements	\$3,199	\$1,704	(\$1,495)	-46.7%	<u>Less than planned spending</u> CWTP Technical Assistance: \$1.8M (lower than projected task order work) CWTP Parapet Wall Repairs: \$450k (award later than originally anticipated) <u>Greater than planned spending</u> CWTP Chemical Feed System Improvements - Construction: \$839k (work scheduled for FY23 performed in FY24)

**ATTACHMENT 3**  
**FY24 CIP Variance Report (\$000s)**

	FY24 Budget April	FY24 Actuals April	Actuals vs. Budget		Explanations
			\$	%	
Transmission	\$47,759	\$28,802	(\$18,957)	-39.7%	<u>Less than planned spending</u> Tunnel Redundancy Preliminary Design & MEPA Review: \$3.2M (timing of consultant work) CP3 Shafts 7, 7B, 7C & 7D: \$2.8M, Shaft 5 Improvements Design/CA and Construction: \$2.0M, and Maintenance Garage/Wash Bay/Storage Building - Construction: \$1.9M (schedule changes) Wachusett Lower Gatehouse Pipe & Boiler Replacement - Construction: \$2.4M (longer lead time on some larger items and a change in design for the multi-orifice valve) Administration, Legal & Public Outreach: \$1.4M (timing of administration, legal and public acquisition costs) WASM 3 Rehabilitation CP-1: \$1.2M (work scheduled for FY24 performed in FY23) WASM 3 - MEPA/Design/CA/RI: \$1.0M (timing of consultant work) Program Support Services: \$747k (timing of services) Watershed Land Acquisition: \$695k (timing of land purchases) WASM/SPSM PRV - Design/CA: \$533k (less than anticipated consultant services) Geotechnical Support Services: \$480k (timing of support services) <u>Greater than planned spending</u> Waltham Water Pipeline - Construction: \$398k (work scheduled in FY23 performed in FY24)
Distribution & Pumping	\$37,409	\$25,069	(\$12,340)	-33.0%	<u>Less than planned spending</u> Section 75 Extension - Construction CP-1: \$4.2M, and NEH Improvements CP-2 : \$667k (updated schedules) Section 89/29 Replacement - Construction: \$2.8M (less than anticipated contractor progress) NEH Improvements CP-1: \$2.6M (timing of work) Northern Extra High Service Legal: \$500k (less than anticipated legal expenses) <u>Greater than planned spending</u> CP-2, Sections 25 & 24 - Construction: \$1.7M (contractor progress)

**ATTACHMENT 3  
FY24 CIP Variance Report (\$000s)**

	FY24 Budget April	FY24 Actuals April	Actuals vs. Budget		Explanations
			\$	%	
Other Waterworks	\$24,528	\$37,956	\$13,427	54.7%	<u>Greater than planned spending</u> Local Water Pipeline Financial Assistance Program: \$16.1M (timing of community loan distributions) Electrical Distribution Upgrades at Southborough: \$756k (work planned for FY23 performed in FY24) <u>Less than planned spending</u> Steel Tank Improvements: \$2.7M (updated Construction schedule)
<b>Total Waterworks</b>	<b>\$112,895</b>	<b>\$93,530</b>	<b>(\$19,365)</b>	<b>-17.2%</b>	
<b>Business &amp; Operations Support</b>					
<b>Total Business &amp; Operations Support</b>	<b>\$14,947</b>	<b>\$6,013</b>	<b>(\$8,934)</b>	<b>-59.8%</b>	<u>Less than planned spending</u> As-Needed Design Contracts: \$2.1M (lower than projected task order work) Security Equipment & Installation: \$1.5M (timing of security initiatives) Cabling: \$1.3M, Lawson Upgrade: \$914k, and MAXIMO Interface Enhancements: \$515k (timing and scheduling of work) FY24-28 Vehicle Purchases: \$1.2M (timing of purchases) <u>Greater than planned spending</u> Office Space Modifications: \$824k (FY23 planned work completed in FY24)
<b>Total MWRA</b>	<b>\$219,320</b>	<b>\$169,146</b>	<b>(\$50,174)</b>	<b>-22.9%</b>	

**Attachment 4  
FY24 Budget vs. FY24 Projection**

TOTAL MWRA	FY24 Budget	FY24 Projection	Change FY24 Budget vs FY24 Projection	
			\$	%
<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 127,828,242	\$ 115,045,418	\$ (12,782,824)	-10.0%
OVERTIME	5,727,593	6,243,283	515,690	9.0%
FRINGE BENEFITS	25,823,383	24,532,214	(1,291,169)	-5.0%
WORKERS' COMPENSATION	2,144,395	2,412,444	268,049	12.5%
CHEMICALS	28,269,124	20,340,501	(7,928,623)	-28.0%
ENERGY AND UTILITIES	31,064,893	31,733,215	668,322	2.2%
MAINTENANCE	38,574,255	38,750,865	176,610	0.5%
TRAINING AND MEETINGS	498,597	373,948	(124,649)	-25.0%
PROFESSIONAL SERVICES	10,410,484	9,410,484	(1,000,000)	-9.6%
OTHER MATERIALS	7,167,398	7,667,398	500,000	7.0%
OTHER SERVICES	38,494,660	33,736,660	(4,758,000)	-12.4%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 316,003,024</b>	<b>\$ 290,246,430</b>	<b>\$ (25,756,594)</b>	<b>-8.2%</b>
INSURANCE	\$ 4,065,380	\$ 4,295,270	\$ 229,890	5.7%
WATERSHED/PILOT	30,358,187	28,073,556	(2,284,631)	-7.5%
HEEC PAYMENT	7,500,650	7,643,162	142,512	1.9%
MITIGATION	1,779,086	1,779,086	-	0.0%
ADDITIONS TO RESERVES	7,861,035	7,861,035	-	0.0%
RETIREMENT FUND	15,972,805	15,972,805	-	0.0%
POSTEMPLOYMENT BENEFITS	2,849,365	2,849,365	-	0.0%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 70,386,507</b>	<b>\$ 68,474,278</b>	<b>\$ (1,912,229)</b>	<b>-2.7%</b>
STATE REVOLVING FUND	\$ 90,798,263	\$ 83,358,104	\$ (7,440,159)	-8.2%
SENIOR DEBT	294,055,644	290,300,910	(3,754,734)	-1.3%
SUBORDINATE DEBT	69,931,072	65,420,788	(4,510,284)	-6.4%
LOCAL WATER PIPELINE CP	7,744,625	7,370,009	(374,616)	-4.8%
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%
<b>TOTAL DEBT SERVICE</b>	<b>\$ 487,759,367</b>	<b>\$ 471,679,574</b>	<b>\$ (16,079,793)</b>	<b>-3.3%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 874,148,898</b>	<b>\$ 830,400,282</b>	<b>\$ (43,748,616)</b>	<b>-5.0%</b>
<b>REVENUE &amp; INCOME</b>				
RATE REVENUE	\$ 834,268,000	\$ 834,268,000	\$ -	0.00%
OTHER USER CHARGES	10,390,434	10,349,723	(40,711)	-0.4%
OTHER REVENUE	5,838,903	5,645,942	(192,961)	-3.3%
RATE STABILIZATION	305,482	305,482	-	0.0%
INVESTMENT INCOME	23,346,079	31,520,079	8,174,000	35.0%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 874,148,898</b>	<b>\$ 882,089,226</b>	<b>\$ 7,940,328</b>	<b>0.9%</b>

**VARIANCE:** **\$ (51,688,944)** **\$ (51,688,943)**

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** MWRA FY25 Insurance Program Renewal



**COMMITTEE:** Administration, Finance & Audit

       INFORMATION

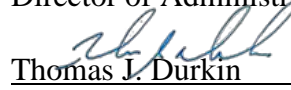
  X   VOTE



Michele S. Gillen

Director of Administration

Paul F. Whelan, Risk Manager  
Douglas J. Rice, Director of Procurement  
Preparer/Title



Thomas J. Durkin

Director of Finance

*MWRA’s Insurance Program is renewed on an annual basis at the beginning of each fiscal year. Annual renewals are required due to the insurance industry’s reluctance to provide firm pricing for more than a one-year period. For FY25, staff conducted a full competitive public bid process for all lines of coverage in an effort to obtain the most competitive pricing. All policies expire on June 30, 2024, except the Treasurer’s Bond, which renews in January. Premium increases were received for most coverages reflecting current insurance marketplace conditions; however, the availability of Membership Credits on our property policy have offset \$545,000 of premium increases resulting in a net program increase of 9.6%. The FY25 program renewal totals \$4,099,073.*

