



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
L. Taverna
H. Vitale
J. Walsh
P. Walsh
M. White-Hammond
J. Wolowicz

BOARD OF DIRECTORS' MEETING

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

Date: Wednesday, October 18, 2023
Time: 1:00pm
Location: Deer Island Reception/Training Building, 1st Floor
33 Tafts Avenue – Favaloro Meeting Room
Boston, MA 02128

A photo ID will be required for entry to the building.
The meeting will also be available via Webex. The Webex meeting link, event number and password to attend virtually are:

Webex Meeting Link (Registration Required):

<https://mwra.webex.com/weblink/register/rfe241160181f846ff75ae8c355ec7b8a>

Event Number: 2359 645 9163 Password: 101823

AGENDA

- I. **APPROVAL OF MINUTES**
- II. **REPORT OF THE CHAIR**
- III. **REPORT OF THE EXECUTIVE DIRECTOR**
- IV. **EXECUTIVE SESSION**
 - i. Approval of September 13, 2023 Executive Session Minutes
 - A. **Real Estate**
 1. Watershed Land Acquisition
 - B. **Litigation**
 1. *In re Aqueous Film-Forming Products Liability Litigation*, MDL No. 2:18-mn-02873-RMG, U.S. District Court for the District of South Carolina: PFAS Class Action Settlements; 3M Company and The Chemours Company, The Chemours Company FC, LLC, DuPont de Nemours, Inc., Corteva, Inc., and E.I. DuPont de Nemours and Company n/k/a EIDP, Inc.
- V. **WATER POLICY & OVERSIGHT**
 - A. **Information**
 1. Update on MWRA's System Expansion Efforts

V. WATER POLICY & OVERSIGHT (Continued)

B. Approvals

1. Memorandum of Agreement between the City of Newton and the MWRA: Intermediate High Pipeline Improvements CP1, Section 75A and Section 47, Belmont, Boston, Newton and Watertown, Contract 7484

C. Contract Amendments/Change Orders

1. Southborough Electrical Headquarters Electrical Systems Upgrade: Dagle Electrical Construction Corp., Contract 7425, Change Order 4

VI. PERSONNEL & COMPENSATION

A. Approvals

1. PCR Amendments – October 2023

VII. ADMINISTRATION, FINANCE & AUDIT

A. Information

1. Delegated Authority Report – September 2023
2. Internal Audit Department Activities Report – FY2023
3. FY2024 Financial Update and Summary as of September 2023

B. Approvals

1. Termination of Existing Swap Agreements for Future Debt Service Savings

VIII. WASTEWATER POLICY & OVERSIGHT

A. Information

1. 2022 Outfall Monitoring Overview
2. MWRA Industrial Waste Report #39: Industrial Pretreatment Program Annual Report to EPA for FY2023

B. Contract Awards

1. Deer Island As-Needed Technical Services Contracts: AECOM Technical Services, Inc., Contract 7981; CDM Smith, Contract 7982; and Hazen and Sawyer, Contract 8018

IX. CORRESPONDENCE TO THE BOARD

October 12, 2023 Letter from WSCAC

X. OTHER BUSINESS

XI. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

September 13, 2023

A meeting of the Massachusetts Water Resources Authority (“MWRA”) Board of Directors was held on September 13, 2023 at MWRA’s headquarters at Deer Island in Boston, and also via remote participation.

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

MWRA Executive Director Frederick Laskey; General Counsel Carolyn Francisco Murphy; Chief Operating Officer David Coppes; Deputy Chief Operating Officer Rebecca Weidman; Director of Finance Thomas Durkin; Director of Administration Michele Gillen; Special Assistant for Affirmative Action Patterson Riley; Lisa Bina, Deputy Director, Waterworks; Betsy Reilley, Director of Environmental Quality; Stephen Cullen, Director, Wastewater; Marty McGowan, Director, Construction; Patricia Mallett, Senior Program Manager, Engineering and Construction; Stephen Estes-Smargiassi, Director, Planning and Sustainability; Katie Ronan, Project Manager, Environmental Permitting; John Gregoire, Program Manager, Reservoir Operations; Wendy Chu, Human Resources Director; Michael O’Keefe, Senior Program Manager, Planning; Colleen Guida, Real Property Manager; Douglas Rice, Director of Procurement; Gary Cacace, MWRA Director of Security; and, Assistant Secretaries Ria Convery and Kristin MacDougall participated at MWRA headquarters. Vandana Rao, Executive Office of Environmental Affairs (EEA) and Matthew Romero, MWRA Advisory Board, also participated from MWRA headquarters.

Chair Tepper called the meeting to order at 1:00pm.

ROLL CALL

MWRA General Counsel Francisco Murphy took roll call of Board Members in attendance and announced that Chair Tepper and Board Member Vitale were participating remotely. The Chair announced that the meeting was being held at MWRA headquarters at Deer Island 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 JULY 19, 2023 MINUTES

Board Member Taverna noted that the draft minutes contained a minor typographical error.

A motion was duly made and seconded to approve the minutes of the Board of Directors’ meeting of July 19, 2023 upon the correction of a minor typographical error.

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

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

(ref. I)

REPORT OF THE EXECUTIVE DIRECTOR

Fred Laskey, MWRA Executive Director, wished a happy birthday to retired MWRA Advisory Board Executive Director Joseph Favaloro. Next, he reported that staff participated in a September 7, 2023 “turning of the wheel” ceremony for the Town of Burlington’s admission to the MWRA water system. He noted that Lt. Governor Driscoll and other state and local elected officials were in attendance, and thanked MWRA staff for their efforts. Mr. Laskey then reported on MWRA’s ongoing preparations for predicted heavy storms. He briefly reviewed the status of MWRA’s dams, and noted that staff were preparing an updated hurricane emergency response plan. Next, Mr. Laskey reported that NEFCO agreed to defend and indemnify the MWRA from the claims asserted in the Chapter 21E notice related to PFAS. He then reported that the Journal of the Boston Society of Civil Engineers will publish a history of the water system, adding that he will distribute copies to Board Members at a later date. He thanked staff for their work on the journal. Next, Mr. Laskey wished Lexi Dewey well on her upcoming retirement from her role as Executive Director of the Water Supply Citizens Advisory Committee to the MWRA (WSCAC). He thanked Ms. Dewey for her service, environmentalism, and kindness. Finally, Mr. Laskey announced that Ria Convery, MWRA Special Assistant to the Executive Director, will retire in October 2023. He described Ms. Convery’s significant role in MWRA’s history, praised her outstanding record of dedication and competence, and presented her with a commemorative award. Ms. Convery thanked Mr. Laskey, and acknowledged the work of MWRA Board Members and staff.

(Mr. Foti joined the meeting during the report.) (ref. III)

EXECUTIVE SESSION

Chair Tepper requested that the Board move into Executive Session.

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		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Peña		
Taverna		
Vitale		
J. Walsh		

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

General Counsel Francisco Murphy announced that the Board would move to 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.

*** EXECUTIVE SESSION ***

The meeting entered Executive Session at 1:11am and adjourned at 1:24pm.

*** CONTINUATION OF OPEN SESSION ***

WASTEWATER POLICY AND OVERSIGHT

Information

Storm Impacts on MWRA's Wastewater System and Receiving Waters

Staff presented an overview of storm impacts on MWRA's wastewater system and receiving waters during the summer of 2023. Lisa Bina, MWRA Deputy Director, Waterworks, began the presentation with a comparison of summer (June, July and August) total rainfall levels in Eastern Massachusetts from 1955 through 2023. She noted that 2023 has been the second wettest summer on record in Massachusetts (20.33 inches, with no hurricanes), surpassed only by 1955 (24.89 inches, including from Hurricane Carol.) Next, Ms. Bina described high intensity rainfall events across the state in 2023, characterized by strong localization and variable, difficult-to-predict storm paths. She advised that staff closely monitors storms and prepares for higher ranges of predicted rainfall.

Ms. Bina then discussed the impacts of high intensity rainfall events on MWRA's wastewater system, including the activation of Combined Sewer Overflow (CSO) treatment facilities. She also discussed MWRA's storm response protocols. She noted that in a typical year, one or two storms will trigger the activation of all four MWRA CSO treatment facilities; in comparison, three such storms occurred in a three-week period during in the summer of 2023. Ms. Bina advised that during an August 8, 2023 rainfall event, a total of 57.4 million gallons (MG) of treated discharges, and 1.49 MG of untreated discharges, were released at CSO outfalls in the MWRA service area.

Next, Betsy Reilley, Director of Environmental Quality discussed how high intensity rainfall events impact CSO receiving waters, beaches and source water quality. She advised that the majority (81%) of all CSO discharges in summer 2023 received treatment with chlorination and dechlorination. She further

advised that receiving water monitoring assessments show that CSO discharges in MWRA's service area are primarily (95%) comprised of storm water. Ms. Reilley stressed that there are no CSO discharges to beaches in the MWRA service area, and noted that some of the beaches (Wollaston, Tenean, Malibu and Constitution) have storm water outfalls, which are sources of bacterial pollution.

Ms. Reilley then discussed MWRA's notification procedures for CSO and sewage discharges, in compliance with public reporting requirements. She noted that notifications include alerts to newspapers, local Boards of Health, and online subscribers. She explained that local Boards of Health must issue a follow-up notification if a discharge is more than two hours in duration, adding that the media has taken note of the discharge alerts. Ms. Reilley advised that a combination of frequent storm-related CSO notifications and beach postings, and the local media's inaccurate conflation of CSO and storm water discharges may have contributed to a number of news reports inaccurately associating CSO discharges with area beach closings during the summer of 2023.

Next, Ms. Reilley presented the impacts of rainfall events on MWRA's drinking water systems. She noted that MWRA's large reservoirs are able to absorb the impacts of both heavy rains and dry periods, and briefly summarized MWRA's process for transferring water from the Quabbin Reservoir to the Wachusett Reservoir. She noted that the water in the Wachusett typically becomes stratified (warm water at the top, cold water at the bottom) during the summer months, and that during transfers, Quabbin water enters the Wachusett in a specific layer, providing higher quality water at the Cosgrove intake.

Ms. Reilley then advised that during summer 2023, MWRA could not transfer as much water from the Quabbin to the Wachusett as usual due to heavy rains. She explained that these rains meant that Wachusett Reservoir received more local tributary flow than usual, and noted that local tributary flow includes higher levels of natural reactive organic matter, measured as UV254. Ms. Reilley discussed the impacts of seasonal Wachusett Reservoir UV254 levels on MWRA's water treatment. She explained that higher UV254 levels require more treatment with ozone and chlorine, and make it harder to maintain chlorine residual levels through community distribution systems. She presented a chart of UV254 levels in Carroll Treatment Plant raw water from 2019 to date, noting that in typical years, Wachusett UV254 levels decline mid-summer as a result of Quabbin transfers, resulting in higher quality water entering the intake and the treatment plant.

Rev. White-Hammond asked if UV254 affects the taste and odor of MWRA's drinking water. Ms. Reilley explained that ozonation effectively neutralizes any tastes or odors from organic matter. She further explained that seasonal drinking water taste changes are typically caused by algae, and noted that algae levels were low in MWRA's reservoirs during summer 2023. There was brief, general discussion about MWRA drinking water's quality and taste.

Ms. Reilley resumed discussion of Wachusett UV254 levels in 2023. She reported that the levels were currently higher than normal due to continued high-impact rain events, and that staff will continue to adjust water treatment accordingly. She then advised that elevated UV254 levels can increase water's

lead solubility; therefore, current levels may impact the September 2023 round of Lead and Copper Rule sampling results.

Finally, Ms. Reilley summarized the effects of climate change on MWRA's systems, and staff's ongoing response to these challenges, including the incorporation of climate change projections into CSO control planning, and adjustments to drinking water treatment as needed.

(Rev. White-Hammond joined the meeting during the presentation.)

Mr. Laskey briefly described how MWRA's water quality monitoring system works, and how high impact rainfall events effect the system. There was brief general discussion about water quality monitoring.

Mr. Taverna asked if MWRA water quality staff have adequate time to react to high intensity storm events. Ms. Reilley explained that staff were well equipped to maintain drinking water quality through these events, and summarized the logistics of MWRA's water quality monitoring program. She noted that MWRA's water treatment facilities include automated systems for measurement, analysis, and dosage adjustments, and that staff monitor and adjust water treatment 24 hours per day.

Board Member Jack Walsh requested more information about the impacts of major storms on MWRA's South System sewer facilities. Stephen Cullen, MWRA Director of Wastewater, explained that the South System experiences fewer rainfall impacts because of sewer separation.

Board Member Vitale asked staff to clarify the terms "full treatment" and "partial treatment" with regards to CSOs. Ms. Reilley explained that the Department of Environmental Protection (DEP) defines the CSO chlorination/dechlorination process as "partial treatment" because it does not provide the same level of treatment as a full wastewater treatment plant. She further explained that while some CSOs in the MWRA service area are not treated with chlorination/dechlorination, all of the outfalls receive floatables control. Mr. Vitale asked staff to explain the definition of the term "0% treated CSOs" as referenced in a table on page 2 of the Staff Summary. Ms. Reilley noted that the term refers to CSOs that are not treated with chlorination/dechlorination. There was brief, general discussion about the table in the Staff Summary, and the basins where 0% treated CSOs are located.

Hearing no further discussion or questions from the Board, Committee Chair Jack Walsh moved to Contract Amendments/Change Orders. (ref. V A.1)

Contract Amendments/Change Orders

Nut Island Headworks Odor Control and HVAC Improvements Inspections, Evaluations, Design, Construction Administration and Resident Engineering Services Hazen and Sawyer, P.C. Contract 7517, Amendment 5

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Amendment 5 to Contract 7517, Nut Island Headworks Odor Control and HVAC

Improvements Inspections, Evaluations, Design, Construction Administration and Resident Engineering Services, with Hazen and Sawyer, P.C., increasing the contract amount by \$433,117.34, from \$8,730,751.51 to \$9,163,868.85, and extending the contract term by 215 days, from June 30, 2024 to January 31, 2025.

Marty McGowan, MWRA Director, Construction, presented the reasons for a proposed Amendment to a Nut Island Headworks odor control and HVAC improvements professional services contract. He began with an overview of the facility's location, and provided status updates on HVAC and odor control systems improvements. He noted that supply chain issues have caused some project delays. Next, Mr. McGowan discussed ongoing site regrading efforts. He advised that recent heavy rain storms have caused slight delays in the schedule for planting, which is now expected to take place in October. He then presented an update on final site paving, noting that staff were working diligently to return Nut Island's open space areas to conditions suitable for safe public use in fall, 2023. Mr. McGowan then presented the scope and terms of the proposed Amendment, including a 215-day contract extension for resident engineering/resident inspection (RE/RI) and engineering services during construction (ESDC), while construction contractors address the previously discussed delays. He advised that staff expect contract closeout in January, 2024. Finally, Mr. McGowan described the job functions of RE/RI contractors, and stressed that the proposed Amendment is important to ensure the coordinated and timely completion of the project, which is taking place in a major, operating facility.

Mr. Taverna asked whether the basis for payment of the services was cost plus fixed fee, and Mr. McGowan responded in the affirmative.

Mr. Jack Walsh asked why staff were requesting Board approval of this Amendment a year ahead of the expected contract closeout. Mr. McGowan explained that the Amendment is needed for RE/RI and ESDC services during the time period between the previous anticipated Substantial Completion date (June 2023) and the anticipated contract closeout (January 2024.) He briefly described the RE/RI and ESDC activities that are expected to take place. Mr. Walsh requested more information about the RE/RI and ESDC contractor payment process. Mr. McGowan explained that the consultant submits monthly invoices to MWRA detailing all billable hours and are only reimbursed for the actual hours worked. Mr. Walsh thanked MWRA staff for their excellent work and responsiveness on the project.

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		

Yes

No

J. Walsh

White-Hammond

(ref. V B.1)

WATER POLICY AND OVERSIGHT

Information

Update on the John J. Carroll Water Treatment Plant Corrosion Control Optimization Study

Patricia Mallett, MWRA Senior Program Manager, Engineering and Construction, presented an update on the Carroll Water Treatment Plant corrosion and control optimization study, undertaken in preparation for the upcoming federal Revised Lead and Copper Rule (LCRR). She provided an overview of MWRA's current corrosion control treatment strategy for drinking water, noting that it has achieved an over 90% reduction in lead levels since the mid-1990s. She then reported that the most recent 90% lead levels for MWRA's fully supplied communities is 7.3 parts per billion (ppb), well below the Lead Action Level of 15 ppb. Ms. Mallett advised that compliance with LCRR revisions, which include a new trigger level of 10ppb, will be required by October, 2024. She explained that achieving the new, lower trigger level could be challenging, particularly with regards to new required sampling methods. She further explained that the objective of the new LCRR sampling methods is to provide a more representative sample of water from lead service lines by sampling the fifth liter of water collected, and noted that MWRA's annual community lead and copper sampling is being conducted during September, 2023.

Ms. Mallett then advised that MWRA staff are proactively conducting studies to evaluate potential water treatment alternatives to meet current and future regulatory requirements. She described how the lead pipe rig study being conducted at the John J. Carroll Water Treatment Plant is evaluating how various treatment methods effect lead service lines. She summarized the study's design, methods, and goals. Ms. Mallett then outlined the study's three phases: construction (July 2020 – September 2021), acclimation (October 2021 – July 2023) and experimental (August 2023 – August 2024+). She noted that the overall study will include an evaluation of the operational and water quality impacts of adding phosphate for drinking water treatment.

Next, Ms. Mallett discussed findings from the study's acclimation phase. She noted that study data appears to correlate lead levels with raw water organic matter as measured by the water quality testing parameter UV254, adding that this finding could prove useful in managing MWRA's system water quality. She further noted that MWRA's current UV254 levels are high because of decreased transfers from the Quabbin reservoir due to wet weather, and that this could impact lead test results.

Ms. Mallett then presented a brief overview of MWRA's ongoing efforts to reduce lead exposures, including its Lead Service Line Replacement Loan program for member water communities.

Finally, Ms. Mallett advised that the EPA is expected to issue additional LCR changes this fall, which could include sampling protocols, a reduction of the lead Action Level, and mandates for lead service

line replacements. Ms. Mallett further advised that these changes could result in more communities exceeding the lead Action Level, which would trigger required public notifications within 24 hours. She added that potential added LCR changes could include a requirement for MWRA to complete a corrosion control study if the system exceeded the lead Action Level or Trigger Level, noting that MWRA is proactively preparing for this possibility by conducting this study.

Board Member Peña requested more information about the reasons for the study's finding of a correlation between UV254 and lead. Stephen Estes-Smargiassi, MWRA Director of Planning and Sustainability explained that the study's sampling frequency has produced large amounts of data that reinforces a pattern of correlation that was previously suggested by routine twice-annual sampling data. He then advised that further study is needed to identify a more detailed explanation. Mr. Estes-Smargiassi noted that MWRA manages Quabbin transfers carefully to reduce UV254 absorbance, and to reduce chlorine demand and ozone usage.

Rev. White-Hammond asked for more information about potential sources of lead in MWRA drinking water. Mr. Estes-Smargiassi explained MWRA's source waters' lead levels are near zero, and that MWRA has not seen significant changes in source water lead levels. He advised that lead service lines are the most common source of lead in tap water within the service area. He added that only a small percentage of service lines in MWRA's service area are made of lead, and noted that MWRA and its member communities are working to reduce the number of local lead service lines. Mr. Estes-Smargiassi explained that MWRA's corrosion control treatment reduces the likelihood that that lead will dissolve into drinking water as it passes through service lines.

There was discussion about MWRA's ongoing corrosion control program, which has achieved a 90% reduction in lead levels since 1997, and ways to potentially reduce tap lead levels further, including adjustments to water chemistry and more aggressive lead service line replacement in communities. There was also general discussion about the progress of MWRA's Lead Service Line Replacement Loan Program, and common sources of lead in home drinking water, such as lead solder and old brass faucets. Mr. Vitale noted that the City of Boston had recently upgraded its program for private lead service line replacements, which are now available at no cost to property owners. He advised that requests for lead service line replacements in Boston have risen significantly since the program changed.

Hearing no further questions or discussion from the Board, Committee Chair Vitale moved to Approvals. (ref. VI A.1)

Approvals

Memorandum of Agreement with the U.S. Army Corps of Engineers and the Massachusetts Historical Commission to Facilitate Federal Permitting for the Removal of the Quinapoxet River Dam

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to execute a Memorandum of Agreement with the U.S. Army Corps of Engineers and the Massachusetts Historical Commission, substantially in the form attached to the September 13, 2023 Staff Summary presented and filed with the records of this meeting, in order for the Army Corps to

proceed with an anticipated Clean Water Act Section 404 Permit required for the removal of the Quinapoxet Dam at MWRA's Oakdale Power Station facility in West Boylston.

Katie Ronan, MWRA Project Manager, Environmental Permitting, presented an overview of a Memorandum of Agreement (MOA) for the removal of the Quinapoxet Dam. She began with background on the dam's location, functions, history and features, which include a concrete arched spillway and an 86-foot long fish ladder. Ms. Ronan explained that MWRA staff have been working closely with the Department of Conservation and Recreation (DCR) and the Massachusetts Division of Ecological Restoration (DER) on the dam removal project, with a goal of restoring the Quinapoxet River to its natural conditions. She described the environmental benefits of removing the dam, including restoring in stream habitat, enabling fish and wildlife passage, and opening up 35 miles of cold water fish habitat. Ms. Ronan noted that the dam removal project also includes public access improvements, such as construction of a new ADA accessible pathway and fishing platform.

Next, Ms. Ronan discussed the permit requirements for the dam removal project, including a US Army Corps of Engineers (ACACE) Clean Water Act 404 permit for in-stream excavation and dredging. She explained that federal permitting also requires enhanced review by the Massachusetts Historical Commission (MHC). She advised that the MHC and ASACE had determined that removal would have an adverse effect on the historic dam. She explained that the determination does not prevent MWRA from removing the dam, but requires the execution of a Memorandum of Agreement (MOA) between MWRA, USACE and MHC that outlines mitigation measures.

Ms. Ronan then summarized the terms of the proposed MOA. She explained that the MOA's mitigation requirements, including the completion of inventory forms to document and record information on historic resources, had been submitted and accepted by MHC. She added that the MOA has a term of three years, and includes stipulations for unanticipated discovery, dispute resolution and amendments.

Next, Ms. Ronan described the next steps of the permitting process. She explained that the permitting was nearly complete, with only a Chapter 91 license and the previously discussed USACE 404 permit outstanding, pending the execution of the MOA. She noted that the contract procurement process for the dam removal project was underway, with a goal of recommending a contract award to the Board in October, 2023. Finally, Ms. Ronan presented examples of completed dam removal/river restoration projects in Plymouth and Andover, Massachusetts.

Chair Tepper thanked staff for their cooperation with dam removal projects.

Rev. White-Hammond asked if MWRA had undertaken similar dam removal projects in the past. Ms. Ronan explained that the Quinapoxet Dam removal would be the first such project at MWRA. Mr. Laskey added that the dam is no longer needed for MWRA operations and that its removal would bring environmental benefits. Rev. White-Hammond asked if there were other MWRA dams that could potentially be removed. Mr. Laskey advised that there are currently no plans to remove additional dams. Mr. Jack Walsh asked if the Quinapoxet Dam removal will impact upstream river flows. Ms. Ronan

explained that the restored river is expected to mimic natural flow patterns. Mr. Laskey added that the project has significant wildlife benefits, like MWRA's McLaughlin Fish Hatchery Pipeline and Hydropower Project.

Board Member Pappastergion noted that the design and permitting contract for the Quinapoxet Dam removal project was awarded four years ago. MWRA Chief Operating Officer David Coppes explained that the Board had approved an Amendment to extend that contract's duration in 2022 that was requested due to permitting delays. Mr. Pappastergion asked if the current delays were Covid related. Mr. Coppes explained that the delays discussed with the Board in 2022 were attributable to Covid, and that the reasons for the current delays would be further explained in agenda item VI C.1.

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

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

(ref. VI B.1)

Contract Amendments/Change Orders

Quinapoxet Dam Removal Design, Permitting and Engineering Services During Construction: SLR International Corporation, Contract 7347, Amendment 2

A motion was duly made and seconded to approve Amendment 2 to Contract 7347, Quinapoxet Dam Removal, Design and Engineering Services During Construction, with SLR International Corporation to increase the contract amount by \$194,986.60, from \$425,442.07 to \$620,428.67 and increase the contract term by 24 months from April 1, 2024 to April 1, 2026.

John Gregoire, Program Manager, Reservoir Operations, summarized the scope of benefits of the Quinapoxet Dam Removal project, including the restoration of migration access for landlocked salmon in the Wachusett Reservoir. Next, he described the needs and rationale for the proposed Amendment for design, permitting and engineering during construction contract. He advised that there is a discrete window for construction, which can only occur in October through April, when Quabbin transfers can be suspended. He then explained that staff were requesting a time extension for required additional permitting and review, and a contract cost increase for an increased level of effort for tasks such as turbidity and structural testing modifications, and the preparation of additional submittals. Finally, Mr.

Gregoire advised that the proposed Amendment includes a task order allowance for increased level of effort and unforeseen conditions, noting that the record drawings of the Quinapoxet Dam are over 100 years old.

Rev. White-Hammond requested clarification on the timeline of the design/ESDC contract and the upcoming dam removal construction contract. Mr. Gregoire explained that design/ESDC work and preparations for construction in the river channel would take place through the rest of 2023 into 2024. He advised that construction was not likely to begin until October 2024, when Quabbin transfers can be suspended more safely. He added that the proposed Amendment includes a time extension request for ESDC and a warranty period.

Mr. Taverna asked for more information about the DCR Green Docket process, and why it applies to this project. Mr. Gregoire explained that the DCR Green Docket program, implemented in 2022, is a permitting review requirement for projects that take place on DCR property. He further explained that this process was retroactively applied to this contract, which required revising submittals to meet Green Docket requirements contributed to the project's permitting delays.

Rev. White-Hammond suggested that MWRA meet with DCR staff to discuss DCR Green Docket program requirements. Mr. Coppes explained that MWRA and DCR staff hold quarterly coordination meetings, and that the two agencies have a collaborative working relationship. There was brief, general discussion about the Green Docket program.

Mr. Pappastergion asked which entity owns the Quinapoxet Dam. Mr. Gregoire explained that the dam is owned by the Commonwealth of Massachusetts, in care of the DCR. Mr. Pappastergion asked why the dam is being removed. Mr. Gregoire explained that the dam is obsolete and requires costly maintenance and repairs. Mr. Pappastergion requested clarification on the reasons why MWRA was funding the dam's removal, and asked for further information about the project's benefits to MWRA. Mr. Coppes explained that the dam is a capital liability and that MWRA pays for DCR maintenance costs. He further explained that its removal will reduce ongoing and future maintenance costs, and provide environmental benefits, in alignment with MWRA's mission. There was general discussion about the project's permitting process, the DCR Green Docket, and MWRA and DCR's respective responsibilities for funding improvement projects. Mr. Laskey noted that MWRA is a steward of its watersheds, and advised that staff will discuss the funding responsibilities for potential future capital maintenance projects with DCR.

Rev. White-Hammond complimented current DCR leadership. Chair Tepper noted that under its new leadership, DCR staff have been making efforts to collaborate with and reach out to fellow state agencies, and that they would welcome further conversation about funding for future capital projects.

(Mr. Vitale briefly left and returned to the meeting during the discussion.)

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

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

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

(ref. VI C.1)

PERSONNEL AND COMPENATION

Approval

PCR Amendments – September 2023

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, described six proposed PCR amendments, including a title and grade change to one filled position in the Executive Division; a title change and salary adjustment to one filled position in Public Affairs; a grade change and salary adjustment to one filled position in the Executive Division; two title and grade changes to two vacant positions in the Operations Division; and, the creation of a new Third Class Engineer position in the Operations Division, Deer Island Thermal Power Plant Department to better meet staffing needs.

Mr. Jack Walsh requested more information about the need to create the Third Class Engineer position. Ms. Chu explained that the new position would address staffing challenges at the Thermal Power Plant. Mr. Coppes added that the Third Class engineer position is needed to maintain license requirements, provide adequate coverage, and for succession planning. There was general discussion about ongoing staffing challenges for Thermal Power Plant positions; the functions of the plant; the extended length of posted job vacancies; and the pros and cons of overtime. MWRA Director of Administration Michele Gillen described MWRA's ongoing overall efforts for staff recruitment and retention, including training and career ladders. She advised that the Thermal Power Plant positions have been historically difficult to fill, and described previously-approved PCR amendments to promote recruitment. Mr. Walsh expressed support for MWRA's strategies for on the job staff training.

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

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

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
White-Hammond		

(ref. VII A.1)

Appointment of Katherine M. Ronan, Chief of Staff

A motion was duly made and seconded to approve the appointment of Ms. Katherine M. Ronan to the position of Chief of Staff, Executive Division (Non-Union Grade 14) at an annual salary of \$125,000, commencing on a date to be determined by the Executive Director.

Ms. Chu described the proposed candidate's work experience and qualifications, and the position's responsibilities and job requirements.

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		
White-Hammond		

(ref. VII A.2)

Appointment of Colleen Rizzi, Director, Environmental and Regulatory Affairs, Operations Division

A motion was duly made and seconded to approve the appointment of Ms. Colleen Rizzi to the position of Director, Environmental and Regulatory Affairs, Operations Division (Non-Union Grade 16) at an annual salary of \$167,000, commencing on a date to be determined by the Executive Director.

Ms. Chu described the proposed candidate's work experience and qualifications, the position's responsibilities, and the recruitment and interview process. She noted that the candidate would transfer to the Director of Environmental Affairs from a position in the Tunnel Redundancy Program.

Mr. Taverna asked if the transfer would impact the Tunnel Redundancy Program. Ms. Chu advised that there would likely be a short-term impact and that staff are working to fill the vacancy as soon as possible. There was brief, general discussion about the operational challenges and benefits of internal promotions.

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

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

(ref. VII A.3)

(Mr. Foti left the meeting after the Roll Call vote.)

ADMINISTRATION, FINANCE AND AUDIT

Information

Delegated Authority Report – July and August 2023

Michele Gillen, MWRA Director of Administration, invited Board Members' questions on the report.

Mr. Pappastergion noted that the Staff Summary included a duplicate page.

Mr. Jack Walsh requested more information about Item C-7: *Prison Point CSO Facility Improvements Discharge Header Rehabilitation* in the August 2023 report. Mr. Coppes explained that the project is logistically and technically complex. He further explained that the repairs are needed to address leaks, and briefly summarized the scope of work.

Mr. Taverna asked for clarification on the cost of August report Item P-13: *Purchase of Two Electric Pickup Trucks*. Ms. Gillen explained that MWRA is paying market rate for the trucks and that this purchase reflects MWRA's commitment to meeting the Commonwealth's guidelines for reducing carbon emissions. She noted that MWRA aims to electrify its fleet, and that staff plan to continue purchasing EVs. Rev. White-Hammond noted that while EVs can cost more up front than gas or diesel vehicles, they provide cost savings on other expenditures. Ms. Gillen agreed, adding that staff expects EV prices to come down as the market for them grows. There was brief, general discussion about the increasing

availability of electric trucks and SUVs, the costs of EVs, and EV fleet purchases at BWSC.

Mr. Jack Walsh asked if item P-12: *Supply and Delivery of Sodium Hypochlorite* in the July 2023 report represented a price increase. Mr. Coppes explained that the item represented a cost decrease of approximately 20%. Ms. Gillen added that staff were beginning to see lower costs for chemicals overall. There was brief, general discussion about chemical costs.

(Mr. Vitale left the meeting during the discussion.)

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

FY2023 Fourth Quarter Orange Notebook

Michael O'Keefe, MWRA Senior Program Manager, Planning, invited questions from the Board.

Mr. Pappastergion asked staff to update the Board on the Orange Notebook's most noteworthy highlights. Mr. Coppes advised that the impacts of staffing challenges on maintenance metrics was a notable theme in the Orange Notebook throughout FY2023. There was brief, general discussion about the cost of sodium hypochlorite.

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

FY23 Year-End Financial Update and Summary

Thomas Durkin, MWRA Finance Director summarized year-end financial highlights for FY2023. He noted that MWRA's FY2023 budget had proven to be effective through national economic challenges, such as periods of rapidly rising inflation and interest rates. Finally, he reported that MWRA had ended the fiscal year with a positive budget variance.

Hearing no further discussion or questions from the Board, Mr. Flanagan moved to the next Information item. (ref. VIII A.3)

Fiscal Year 2023 Year-End Capital Improvement Program Spending Report

Mr. Durkin provided a year-end summary of the FY2023 Capital Improvement Program (CIP). He noted that the FY2023 CIP included 102 design and construction contracts, including 27 that were awarded during the fiscal year. He added that several contracts were substantially completed during this timeframe. Finally, Mr. Durkin advised that FY2023's actual spending (38.4% underspent) was higher than FY2019 through FY2022, because FY2023 was the fifth of a five-year spending cap period. Finally, Mr. Durkin reported that the FY2023 CIP was successful overall.

Mr. Taverna asked if five-year cap underspending rolls over to the next cap period. Mr. Durkin explained that the underspending does not transfer to the next cap period.

Mr. Peña asked if staff anticipate making changes to defeasance strategies with respect to the current rate environment. Mr. Durkin explained that staff are currently assessing and developing defeasance strategies and will update the Board on any recommended adjustments. He noted that staff expect the practice of applying positive budget variances to debt service to continue because this strategy has proven to provide significant cost savings.

Hearing no further discussion or questions from the Board, Mr. Flanagan moved to Approvals. (ref. VIII A.4)

Approvals

Surplus Sewer Easement of the Abandoned Upper Neponset Valley Sewer

A motion was duly made and seconded to declare as surplus to the Authority's sewer system construction, maintenance, or operation needs and purposes a certain portion of an existing Commonwealth of Massachusetts sewer easement under the care, custody and control of the Authority and located on a parcel of land with an address of 49 Charles Park Road, Boston, as shown on Attachment A of the September 13, 2023 Staff Summary presented and filed with the records of this meeting, and to return it to the control of the Massachusetts Division of Capital Asset Management and Maintenance in accordance with Section 9(c) of Chapter 372 of the Acts of 1984 (Enabling Act), as amended.

Colleen Guida, MWRA Real Property Manager, invited questions from the Board about the proposed declaration as surplus of an abandoned sewer easement.

Mr. Jack Walsh asked for more information about the expected use of the proposed surplus easement. Ms. Guida explained that the owner of the properties burdened by the easement planned to redevelop the easement and its adjacent parcels. Mr. Jack Walsh asked if the properties would be developed for business uses. Ms. Guida responded in the affirmative.

Mr. Pappastergion asked if the proposed surplus easement housed a pipeline. Ms. Guida explained that the easement housed an abandoned pipeline, the Upper Neponset Valley Sewer (UNVS). Mr. Pappastergion asked why MWRA is abandoning only a portion of the UNVS easement. Ms. Guida explained that MWRA initiates the process to surplus portions of abandoned easements on a case by case basis. Ms. Gillen added that this approach reflects the level of effort and cost of the easement surplussing process, and briefly described the necessary steps. Rev. White-Hammond asked if declaring the entire easement as surplus would save time. Ms. Gillen explained that a large portion of the easement is located in the public way. There was brief, general discussion about the location and characteristics of the UNVS easement. Finally, Ms. Gillen noted that MWRA had received one additional request to surplus a portion of the UNVS easement in the past.