**RECOMMENDATION:**

To approve awards to the lowest eligible and responsive proposers for insurance policies, bonds, and related broker services for MWRA’s FY25 Insurance Program, and to authorize the Executive Director, on behalf of the Authority, to execute contracts for broker services, for the terms, premiums, and fees described below, and incorporated by reference for the record, resulting in a total program amount not to exceed \$4,099,073 for FY25:

- (1) Workers’ Compensation Excess Policy with Arch Insurance company (Arch), submitted by broker King Insurance Partners (King Partners), for the period beginning July 1, 2024 through June 30, 2025, with a \$25 million limit and a \$1 million self-insured retention, for a premium of \$222,871;
- (2) Property Policy (including Boiler & Machinery coverage) with Factory Mutual Insurance Co. (FM Global), for the period beginning July 1, 2024, through June 30, 2025, with various limits of coverage and a \$2.5 million self-insured retention, resulting in a net premium of \$1,935,695;

- (3) General Liability Policy (including Automobile Liability, Marine Liability, Wharfingers, Limited Pollution, and Employment Practice Liability) with Lexington Insurance Company (Lexington) and Berkshire Hathaway Specialty Insurance (Berkshire), submitted by broker King Partners, for the period beginning July 1, 2024 through June 30, 2025, with a combined \$10 million limit (\$5 million Lexington plus \$5 million Berkshire) and a \$2.5 million self-insured retention, for a combined premium of \$509,116;
- (4) Excess General Liability Policies with insurance companies to be determined and submitted by broker King Partners, for the period beginning July 1, 2024 through June 30, 2025, providing a combined total of \$90 million of excess liability coverage for a total combined premium not to exceed \$1,229,532;
- (5) Public Official's Liability Policy with National Union Fire Insurance Company of Pittsburgh, PA (National), submitted by broker Arthur J. Gallagher Risk Management Services Inc. (AJG), for the period beginning July 1, 2024 through June 30, 2025, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$113,576, including broker commission;
- (6) Fiduciary Liability Policy with Chubb/Federal Insurance Co. (Chubb Federal), submitted by broker AJG, for the period beginning July 1, 2024 through June 30, 2025, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$9,994, including broker commission;
- (7) Public Official's/Crime Bond with Great American Insurance Co. (Great American), submitted by broker King Partners, for the period beginning July 1, 2024 through June 30, 2025, with a \$1 million limit and a \$25,000 deductible for a premium of \$5,789;
- (8) Treasurer's Bond with a \$1 million limit with an insurance company to be determined in an amount not to exceed \$2,500, with a one-year term beginning January 2025; and
- (9) Broker contracts with King Partners, for an amount of \$70,000, and AJG for the commissions included within the policy premiums, from notice of award through June 30, 2025.

## **DISCUSSION:**

MWRA's insurance program consists of various types of coverage including: Excess Workers' Compensation, Property (including Boiler and Machinery coverage), General Liability, Excess Liability, Public Official's Liability, Fiduciary Liability, Public Official's/Crime Bond, and Treasurer's Bond. The Excess Workers' Compensation policy is required by state statute and is a prerequisite for MWRA to operate as a self-insured entity for Workers' Compensation benefits. Insurance coverage required by MWRA's Enabling Act includes Public Official's/Crime Bond and Treasurer's Bond, which serve to protect the Authority against losses due to fraudulent or dishonest acts, failure to perform duties faithfully or improper accounting of monies or property

by employees. Other policies are maintained in order to protect MWRA assets and limit MWRA's financial exposure to loss. In addition, policies are maintained to comply with covenants contained within MWRA's General Revenue Bond Resolution. All policies under the current program (except Treasurer's Bond) expire on June 30, 2024, and require renewal.

MWRA's insurance program is renewed on an annual basis due to the reluctance on the part of insurance companies to provide firm pricing for more than a one-year term. For FY25, staff conducted a full competitive public bid process for all lines of coverage in an effort to obtain the most competitive pricing and coverage available. Staff anticipated increases in rates and premiums on all lines of coverage for FY25 based on current insurance market conditions and inflationary pressures.

Insurance companies across most lines of coverage have seen increased losses and risk exposures leading to an increased level of uncertainty and risk in the marketplace. "Hard market" conditions continue to persist resulting in limited capacity, restrictive coverage and premium increases. However, MWRA's property insurance carrier, FM Global, a mutual company, has experienced favorable loss and financial conditions in the past few years and has authorized two Membership Credits<sup>1</sup>, providing a significant premium credit for the FY25 renewal cycle. For MWRA, based on our years of membership and favorable loss experience, the premium credit applied to the FY25 property renewal equates to \$545,000. This credit serves to offset other premium increases and reduce the overall insurance program cost.

This year, staff again made an effort to attract multi-year policies, but none were received.<sup>2</sup> As mentioned above, the insurance marketplace continues to be considered a "Hard Market" with limited offerings, coverage restrictions and increasing premiums. MWRA's Insurance Consultant, KFDA Advisors (KFDA), reports seeing similar trends across its client base. Broker fees remain stable with flat or small increases. Overall, the net cost of the insurance program recommended for FY25, including all policies and broker fees, is \$4,099,073, an increase of 9.6% above the expiring FY24 program.

## **PROCUREMENT PROCESS:**

On February 5, 2024, MWRA issued a Request for Letters of Interest that was publically advertised in the Goods and Services Bulletin, the Boston Herald, Banner Publications and El Mundo, and on the MWRA Supplier Portal. In addition, staff sent direct solicitations to 18 insurance brokers and direct writers<sup>3</sup> that have expressed an interest in or participated in previous MWRA insurance procurements. In response to the solicitation, six brokers and one direct writer submitted Letters of Interest listing their requested insurance markets. Staff, with the assistance of insurance consultant KFDA, reviewed all requests and assigned more than 50 insurance companies to the

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<sup>1</sup> A Membership Credit is a form of dividend issued by a mutual insurance company to policyholders and is similar to a public stock dividend. The credit is applied to the following year's premium cost.

<sup>2</sup> MWRA did receive a Two Year Program Commitment offered by Arch through King Partners for their Workers Compensation Excess policy, however; it did not qualify as a multi-year alternative because the terms of the commitment were overly subjective in favor of Arch and therefore this feature was not considered in the final award decision for FY25.

<sup>3</sup> A direct writer is an insurance company that deals directly with customers and does not require a broker.

brokers. A Request for Qualifications/Proposals, including technical specifications and rating data, was made available to all participants along with their market assignments. Additional information and responses to questions were provided to proposers during the bid stage. On April 19, 2024, MWRA received five proposals, including one that was deemed non-responsive to the requirements of the RFQ/P<sup>4</sup>.

Proposals varied with respect to the lines of coverage offered. As shown on the attached table, while multiple proposals/options were received for Excess Workers' Compensation, Public Officials and Fiduciary, the other policies had only one proposal from incumbent carriers. This response is similar to previous years and not surprising due to the competitive pricing of MWRA's current program and market fatigue associated with annual solicitations. The proposals were reviewed by KFDA for adherence to MWRA's technical specifications. The approvals requested herein represent those recommended by KFDA for each line of coverage. The attached table provides a summary of all lines of coverage with the limits, deductibles, and premiums comparing the expiring FY24 premiums with the proposed FY25 premiums. A brief summary of each line of coverage is provided below.

**Workers' Compensation Excess** – Two proposals were received for this coverage. The first proposal was from broker Northeast Series of Lockton Companies (Lockton), with a policy from the incumbent insurer, Chubb Global, with a \$1 million self-retention and a limit of \$25 million for a premium of \$259,483 (not including broker fee). This bid represents a flat rate (.1863 per \$100 payroll) applied to a 10% increase in estimated payroll, resulting in a 7.8% increase over last year's premium. A second proposal was received from broker King Partners, with a policy from Arch, with a \$1 million self-retention and a limit of \$25 million for a premium of \$222,781 (not including broker fee). KFDA reviewed the coverages afforded under both policies and determined the coverage was comparable, and therefore recommends the lower cost policy. Accordingly, staff recommend the purchase of the Workers Compensation Excess policy from Arch with a \$1 million per occurrence self-insured retention and \$25 million limit through broker King Partners, for the specified premium of \$222,781 and an associated broker fee of \$15,000.