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

Yes No Abstain

Tepper

Flanagan

Pappastergion

Peña

Taverna

J. Walsh

White-Hammond

(ref. VIII B.1)

Contract Amendments/Change Orders

Security Equipment Maintenance and Repair Services, Viscom Systems, Inc. Contract EXE043, Change Order 2

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 2 to Contract EXE-043, Security Equipment Maintenance and Repair Services, with Viscom Systems, Inc. for an amount not to exceed \$186,061.15, increasing the contract amount from \$2,570,803.30 to \$2,756,864.45, and extending the contract term by 90 calendar days from September 28, 2023, to December 27, 2023.

Douglas Rice, MWRA Director of Procurement, explained that in response to Board input at the July 19, 2023 Board of Directors Meeting (ref. V B.1, 07/19/2023), staff recommend separating the scope of work for Contract EXE-043 (Security Equipment Maintenance and Repair Services) into two, new contracts for advertisement in the upcoming months. He further explained that restructuring the scope of work would allow MWRA to use state blanket contracts that do not require Division of Capital Management and Maintenance (DCAMM) certification, and potentially increase bidder competition. Finally, Mr. Rice advised that staff were currently seeking Board approval for a change order that includes a three-month extension for Contract EXE-043 to provide continued, as-needed preventive maintenance. Mr. Laskey added that the contract repackaging approach was developed to address Board Members' feedback.

Rev. White-Hammond noted that she was looking forward to evaluating the results of the contract repackaging. Mr. Taverna asked if Viscom Systems, Inc. had received DCAMM certification since July, 2023. Gary Cacace, MWRA Director of Security, explained that Viscom had not been certified. Mr. Rice added that Viscom had not pursued the certification. Mr. Taverna asked staff to confirm that DCAMM certifications would not be required for the planned state blanket contracts. Mr. Rice confirmed that the provisions of the contracts would not require DCAMM certifications. Mr. Taverna asked if staff expected Viscom to bid on the repackaged contracts. Mr. Cacace explained that it was possible that Viscom could place bids.

Chair Tepper thanked staff for their creative approach to address the Board's comments. 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		
J. Walsh		
White-Hammond		

(ref. VIII C.1)

ADJOURNMENT

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

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

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Pappastergion		
Peña		
Taverna		
J. Walsh		
White-Hammond		

(ref. X)

The meeting adjourned at 3:07pm.

Approved: October 18, 2023

Attest:

Brian Peña, Secretary

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 18, 2023
SUBJECT: Update on Water System Expansion Activities



COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

Stephen Estes-Smargiassi, Director, Planning and Sustainability
Colleen Rizzi, Director, Environmental and Regulatory Affairs
Rebecca Weidman, Deputy Chief Operating Officer
Preparer/Title


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

RECOMMENDATION:

For information only.

DISCUSSION:

Over the last 18 months, MWRA has received an increase in inquiries regarding new connections to MWRA's Water System. These requests are attributable to three factors: MWRA recently completed three water system expansion feasibility studies; MWRA's Board of Directors waived the water system entrance fee for up to 20 million gallons per day (mgd) of water for new communities meeting certain criteria; and the U.S. Environmental Protection Agency (US EPA) proposed a draft National Primary Drinking Water Regulation to establish new Maximum Contaminant Levels (MCLs) for six Per- and Polyfluoroalkyl Substances (PFAS). This update is intended to provide: an overview of recent conversations with interested communities; the status of communities in the process of seeking admission to MWRA's Water System; and an overview of an immediate next step, constructing a new connection to our MetroWest Tunnel and Hultman Aqueduct at Shaft L.

The communities included in this summary are at various stages of considering a connection to MWRA's Water System. Any complete admissions application package, pursuant to MWRA Operating Policy 10 (OP.10), must be approved by MWRA's Advisory Board followed by a vote of the Board of Directors. Additionally, any existing member community interested in increasing authorized volumes in its Water Supply Continuation Agreement and seeking the Entrance Fee Waiver must also receive approval by both MWRA's Advisory Board and Board of Directors. Given the current level of interest in joining MWRA's Water System, staff are advising interested communities that they will need to demonstrate a realistic need for any volume of water requested in order to ensure that an adequate supply of water continues to be available for existing and future member communities.

Available Water Supply

MWRA considers itself a resource for all of the Commonwealth. The safe yield of the Quabbin Reservoir, Ware River and Wachusett Reservoir system is 300 million gallons per day. This means that the system would be able to continue to supply an average of 300 mgd even during a severe drought. This safe yield is based on modeling of the multi-year drought of the 1960s considered to be about a one in 400-year occurrence event¹. The safe yield modeling accounts for system operations during various weather conditions, and anticipates and accounts for the expected increase in use of MWRA water by our partial users and emergency users during drought conditions.

Water demand on the MWRA system has decreased dramatically since its creation in 1985, due to aggressive demand management programs, increased costs of water, sewer and energy, and national trends toward more efficient appliances and fixtures. Water use has decreased from around 340 mgd in the early 1980s to a five-year average of 200 mgd in 2022; despite increases in regional population and employment, and the addition of eight new communities and the McLaughlin Fish Hatchery to the system during that time (Figure 1).

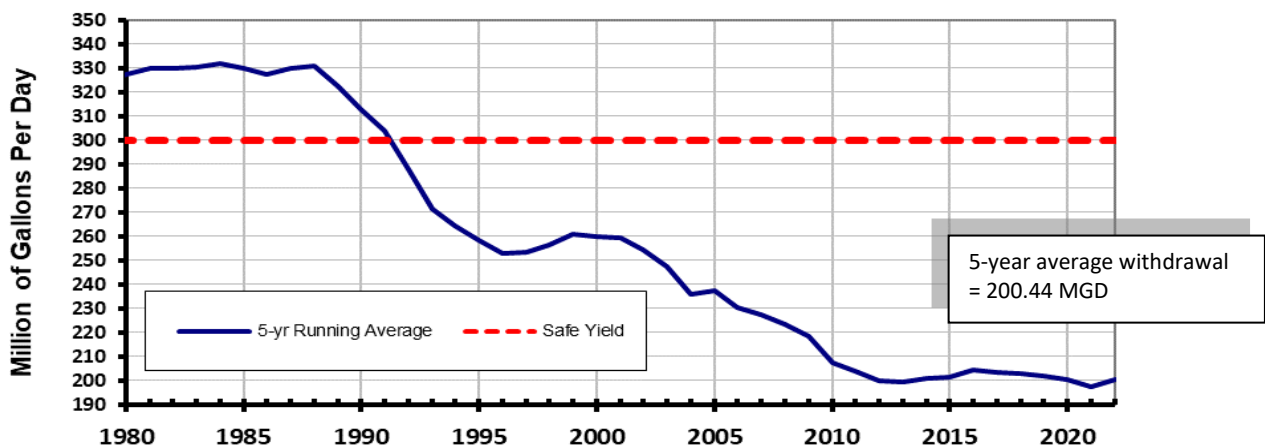


Figure 1. Reservoir Withdrawals Over Time

Conservative water use projections in MWRA’s most recent Master Plan (2018) indicates that new growth through 2040 within the service area will use no more than around 29 mgd, and likely less. Staff’s projections also assume that our partial user communities may need to rely on MWRA for additional supply; the Master Plan includes a long term average of 17 mgd for increased use by partial users. This assumes that there may be periods when communities take more water while upgrading treatment and that some sources in stressed basins may be used less in the future. It was estimated as part of the Master Plan that based on the then current five-year average demand of 203 mgd, over 50 mgd of capacity was available (Table 1). As demand has continued to decrease, even that figure seems conservative.

¹ Staff have also evaluated the expected performance of the reservoir system under future climate change conditions. Modeling indicates that due to the large multi-year storage capacity of the system, it could see a small increase in safe yield with increased precipitation amounts despite the expected increased variability of “wetter wets and drier dries.”

Table 1. Summary of Conservative Demand Projections
(From 2018 Water Master Plan)

Current demand within the service area (five-year average)	203 MGD
Potential growth due to increased population and employment	29 MGD
Contingency for potential increase in demand from partial user communities	17 MGD
TOTAL PROJECTED DEMAND IN 2040	249 MGD
MWRA Supply System Safe Yield	300 MGD
AVAILABLE MARGIN	51 MGD

Additional demand resulting from new communities joining MWRA could also provide water quality benefits for our reservoir system. As noted at the September 2023 Board of Directors meeting, this past summer precipitation events have reduced the ability to maintain higher Quabbin transfer flow rates. System water demands have also been lower this summer than in past years, resulting in a slower response with reservoir elevation control. Rain events increase the local tributary flows into Wachusett (with higher levels of organic matter), and this combined with less Quabbin flows, has resulted in a decrease in the water quality benefits from Quabbin Reservoir at the treatment plant. Some additional demand within the water system has the potential to allow for beneficial transfers between the Quabbin and Wachusett Reservoirs, enhancing water quality.

MWRA Water System Expansion Feasibility Studies

Much of the recent interest in exploring a connection to MWRA’s Water System was the result of the approval of the entrance fee waiver and the three water system expansion feasibility studies. The entrance fee waiver will extend through December 31, 2027 for new communities seeking admission for up to a combined total 20 mgd. To qualify for the entrance fee waiver, communities must demonstrate that local sources are impacted by water quality issues, local sources are located in a stressed basin, or that local economic development is significantly constrained by existing local sources.

MWRA completed three water system expansion feasibility studies (available on www.mwra.com). The study areas included ten South Shore communities, 12 Ipswich River Basin communities, and 21 MetroWest communities (Figure 2). The studies reviewed the feasibility of MWRA providing an alternative source of drinking water to these communities. Specifically, the studies were intended to:

- quantify MWRA’s available water distribution and transmission system capacity to serve study communities;
- identify new infrastructure needed to deliver the available water capacity to these communities;
- provide planning-level cost estimates for infrastructure needed to serve the communities;
- consider the impact on drinking water quality from blending MWRA water with the communities’ local source(s), and highlight the importance for future study prior to any expansion community connections; and
- identify other factors that would need further study if system expansion discussions proceed, such as required permits and the time necessary for planning, permitting, design, and construction of required infrastructure.

MWRA is currently considering evaluating potential options for supplying communities that are within or surrounded by the Quabbin Reservoir watershed.

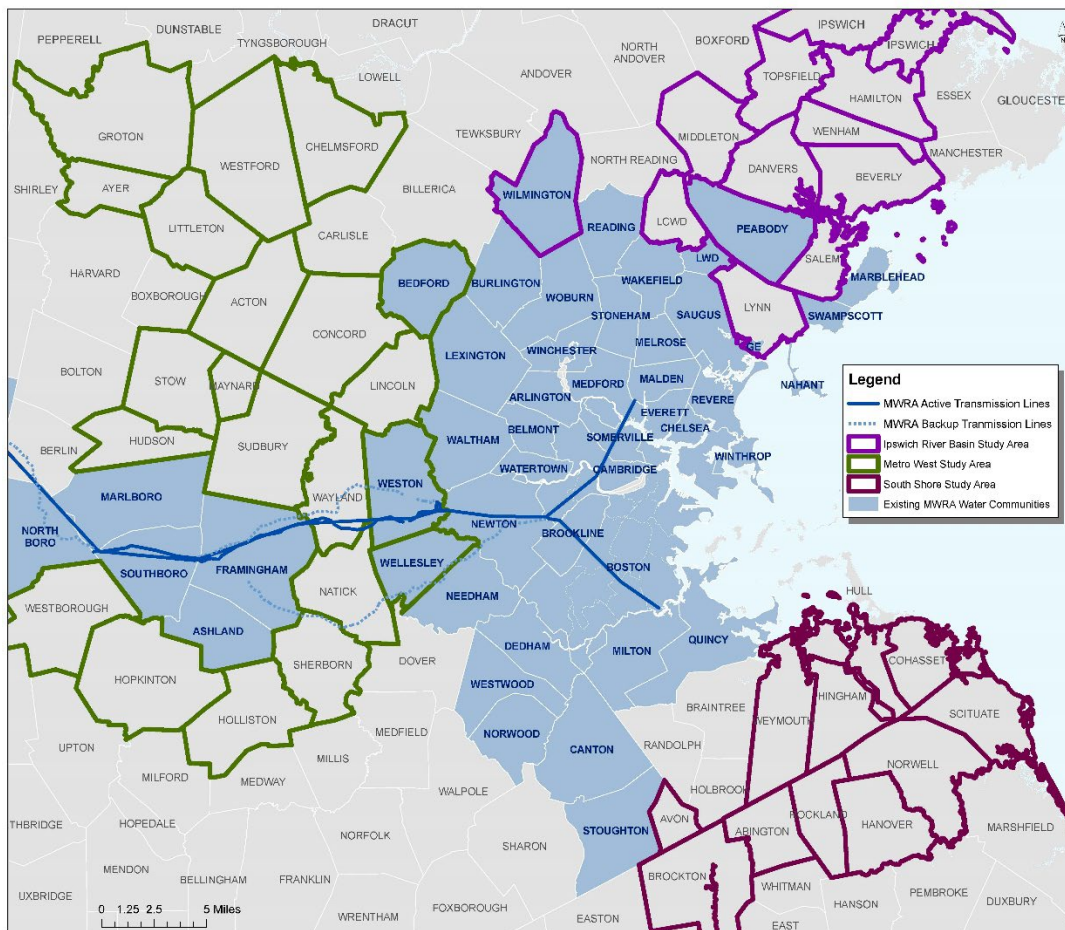


Figure 2. MWRA System Expansion Feasibility Study Areas

The studies are intended to be for planning purposes only. The volumes of water included in the studies exceeds 50 mgd of water MWRA deems it could provide to new communities. However, inclusion in the studies is not synonymous with interest in joining MWRA’s Water System; many communities included in the studies have not expressed interest in connecting to MWRA’s Water System.

Inquiries regarding a connection to MWRA’s Water System are listed below, and are a better reflection of the volumes of water currently under discussion for new connections. Most of these communities are still exploring MWRA as a water supply option and have not taken the first step toward pursuing admission to MWRA’s Water System, which requires receiving approval by the appropriate governing body to become a MWRA member community. For those communities, it is difficult to predict if admission to MWRA’s Water System will be pursued, and the volume of water requested. The three communities who have received approval by their governing body to pursue admission to MWRA’s Water System have an asterisk beside their name (Hopkinton, Lynnfield Center Water District, and Wayland). Two existing MWRA member communities are also included in the list below (Wellesley and Wilmington).

Recent Community Inquiries

Avon: MWRA and the Town of Avon recently met to discuss the potential for connecting to both MWRA's Water and Sewer Systems. Avon is looking to provide service to an industrial complex in town and anticipates demand would be approximately 0.1 mgd. Avon seeks to connect through the Town of Stoughton and is currently working with Stoughton to determine if a connection is feasible.

Billerica: MWRA and the City of Billerica recently met to discuss the potential to connect to MWRA's Water System as a partial community, with the possibility of becoming a fully served community in the future. Billerica's interest stems from the deteriorating water quality of its drinking water source, the Nashua River. Billerica would wheel water through an existing community; further modeling needs to be conducted to determine if there is capacity to supply additional water in that portion of MWRA's distribution system.

Hingham: The Town of Hingham was one of the ten communities included in the South Shore System Expansion study. The Town is working with other communities on the South Shore to determine if there is interest in a new regional water connection for the South Shore.

Hopkinton*: The Town of Hopkinton is in the process of pursuing admission to MWRA's Water System, pursuant to OP.10, for a supplemental water supply (amount to be determined, not to exceed approximately 1.1 mgd). Hopkinton is planning to wheel water through Southborough and is working with Southborough to make necessary system upgrades.

Lynnfield Center Water District*: Lynnfield Center is in the process of pursuing admission to MWRA's Water System, pursuant to OP.10, for a supplemental water supply (0.28 mgd). This connection will remedy local contamination issues and increased difficulty meeting local demand. Lynnfield Center is working with the Town of Wakefield to construct a new connection to Wakefield's water distribution system. This connection will also remedy water quality issues in the Wakefield water distribution system. This project is currently undergoing Massachusetts Environmental Policy Act and Interbasin Transfer Act review.

MetroWest Communities: MWRA continues to have regular discussions with 21 MetroWest Communities included in the System Expansion Study. A subset of these communities are actively working to determine the physical and financial feasibility of connecting to MWRA's Water System.

Natick: The Town of Natick is actively working toward pursuing admission to MWRA's Water System, pursuant to OP.10. The Town is initially seeking to utilize MWRA as a supplemental source (1.25 mgd), with the potential to take additional water in the future.

North Sherborn Water and Sewer District: A developer in Sherborn is seeking to create a new water and sewer district to support a proposed development. The total volumes estimated by the developer is 0.05 mgd and the developer is working with Framingham to determine if it can wheel water and wastewater through Framingham's existing systems.

Walpole: The Town of Walpole informed MWRA that it is currently investigating alternative supplemental water supply sources and the Town intends to pursue admission to MWRA's Water System. The Town would wheel water through Norwood.

Wayland*: The Town of Wayland is pursuing admission to MWRA's Water System pursuant to OP.10. Wayland is currently planning to connect to MWRA's Water System as a partial community, requesting approximately 0.64 mgd, with the potential of becoming a fully served community (1.6 mgd) in the future. The Town is in the process of designing a new connection to MWRA's Water System.

Wellesley: The Town of Wellesley is currently a partially supplied MWRA water community and has expressed interest in obtaining additional water from MWRA. Staff met with Wellesley on numerous occasions and conceptual new infrastructure connection options have been identified. Staff will continue to coordinate closely with the Town.

Weymouth: The Town of Weymouth is actively working toward admission to the MWRA Water System, pursuant to OP.10, to obtain supply for both the Town and the Union Point development located in South Weymouth. Staff have met with Weymouth and the developers on numerous occasions to discuss the admission process and requirements. MWRA's South Shore Feasibility Studies identified two conceptual infrastructure connections that could supply Weymouth and the development.

Wilmington: The Town of Wilmington is currently a partially served member community. The Town is seeking to amend its Water Supply Continuation Agreement to increase the volume of water it is authorized to take due to water quality issues with its local sources.

Infrastructure Needed

Historically, MWRA has worked with individual communities as requests for new connections or additional water supply were made. Until recently, these requests have been infrequent and represented specific volumes of water for a single community. Recent developments, as noted above, have resulted in increased interest in joining MWRA's Water System and, in some cases, it may be multiple communities working together to determine if they can make a regional connection. On the South Shore, there is a large connection stub at MWRA's Shaft 7D on the Dorchester Tunnel. MWRA's distribution system also extends into the City of Quincy. In the north, Ispwich River communities have connection options from MWRA's Northern High distribution system.

There are few options, however, to connect in the MetroWest area due to the limited tunnel shaft locations and the aqueduct pipe method of construction. If the Authority proceeds with one community at a time, it will be increasingly difficult to include additional communities later. Therefore, infrastructure modifications should be planned, which could support later connections. To that end, MWRA is planning to begin the design for a new 54-inch connection at our Shaft L site (Figure 3), which connects to both the MetroWest Tunnel and Hultman Aqueduct. This new connection would provide a connection point for many of the communities actively pursuing admission to MWRA's Water System, including Wayland, Natick, and other Metro West communities (Figure 4).



Figure 3. Shaft L Facility




Figure 4. Potential Connection Location at Shaft L

BUDGET/FISCAL IMPACTS:

MWRA is currently working on a scope for the design of the Shaft L connection; no design costs are available at this time. A preliminary cost estimate for the construction of a new 54-inch connection at Shaft L is \$5,730,000. Any construction project associated with this work would need to be approved by the Board of Directors separately.

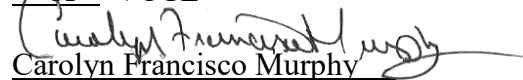
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 18, 2023
SUBJECT: Update on Contract 6955 with CDM Smith Inc., Design and Engineering Services During Construction and Memorandum of Agreement between MWRA and the City of Newton Intermediate High Pipeline Improvements, Section 75A and Section 47 - Belmont, Boston, Newton and Watertown Contract 7484


COMMITTEE: Water Policy & Oversight

 INFORMATION

 X VOTE


Carolyn Francisco Murphy
 General Counsel

Brian Kubaska, P.E., Chief Engineer
Ester N. Lwebuga P.E., Sr. Program Manager
 Preparer/Title


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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a Memorandum of Agreement between MWRA and the City of Newton, substantially in the form attached hereto, related to reimbursement to MWRA for construction costs associated with the replacement of a City of Newton 20-inch diameter water main and drainage improvements under MWRA Construction Contract 7484.

DISCUSSION:

MWRA is undertaking construction in Newton as part of the Intermediate High Pipeline Improvements Project. The entire project consists of three separate construction contracts in multiple communities. The City of Newton has requested that MWRA add some of its own pipeline rehabilitation work into the upcoming Construction Contract 7484 (CP1), for which the City would reimburse MWRA.

Proposed Memorandum of Agreement

Design for Construction Contract 7484 (CP1), as originally conceived, is currently at 100% but will be modified to include the cleaning and lining of approximately 2,000 linear feet of 20-inch water main at Section 47 and replacement of Meter 81 as discussed below. Subject to the Board’s approval, staff have negotiated the terms of an agreement with the City of Newton to include replacement of Newton’s approximately 3,000 linear feet of 20-inch diameter cast iron water main and drainage work in Contract 7484. Both MWRA and City of Newton work will include opening an excavation for the installation of their respective 24-inch and replacement of the 20-inch water mains. As part of this work, there will be relocation of other utilities including sewer and drain crossings, and the gas mains to accommodate installation of each of the water mains. With all the

work that will be occurring on Ward Street, it is in the mutual interests of MWRA and Newton to add the City's proposed work to Contract 7484, which will provide efficiency by opening up the road once and minimizing the disruption to residents.

The City contracted directly with Green International Affiliates for its portion of the design and ESDC. The City will perform resident inspection services for its work. The bid documents for the MWRA Contract 7484 will include a separate line item for all the City's work. The City will be responsible for 100 percent of the construction cost and for police detail services arising out of the work of this item. The City will also be responsible for its share of any potential construction change orders. The draft Memorandum of Agreement with the City of Newton is included in this staff summary as Attachment A, and staff recommend its approval.

Update on Contract 6955 with CDM Smith Inc., Design and Engineering Services During Construction

The Board of Directors approved the award of design Contract 6955 to CDM Smith Inc. on December 19, 2018 to provide Design and Engineering Services During Construction (ESDC) to interconnect the two geographically distinct and hydraulically unconnected Intermediate High water service areas to provide redundancy and operational flexibility in the event of pipe failures. This project also includes rehabilitation and replacement of old unlined cast iron pipes in the service area. Contract 6955 includes three construction packages and the key project elements are shown on Attachment B, and outlined below:

- Construction Contract 7484 (CP1) includes extending Section 75 water main with approximately 3,500 linear feet of 24-inch water main, from Commonwealth Avenue continuing on Grafton, Centre and Ward Streets to the intersection of Ward Street and Waverly Avenue. In addition, CP1 includes installation of a new revenue meter in Newton, replacement of Meter 111 and installation of a backup PRV in Belmont. The design for this construction contract is currently at 100% completion, subject to additional scope that may be added under delegated authority described below.

The City of Newton has a 140-year-old 20-inch diameter cast iron water main, approximately 3,000 linear feet, running parallel to MWRA's Section 75 extension alignment in Ward Street between Centre Street and Waverly Avenue. The City requested that the Authority include replacement of this portion of its 20-inch water main and drain work in the MWRA Construction Contract 7484, and has agreed to reimburse the Authority for the added construction cost to install this water main at an estimated cost of \$5,590,000. Actual costs would be determined after construction bid award.

- Construction Contract 6956 (CP2) was awarded to Albanese D&S, Inc. at the May 24, 2023 Board meeting. This contract includes replacement of 5,900 linear feet of Section 25 with larger pipe (16 to 20 inch) and rehabilitation by cleaning and lining of approximately 3,200 linear feet of Section 24 along with replacement of Watertown revenue Meters 2 and 40. The construction notice-to-proceed was July 12, 2023.
- Construction Contract 6548 (CP3) was originally planned to include rehabilitation of approximately 18,400 linear feet of 20-inch diameter Sections 47, 59 and 60 water mains in Arlington, Belmont and Watertown, and replacement of revenue meters 81, 110 and 121. CP3 design is at the preliminary design phase. During the pipeline condition assessment phase of

the design, a test coupon from Section 60 revealed that the pipeline had a cement mortar liner contrary to the 1939 record drawings. The information obtained from this test coupon was not sufficient to make a recommendation regarding rehabilitation of the entire pipeline. In addition, it is not possible to isolate the adjoining Section 59 at this time to determine whether this pipeline is also cement mortar lined and assess the integrity of the liner. For this reason, staff are recommending deletion of certain field testing, final design and ESDC services relative to Sections 59 and 60 from the design contract.

Further, staff recommend combining the design of Section 47 rehabilitation, which includes cleaning and lining of approximately 2,000 linear feet of 20-inch water main and replacement of Meter 81 into the design of Contract 7484 (CP1.) Appropriate changes to the design contract will be recommended to the Executive Director for approval, in the future, under delegated authority. In the future when Section 59 can be isolated, staff will arrange for collection of additional test coupons to determine whether this Section is also cement mortar lined. This data will inform a future contract for design of rehabilitation of Sections 59 and 60.

BUDGET/FISCAL IMPACTS:

The FY24 CIP includes planned spending of \$14,000,000 for Contract 7484.

MBE/WBE PARTICIPATION:

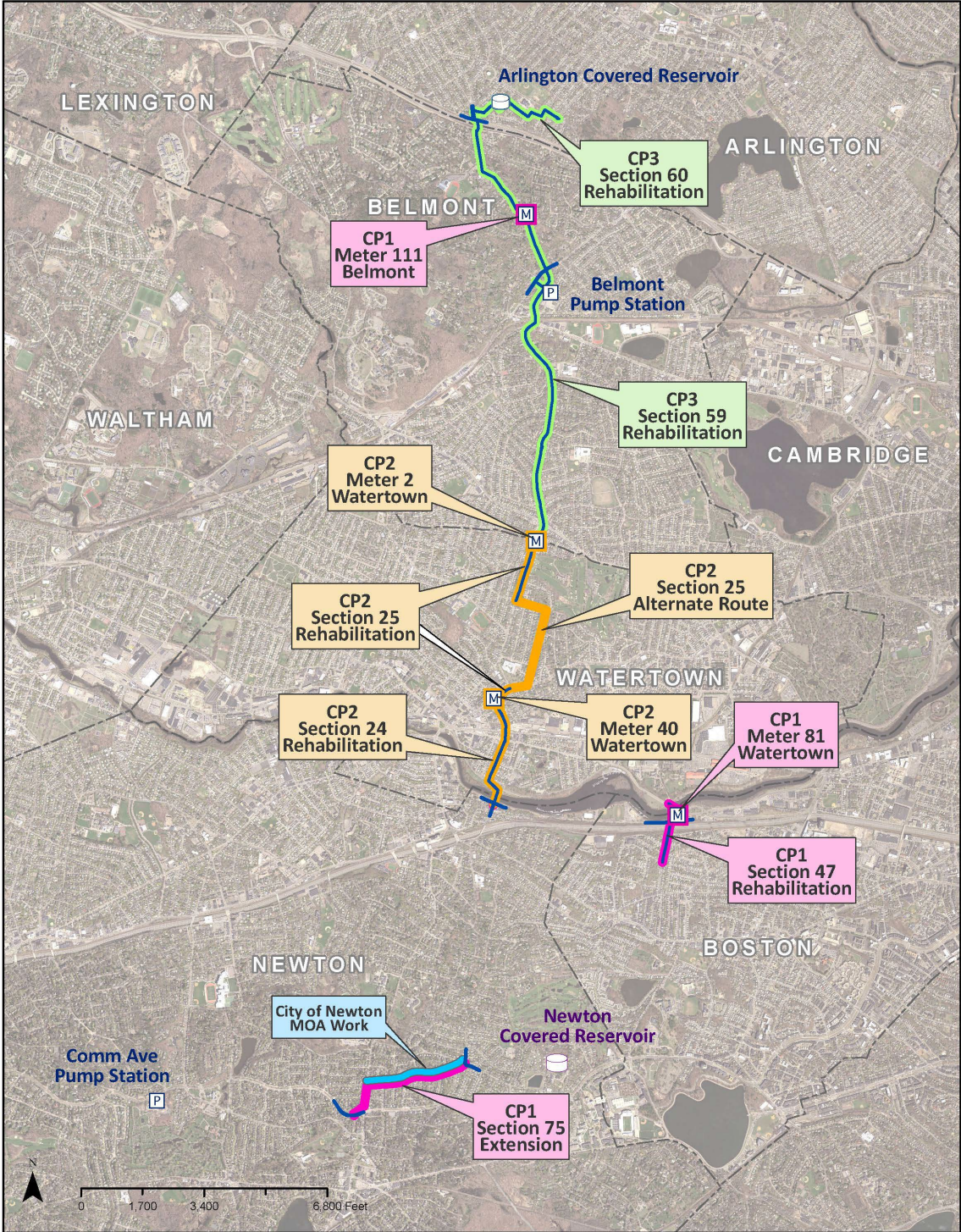
The MBE and WBE participation requirements for this contract will be established by the MWRA's Affirmative Action and Compliance Unit.

ATTACHMENT:

Attachment A - Figure 1 - Intermediate High Pipeline Improvements Contract 6955

Attachment B - Draft Memorandum of Agreement

Attachment A



ATTACHMENT 1: INTERMEDIATE HIGH PIPELINE IMPROVEMENTS – CONTRACT 6955

MEMORANDUM OF AGREEMENT
BY AND BETWEEN
MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
THE CITY OF NEWTON

This MEMORANDUM OF AGREEMENT (“MOA”) is made this _____ day of _____, 2023, by and between the MASSACHUSETTS WATER RESOURCES AUTHORITY (“MWRA”), a body corporate and politic and an independent authority pursuant to St. 1984, c. 372 of the laws of the Commonwealth of Massachusetts, as amended, and the CITY OF NEWTON (“City of Newton”), duly incorporated as a City under the laws of the Commonwealth of Massachusetts (each individually a “Party” and collectively the “Parties”).

RECITALS

WHEREAS, MWRA is planning to extend Section 75 water main, a part of the Intermediate High Service System, by laying approximately 3,488 linear feet of 24-inch diameter pipe along Center and Ward Streets, and install a meter at the intersection Ward Street and Grant Avenue in the City of Newton, which will provide water to the communities of Arlington, Belmont, Newton, and Watertown, as part of MWRA Contract 7484 – Intermediate High Pipeline Improvements CP1, Section 75A and Section 47 (“Contract”);

WHEREAS, the City of Newton would like to replace approximately 3,000 linear feet of the 20-inch municipal water pipeline in Ward Street in Newton from Center Street to Waverly Avenue, and relocate some of the City drainage pipes in conflict with the City’s water main work, running parallel to MWRA’s proposed alignment for Section 75 water main extension in Ward Street (“City of Newton Work”);

WHEREAS, the City of Newton has requested that MWRA include the City of Newton Work in the Contract;

WHEREAS, the Parties have determined that it is in their mutual best interests to: (a) add the City of Newton Work to the Contract; and (b) have MWRA advertise and accept bids for the Contract;

WHEREAS, MWRA expects to seek authorization from its Board of Directors to award the Contract and issue a Notice to Proceed in or about May, 2024; and

WHEREAS, the Parties wish to enter into this MOA regarding certain aspects of the construction, as well as payment for and sharing of costs with respect to the City of Newton Work.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. PROJECT RESPONSIBILITIES AND ALLOCATION OF COSTS

1.1 MWRA will, in coordination with its design consultant, complete the design of Section 75 water main extension project, Section 47 rehabilitation, Belmont Meter 111 and Watertown Meter 81 replacement (the “Project”) and include the scope of this work in the Contract documents. The City of Newton has contracted with Green International Affiliates (“Green”) for the design and construction administration engineering services for the City of Newton Work, and the scope of this work will also be included in the Contract documents. Green is a sub-consultant to CDM Smith Inc. who is the design consultant for MWRA on the Project. The City of Newton shall be responsible for the design and construction administrative costs associated with the City of Newton Work and will pay its design consultant directly for any design and construction administrative costs.

1.2 The bid documents for the Contract will include a separate line item for all the work associated with the installation of the City of Newton Work. All work described in this section is detailed in the plans and specifications dated January 2024 for the Contract. The City of Newton shall pay MWRA 100 percent of this line item, which includes, but is not limited to, the replacement of the approximately 3,000 linear feet of 20-inch pipeline, temporary water bypassing, side connections, replacement of drain lines and sanitary sewers, temporary and permanent patching of pavement, and disposal of contaminated soils. The City of Newton shall also pay MWRA for police detail services and any extra and change order work, subject and pursuant to the requirements set forth in section 3 herein, arising out of or related to the City of Newton Work. The City of Newton shall make payments to MWRA in accordance with Section 6 of this MOA.

1.3 Consistent with the provisions of G.L. c. 44, §31C, the City of Newton certifies that it has duly appropriated funds for the cost of the City of Newton Work, based upon its current cost estimate of \$5,590,000 million, plus additional costs for police detail services. MWRA shall notify the City of Newton of the bid results for the Contract prior to award. Following the bid opening for the Contract and prior to any contract award by MWRA, the City of Newton shall re-certify that it has duly appropriated funds to cover all costs for both the design and construction of the City of Newton Work.

1.4 The Contract documents shall include a requirement that the selected contractor for the Project name the City of Newton as an additional insured on all insurance policies required to be provided by such contractor for the Project, except for Workers Compensation.

1.5 The Contract documents shall include a requirement that the contractor warrant, for the benefit of the City of Newton, the City of Newton Work against defects in materials and workmanship for a period of one (1) year from substantial completion of the Project in accordance with standard MWRA terms in the General Conditions of the Contract documents. Provision shall be made for the contractor to repair or replace all defective work within said one-year period in accordance with standard MWRA terms in the General Conditions of the Contract documents.

1.6 The Contract documents shall include a requirement that the contractor indemnify and hold harmless the City of Newton to the same extent that MWRA requires its contractor to indemnify and hold harmless the MWRA in the General Conditions of the Contract documents.

1.7 The City of Newton shall provide and pay for its own Engineering Services during Construction, and Resident Engineering and Inspection services solely for that portion of the Project concerning the installation of the City of Newton Work. MWRA agrees that it shall provide access to the City of Newton's inspector at the work site and shall cooperate with the City of Newton's inspector with regard to any reasonable requests for assistance in inspecting the City of Newton Work.

2. ADVERTISEMENT AND AWARD OF CONTRACT

2.1 In accordance with Massachusetts procurement laws, MWRA shall advertise and accept bids for the Contract. MWRA, in its sole discretion, reserves the right to accept or reject any and all bids in accordance with Massachusetts law, including for the reasons articulated in the Contract bid solicitation materials.

2.2 MWRA, in its sole discretion, will enter into a contract with the successful bidder and such contract, if entered into by MWRA, will provide for the installation of the City of Newton Work in accordance with the plans and specifications dated January 2024.