**Property Insurance (including Boiler & Machinery)** – One proposal was received for this line of coverage from direct writer FM Global, the incumbent provider. FM Global's proposal contained various policy options with \$2.5 million and \$5 million self-retention levels with limits of \$200 million and \$300 million in coverage.<sup>5</sup> FM Global's proposal again included reduced limits of coverage for flood exposures for certain high-risk MWRA facilities and for damages arising from communicable disease. The option shown on the attached table and recommended by staff includes a policy limit of \$300 million with a \$2.5 million self-retention for a total net premium of \$1,935,695. This premium is based on a fixed rate applied to MWRA's Total Insured Value (TIV) of \$4,048,882,983, which is 4.1% higher than FY24. The fixed rate offered by FM

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4 Information submitted from broker Sullivan Group LLC for a stand-alone pollution policy was incomplete, and deemed non-responsive as it lacked substantive information necessary to meet the RFQ/P requirements.

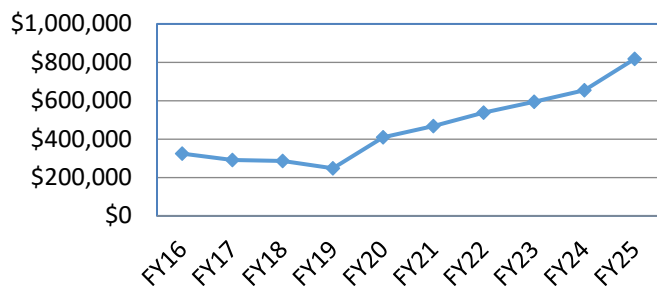
5 The additional options offered by FM Global are not cost effective because they subject the Authority to an additional \$2.5 million of risk exposure in return for relatively small premium savings that would quickly evaporate with just one claim in excess of the \$2.5 million self-retention.



Global increased from 5.62 cents per \$100 TIV to 6.13 cents per \$100 TIV, which is an increase of 9%. However, the total premium above also includes a Resiliency Credit of 5% and a Membership Credit of 20% available to MWRA’s FY25 policy renewal. These credits result in a reduction in the FY25 premium of \$545,000. Accordingly, staff recommend approval of FM Global’s proposal described above for a total net premium \$1,935,695.

**General Liability** – One proposal was received for the General Liability coverage. The incumbent broker, King Partners, submitted a bid from the incumbent carrier, Lexington Insurance Co. (Lexington), with a limit of \$5 million and a self-insured retention (SIR) of \$2.5 million. This proposal is an extension of the policy currently in place, however, the limit of coverage offered for FY25 is reduced from \$10 million to \$5 million. In order to match the current \$10 million of coverage, King Partners also submitted a bid from Berkshire for an additional \$5 million in excess coverage. The combined policy premiums total \$509,116 for \$10 million of coverage. This represents an increase of \$119,116 or 30% above the existing \$10 million layer of coverage currently in place. MWRA’s Insurance Consultant, KFDA, reported that the reason for the reduction in coverage limits was because Lexington was reducing its primary excess policy exposures across its book of business. Replacing the current single policy with two policies to reach the \$10 million limit contributes to the increase in premium cost. This combined proposal offers \$10 million in coverage with a \$2.5 million self-insured retention for a combined premium of \$509,116, including applicable surplus line charges (4%). The chart at right provides Historical Premium costs for this coverage over the past ten years and illustrates past and current trending of costs for this coverage. Consequently, staff recommend the acceptance of the proposal from King Partners with an associated broker fee of \$55,000, which also includes services for placement of the Excess General Liability, Crime and Treasurer’s Bond outlined below.

**MWRA  
General Liability Policy  
Historical Premium  
(\$2.5M SIR/\$25M Limit)**



**Excess General Liability** – As the recommended broker for the General Liability coverage, King Partners will be directed to solicit quotes from various insurance companies for the additional excess layers of liability coverage.<sup>6</sup> The companies and final premium costs for the additional \$90 million of excess liability coverage will not be available in time for this Board meeting. In order to keep all insurance-related items together in one summary, staff recommend a not-to-exceed amount of \$1,229,532 for this item. This amount was estimated from current pricing on the underlying general liability policies referenced above and current market conditions. This estimate represents an increase of 20% over last year’s premium for this same level of coverage.

<sup>6</sup> Excess Liability policies cannot be purchased until the underlying General Liability policy is first established.

**Public Official’s Liability** – Two proposals were received for this line of coverage with the specified \$5 million limit and \$1 million self-insured retention. One from incumbent, National, submitted through broker AJG, for a premium of \$113,576. This represents a flat renewal from the expiring FY24 policy. The second proposal was from Chubb, submitted by broker Lockton, for a premium of \$157,538. Both proposals include broker fees. Therefore, staff recommend the renewal of this coverage with National for the specified premium of \$113,576 which includes a broker’s commission.

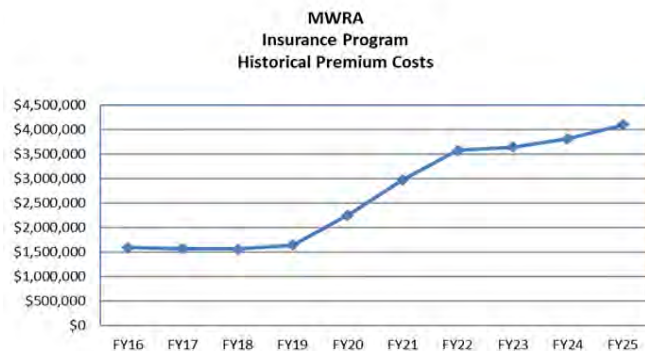
**Fiduciary Liability** – Three proposals were received for this line of coverage with the specified \$5 million limit and \$1 million self-retention. One from the incumbent, Chubb Federal, submitted through broker AJG, for a premium of \$9,994, which is slightly lower than the existing FY24 policy. The second proposal for this same coverage was from Hudson Insurance, submitted by broker Lockton, for a premium of \$14,000 including broker fee, and a third proposal from AIG, also submitted by Lockton, for a premium of \$22,000, including broker fee. Accordingly, staff recommend the placement of this coverage with Chubb Federal for the specified premium, which includes a broker’s commission.

**Public Official’s/Crime Bond** – One proposal was received for this line of coverage with the specified \$1 million limit with a \$25,000 self-retention from incumbent, Great American, submitted through broker King Partners, for a premium of \$5,789. This is flat renewal with no increase in premium. Accordingly, staff recommend the placement of this coverage with Great American for the specified premium.

**Treasurer’s Bond** – The Treasurer’s Bond is required by the MWRA Enabling Act and is written in the name of the person holding the position of Treasurer. This bond is off-cycle from the rest of the insurance program and does not expire until January 2025. To keep all insurance program approvals consolidated in one summary, staff included a not-to-exceed amount of \$2,500 for the renewal of this bond upon its expiration. The broker fee associated with renewal of this bond is included in the FY25 broker scope of services.

**CONCLUSION**

Staff recommend the renewal of MWRA’s insurance program for FY25, with the various coverages, limits and self-insured retention levels from the brokers and insurance companies identified above and as listed in the attached table. If approved, the FY25 total insurance premium cost will be a not-to-exceed sum of \$4,099,073, an increase of 9.6% from last year. The chart at right provides MWRA’s Insurance Program Historical Premium Costs over the past 10 fiscal years.



**BUDGET/FISCAL IMPACT:**

The Draft Final FY25 CEB includes \$4.5 million for the total cost of maintaining MWRA's insurance program, consisting of premiums, fees and payment of self-insured claims in FY25. The budget contains sufficient funds for the renewal of the insurance program outlined above.

**MBE/WBE PARTICIPATION:**

There were no minimum MBE and WBE participation requirements established for this procurement, as the nature of the services provided do not allow for subcontracting.