3. CHANGE ORDERS

In the event of a request for a change order relating solely to the installation of the City of Newton Work, MWRA will provide the City of Newton with a copy of the proposed change order for review and approval, which approval shall be in writing. Upon approval thereof by the City of Newton, MWRA shall process such change order. Payments for such change order shall be invoiced with the monthly pay request to MWRA by its contractor, which will then invoice the City of Newton for 100 percent of such change order cost. The City of Newton shall make payments to MWRA in accordance with Section 6 of this MOA.

4. HAZARDOUS MATERIALS

MWRA shall be responsible for, and shall take all actions necessary or appropriate in accordance with MGL Chapter 21E and the Massachusetts Contingency Plan ("MCP") Utility Related Abatement Measures ("URAM") necessary to conduct the work under the Project. The City of Newton shall be responsible for all costs associated with the disposal of contaminated soils related to the installation of the City of Newton Work. The City of Newton shall make payments to MWRA in accordance with Section 6 of this MOA.

5. TERM

The term of this MOA shall, unless otherwise agreed to by the Parties, commence on the date written above and continue until final completion of the Project and any warranty period in the Contract.

6. PAYMENT BY THE CITY OF NEWTON

The City of Newton shall make payment to MWRA of the amounts requested in the Contractor's monthly invoice for the work in the bid items associated with the installation of the portion of the City of Newton Work referenced herein within thirty (30) days of receiving invoices from MWRA. Payment amounts shall be in accordance with the Schedule of Values submitted by the contractor and approved by MWRA. MWRA will invoice the City of Newton on a monthly basis.

7. AMENDMENTS

The parties to this MOA may amend this MOA only by a writing duly executed by both Parties.

8. SEVERABILITY

If any part of this MOA is determined to be invalid, illegal, or unenforceable, such determination shall not affect the validity, legality, or enforceability of any other part of this MOA and the remaining parts of this MOA shall be enforced as if such invalid, illegal or unenforceable part were not contained herein, unless continued performance of the remaining provisions of this MOA, which have not been determined to be invalid, illegal or unenforceable, would result in the substantial loss of the benefit of the bargain to either MWRA or the City of Newton.

9. NOTICE

Whenever, by the terms of this instrument, notices may or are to be given either to the City of Newton or MWRA, such notice shall be deemed to have been given, if in writing and either delivered by hand or by U.S. mail to the following addresses:

To Newton: Thomas Fitzgerald, Director of Utilities
 Department of Public Works
 Newton City Hall, Room 102
 1000 Commonwealth Avenue
 Newton Centre, MA 02459

To MWRA: Marty McGowan, Director, Construction
 Massachusetts Water Resources Authority
 2 Griffin Way
 Chelsea, MA 02150

10. ENTIRE AGREEMENT

This MOA constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior agreements, understandings, expectations, negotiations, and discussions of the Parties, whether oral or written. There are no representations by either Party, which are not specifically set forth in this MOA.

11. GOVERNING LAW

This MOA shall be executed and delivered in the Commonwealth of Massachusetts and shall be construed and enforced in accordance with, and shall be governed by, the laws of the Commonwealth of Massachusetts.

12. DISPUTES/COOPERATION

The Parties shall each use their best efforts to cooperate in the performance of the Project by appointing appropriate representatives who, respectively, shall be responsible for expediting and responding to any and all inquiries, problems, and matters requiring coordination among the Parties concerning the bid pricing, scheduling, performance, progress, or completion of the Project. Any and all disputes that arise and cannot be amicably resolved by the Parties during the course of the performance of the Project, if at all possible, shall be resolved after the completion of the Project.

13. COUNTERPARTS

This MOA may be executed in duplicate counterparts, each of which shall be deemed an original and both of which shall constitute one and the same instrument. This MOA may be electronically signed and transmitted, which electronic signature shall be binding on the signing party.

14. AUTHORITY

Each person signing in an official or representative capacity warrants that he or she is duly authorized to act for his or her principal and that he or she is so acting when signing this MOA, and that, when executed this MOA shall be a valid and binding obligation, enforceable in accordance with its terms.

IN WITNESS WHEREOF, the Parties hereto have caused the MOA to be executed as a sealed instrument and signed in duplicate by their duly authorized representatives.

EXECUTED AS A SEALED INSTRUMENT this _____ day of _____, 2023.

MASSACHUSETTS WATER RESOURCES AUTHORITY

By: _____
Frederick A. Laskey
Executive Director

CITY OF NEWTON, MA

James McGonagle or designee, Commissioner Public Works

I certify that the following funds are available in the following accounts:

Stephen Curley or designee, Comptroller

Approved as to legal form and character:

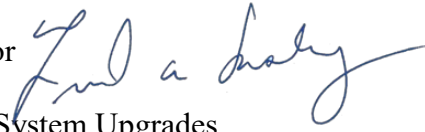
Senior Assistant City Solicitor

City of Newton

Mayor Ruthanne Fuller
City of Newton

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 18, 2023
SUBJECT: Southborough Headquarters Electrical System Upgrades
Dagle Electrical Construction Corp.
Contract 7425, Change Order 4



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

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


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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 4 to Contract 7425, Southborough Headquarters Electrical Systems Upgrades, with Dagle Electrical Construction Corp. to extend the contract term by 126 calendar days from October 27, 2023 to March 1, 2024, with no increase in contract amount.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7425 for up to 180 days, in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

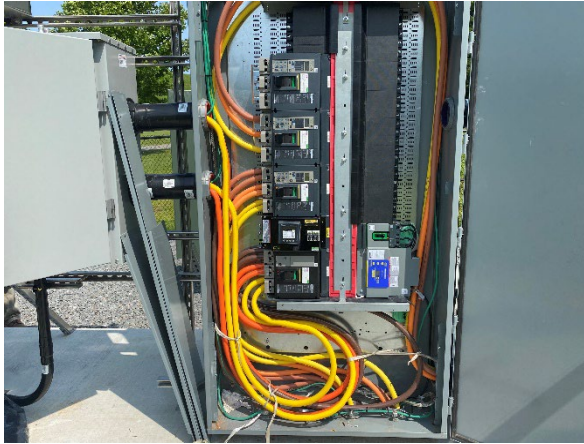
Contract 7425 will upgrade the existing switchgear and three emergency generators as well as converting 13.8 kV distribution cables to more appropriate 480 V. Due to the lack of existing spare conduits onsite, new underground duct banks are required as part of this contract to receive the new electrical distribution cables and minimize service downtime to the buildings during construction. There are currently four generators onsite. The natural gas generator on the north side of the campus will remain. The two existing natural gas and one diesel generator on the south side of the campus will be replaced with a single 250 kW natural gas emergency generator.

This Change Order

Change Order 4 consists of the following item:

Extend the Contract Time by 126 Calendar Days \$0.00

Change Order 3 was executed on July 12, 2023 to extend the contract term by 147 days due to electrical equipment supply chain delays for five critical breakers. At the time Change Order 3 was executed, it was anticipated that the last of the breakers would be delivered to allow for a contract completion by October 27, 2023.



Typical Panel with Breakers Installed



Typical 600 Amp Breaker

Of the five electrical breakers that were delayed in delivery, three have been delivered and installed into the new equipment. The equipment manufacturer’s latest delivery update for the two remaining 300 amp breakers is now December 22, 2023. As a result, this contract must be extended by an additional 126 days to allow the Contractor to shop test, install, energize and field test the last two 300 amp breakers, followed by decommissioning and demolition of the existing electrical system.

This item was identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to extend the contract term by 126 calendar days from October 27, 2023 to March 1, 2024, with no increase in contract amount at this time.

Given that the delivery for these remaining breakers has already slipped multiple times and market volatility for electrical equipment still exists, staff are requesting a re-delegation of time to handle any additional delays for these breakers.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$2,617,452.00	365 Days	06/02/22
Change Orders:			
Change Order 1*	\$0.00	0 Days	11/18/22
Change Order 2*	\$22,747.00	0 Days	06/02/23
Change Order 3*	\$0.00	147 Days	07/12/23
Change Order 4	\$0.00	<u>126 Days</u>	Pending
Total of Change Orders	\$22,747.00	273 Days	
Adjusted Contract:	\$2,640,199.00	638 Days	

*Approved under delegated authority

If Change Order 4 is approved, the cumulative value of all change orders will be \$22,747.00 or 0.9% of the original contract. Work on this contract is approximately 95% complete.

BUDGET/FISCAL IMPACT:

Change Order 4 is for a time extension only and will have no budgetary impact.

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 Director
FROM: Frederick A Laskey, Executive Director
DATE: October 18, 2023
SUBJECT: PCR Amendments - October 2023



COMMITTEE: Personnel and Compensation

 INFORMATION
 X VOTE

Wendy Chu, Director of Human Resources
Preparer/Title


Michele S. Gillen
Director, Administration

RECOMMENDATION:

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

DISCUSSION:

The Position Control Register lists all positions of the Authority, filled and vacant. It is updated as changes occur and it is published at the end of each month. Any changes to positions during the year are proposed as amendments to the PCR. All amendments to the PCR, except those resulting only in a change in title or cost center, must be approved by the Personnel 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.

October 2023 PCR Amendments

There are three PCR Amendments this month.

Organizational Changes:

1. Salary adjustment to two filled Operator (Metro Water) positions in the Operations Division, Metro Water Department per union agreement due to new recruitment rate.
2. Title and grade change to one vacant position in the Operations Division, SCADA Department from Project Manager, SCADA Engineering Unit 9 Grade 25 to Senior Monitoring and Control Engineer Unit 9 Grade 23 to better meet staffing needs.

BUDGET/FISCAL IMPACT:

The annualized budget impact of these PCR amendments will be a maximum cost of \$1,737. 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

PCR AMENDMENTS REQUIRING BOARD APPROVAL - October 18, 2023																		
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			
B49	Operations Metro Water 3385011	F	S	Operator (Metro Water)	3	16	Operator (Metro Water)	3	16	\$63,084	\$71,139	-	\$71,139	\$8,055	-	\$8,055	Per union agreement. Internal pay adjustment due to new recruitment rate.	
B50	Operations Metro Water 3385033	F	S	Operator (Metro Water)	3	16	Operator (Metro Water)	3	16	\$67,111	\$71,139	-	\$71,139	\$4,028	-	\$4,028	Per union agreement. Internal pay adjustment due to new recruitment rate.	
B51	Operations SCADA 5842005	V	T,G	Project Manager, SCADA Engineering	9	25	Sr. Monitoring and Control Engineer	9	23	\$123,057	\$80,920	-	\$112,711	-\$42,137	-	-\$10,346	To better meet staffing needs.	
BOARD TOTAL=					3													
										TOTAL:				-\$30,054	-	\$1,737		

MWRA POSITION DESCRIPTION

POSITION Operator (Metro Water)
DIVISION: Operations
DEPARTMENT: Metro Water

BASIC PURPOSE:

Operates, monitors, and inspects assigned water facilities and water treatment plant operational equipment, processes, and systems on an assigned shift in a designated area. Performs assigned maintenance functions as part of a team under the direction of the assigned Unit or Area Supervisor.

SUPERVISION RECEIVED:

Works under the general supervision of the Unit/Area Supervisor.

SUPERVISION EXERCISED:

May supervise or direct assigned employees at a lower grade.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Operates equipment manually and through instrument panel and programmable logic control units, system flows and levels in assigned process area. Equipment may include, but will not be limited to the following; pumps, valves, gates, meters, gauges, controllers, motor control centers, level controls devices, mixers, oxygen generation, chemical feed, odor control and hydroelectric equipment.
- Monitors and inspects operating conditions; records observations and data in area shift log.
- Provides oversight for all barge and truck loading/unloading operation.
- Provides oversight for chemical and fuel oil unloading to tank farm.
- Takes initial action to correct malfunctions of equipment and reports malfunctions and variances to the Area Supervisor/Unit Supervisor.
- Operators may be dispatched to critical facilities to make operational changes as directed or to investigate alarms.
- Samples various process fluids and gases (odor control), analyzes, records, and labels according to schedule.
- Prepares chemical solutions.
- Operates equipment through programmable logic control units.
- Operates the Processes Instrumentation and Control System (PICS), TELOG or SCADA and fills-in for the Area/Unit Supervisor as required.
- Calibrates critical process control equipment.
- Follows established safety, operating, and emergency response procedures and policies established by MWRA.
- Communicates with other operators regarding operational and process control conditions.
- Performs work in compliance with Authority established Integrated Contingency Plan.
- Inspects and troubleshoots mechanical, electromechanical, pneumatic or hydraulic equipment using tools and gauges of the trade. Performs preventive maintenance on operations equipment as directed by MAXIMO, such as but not limited to: greasing and lubrication, minor packing adjustments, opening hatches and installing safety rails, changing light bulbs, HVAC filters and performing minor maintenance during shift work as required.
- Performs, documents and reports results in the MAXIMO database of inspections and work performed.
- Assists other trades in the performance of their work, as required, or as assigned.

- Operates motor vehicles such as vans and pick-up trucks to transport materials to work sites, and pickup and deliver supplies and equipment.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
- Operates forklift or other light equipment that does not require 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 high school diploma or GED; and
- Two (2) to three (3) years experience with a working knowledge of water distribution system operation and treatment plant equipment; and
- Satisfactory completion of competency-based training program in accordance with the productivity improvement plan training program established at MWRA; or
- Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- Basic reading, writing, mathematical, scientific and oral communication skills.
- A working knowledge of treatment plant processes, systems and operation of related equipment, such as instrument panels, programmable logic control units, pumps, valves, motor control centers, level control devices, mixers, oxygen generation, chemical feed and odor control equipment.
- Knowledge in safety practices in operation of water equipment and the water treatment plant facility.
- Ability to interpret data from meters, gauges and other equipment to operate manually and through instrument panels, all kinds of wastewater treatment equipment to control treatment processes.
- Ability to work as a team to support the goals of Operations.
- Ability to communicate orally and in writing, and maintain accurate logs and records.
- Experience in operating distributive control systems preferred.
- Computer skills necessary to access and use the MAXIMO and Lawson database.
- Trained in Confined Space Entry, CPR and First Aid, and be capable of entering, setting up, installing, disassembling confined space equipment and ability to work in a confined space.
- Ability to attain knowledge & work processes required to perform maintenance tasks required by Reliability Centered Maintenance or similar Maintenance Management Program.

SPECIAL REQUIREMENTS:

- A valid Water Treatment II In Training or higher or Water Distribution II License In Training or higher
- A valid Massachusetts Class D Motor Vehicle Operator's license
- Complete productivity improvement competency-based training program related to ESSENTIAL DUTIES AND RESPONSIBILITIES as outlined above and successfully demonstrates required competencies.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, mobile radio, beeper, 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 stand and talk or hear. The employee is occasionally required to walk; sit; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

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

April 2021

U3, Grade 16

**MWRA
POSITION DESCRIPTION**



POSITION: Project Manager, SCADA Engineering

DIVISION: Operations

DEPARTMENT: SCADA Engineering

BASIC PURPOSE:

Manages and participates in the design, development, operation and technical support of the Authority's Water and Wastewater Supervisory Control and Data Acquisition (SCADA) systems.

SUPERVISION RECEIVED:

Works under the basic supervision of the Program Manager, SCADA Engineering.

SUPERVISION EXERCISED:

Exercises close supervision of assigned Senior Monitoring and Control Engineer and Project Engineer staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages and participates in the design, implementation and troubleshooting of control logic for programmable logic controllers (PLCs).
- Manages and participates in the design, implementation and troubleshooting of Human Machine Interface (HMI) software.
- Manages, installs, maintains and troubleshoots the SCADA networks and the SCADA PCs.
- Insures that work on new and modified monitoring and control systems includes preparation of project scope and P & ID drawings through user interview, PLC and HMI program testing, documentation and training.
- Insures in-house and consultant compliance with the SCADA standards.
- Monitors in detail the SCADA programming, testing and startup work of consultants and integrators.

- Coordinates the testing, startup and training needs associated with the monitoring and control systems.
- Installs, maintains and monitors SCADA security systems.
- Creates and maintains up to date records and documentation on SCADA network, PC and PLC installations.
- Manages SCADA tag databases and coordinates any necessary changes.
- Insures that SCADA data is backed-up on local nodes and on the network archive system.

SECONDARY DUTIES:

- Works with MIS staff as needed.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelor's degree in electronic engineering, electrical engineering or related field; and
- (B) Five (5) to seven (7) years experience in the installation, operation and maintenance of process control systems of which a minimum of two (2) years are in the water/wastewater or comparable industry; and
- (C) Two (2) to four (4) years experience with ladder logic and HMI programming (Allen Bradley PLC and GE Proficy iFIX Software preferred); and
- (D) Two (2) to four (4) years supervisory experience; or
- (E) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Through knowledge of Ethernet, routers, firewalls, managed switches, hubs, PCs, and Windows operating systems required.
- (B) The ability to test and troubleshoot to the component level using a variety of electronic test equipment as well as computer driven diagnostics.
- (C) Familiarity with water distribution and treatment systems or wastewater collection and

treatment systems.

- (D) Thorough understanding of water and wastewater instrumentation.
- (E) Thorough knowledge of electrical/electronic wiring practices.
- (F) Demonstrated ability to plan, organize, direct, train and assign duties to subordinates.
- (G) Familiarity with AutoCAD or other equivalent CAD program.
- (H) Demonstrated interpersonal, written and verbal communication skills.

SPECIAL REQUIREMENTS:

Participates in on-call rotation assignments if needed with other SCADA engineering staff. In the absence of volunteers, may be required to be on-call or report for comp time in an inverse seniority pool.

A valid Massachusetts Driver's License required.

FCC General Radiotelephone Operator License or ability to obtain within six (6) months.

A valid Massachusetts Grade II Water Distribution or Treatment Licenses; or a Grade II Wastewater Collection System Certification; or a Grade III Wastewater Treatment Plant certification; or the ability to obtain same within six (6) months.

Certification in Confined Space Entry or ability to pass MWRA Confined Space Training within six (6) months

TOOLS AND EQUIPMENT USED:

Hand tools, mobile radio, telephone, personal computer, network equipment, 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 occasionally is required to sit, stand and walk. The employee is frequently required to 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 25 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

While performing the duties of this job, the employee regularly works in an office environment. The employee occasionally 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, and risk of electrical shock.

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

June 2020

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Senior Monitoring & Control Engineer (SCADA)

DIVISION: Operations

DEPARTMENT: SCADA

BASIC PURPOSE:

Participates in the design, development, operation and maintenance of the Authority's Water and Wastewater Supervisory Control and Data Acquisition (SCADA) systems.

SUPERVISION RECEIVED:

Works under the general supervision of the Project Manager, SCADA Engineering.

SUPERVISION EXERCISED:

May exercise close supervision of technical and support staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Participates in the design, development, installation and troubleshooting of control logic for programmable logic controllers (PLCs) and control system software.
- Participates in the design, development, installation and troubleshooting of Human Machine Interface (HMI) software.
- Assists with the installation, maintenance and troubleshooting of the SCADA network and SCADA personal computers.
- Insures in-house and consultant compliance with the SCADA Standards.
- Assists with the installation, maintenance and monitoring of SCADA security systems.
- Assists in the training of staff on the monitoring and control systems.
- Updates records and documentation on SCADA network, PC and PLC installations.

- Assists in the management of SCADA databases and coordinates any necessary changes.
- Maintains SCADA data backups through local node collection and networked archive collection systems.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelor's degree in Electronic Engineering, Electrical Engineering or a related field; and
- (B) Three (3) to five (5) years experience in the design, installation, operation and maintenance of process control systems required; Water or wastewater industry experience preferred; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Working knowledge of ladder logic and HMI programming.
- (B) Thorough knowledge of PCs, Windows operating systems, Ethernet, network equipment, spreadsheet, and database software
- (C) Ability to troubleshoot to the component level utilizing a variety of electronic test equipment as well as computer driven diagnostics.
- (D) Familiarity with water distribution and treatment systems or wastewater collection and treatment systems preferred.
- (E) Thorough understanding of control system instrumentation.
- (F) Thorough knowledge of electrical/electronic wiring practices.
- (G) Familiarity with CAD (computer aid design) program.
- (H) Demonstrated ability to plan and organize projects, and direct and train others.

(I) Demonstrated interpersonal, written and verbal communication skills.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

Any level of a valid Massachusetts Water Distribution License, Water Treatment License, Wastewater Operator's License or Wastewater Collection System Certification or the ability to obtain within six (6) months.

Ability to pass the Confined Space Entry Training within six months.

Participates in-call rotation assignments if needed. In the absence of volunteers, may be required to be on-call or report to work during off hours in an inverse seniority pool.

TOOLS AND EQUIPMENT USED:

Metering oscilloscopes, signal generator, personal computer, including word processing and other software, hand tools, mobile radio, copy and fax machines.

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee is regularly required to walk, sit, climb or balance; stoop, kneel, crouch or crawl.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities, required by this job include close vision, distance vision, color 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 occasionally works in outside weather conditions. The employee frequently 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 and risk of electrical shock.

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

September 2021

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 18, 2023
SUBJECT: Delegated Authority Report – September 2023

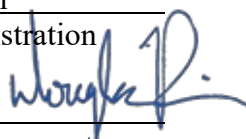


COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Betty Hill, Acting Admin. Systems Coordinator
Barbara Aylward, Administrator A & F
Preparer/Title


Michele S. Gillen
Director, Administration


Douglas J. Rice
Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period September 1 - 30, 2023.

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.

Construction & Professional Services Delegated Authority Items September 1 – 30, 2023

No.	Date of Award	Title and Explanation	Contract	Amend/CO	Company	Value
C-1	09/01/23	Northern Intermediate High Section 89 Replacement Pipeline Furnish, Install and Remove Winchester – Stoneham Main Bypass; Washington Street existing pipe leak repairs to include replacing the existing eight-inch blow off piping to include thrust restraint couplings, and replace the cracked 36-inch pipeline.	7117	4	P. Gioioso & Sons, Inc.	\$275,924.84
C-2	09/25/23	Grit and Screenings Hauling and Disposal This final balancing change order is comprised of decreases in the estimated quantities of eleven unit price bid items to reflect the actual quantities used during the contract. This item has been identified by staff as an underrun in quantities. MWRA staff and the Contractor have agreed to a lump sum credit amount of (\$1,399,987.01).	S595	2	W.L. French Excavating Corp.	(1,399,987.01)
C-3	09/25/23	Norumbega Covered Storage Tank Cell No. 2 Cleaning Final balancing change order to decrease the following bid items: Adjust the contract price due to a decrease in the time and materials necessary to perform the work ordered in Change Order 1, Sediment Disposal, Price Adjustment Allowance.	W342	3	R. Zoppo Corp.	(\$152,853.22)
C-4	09/25/23	Wachusett Dam Bastion Improvements Furnish and install formwork, rebar and concrete; Furnish and install a new door and new fence posts; Furnish and install 1/2-inch thick rip-strip expansion joint filler foam; Modifications to the roof plank design; Furnish and install a new panel with a 30 Amp breaker; Additional structural crack repairs; Furnish and install additional light fixtures; Furnish and install one additional exit sign; Formwork and rebar changes at the staircase. Changes are due mostly to unforeseen conditions.	7697	2	MAS Building & Bridge, Inc.	\$157,484.40
C-5	09/28/23	Chelsea Creek Headworks Upgrade Final balancing change order to decrease following bid items: Delete the requirement to transport and dispose of Group II-1, unlined landfill; Delete the requirement to transport and dispose of Group II-2, lined landfill covered material contaminated soils; Delete the requirement to transport and dispose of Group III – asphalt batch recycling contaminated soils; Fire department services; Work by Utilities; Additional traffic control; Enlarge opening roof slab; Dispose of PCB remediation waste; PBC bulk product waste, Transport and dispose Group II-2; Collect additional soil samples; Perform miscellaneous painting; Furnish and apply additional concrete	7161	50	BHD/BEC JV, 2015 A Joint Venture	(1,855,657.15)

No.	Date of Award	Title and Explanation	Contract	Amend/CO	Company	Value
		<p>materials; Demolish and replace masonry wall throughout the facility; Deep soil borings; Design f/l Micro piles; Furnish and install temporary conduit and wire; Furnish and install grit pipe, fittings and spools; Extend air pipe and control wiring; Furnish and install pipe supports and restraints; Furnish and install flashing and edging; Furnish and install steel stair tower; Transport PCB waste; Furnish and install drain nozzles and trap assemblies; Remove existing 2-inch topping slab; Furnish and install stainless steel deck; Extend contract term by 120 calendar days; Perform additional chipping, coring and saw cutting; Reimburse Contractor for costs associated with Covid-19; Delete the requirement to remove, dispose and replace three loads of activated carbon media.</p>				
C-6	09/29/23	<p>Braintree-Weymouth Pump Station Improvements, Design/ESDC Services Increase level of effort to perform shop drawing review of Contractor's submittals (Subtask 3.3); Materials Testing Special Services During Construction (Subtask 3.6).</p>	7435	2	Wright-Pierce	\$121,00000
C-7	09/29/23	<p>Boiler and Water Heater Service Award of a contract to the lowest responsive bidder to provide annual preventive maintenance services and non-emergency and emergency repair services for boiler and water heaters located at various MWRA facilities for a term of 1,095 calendar days.</p>	OP-463	Award	American Refrigeration Company, LLC	\$607,650.00

Purchasing Delegated Authority Items September 1-29, 2023

No.	Date of Award	Title and Explanation	Company	Value
P-1	9/7/23	<p>One-Year Purchase Order Contract for Oracle Processor Licenses Maintenance and Support This agreement will cover maintenance and support for a combination of named user, concurrent and processor licenses, which meets the needs of the Authority while minimizing the cost, since the combination of named user and concurrent licenses are less expensive than processor-based licenses.</p>	Oracle America, Inc.	\$26,046.70
P-2	9/7/23	<p>One-Year Purchase Order Contract for Microsoft Unified Enterprise Support Microsoft Unified Enterprise Support provides critical, as-needed, 24/7 technical support and expert guidance on Microsoft Software Products including Windows operating systems, Exchange, Office Suite, SQL Server, and other Microsoft products that may be used by MWRA staff in the future.</p>	Dell Marketing LP	\$76,903.45
P-3	9/7/23	<p>Sole Source Purchase Order for a Three-Year Subscription of 1,200 Licenses for LinkedIn Learning Online Training This recommendation will renew the MWRA's current LinkedIn Learning Online training subscription to provide ongoing support of online training needs.</p>	Carahsoft Technology Corporation	\$111,516
P-4	9/7/23	<p>Sole Source Purchase Order for the Supply and Installation of Two Open Channel Accusonic Flow Meters At Nut Island Headworks, the Accusonic 7510 flowmeter is currently installed and has provided reliable data for approximately 20 years. The meter and its electronics are now failing and require replacement.</p>	ADS, LLC	\$286,061
P-5	9/8/23	<p>Sole Source Purchase Order for Five Replacement Muffin Monster Grinder Cartridges for the Deer Island Treatment Plant Overtime grinder cartridge cutters wear and the seals develop leaks due to wear and tear. To minimize asset downtime, Deer Island stocks replacement cartridges so they are on hand in case there is a need for replacement.</p>	JWC Environmental, LLC	\$64,260
P-6	9/11/23	<p>Purchase Order for One VFD Chassis for the Deer Island Wastewater Treatment Plant The W3H pump motor is controlled by Deer Island's Process, Information and Control system and a variable frequency drive (VFD) mounted within a local control cabinet. The original VFD for the W3H system was installed in 2010 and recently failed.</p>	Technical Construction Services, Inc.	\$41,530

No.	Date of Award	Title and Explanation	Company	Value
P-7	9/11/23	<p>Sole Source Purchase Order for One Year of Maintenance and Support for the Portia Investment and Cash Management System</p> <p>Portia Software is a standalone PC package, used by the Finance Division to manage MWRA's cash and investment portfolios. The software allows Treasury to manage MWRA fixed investments and track interests and holdings in these investments.</p>	SS&C Technologies, Inc.	\$68,764.87
P-8	9/13/23	<p>One-Year Purchase Order for Electrical Services for the Clinton Wastewater Treatment Plant</p> <p>MWRA does not staff electricians at the Clinton WWTP. To ensure the plant can maintain operation a contract is necessary to provide as needed electrical repairs, installations, as well as corrective and emergency services 24 hours per day in the event maintenance staff are unavailable.</p>	Renaud Electric & Communications, Inc.	\$30,006
P-9	9/18	<p>Purchase Order Contract for the Removal of 30 Feet of 12 Inch Cast Iron Pipe</p> <p>This contract provides the cutting and removal and capping of a damaged pipe at the Stearns Gatehouse wet well opening. This will allow the Sudbury Aqueduct to remain full and eliminate the draining of the Sudbury Aqueduct into the Stearns Gatehouse.</p>	DC Welding, Inc.	\$56,650
P-10	9/18	<p>One-Year Purchase Order for Plumbing Services for the Clinton Wastewater Treatment Plant</p> <p>MWRA does not staff plumbers at the Clinton WWTP. To ensure the plant can maintain operation a contract is necessary to provide as needed plumbing and gas fitting repairs, installations, as well as corrective and emergency services 24 hours per day in the event maintenance staff are unavailable.</p>	Royal Steam Heating Company	\$68,300
P-11	9/19/23	<p>Sole Source Purchase Order for Eight Drums of Digester Mixer Grease</p> <p>A key operational component common to all of the digesters at Deer Island Wastewater Treatment Plant is the central draft tube mixer. The mixer grease contains additives for improvement of rust and oxidation protection, adhesive power and pressure-absorbing capacity of the lubricating film.</p>	Aqua Solutions, Inc.	\$32,384
P-12	9/19/23	<p>Purchase Order for the Replenishment of Victaulic Adapters, Couplings, and Gaskets</p> <p>The Deer Island Wastewater Treatment Plant warehouse stocks many different plumbing and pipe fittings for use on planned projects as well as emergency repairs. These items may be drawn out of stock individually or may be received on a kitting order for planned projects.</p>	Ferguson Enterprises, LLC	\$47,286.84


No.	Date of Award	Title and Explanation	Company	Value
P-13	9/19/23	<p>Sole Source Purchase Order for 5,000 Process Information Data Streams The John Carroll Water Treatment Plant SCADA Improvements Project is a wholesale replacement of the control system, PLCs and other SCADA components that allow automated operation of the facility. The software purchased under this agreement will allow the contractor to setup a new PI database on the SCADA network which will interface through a new data diode to the existing MIS PI database.</p>	OSI Software, Inc.	\$87,546.89
P-14	9/19/23	<p>One-Year Purchase Order Contract for the Supply and Delivery of Ferric Chloride MWRA operates the Phosphorus Reduction Facility at the Clinton Wastewater Treatment Plant to remove phosphorus to meet lower permit limits. Staff estimate that approximately 118,000 dry pounds of ferric chloride will be needed during this one-year contract to meet the requirements of the permit.</p>	Kemira Water Solutions, Inc.	\$210,040
P-15	9/19/23	<p>One-Year Purchase Order Contract for the Supply and Delivery of Hydrogen Peroxide to the Deer Island Wastewater Treatment Plant MWRA uses hydrogen peroxide to control hydrogen sulfide levels in Deer Island’s influent, which typically becomes elevated during the warmer summer and fall months.</p>	Evonik Corporation	\$1,200,000
P-16	9/25/23	<p>Six-Month Purchase Order for the Analysis of Pesticides and PCBs in Wastewater MWRA routinely performs this analysis in house, but due to internal promotions and staffing shortfalls, the Department of Laboratory Services is looking to subcontract this analysis for six months to provide time for the hiring of replacement staff and to perform required training and internal certification.</p>	Phoenix Environmental Laboratories, Inc.	\$26,600
P-17	9/26/23	<p>Sole Source Purchase Order Contract to Design and Implement Mentoring Program In 2022 MWRA contracted with the National Association of Clean Water Agencies to implement a mentoring program specifically designed to meet MWRA’s staffing needs. The program will be implemented again this year, with fine-tuning and modifications of the program structure and updated materials based on feedback from year one.</p>	National Association of Clean Water Agencies	\$50,000
P-18	9/27/23	<p>One-Year Purchase Order for the Supply and Delivery of Methylene Chloride Cycle-tainers Due to the large volume of methylene chloride used by the lab, staff previously established the use of a cycle-tainer program to store and deliver the solvent. The cycle-tainers hold 52 liters of solvent in a steel spill proof drum.</p>	VWR International, LLC	\$26,632

No.	Date of Award	Title and Explanation	Company	Value
P-19	9/28/23	<p>Purchase Order for One V-Hull Boat As part of MWRA's continued mission to maintain a clean and safe drinking water supply, having a reliable and safe working boat to transport, deploy, and maintain EnQual's water quality profiling buoys is critical to ensuring continuous monitoring of MWRA's drinking water reservoirs. The requested V-hull landing craft boat will replace the existing boat, which no longer meets the demands of the source water quality monitoring program.</p>	Oquawka Boats & Fabrications, Inc.	\$161,845
P-20	9/28/23	<p>One-Year Purchase Order Contracts for the Supply and Delivery of Sodium Bisulfite Sodium bisulfite is used throughout MWRA's wastewater system for dechlorination. Compared to the existing contract, PVS Chemical Solutions, Inc.'s bid prices represent a \$1.00 per gallon decrease for Cottage Farm, Prison Point, and Union Park CSO (38% solution), and Holland Company, Inc.'s bid price represents a \$3.27 decrease for Somerville Marginal (25% solution).</p>	PVS Chemical Solutions, Inc. Holland Company, Inc.	\$217,800 \$53,600
P-21	9/28/23	<p>One-Year Purchase Order Contract for the Supply and Delivery of Ferric Chloride Currently, between four and eight truckloads per week of ferric chloride are used at the Deer Island Wastewater Treatment Plant as part of the struvite prevention program. Staff estimate that approximately 2,000,000 pounds of iron product will be needed during the one-year contract period. Compared to the existing contract, the cost has decreased by \$0.08 (-4% decrease) per dry pound of iron.</p>	Kemira Water Solutions, Inc.	\$4,020,000

Position Control Register (PCR) Location Changes September 2023

<u>DATE OF CHANGE</u>	<u>POSITION TITLE</u>	<u>CURRENT PCR#</u>	<u>CURRENT COST CENTER</u>	<u>NEW PCR #</u>	<u>NEW COST CENTER</u>
9/8/2023	Compliance Monitor	8210008	Internal Audit	8410013	Affirmative Action

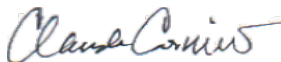
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 18, 2023
SUBJECT: Internal Audit Department Activities Report – FY2023

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Claude J. Cormier, Director, Internal Audit
Preparer/Title



RECOMMENDATION:

For information only. Internal Audit annually presents the results of completed assignments and the status of active and planned assignments to the Board. Every quarter, Internal Audit utilizes the Orange Notebook to briefly discuss recently issued reports and to report on the status of open audit recommendations and cost savings. This staff summary includes a discussion of activities since Internal Audit's last report to the Board in December 2022.

DISCUSSION:

Internal Audit's goal is to provide sufficient audit coverage to give reasonable assurance that internal management controls are functioning as intended and that only reasonable, allowable and allocable costs are paid to consultants, contractors and vendors. Audit coverage is provided through performance audits that analyze and evaluate MWRA programs and activities to determine if they are being carried out effectively and efficiently, compliance audits that focus on adherence to MWRA policies and procedures, contractual requirements, rules or regulations and management advisory services.