**ATTACHMENT:**

FY25 Insurance Proposal Table

**MWRA FY25 INSURANCE PROPOSALS**

EXPIRING FY24 ACTUAL PREMIUMS					PROPOSED FY25 PREMIUMS		
Item #	Coverage	Deductible/ Limit	FY24 Final Premium	Current (FY24) Insurance Co. (Broker)	FY25 Bids (See Note 1)	FY25 Insurance Co. (Broker)	Notes
1	Excess Workers Comp.	\$1M /\$25M	240,783	Chubb (Lockton)	259,483  <b>222,871</b>	Chubb (Lockton)  <b>Arch Insurance (King Partners)</b>	Incumbent, Chubb premium increase of 7.8%. FY25 Payroll increase of 3%. Arch Bid 16% lower premium cost. Arch Broker Fee lower (\$15k vs \$20K) Broker Fees not included in premiums shown.
2	Property Insurance (including Boiler & Machinery)	\$2.5M / \$300M	1,879,405	FM Global (Direct Writer- No Broker Fee)	<b>1,935,695</b>	<b>FM Global (Direct Writer- No Broker Fee)</b>	FM Global Bid includes \$545,000 in Member Credits. (5% Resiliency Credit and 20% Member Credit.) FM Bid based on 9% increase in Rate per \$100 TIV (.0613 vs .0562) applied to a 4.1% increase in TIV. FM Global options for higher retention (\$5M) and lower limits of coverage(\$200M) not feasible.
3	General Liability (Incl., Auto, Marine, Wharfingers, Limited Pollution and Employment Practice Liability)	\$2.5M/\$10M	390,000	Lexington Insurance Co. (Optisure Risk n/k/a King Partners)	<b>509,116</b>	<b>Lexington Insurance Co. and Berkshire Hathaway Specialty Ins.(King Partners)</b>	Combined premium increase of \$119,116 or 30%. Lexington reduced limit offered from \$10M to \$5M. Increase in premium reflects current "Hard Market" conditions. Premium includes Surplus Lines charges. King Partners broker fee of \$55,000 includes fees for placing Excess Liability and Crime policies.
4	Excess Liability	\$10M/\$90M	1,024,610	Allied World, Great American, Westchester, Berkshire Hathaway & The North River Ins Co. (Optisure Risk n/k/a King Partners)	<b>1,229,532</b>	<b>To Be Determined. (King Partners)</b>	Premium shown is Not-to-Exceed amount. Coverage is based on first layer of General Liability policy which must be finalized first. Amount shown represents a 20% increase over last year.
5	Public Official's Liability	\$1M/\$5M	113,576	National Union (AIG) (Arthur J. Gallagher)	<b>113,576</b>  157,538	<b>National Union (AIG) (Arthur J. Gallagher)</b>  Chubb (Lockton)	Nat. Union Premium shown is flat renewal. Chubb premium is 38% higher. Bid amounts includes broker commission.
6	Fiduciary Liability	\$1M/\$5M	10,022	Chubb/ACE (Arthur J. Gallagher)	<b>9,994</b>  14,000  22,000	<b>Chubb/ACE (Arthur J. Gallagher)</b>  Hudson (Lockton)  AIG (Lockton)	Chubb premium decrease of \$28. Premiums shown include broker fees.
7	Public Official's/Crime Bond	\$25K/\$1M	5,789	Great American Insurance (Optisure Risk n/k/a King Partners)	<b>5,789</b>	<b>Great American Insurance (King Partners)</b>	Premium shown is flat renewal.
8	Treasurer's Bond	\$0/\$1M	1,800	Travelers Casualty & Surety (Optisure Risk Partners)	<b>2,500</b>	<b>To Be Determined. (King Partners)</b>	Renews in January 2025. Amount shown is a Not-to-Exceed amount.
9	Broker Fees -Various		75,000	Various	<b>70,000</b>	<b>Various - See Note 2</b>	Broker Fees decrease of \$5,000 (or 7%).
Total Program Cost					\$ 3,740,985	<b>\$ 4,099,073</b>	Total program increase of \$358,088 or 9.6%.

**Note 1: Proposed for approval shown in bold.**

Note 2: Broker Fees are \$70,000 for King Partners relating to General Liability, Excess Liability, W.C. Excess and Crime policies.  
Arthur J. Gallagher's commission for Public Official and Fiduciary Policies are included in premiums shown.

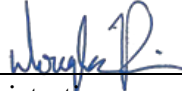
## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** Accounts Payable and Payroll Depository Services  
 Webster Bank, N.A.  
 Citizens Bank, N.A.  
 Contract F278 and F278A




**COMMITTEE:** Administration, Finance & Audit

**VOTE**  
 **INFORMATION**

Michele S. Gillen   
 Director of Administration

Matthew R. Horan, Deputy Director, Finance/Treasurer  
Thomas H. Frontiero, Cash Manager  
 Preparer/Title

Thomas J. Durkin   
 Director of Finance

### RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract F278 to Webster Bank, N.A., to provide accounts payable services and Contract F278A to Citizens Bank, N.A. to provide payroll depository services and to authorize the Executive Director, on behalf of the Authority, (i) to execute Contract F278 with Webster Bank, N.A., with no annual fees to the Authority, and with an interest rate payable to MWRA at the top end of the Federal Funds range plus 4 basis points and for at term of 5-years from July 1, 2024 to June 30, 2029 and (ii) to execute Contract F278A with Citizens Bank, N.A. at a not-to-exceed amount of \$78,425, and with an interest rate payable to MWRA at the top end of the Federal Funds range minus 25 basis points and for a term of 5-years from July 1, 2024 to June 30, 2029.

### DISCUSSION:

MWRA requires a commercial bank to provide an operating account for its accounts payable and payroll activities. The services provided by the bank include depository, account reconciliation, Automatic Clearing House transactions (ACH), checking, wire transfers, escrows and information services for the Operating Fund under MWRA's General Revenue Bond Resolution. The Operating Fund is required to have a balance equal to three months' worth of budgeted operating expenses. Based on the FY24 CEB, the required balance in the Operating Fund is \$87.0 million. In addition to operating expenses, all payments for capital projects are made from the accounts payable bank account. During fiscal year 2024 through April, approximately \$450 million in payments have been processed through the current depository bank. In addition to providing accounts payable and payroll activities the bank will serve as the operating bank for the Massachusetts Water Resources Authority Other Post-Employment Benefits Trust and the Fore River Railroad Corporation.

With the high profile failures of Silicon Valley Bank, Signature Bank and First Republic Bank in 2023, staff began having discussions about splitting the Operating Fund between two different commercial banks. Splitting the deposits between two financial institutions will help to minimize MWRA's exposure to an economic or operation problem at one of the banks. In the event of a problem at one of the banks MWRA would be able to process payroll and accounts payable at the other bank, minimizing any disruption to MWRA's employees or vendors. Staff are recommending award of accounts payable services to one bank and payroll services to a second bank.

In order to submit a proposal, the banks had to meet the requirements of MWRA's General Revenue Bond Resolution (Resolution). The Resolution requires that the bank be organized under the laws of the Commonwealth or a national banking association and having capital stock, surplus and undivided earning aggregating at least \$100 million. The banks were also required to confirm they meet the requirements of 201CMR 17:00 which establishes the standards for the protection of personal information. All banks were required to provide positive pay services, which require the teller processing a check to match the information printed on the check to the system to ensure that checks have not been altered or copied. Proposers were also required to provide a debit block on all accounts which will prevent anyone other than MWRA from initiating an electronic withdrawal. Proposers were also required to confirm they would meet MWRA's technology standards and provide remote deposit capabilities. The Proposers also provided MWRA with information related to their disaster recovery plans to ensure uninterrupted service.

#### **PROCUREMENT PROCESS:**

The procurement process to select a bank utilized a one-step Request for Qualification Statements/Proposals (RFQ/P), which was issued on March 25, 2024. Four banks, Citizens Bank, N.A. (Citizens), Eastern Bank, N.A. (Eastern), US Bank, N.A. (US Bank), and Webster Bank, N.A. (Webster) submitted proposals by April 19, 2024, via the MWRA Supplier Portal. As part of the RFQ/P process, MWRA required that all banks certify that they would meet the requirements of the General Bond Resolution regarding usage and control of the Authority's funds, and that their management information systems were compatible with the Authority's systems.

The Selection Committee evaluated and ranked the proposal based on the criteria contained in the RFQ/P including Cost (40 points), Capacity/Organization, and Management Approach (25 points), Experience and Past Performance (25 points), and Qualifications and Key Personnel (10 points). Cost was weighted the highest and included an evaluation of annual fees (e.g., ACH services, reconciliation services) and interest income earned on cash balances. In order to evaluate the different banks' interest earnings proposals, MWRA required that the rates be presented as a spread to the Federal Funds Rate. The Selection Committee utilized the proposed interest earnings with an average balance of \$60.0 million minus associated fees to determine the best value for MWRA.