The development of the Annual Audit Plan is based on Internal Audit's risk assessment of program and management controls, as well as input from MWRA senior managers and the MWRA Advisory Board. The actual scheduling and completion of audit assignments depend on staff availability, which can be impacted by control issues needing immediate attention or by unscheduled special requests for management advisory services.

In FY2023, a total dollar savings of \$2,361,841 was recognized from numerous assignments, including internal audits, management advisory services, consultant incurred cost audits, consultant preliminary reviews, construction labor burden reviews, the true-up and review of Harbor Electric Energy Company (HEEC) billings and costs of the new cable, and contract negotiation support.

Attachment 1 lists assignments completed since Internal Audit's last report to the Board, assignments currently in process and additional assignments planned to commence in FY2024.

Internal Audits and Management Advisory Services

Internal Audit follows up on open recommendations (quarterly basis). During FY2023, Internal Audit worked with management to close five recommendations. Internal Audit has made progress with auditees to close recommendations within 12 months from issuance of the audit report.

Confined Space Entry Training

OSHA and industry standards require employers to provide training to affected employees who may be required to enter permit-required confined spaces. MWRA requires employees to complete an initial confined space entry training course and an annual refresher course prior to entering any confined space. While keeping up with training requirements proved to be challenging during the pandemic, management continues to make progress towards insuring training compliance.

Internal Audit has worked closely with management to identify appropriate controls and procedures related to the recently implemented learning management system. The audit report issued in February 2023 provided recommendations to enhance operational procedures and simplify requirements related to tracking, recording and reporting training compliance. Management has already implemented corrective action for three recommendations and one other recommendation is nearly completed.

Water/Wastewater Licenses and Certifications

Certain positions at the MWRA require employees to obtain and maintain water and/or wastewater licenses and/or certifications in order to comply with the Massachusetts Department of Environmental Protection's requirements. MWRA job descriptions specify license and certification requirements. All water and wastewater licenses/certifications expire on December 31st, of every other year.

MWRA's Human Resources Department verifies renewals by (1) collecting documentation from the employee and/or (2) researching renewal status on Massachusetts' licensing portals to track renewal compliance. Human Resources also tracks employees who have not renewed their licenses/certifications prior to the expiration date. The audit report issued in March 2023 provided recommendations to enhance operational procedures. Management has already implemented corrective action for one recommendation and two other recommendations are nearly completed.

Unemployment Compensation

The Commonwealth of Massachusetts administers the unemployment insurance program. The Department of Unemployment Assistance bills MWRA monthly for amounts paid to former workers.

Internal Audit provides periodic support to HR by reviewing eligibility and recalculating claims. MWRA staff will question and challenge claims that appear to be fraudulent or do not meet eligibility criteria.

Lease Agreement

Internal Audit periodically performs a review of the Navy Yard and Chelsea facility leases. The objectives of these reviews are to determine whether real estate escrows are sufficiently funded to meet future payment obligations, as well as the supportability of applicable operating expenses.

Internal Audit completed a review of the Navy Yard lease for CY2022 operating expenses and FY2023 real estate tax true-up, and determined that \$13,366 was due to the landlord as a result of higher than expected operating costs and real estate tax increase. A final audit of CY2023 operating expenses will be performed in the spring of 2024.

A review of the Chelsea lease is planned this fiscal year.

Other Management Advisory Services

Annually, Internal Audit provides management advisory services that include calculating MWRA's fringe and indirect cost rates, and providing support and review services to the Fore River Railroad Corporation (FRRC). Internal Audit prepared an analysis of employees approved to telework as requested by management. Internal Audit updates MWRA's Policies and Procedures and Signature Authority forms as needed.

In FY2023, the annual savings resulting from internal audits and management advisory services totaled \$225,684.

In FY2023, Internal Audit completed a physical inventory of MWRA's fleet. Internal Audit staff verified and photographed 661 pieces of equipment (vehicles, trucks, trailers, tractors, cranes, excavators, front-end loaders, skid-steers, generators, pumps, lifts, etc.). A few of the assets are in the process of being located (fork-lift and pallet jack). Internal Audit staff provided photos, observations and suggestions to management to enhance asset tracking and reporting.

Policies and Procedures

Policies and Procedures provide a consistent and clear statement of MWRA's standards to assist employees in the day-to-day management of the Authority's business and operations. Policy and Procedure numbers that begin with ADM (Administrative), FIN (Finance), HR (Human Resources) and OP (Operations) are accessible on the MWRA's intranet site, Pipeline. Internal Audit is the official custodian of the policies; it does not develop or approve policies, but reviews all policies prior to final approval.

During FY2023, Internal Audit supported a process to update two policies, with a couple of other policies in various stages of being updated. Additionally, five new security policies were issued.

Contract Audits and Related Reviews

In FY2023, savings of \$2,136,157 were recognized from the following contract audits and other related reviews:

Consultant Incurred Cost Audits

An incurred cost audit determines if billed labor costs are supported by the consultant's time reports and project cost records, other direct costs are supported by valid payments, final indirect costs have been calculated in accordance with the contract, and if final indirect cost rates have been properly applied to labor billings. The extent of fieldwork required to complete an assignment is based on a risk assessment that starts with an invoice analysis and a review of the consultant's annual Consultant Disclosure Statement submittal. Internal Audit has historically conducted the fieldwork at the consultant's office, but as a result of the pandemic, has built a remote, paperless workflow to obtain the information necessary to perform the audit procedures to verify if costs billed are supported.

In FY2023, four incurred cost audits were completed with a total contract value of \$4.8 million. These were comprised of JCK Underground, Corrosion Probe, Wright-Pierce, and Hatch Mott McDonald. A total of \$103,088 was recovered.

Consultant Preliminary Reviews

When a new contract is awarded for more than \$1 million, Internal Audit performs a consultant preliminary review to determine if the proposed direct labor, indirect costs, other direct costs or multipliers/comprehensive hourly rates are supportable. Internal Audit then notifies MWRA's Procurement Department and the project manager of any issues, including any unsupported proposed costs that might be available for re-allocation to another cost element.

In FY2023, three consultant preliminary reviews were completed with a total value of \$12.9 million. Internal Audit identified a total of \$112,528 in unsupported proposed costs for potential reallocation, mainly related to indirect cost rate adjustments.

Consultant Disclosure Statements/ Annual Indirect Cost Rate Reviews

Each professional service consultant is required to submit a Consultant Disclosure Statement annually, including an indirect cost rate for the firm's recently completed fiscal year. Internal Audit reviews and approves provisional indirect cost rates proposed by consultants for billing both new and active contracts. The approved provisional indirect cost rates are reported to project managers and the Procurement Department as a reference source for reviewing invoices and pricing contracts and amendments. During FY2023, 48 annual indirect cost rate reviews were completed and letters sent to consultants.

Construction Labor Burden Rate Reviews

A construction labor burden rate review establishes provisional labor burden rates to be used in the pricing of future change orders. Typical adjustments to contractor proposed rates include applying effective versus statutory federal and state unemployment tax rates, applying appropriate

experience modifications and other adjustments to workers compensation rates, and determining the basis for general liability and umbrella insurance coverages and bond premium.

In FY2023, twelve construction labor burden rate reviews were completed for contracts with a total value of \$161.6 million. An estimated \$1 million in cost savings may be achieved on future change orders.

HEEC Cross-Harbor Cable

2022 O&M True-Up and Billings: Internal Audit reviewed the annual payment to HEEC for the use of the cross-harbor cable. The review included verifying the capacity charge calculation and operations and maintenance (O&M) charges billed by HEEC under the terms of the Massachusetts Department of Public Utility (DPU) tariff for CY2021. The DPU tariff is based on a capacity charge calculation that includes O&M charges for labor and materials needed to maintain the cable, and insurance for the cable. Internal Audit reviewed the O&M charges and the tariff computation prior to HEEC's filing with DPU, which DPU approved. The CY2021 true-up was \$92,879.

Project Costs: During construction of the new cross-harbor cable, Internal Audit periodically reviewed and audited the costs incurred on the project. Total cost adjustments related to unallowable costs in FY2023 was \$192,504. The cost of removal of the old line was capped at \$9 million. The cap was met during FY2022.

MWRA is permitted to pay one-half of the total costs of the project prior to completion with the balance of such costs paid over a 30-year period pursuant to the final terms of a DPU tariff. Under a Memorandum of Understanding and subsequent agreement with HEEC, the Authority has paid \$59.2 million as of December 31, 2022. These payments reduce the return on equity, resulting in significant future cost savings over the pay-back period. The realized cost savings in FY2023 was \$695,979.

ATTACHMENT:

Status of Internal Audit Assignments FY2023 and FY2024

Status of Internal Audit Assignments FY23 and FY24**COMPLETED****Date****IN PROCESS & PLANNED TO START IN FY23****Internal Audit/Management Advisory Services**

Confined Space Entry Training	Feb-23	Payroll Process (Controls and Procedures)
Water/Wastewater Licenses and Certifications	Mar-23	Accounts Payable Process (Controls and Procedures)
Telework Compliance analysis	Oct-22	Use of Personal Vehicle (Travel and Expense Policy compliance)
Fleet Physical Inventory	Jun-23	MIS Software License Management
MWRA Overhead Rate	Aug-22	MIS Equipment
		Community Support Program (Water/Sewer Financial Assistance)
		Telework Compliance analysis
		Fleet (right sized analysis / EV Gov't Programs)

Reviews of Agreements and Contracts

HEEC Cable costs	Nov-22	
HEEC O&M 2022	May-23	HEEC O&M 2023
CNY Lease CY2022	May-23	CNY Lease CY2023
		NEFCo Financial Review
		WES Construction (Office Consolidation)
		Other facility leases

Consultant Incurred Cost Audits

JCK Underground	Jul-22	AECOM
Corrosion Probe	Aug-22	Arcadis
Wright-Pierce	Apr-23	Aztec Technologies
Hatch Mott MacDonald	May-23	Brown & Caldwell
		CDM Smith
		Green International Affiliates
		Keville
		Kleinfelder
		Stantec
		Black & Veatch
		RJN Group
		SDE

Consultant Preliminary Reviews (Over \$1 mill)

Waltham Water Pipeline ESDC RE/RI (7672) \$2.9M	Oct-22	Barge Berth Des/ESDC/REI (6725) \$4M
DITP South System Pump Station Improv (7126) \$8.3M	Nov-22	CHP Des/ESDC/REI (6730) \$14.5M
Sect 89 Replacement RE/RI (7633) \$1.7M	Nov-22	Digester & Storage Tank Rehab (7052) \$10M
		DI Odor Control Rehab (7088) \$8.5M
		Deer Island HVAC REI (7094) \$6.2M
		Deer Island HVAC Design ESDC (7110) \$3M
		Section 22 - Design/ESDC (7120) \$2.7M
		DI Cryogenics Replacement (7139) \$6.3M
		NIH Storage - Design (7311) \$6.7M
		Cottage Farm PCB Abatement - Design/CA (7392) \$1.8M
		Clarifier Rehabilitation Phase 2 REI (7397) \$7.3M
		CB1 Sect 23, 24, 25, 26 Des/ESDC (7410) \$2M
		Sections 4,5 & 186 Design CA/RI (7421) \$2M
		Fire System Replacement REI (7426) \$4.8M
		Other Design and Prmg Svcs (7583) \$2.9M
		Cathodic Protection Shafts E, L, N&W REI (7610) \$1M
		Hayes Pump St Rehab REI (7668) \$1M
		Steel Tanks Impr REI (7676) \$1.1M
		Sect 24 & 25 REI Only (7680) \$4.3M
		Somerville Marginal CSO Facility Rehab (7689) \$3M
		Masonry/Structural Repair (7711) \$1.1M
		Beacon St Line Des/ESDC (7729) \$4.9M
		Hingham Pump Station Rehab Des (7827) \$1.9M
		Belle Isle Rehab Des/ESDC/REI (7989) \$1.9M
		Siphon Structure Phase 1 REI (7996) \$1M
		REI CP-2 (8004) \$1.5M
		Heat Pumps WLGH/N.Nep/Newt PS (8061) \$1.1M
		Sect 75 Ext REI CP-1 (8067) \$1.2M
		As Needed Design (8018, 7981 & 7982) \$2.4M each
		CWTP Technical Assistance (7973 & 7974) \$1.2M each
		As Needed Design (7990 & 7991) \$2M each
		Geotechnical Support Services (7557) \$13.5M

Status of Internal Audit Assignments FY23 and FY24

<u>COMPLETED</u>	<u>Date</u>	<u>IN PROCESS & PLANNED TO START IN FY23</u>
Construction Labor Burden Rate Reviews (Over \$1 mill)		
WASM3 New Connecting Mains CP3 Section 23 24 47 Rehab (6392) \$14.7M	Aug-22	Deer Island MCC & Switch Gear (7420) \$23.5M
Low Service PRV Improvement (7563) \$11.3M	Aug-22	Section 75 Extension - Constr CP-1 (7484) \$14M
CP 1 NEH Improvements (6522) \$4.4M	Aug-22	Steel Tank/Impr Constr (7493) \$11.5M
Remote HW Shaft Access Impr Constr (7550) \$2.4M	Dec-22	Maint Gar/Wash Bay/Stor Bldg Const (7577) \$4.8M
NIH Sec 89 Replacement (7117) \$32.6M	Dec-22	Screw Pump Replac Ph 2 Const (7591) \$3.5M
Office Consolidation, Boston/Chelsea: WES Construction (7980) \$19.5M	Dec-22	Shaft 5 Improv Constr (7600) \$3M
JJCWTP SCADA Upgrade (7582) \$14M	Jan-23	Sudbury/Foss Dam Const (7615) \$3.2M
JJCWTP Chemical Feed System (7598) \$3M	Jan-23	Fuel Oil Tank Repl Constr Ph 3 (7637) \$3.8M
Southborough HQ Electrical System Upgrades (7425) \$2.6M	Feb-23	Digester Cover Replacement (7648) \$2.4M
Waltham Water Pipeline Constr (7457) \$13.8M	Mar-23	CP3 Shafts 7, 7B, 7C, 7D (7670) \$8.6M
Radio Repeater System Upgrade 2 (7134) \$3M	May-23	CP3 Shaft 5 (7671) \$4.9M
Wach Bastion Rehab Construction (7697) \$2M	May-23	CP-2 NEH Improvements (7725) \$20.7M
		Steel Tank Improv Constr Ph2 (7727) \$7.1M
		Deer Island Roofing Replacement (7734) \$9M
		HVAC Control System Replacement (7745) \$22M
		Foss Res3 Sluice Gates-Repoint Const (8058) \$1.2M
		Clinton Clariflocculator Valve Repl (7735) \$1.1M
		Fuel Oil Tank Replacement Ph 2 (7555) \$1.5M
		B/W Improvementts Construction (7366) \$13.5M
		CHE008 Pipe Replacement (7915) \$1.4M

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 18, 2023
SUBJECT: FY24 Financial Update and Summary through September 2023



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

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



Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2024 through September 2023, comparing actual spending to the budget.

DISCUSSION:

The total Year-to-Date variance for the FY24 CEB is \$8.3 million, due to lower direct expenses of \$5.8 million, indirect expenses of \$0.4 million, and debt service costs of \$0.6 million, and higher revenue of \$1.4 million.

FY24 Current Expense Budget

The CEB expense variances through September 2023 by major budget category were:

- Lower Direct Expenses of \$5.8 million or 7.9% under budget. Spending was lower for Wages & Salaries, Maintenance, Fringe Benefits, Professional Services, Chemicals, Other Services, and Training & Meetings. Spending was higher than budget for Utilities, Other Materials, Overtime, and Workers' Compensation.
- Lower Indirect Expenses of \$0.4 million or 1.7% under budget due primarily to lower Watershed reimbursements.
- Debt Service expenses were \$0.6 million or 0.6% under budget driven by lower than budgeted variable interest expense.
- Revenue was \$1.4 million or 0.7% over budget driven by Investment Income of \$1.6 million due to higher than budgeted interest rates.