After reviewing all proposals, the Selection Committee ranked the proposals as follows:

Rank	Firm	Estimated 1- Year Interest	Estimated 1-Year Fees	Full Contract	Earnings after Fees
1	Webster	\$ 3,324,000	\$ -		\$ 3,324,000
2	Citizens	\$ 3,150,000	\$ 23,798		\$ 3,126,202
3	US Bank	\$ 1,800,000	\$ 20,311		\$ 1,779,689
4	Eastern	\$ 300,000	\$ -		\$ 300,000

The estimated interest earns are based on an average balance of \$60.0 million at the proposed interest rate. Fees are calculated based on providing both accounts payable and payroll services. Webster’s proposal included no fees, and an interest rate of 4 basis points above the top end of the Federal Funds Rate range. Webster proposed a strong team and has done an excellent job performing these services over the last four years. Citizens proposed fees estimated to total \$23,798 per year for the full contract, and an interest rate at the top end of the Federal Funds range minus 25 basis points. Citizens previously provided these services to MWRA and the proposed team includes many members from the prior contract. US Bank proposed an estimated fee of \$20,310 per year and an interest rate at the top end of the Federal Funds Rate range minus 250 basis points. Eastern’s proposal included no fees and an interest rate at the top Federal Funds Rate range minus 500 basis points. US Bank and Eastern presented strong teams with significant experience in providing these services, however, both had lower overall interest income earnings.

The Selection Committee is recommending awarding the Accounts Payable portion of the contract to Webster Bank as first ranked and the payroll portion of the contract to Citizens Bank as second ranked. Citizens Bank’s estimated fees are based on the number of transactions, the costs associated with just payroll services is \$14,685 per year.

**BUDGET/FISCAL IMPACT:**

Webster proposed providing these services with no annual fees to MWRA and an estimated earnings rate of 5.54%. Citizens’ proposal includes an estimated annual fee of \$14,685 and interest earning rate of 5.25%. If approved the costs associated with these Citizen’s fees will be included in the draft final FY25 CEB.

**MBE/WBE PARTICIPATION:**

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

**STAFF SUMMARY**


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** MWRA Uniform Services, Action Apparel, LLC, Contract A639



COMMITTEE: Administration, Finance and Audit

     INFORMATION  
  X   VOTE

Steve Perry, Manager Labor Relations, Human Resources  
Preparer/Title

  
Michele S. Gillen  
Director of Administration

**RECOMMENDATION:**

To approve the recommendation of the Selection Committee to award Contract A639, MWRA Uniform Services, to Action Apparel, LLC, to provide MWRA logoed uniforms to eligible employees as described herein, and to authorize the Executive Director, on behalf of the Authority, to execute said contract for a contract term of thirty eight months from the Notice to Proceed, with two options to renew for a period of twelve months each.

**BACKGROUND:**

MWRA requires that all field staff be in an identifiable uniform that includes a MWRA logo. Currently MWRA has 817 employees who participate in the uniform program. The program is divided into three employee uniform categories: full (staff who must be in uniform at all times); fire rated (FR) (staff who work with electricity); and partial (staff whose positions at times require them to be in the field). Annually, full clothing program participants receive a \$325 allowance, FR program participants receive a \$680 allowance, and partial program participants receive a coat and a shirt every other year. Any unused allowance is rolled over every other year and in non-rollover years the balance is cleared to zero dollars. Uniform selections include a variety of t-shirts, sweatshirts, polo shirts, coveralls and jackets for men and women.

MWRA’s current vendor for uniform services is ServiceWear Apparel, Inc. and the company has provided uniforms for the past eleven years under a statewide contract. MWRA’s current uniform program is web-based and allows staff in the aforementioned categories to order their uniform needs via a virtual spending account and MWRA is charged for the items ordered. Over the last five years, MWRA has spent an average of \$180,000 annually on uniforms.

**DISCUSSION:**

On January 11, 2024, MWRA issued a one-step Request for Qualifications Statement/Proposal (RFQ/P) that was publically advertised in the Central Register, Boston Herald, Banner Publication, El Mundo, and electronically through the MWRA Supplier Portal. The RFQ/P and Scope of Services sought a web-based uniform store that offered products that were preferably union assembled and USA manufactured. The RFQ/P included an overall ranking evaluation criteria with the following



evaluation criteria: Cost; Technical Approach/ Capacity/Organization and Management Approach; and Experience/Past Performance/Qualifications and Key Personnel. The Selection Committee included MWRA managers and union representatives.

MWRA received proposals from the following four vendors: Action Apparel LLC, Tyndale Company, Inc., ServiceWear Apparel, and Winbrook Associates Inc. The Selection Committee initially reviewed and ranked the proposals to determine which vendors to invite to present their clothing options and demonstrate their website capabilities. The top three ranked vendors were invited to present their products and provide website demonstrations. Following the presentations, the Selection Committee members re-evaluated their initial rankings for each firm. The initial and final rankings of the Selection Committee are as follows:

VENDOR	INITIAL RANKING	FINAL RANKING
Action Apparel, LLC	3	1
Tyndale Company, Inc.	1	2
ServiceWear Apparel, Inc.	2	3
Winbrook Associates, Inc.	4	4

Action Apparel was founded in 2004 and is located in Stoneham. Action Apparel’s submissions met all criteria and requirements in the RFQ/P, including web-based ordering, union preferred assembly, and USA preferred manufactured products. Favorable reviews were received from external and internal references. Following presentation and website demonstration, the Selection Committee concluded Action Apparel has the ability and capacity to fulfill MWRA’s uniform needs. Further, the Selection Committee was impressed with Action Apparel’s hands-on approach, and noted it was a local company able to respond to clothing size/fit issues for MWRA staff. Action Apparel confirmed their staff could come to MWRA facilities and perform fittings, non-electronic ordering, and allow MWRA staff to utilize their Stoneham office to try-on, pick-up and/or order uniforms. The Selection Committee noted Action Apparel performs all of its embroidery and screen-printing in-house; thereby creating shorter turn-around times. Since 2017, Action Apparel has been an approved vendor for uniforms and work wear under MA State Contract CLT08 and the State Contract for MA Higher Education Facility Uniforms MHEC G12.

After consideration of all the evaluation criteria, the Committee recommends the award of Contract A639 to Action Apparel, LLC as the vendor offering the best value to MWRA.

**BUDGET/FISCAL IMPACT:**

The actual cost of the contract will vary depending on the number of enrollees and cumulative amount of the allowances utilized. Based on the historical quantities of allowance usage over the past five years, staff estimate that the fees paid to the vendor will be in the range of \$540,000 over the contract term. The FY25 Draft Final Current Expense Budget (CEB) includes sufficient funds for year one of the contract. Appropriate funding will be requested in the FY26 and FY27 CEB.

**MBE/WBE UTILIZATION:**

There are no MBE/WBE participation requirements for this contract.

## STAFF SUMMARY

**TO:** Board of Director  
**FROM:** Frederick A Laskey, Executive Director  
**DATE:** May 22, 2024  
**SUBJECT:** May 2024 PCR Amendments




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**COMMITTEE:** Personnel and Compensation

       INFORMATION  
  X   VOTE

Wendy Chu, Director of Human Resources  
Preparer/Title

  
Michele S. Gillen  
Director, Administration

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### 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.

### May 2024 PCR Amendments

There are six PCR Amendments this month.

#### Organizational Changes:

1. Salary adjustment to four filled M&O Specialist positions in the Operations Division, per union agreement due to new recruitment rate.
2. Title and grade change to one vacant position in the Operations Division, Policy and Planning Department from an Administrative Manager (Unit 6, Grade 9) moving to the Water Quality Department as a Data Management Coordinator (Unit 6, Grade 10) to better meet staffing needs.
3. Title and grade change to one vacant position in the Operations Division, Environmental Quality Department from a Senior Program Manager, Environmental Monitoring (Unit 9, Grade 30) to a Program Manager, Environmental Monitoring (Unit 9, Grade 29) to better meet staffing needs.

**BUDGET/FISCAL IMPACT:**

The annualized budget impact of these PCR amendments will be a maximum cost of \$41,741. Staff will ensure that the cost associated with these PCR amendments will not result in spending over the approved FY24 Wages and Salaries budget.

**ATTACHMENTS:**

Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY  
POSITION CONTROL REGISTER AMENDMENTS  
FISCAL YEAR 2024**

<b>PCR AMENDMENTS REQUIRING BOARD APPROVAL - May 22, 2024</b>																		
Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary			Estimated Annual \$ Impact		Reason For Amendment		
B80	Operations Deer Island Trade Maintenance Dept. 2988045	F	S	M&O (Maintenance and Operations) Specialist	2	16	M&O (Maintenance and Operations) Specialist	2	16	\$65,607	\$73,985	-	\$73,985	\$8,378	-	\$8,378	Union agreement due to new recruitment rate.	
B81	Operations Deer Island Trade Maintenance Dept. 2988049	F	S	M&O (Maintenance and Operations) Specialist	2	16	M&O (Maintenance and Operations) Specialist	2	16	\$65,607	\$73,985	-	\$73,985	\$8,378	-	\$8,378	Union agreement due to new recruitment rate.	
B82	Operations Deer Island Trade Maintenance Dept. 2988060	F	S	M&O (Maintenance and Operations) Specialist	2	16	M&O (Maintenance and Operations) Specialist	2	16	\$65,607	\$73,985	-	\$73,985	\$8,378	-	\$8,378	Union agreement due to new recruitment rate.	
B83	Operations EQ Dept. 5470062	F	S	M&O (Maintenance and Operations) Specialist	2	16	M&O (Maintenance and Operations) Specialist	2	16	\$61,417	\$73,985	-	\$73,985	\$12,568	-	\$12,568	Union agreement due to new recruitment rate.	
B84	Operations Policy and Planning Department 5210008	V	T, G	Administrative Manager	6	9	Data Management Coordinator	6	10	\$101,544	\$73,040	-	\$111,765	-\$28,504	-	\$10,221	To better meet staffing needs.	
B85	Operations Environmental Quality Department 2250005	V	T, G	Senior Program Manager, Environmental Monitoring	9	30	Program Manager, Environmental Monitoring	9	29	\$155,373	\$106,528	-	\$149,191	-\$48,845	-	-\$6,182	To better meet staffing needs.	
<b>BOARD TOTAL =</b>					6												<b>TOTAL:</b>	-\$39,647 - \$41,741

**MWRA  
POSITION DESCRIPTION**

**POSITION:** M & O Specialist  
**DIVISION:** Operations  
**DEPARTMENT:** Clinton, Deer Island, Field Operations

**BASIC PURPOSE:**

Performs inspections, overhauls, maintenance and repairs of various mechanical, electrical-mechanical, hydraulics systems & equipment at various facilities throughout the Authority. Performs assigned functions as part of a team.

**SUPERVISION RECEIVED:**

Works under the general supervision of a Unit Supervisor.

**SUPERVISION EXERCISED:**

Exercises supervision of entry-level staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Works from manufacturer's manuals and specifications, blueprints, schematics and verbal instructions to install, repair, troubleshoot, inspect, check & maintain mechanical, electrical-mechanical & hydraulic systems including HVAC mechanical components, which may include those carrying refrigerant. Performs electrically related activities specified by work order.
- Performs preventive and corrective maintenance on mechanical, electromechanical, hydraulic and pneumatic equipment according to vendor specifications.
- Performs various non-licensed maintenance, repair & installation tasks related to plant equipment and systems in the areas of instrumentation and control, plumbing, heating, ventilation and air conditioning and electrical.
- Fabricates devices and assemblies of sheet metal using powered and manual sheet metal forming tools.

- Welds, brazes and solders using gas and electric equipment common to trade.
- Operates equipment manually and through instrument panels and programmable logic control units as required in performance of maintenance tasks. Equipment may include, but will not be limited to, pumps, valves, gates, meters, gauges, controllers, motor control centers, level control devices, mixers, oxygen generation, chemical feed and odor control equipment.
- Follows established safety, operating, and emergency response procedures and policies established by MWRA.
- Operates motor vehicles, such as vans and pickup trucks, to pick up and deliver supplies and equipment to work sites.
- Installs retrofits/installation of new equipment related systems, modification and alignment of existing equipment to specifications.
- Supervises assigned Skilled Laborers, Building & Grounds Workers, and other maintenance personnel as needed.
- Performs, documents and reports results in the MAXIMO database of inspections and work performed.
- Performs work in compliance with the Operations Integrated Contingency Plan.
- Assists other trades in the performance of their work, as required or as assigned.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
  - Operates forklift or other light equipment not requiring a special license.
  - Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System
  - Inspects and troubleshoots various systems and equipment.
  - Installs and retrofits/new equipment related to plant systems.
  - Modifies and/or aligns existing equipment to specifications.
  - With proper safety training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.

- Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
- Greases and lubricates, replaces oil reserves, minor packing adjustments and opens hatches.
- Installs safety rails, changes light bulbs and replaces HVAC filters.
- Removes snow from immediate work area in order to perform tasks.
- Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.
- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

**SECONDARY DUTIES:**

- Promotes and participates in the productivity improvement plan.
- Trains peers and subordinates as requested.
- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A high school education or GED; and
- (B) Satisfactory completion of formal mechanic training program and a minimum of two (2) years related experience, and
- (C) Satisfactory completion of training in accordance with the Productivity Improvement Program; or
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Basic reading, writing, mathematical and oral communication skills.

- (B) Thorough knowledge of the standard practices, materials, tools, occupational hazards and safety practices common to the trade.
- (C) Skills in the operation of tools, instruments and equipment of the trades.
- (D) Computer skills necessary to access and use the Maximo & Lawson Database.
- (E) Trained in Confined Space Entry, CPR and First Aid, and must be capable of entering, setting-up, installing, disassembling confined space equipment and ability to work in a confined space.
- (F) Ability to attain knowledge and work processes required to perform maintenance tasks required by Reliability Centered Maintenance or similar Maintenance Management Program.

### **SPECIAL REQUIREMENTS:**

- Possession of a Valid Massachusetts Class D Drivers License.
- For DI and Clinton, a valid Grade II Wastewater Treatment Plant Operator's License or the ability to obtain the correct license within one (1) year.
- For Southboro, a valid Water Distribution II or Treatment II License or the ability to obtain the correct license within one (1) year.
- For Chelsea, a valid Grade II Wastewater Operator's License, Water Distribution II License, Water Treatment II License, or Collections Systems II License or the ability to obtain the correct license within one (1) year.
- Complete competency based training program related to **ESSENTIAL DUTIES AND RESPONSIBILITIES** as outlined above and successfully demonstrates required competencies.

### **TOOLS AND EQUIPMENT USED:**

Motor vehicle, power and hand tools, hoist, mobile truck radio, beeper.

### **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 essential functions the employee is regularly required to use hands to finger, handle, feel or operate objects, tools, or controls and reach with hands and arms. The



employee frequently is required to stoop, kneel, crouch or crawl. The employee is occasionally required to stand, walk, talk or hear, sit, climb, or balance.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, peripheral 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 outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals.

The job is hearing protection required and the noise level in the work environment is very loud in field settings and moderately loud at pumping stations.

**November 2004**

**MWRA  
POSITION DESCRIPTION**

**OLD**

**POSITION:** Administrative Manager

**DIVISION:** Operations, Administration and Finance

**DEPARTMENT:** Environmental Quality, Technical Services/DI, Directors Office/DI, Human Resources, Engineering and Construction

**BASIC PURPOSE:**

Manages all financial and administrative processes including budget and financial analysis and planning, contract administration, accounting, accounts payables, procurement, personnel, and payroll. Assists with development, production, and distribution of documents and publications. Coordinates specific department programs. Provides a range of possible duties, but will not necessarily perform all the duties listed below.

**SUPERVISION RECEIVED:**

Works under the general supervision of the departmental Director, Manager, Program Manager, Project Manager or Manager, Contract Administration.

**SUPERVISION EXERCISED:**

Exercises supervision over administrative support personnel in the department on projects and processes.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Manages the preparation of annual budgets (CEB and CIP) and APPOs. Provides information and assistance to the section managers in budget preparation and trains managers in new policies and procedures.
- Coordinates the activities of administrative support personnel in the performance of a range of department and division wide tasks. Such coordination includes technical support, coaching and training. Provides coordination of support staff that includes prioritizing work assignment and coordinating the assignment of support staff to special projects, as appropriate.
- Assists in the management of the contract administration process for major contracts. Duties include tracking data, analyzing costs, developing systems, reviewing invoices, preparing and tracking accruals, coordinating with the Procurement department, providing assistance on processing amendments and change orders and issuing status reports.

- Manages accounting processes for department including accounts payable, reporting and accruals.
- Manages personnel and payroll function for department with projected staffing of employees. Duties include overseeing PMRS and hiring processes, personnel tracking, payroll administration and implementation of union contract provisions.
- Generates or oversees production of administrative reports required by MWRA divisions, external agencies and the Advisory Board.
- Manages the production of reports and public relations documents. Duties may include technical writing or graphics preparation.
- Coordinates the Sick Leave Oversight Program. Serves as liaison between Human Resources and Operations in regards to sick leave. Prepares and distributes sick leave usage reports for Operations Managers. Reviews completed sick leave reports prepared by Operations Managers. Works in close coordination with Human Resources to monitor the use of sick time by employees on documentation requirements (e.g., determining whether the employee provided satisfactory medical documentation, and coordinating any necessary follow-up).
- Audits written time submissions from operational staff assigned to all shifts in order to ensure that staff are applying time appropriate to use such as leave time, meal breaks, compensatory time, overtime and stand-by.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A four (4) year college program in accounting, business administration, public administration or related field; and
- (B) Understanding of budget, personnel, procurement, accounting, contract, permits or grant administration principles and other administrative areas as acquired by five (5) to seven (7) years in finance and administration of which a minimum of one (1) year must be in a supervisory capacity; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Familiarity with the use of computerized information systems is required.
- (B) Proficient in MS Office Suite including Word, and Excel required.
- (C) Experience in Public Sector recommended.
- (D) In depth knowledge of the Chapter 30 and Chapter 149 State Bidding Laws as well as extensive knowledge of MWRA procurement with respect to administration such as Service Supply, Professional, Non-Professional and Construction contracts required for position at Deer Island.
- (E) Excellent interpersonal, verbal and written communications skills required.

**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, tools or controls and reach with hands and arms. The employee frequently is required to sit and talk or hear. The employee is occasionally required to walk; stand; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, depth perception, peripheral 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 moderately quiet.

**November 2013**

**MWRA  
POSITION DESCRIPTION**



**POSITION:** Data Management Coordinator

**DIVISION:** Operations

**DEPARTMENT:** Water Quality (Water)/Southborough  
Environmental Quality (Wastewater)/Deer Island  
Toxic Reduction and Control (TRAC)/Chelsea

**BASIC PURPOSE:**

Develops Departmental computing resources, including loading and checking environmental and operational monitoring data. Assists in the development of computer applications to automate loading, checking, analysis, and reporting of data from various sources. Coordinates the analysis of all data. Develops applications for data visualization. Provides technical guidance, documentation, and training to Departmental staff. Coordinates data management with Department and Division information systems.

**SUPERVISION RECEIVED**

Works under the general supervision of the Program Manager or Senior Program Manager.

**SUPERVISION EXERCISED**

May exercise supervision of assigned staff. May direct the work of contract employees and interns.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Serves as database administrator for Departmental databases by loading and checking large environmental science data sets, and by developing computing procedures to ease data entry, checking and documenting corrections to data sets.
- Integrates Departmental databases with other Operations departments, including the Central Laboratory, Operations, and MIS.
- Develops and implements automated procedures for downloading and formatting data from the database for routine and ad-hoc reports and graphics production, using various tools such as Oracle, Access, R, MATLAB, Python, Visual basic, Excel, and/or other commercial packages.
- Develops computer applications to automate loading, checking analysis and reporting of data from various sources.

- Assists management staff and others in the development of applications for data visualization. Proposes and develops maps, graphs and figures that usefully summarize scientific data for decision-makers, Authority staff and the public.
- Develops data annotation tools for logging data corrections to raw lab or analyzer data in the department database to allow for corrected data to be extracted for compliance or water quality analysis.
- Prepares regular and ad hoc informational reports for Authority management and staff, the regulatory community and the general public. Provides monitoring data to Authority staff, consultants and the public as appropriate.
- Develops procedures for automated checking of data to trigger review of unusual data.
- Provides ongoing training for staff and technical assistance to facilitate the development and implementation of Departmental projects.
- Ensures that data management practices promote information sharing and that data quality is consistent with department policies and are integrated into Department and Authority information systems.
- Develops and implements computing strategies, in conjunction with MIS, to maximize use of available hardware and software by integrating text, graphics and imaging information across computing platforms.
- Reviews consultants and staff analyses of monitoring data as needed. Provides monitoring data to Authority staff, consultants, and the public as appropriate.
- Maintains current knowledge of policies and procedures related to the implementation and enhancements of departmental information systems and actively participates in analyzing the impact of proposed policies and provides input.
- The Data Management Coordinator/Wastewater coordinates the analysis of wastewater and environmental quality data from TRAC, DLS, Plant Systems and Residuals; coordinates maintenance of a consistent database structure and quality standards for influent, effluent and sludge data coordination with MIS, DLS, and plant systems; and assists the Marine Studies Project Manager in oversight of consultant data management under the Harbor and Outfall Monitoring contract. Reviews consultants and staff analyses of monitoring data as needed, particularly reports of contingency plan threshold value exceedances. Analyzes environmental data to produce information for NPDES permit compliance.
- The Data Management Coordinator/Water coordinates the analysis of water quality data from DLS, Process Book, Operations databases, and other sources; coordinates development and maintenance of a consistent database structure and quality standards for

the compilation and management of compliance and other verified data sets, in coordination with MIS, DLS, and Operations; and assists the Program Manager in the development of a dashboard / data visualization application.

- The Toxic Reduction and Control Data Management Coordinator manages TRAC data management in support of the Industrial Pretreatment Program's daily business and EPA reporting requirements; maintains technical knowledge of PIMS, LIMS and WEBsmr application systems; works closely with MIS to identify PIMS/LIMS operational problems and to recommend solutions, and assists with end-user testing.

### **SECONDARY DUTIES:**

- Performs related duties as required.

### **MINIMUM REQUIREMENTS**

#### **EDUCATION AND EXPERIENCE**

- (A) A Bachelor's degree in information technology, computer science, engineering, chemistry, biology, environmental science or related field is required; related graduate degree preferred; and
- (B) At least four (4) years of experience in developing and using relational databases; developing and modifying reports; and developing, maintaining and managing complex computer application systems; or
- (C) Any equivalent combination of education and experience.

### **NECESSARY KNOWLEDGE, SKILLS AND ABILITIES:**

- (A) Working knowledge of sampling and laboratory methodologies for wastewater, water, and/or receiving water data collection.
- (B) Knowledge and understanding of computer hardware and software, computer databases, database administration and electronic transfer of information.
- (C) Demonstrated ability to use statistical principles to analyze and present environmental data.
- (D) Demonstrated ability in programming and troubleshooting in a variety of computing environments, particularly MS Windows and DOS. Knowledge of Python or other programming language strongly preferred. Knowledge of structured query language (SQL) preferred.



- (E) Knowledge of Microsoft Access and Oracle Discoverer preferred. Knowledge of MATLAB, R other statistical programming language preferred.
- (F) Experience using SAP Business Objects, Crystal Reports or Webi preferred.
- (G) Demonstrated QA/QC and analytical skills.
- (H) Working knowledge of database design and productivity tools and techniques.
- (I) Working knowledge of database software including Oracle.
- (J) Excellent interpersonal, oral and written communication skills.
- (K) Demonstrated decision-making ability.
- (L) Experience with Pretreatment Management Software (PIMS) and Lab Information Management Software (LIMS) preferred.
- (M) Experience developing SOPs and developing user support reference materials preferred.

**SPECIAL REQUIREMENTS:**

Based on assignment may require a valid Massachusetts Class D Motor Vehicle Operators' License.

**TOOLS AND EQUIPMENT USED:**

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

**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 frequently is required to sit, talk, and hear. The employee is occasionally required to stand and walk, stoop, kneel, crouch or crawl, taste or smell.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision requirements required by this job include close vision, distance 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 a moderately quiet office setting.

**February 2024**

**MWRA  
POSITION DESCRIPTION**



**POSITION:** Sr. Program Manager, Environmental Monitoring

**DIVISION:** Operations

**DEPARTMENT:** Environmental Quality

**BASIC PURPOSE:**

Conceives, designs and manages water quality monitoring programs in Boston Harbor and Massachusetts Bay. Implements monitoring program through internal or contractual resources. Reports monitoring results within MWRA and to the regulatory agencies. Participates in National Pollutant Discharge Elimination System (NPDES) permit negotiations and manages related scientific and technical programs.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Director of Environmental Quality.

**SUPERVISION EXERCISED:**

Exercises close supervision of scientific staff. Also directs the work of contract employees and/or interns.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Oversees the design, execution and reporting of environmental quality monitoring programs, which may include water, plankton, benthos, sediment, fish and shellfish and effluent toxicity testing, in Boston Harbor and Massachusetts Bay as required by the NPDES Permit and MWRA planning needs.
- Manages consultant contracts for the design, execution and reporting of studies of environmental quality in Boston Harbor and Massachusetts Bay.
- Oversees and directs the work of scientific staff in the group.
- Prepares information necessary for negotiating permit requirements and monitoring plans with state and federal agencies. Manages the preparation of required regulatory agency reports and related special projects.

- Conceives designs and oversees in-house MWRA monitoring of Boston Harbor and Massachusetts Bay, together with the Department of Laboratory Services.
- Develops / makes recommendations for changes of MWRA outfall monitoring program by reviewing scientific literature and water quality regulations.
- Participates with the Senior Program Manager of NPDES Compliance to ensure that MWRA's environmental quality reports are in compliance with the requirements of the NPDES Permit.
- Interacts with other MWRA departments to integrate environmental findings and operational issues in order to optimize the environmental benefits of MWRA planning and operations.
- Participates with the Senior Program Manager of NPDES Compliance and the Program Manager of Data Management, to ensure that the Contingency Plan is implemented appropriately.
- Coordinates special project requests with existing department programs.
- Implements monitoring program of approximately \$1 to \$2 million using in-house or consultant resources.
- Oversees and manages mooring program, including review and analysis of data, and Bays Eutrophication Model (as required in Deer Island Treatment Plant (DITP) NPDES permit).
- Provides technical review of consultant-prepared reports.
- Organizes and analyzes monitoring data. Prepares reports interpreting data for scientific and lay audiences.
- Directs quality assurance programs for MWRA contractors.
- Tracks consultant progress, including review of invoices and progress reports and coordinates consultant work with other, related project activities.
- Writes Requests for Proposals for Harbor and Outfall Monitoring contracts and serves as chair of the selection committees.
- Assists in the preparation of annual budgets and schedules and ensures compliance.

- Drafts internal and external correspondence and reports of both technical and administrative nature.
- Interacts with federal, state and local government and regulatory agencies such as the U.S. Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (DEP) and the Outfall Monitoring Science Advisory Panel to ensure that MWRA monitoring is scientifically sound, cost-effective and relevant to MWRA projects.
- Makes policy recommendations for department presentations to the Executive Director on monitoring program findings.
- Presents findings to scientific community and the general public.

**SECONDARY DUTIES:**

- Performs other related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Knowledge of principles and practices of environmental/marine science as normally attained through an advanced degree, either a masters or Ph.D. degree with specialization in a field such as microbiology, marine biology, environmental management, or physical oceanography or related field; and
- (B) Demonstrated knowledge of environmental science/marine science as acquired through eight (8) to ten (10) years related experience of which a minimum of three (3) years is in a supervisory or managerial capacity; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated ability to gather, analyze and present technical information in a clear and understandable manner.

- (B) Demonstrated ability to lead a project team and develop and maintain productive working relationships with external parties.
- (C) Strong analytical and computer skills, including proficiency with statistical and graphical analyses, such as parametric, non-parametric, multivariate and multivariable analyses, spreadsheets, word processing and database application programs.
- (D) Ability to analyze and interpret scientific data.
- (E) Strong written and oral 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, tools or controls and reach with hands and arms. The employee frequently is required to sit and talk or hear. The employee is occasionally required to stand, walk, climb or balance, stoop, kneel, crouch, or crawl, taste or smell.

There are no requirements that weight be lifted or force be exerted in the performance of this job, although the employee will have opportunity to participate in field activities that involve lifting weight, e.g., water, sediment or other environmental samples or exerting force. Specific vision abilities required by this job include close vision, distance vision, depth perception, peripheral 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 regularly works in an office environment. The employee occasionally works near moving mechanical parts and is occasionally exposed to outdoor weather conditions. The employee may occasionally work on large and small boats in Boston Harbor and Massachusetts Bay. The employee is occasionally exposed to fumes or airborne particles and toxic or caustic chemicals.

The noise level in the work environment is usually a moderately quiet office setting.

**July 2021**

**MWRA  
POSITION DESCRIPTION**

**NEW**

**POSITION:** Program Manager, Environmental Monitoring

**DIVISION:** Operations

**DEPARTMENT:** Environmental Quality

**BASIC PURPOSE:**

Develops and manages water quality monitoring programs in Boston Harbor and Massachusetts Bay. Implements monitoring program through internal or contractual resources. Reports monitoring results within MWRA and to the regulatory agencies. Participates in National Pollutant Discharge Elimination System (NPDES) permit negotiations and manages related scientific and technical programs.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Director of Environmental Quality.

**SUPERVISION EXERCISED:**

Exercises close supervision of scientific staff. May direct the work of contract employees and/or interns.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Oversees the execution and reporting of environmental quality monitoring programs, which may include water, plankton, benthos, sediment, fish and shellfish and effluent toxicity testing, in Boston Harbor, rivers tributary to Boston Harbor, and Massachusetts Bay as required by the NPDES Permit and MWRA planning needs.
- Manages consultant contracts for the design, execution and reporting of studies of environmental quality in Boston Harbor and Massachusetts Bay.
- Oversees and directs the work of scientific staff in the group.
- Oversees in-house MWRA monitoring of Boston Harbor and Massachusetts Bay, together with the Department of Laboratory Services.
- Participates with the Senior Program Manager of NPDES Compliance to ensure that



MWRA's environmental quality reports are in compliance with the requirements of the NPDES Permit.

- Implements monitoring program of approximately \$1 to \$2 million using in-house or consultant resources.
- Oversees and manages mooring program, including review and analysis of data, and Bays Eutrophication Model (as required in Deer Island Treatment Plant (DITP) NPDES permit).
- Provides technical review of consultant-prepared reports.
- Tracks consultant progress, including review of invoices and progress reports and coordinates consultant work with other, related project activities.
- Writes Requests for Proposals for Harbor and Outfall Monitoring contracts and sits on selection committees as required.
- Assists in the preparation of annual budgets and schedules and ensures compliance.
- Presents findings to scientific community and the general public.

**SECONDARY DUTIES:**

- Performs other related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Knowledge of principles and practices of environmental/marine science, a Bachelor's degree is required. A Master's degree with specialization in a field such as microbiology, marine biology, environmental management, or physical oceanography or related field preferred; and
- (B) Demonstrated knowledge of environmental science/marine science as acquired through at least seven (7) years of related experience;
- (C) At least three (3) years of experience managing employees, consultants, projects, or programs; or

(D) Any equivalent combination of education and experience.

**Necessary Knowledge, Skills and Abilities:**

- (A) Demonstrated ability to gather, analyze and present technical information in a clear and understandable manner.
- (B) Demonstrated ability to lead a project team and develop and maintain productive working relationships with external parties.
- (C) Strong analytical and computer skills, including proficiency with statistical and graphical analyses, such as parametric, non-parametric, multivariate and multivariable analyses, spreadsheets, word processing and database application programs. Programming skills in commonly used scientific programming languages or applications (Python, R, Matlab, etc.) strongly preferred. Experience in geographic information systems (GIS) preferred.
- (D) Ability to analyze and interpret scientific data.
- (E) Strong written and oral 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, tools or controls and reach with hands and arms. The employee frequently is required to sit and talk or hear. The employee is occasionally required to stand, walk, climb or balance, stoop, kneel, crouch, or crawl, taste or smell.

There are no requirements that weight be lifted or force be exerted in the performance of this job, although the employee will have opportunity to participate in field activities that involve lifting weight, e.g., water, sediment or other environmental samples or exerting force. Specific vision abilities required by this job include close vision, distance vision, depth perception, peripheral 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 regularly works in an office environment. The employee occasionally works near moving mechanical parts and is occasionally exposed to outdoor weather conditions. The employee may occasionally work on large and small boats in Boston Harbor and Massachusetts Bay. The employee is occasionally exposed to fumes or airborne particles and toxic or caustic chemicals.

The noise level in the work environment is usually a moderately quiet office setting.

**May 2024**