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

	FY24 Budget	FY24 Actual	\$ Variance	% Variance
Direct Expenses	\$73.5	\$67.7	-\$5.8	-7.9%
Indirect Expenses	\$25.6	\$25.2	-\$0.4	-1.7%
Capital Financing	\$108.6	\$108.0	-\$0.6	-0.6%
Total	\$207.7	\$200.9	-\$6.9	-3.3%

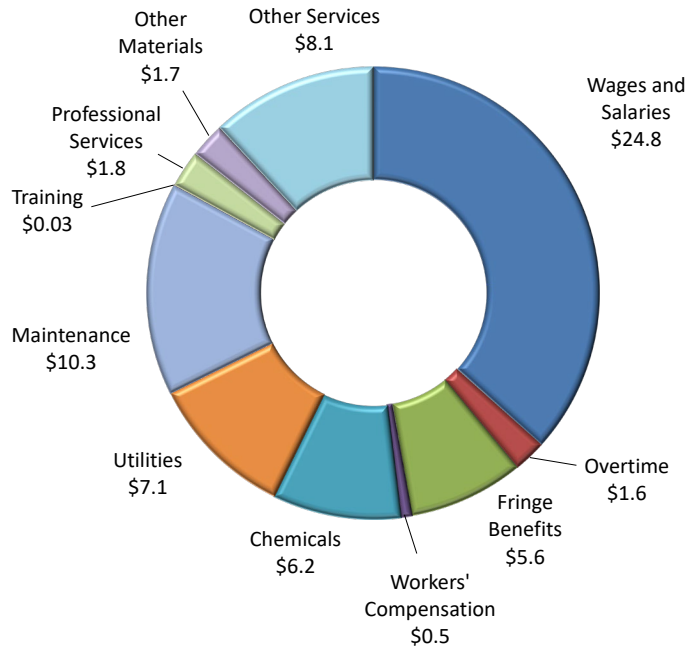
Totals may not add due to rounding

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

Direct Expenses

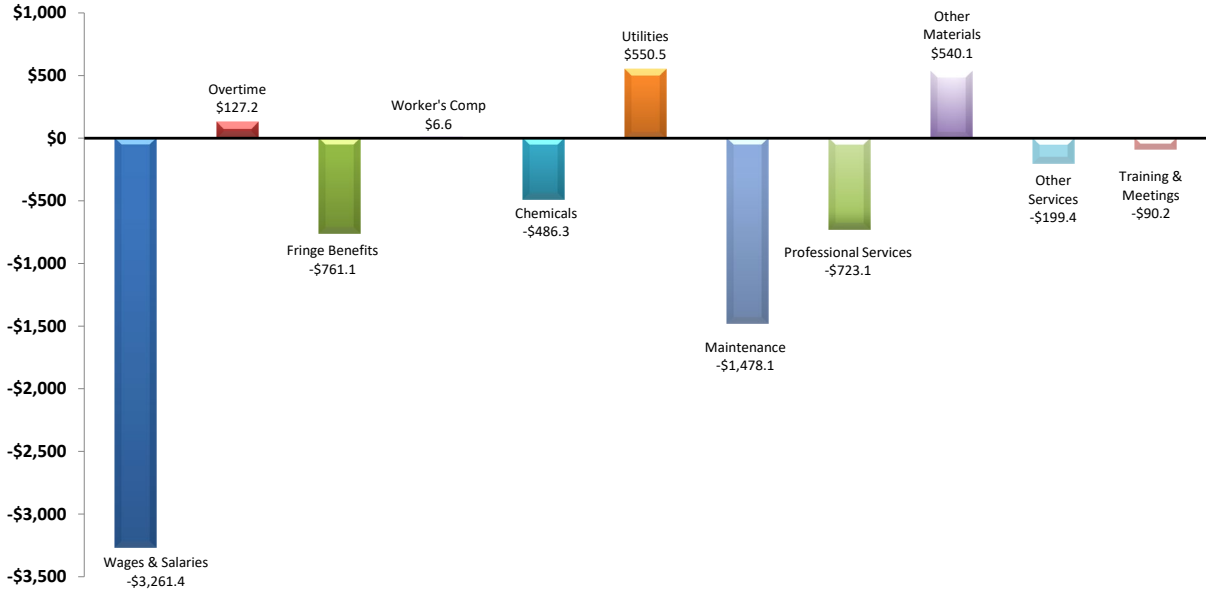
FY24 direct expenses through September totaled \$67.7 million, which was \$5.8 million or 7.9% less than budgeted.

**FY24 Direct Expenses
(in millions)**



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

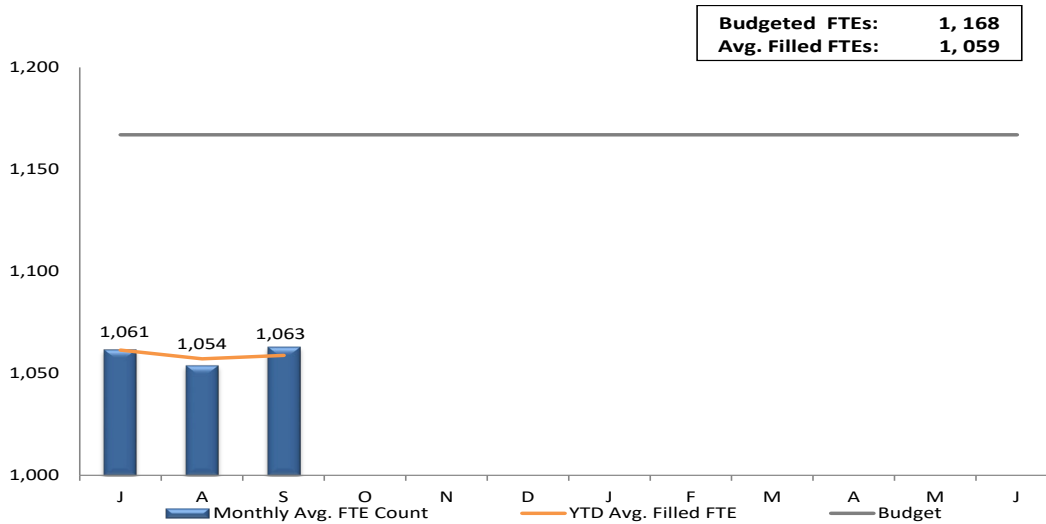
**FY24 Direct Expense Variance
(in thousands)**



Wages and Salaries

Wages and Salaries was under budget by \$3.3 million or 11.6%. Through September, there were 109 fewer average FTEs (1,059 versus 1,168 budget) or 9.3% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions also contributed to Regular Pay being under budget.

FY24 MWRA Full Time Equivalent (FTE) Position Trend



Maintenance

Maintenance was lower than budget by \$1.5 million or 12.5% largely driven by the timing of projects. Maintenance Services are under budget by \$2.0 million driven by lower Plant and Machinery Services of \$1.8 million due to timing of work for the Norumbega Cell #3 tank cleaning and Building and Ground Services of \$331,000 also due to timing of work. Maintenance Materials are over budget by \$523,000 driven by higher Warehouse Inventory of \$595,000 due to need for spare parts as well as purchasing of materials early due to supply chain issues, Plant & Machinery Materials of \$215,000 and Electrical Materials of \$107,000 both due to timing, partially offset by lower Special Equipment Materials of \$222,000 and Building and Grounds Materials of \$123,000, also due to timing.

Fringe Benefits

Fringe Benefit spending was lower than budget by \$761,000 or 12.0%. Spending was lower than budget in Health Insurance of \$634,000, 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.

Professional Services

Professional Services were less than budget by \$723,000 or 28.9% driven by lower Other Professional Services of \$307,000 due to timing of services including the Disparity Study, Legal Services of \$148,000, and Computer Systems Consultant of \$129,000, all due to timing.

Utilities

Utilities were greater than budget by \$550,000 or 8.5%. Overspending in Electricity of \$483,000 primarily at Deer Island of \$339,000 driven by higher demand use charges due to the many rain events and higher real time pricing on the supply contract. Electricity in Field Operations was greater than budget by \$97,000 due to higher use than budget.

Other Materials

Other Materials were greater than budget by \$540,000 or 47.0% driven by Computer Hardware of \$304,000 primarily due to timing of equipment purchases, and Vehicle Expense of \$165,000 due to timing of vehicle expenses including electrical vehicle charging stations originally anticipated to be completed by FY23.

Chemicals

Chemicals were lower than budget by 486,000 or 7.3%. Lower than budgeted spending on Sodium Hypochlorite of \$336,000 was driven by lower spending in Water Operations of \$572,000 due to favorable contract pricing, partially offset by higher spending at Deer Island of \$262,000 due to additional usage for disinfection and odor control due to higher flows. Carbon Dioxide was lower than budget by \$137,000 primarily due to less deliveries than anticipated, Other Oxidizers (Bioxide) at Framingham Pump Station was lower than budget by \$77,000 due to less deliveries and lower pricing, Soda Ash of \$50,000 primarily due to less than anticipated deliveries, and

Polymer of \$49,000 due to lower secondary waste sludge production as a result of reduced wasting during the many storm events. These are partially offset by higher Ferric Chloride of \$178,000 driven by Deer Island to keep the orthophosphate levels in the digesters at the desired target level, and Activated Carbon of \$69,000 driven by Deer Island of \$63,000 due to timing of replacements. Deer Island flows are 21.4% greater than the budget and Carroll Plant preliminary flows are 6.2% less than the budget through September. 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

Other Services were below budget by \$199,000 or 2.4% driven by lower Telecommunications costs of \$270,000, lower Sludge Pelletization quantities of \$134,000, and Police Details of \$58,000 due to less than anticipated needs. These are partially offset by higher Memberships/Dues/Subscriptions of \$265,000 due to timing of spending.

Overtime

Overtime expenses were greater than budget by \$127,000 or 8.7%. Greater than budgeted spending at Deer Island of \$104,000 and Field Operations of \$51,000 are primarily due to excessive rain events. Year-to-date rainfall was a major contributor for the increased overtime.

Training & Meetings

Training & Meetings was lower than budget by \$90,000 or 72.9% primarily due to timing.

Worker's Compensation

Worker's Compensation expenses were greater than budget by \$7,000 or 1.2% due to higher Medical Payments of \$18,000, partially offset by lower spending on Compensation Payments of \$8,000 and Administrative Expenses of \$3,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

Indirect Expenses

Indirect Expenses totaled \$25.2 million, which is \$447,000 or 1.7% lower than budget. The variance is driven by lower Watershed reimbursements.

Based on FY24 operating activity only, the Watershed Division is \$341,000 or 7.5% under budget. Lower spending on Wages and Salaries and Fringe Benefits is driving the variance. When factoring in the FY23 balance forward of \$156,000 which was paid during Q1 of FY24, Watershed Reimbursement is \$497,000 or 11.0% below budget through September 2023.

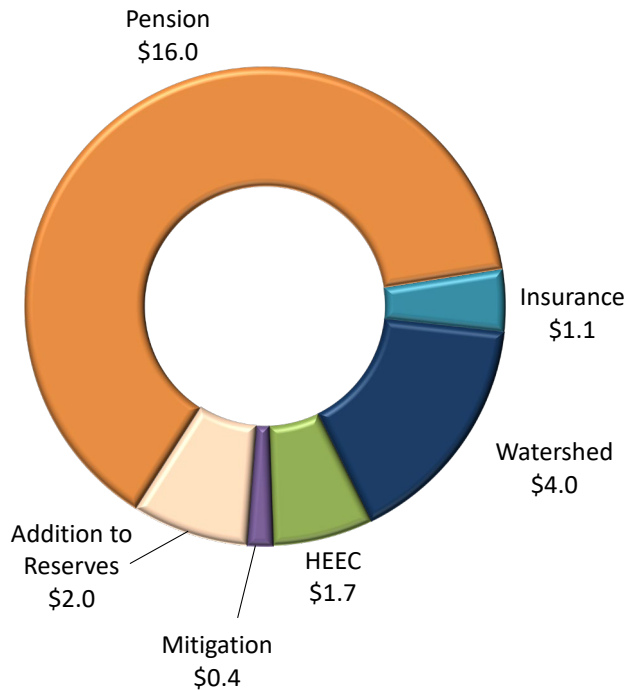
FY24 Watershed Protection Variance

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	4.9	4.4	-0.5	-9.6%
Operating Revenues - Offset	0.4	0.3	-0.1	-32.7%
FY24 Operating Totals	4.5	4.2	-0.3	-7.5%
DCR Balance Forward (FY23 year-end accrual true-up)	0.0	-0.2	-0.2	
FY24 Adjusted Operating Totals	4.5	4.0	-0.5	-11.0%
PILOT	0.0	0.0	0.0	0.0%
Total Watershed Reimbursement	4.5	4.0	-0.5	-11.0%

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 estimated expenses 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 September was 144 vs. a budget of 150.

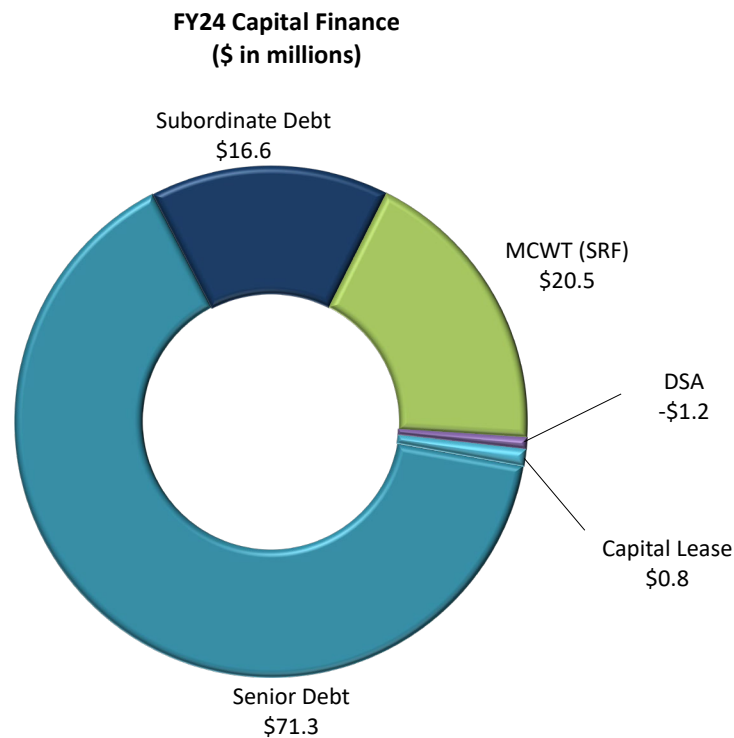
**FY24 Indirect Expenses
(in millions)**



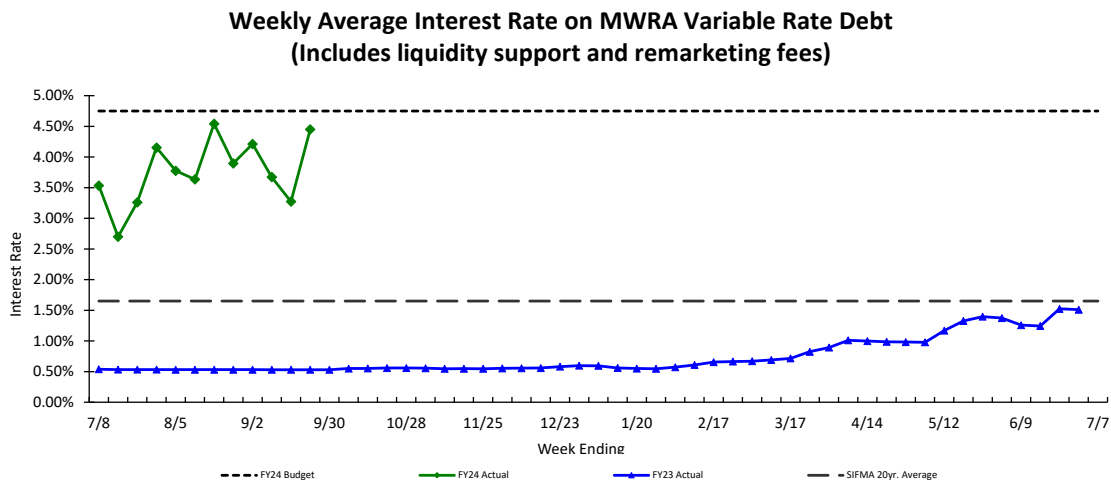
Capital Financing

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 September totaled \$108.0 million, which is \$644,000 or 0.6% less than budget. This favorable variance is the result of lower than budgeted variable interest rates.



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



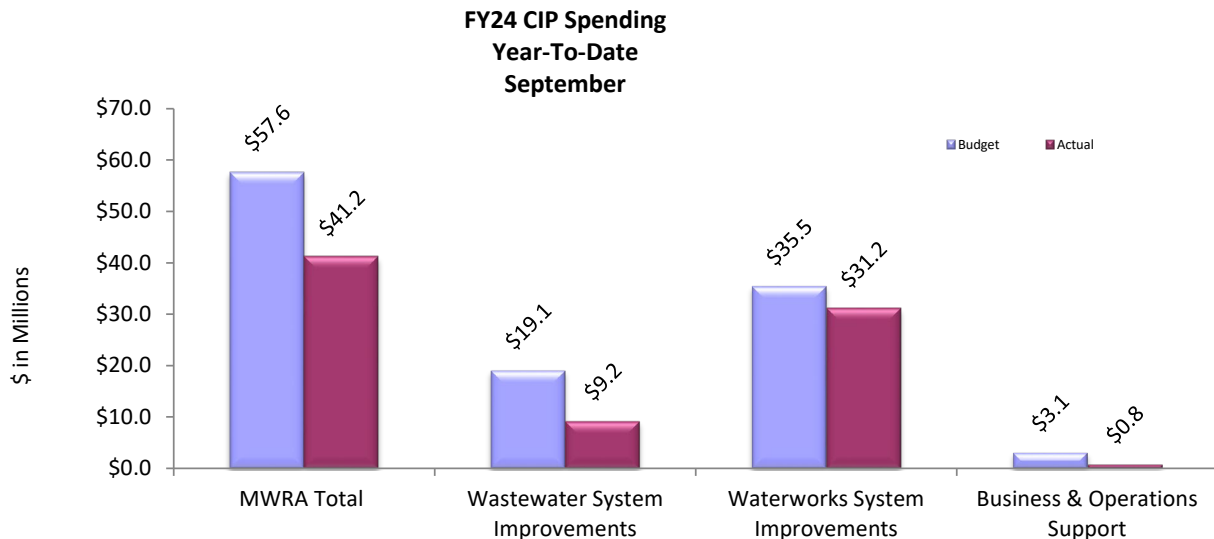
Revenue & Income

Revenues of \$218.9 million were \$1.4 million or 0.7% over the estimate. Investment Income was \$1.6 million or 30.2% over the estimate due to higher than budgeted interest rates. Other Revenue was below the estimate by \$112,000 or 15.5% due to Miscellaneous Revenue of \$88,000, Profit and Loss on Disposal of Equipment of \$60,000, Energy Revenue of \$53,000, partially offset by Penalties of \$70,000 and Permit Fees of \$18,000.

FY24 Capital Improvement Program

Capital expenditures in Fiscal Year 2024 through September total \$41.2 million, \$16.5 million or 28.6% 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 \$23.3 million, \$14.3 million or 38.1% under planned spending.



Overall, CIP spending reflects the underspending in Wastewater Improvements (\$9.9 million), Waterworks (\$4.3 million) and Business and Operations Support (\$2.3 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 for Braintree/Weymouth Improvements – Construction and Deer Island Treatment Plant (Deer Island) Clarifier Rehab Phase 2, lower than projected task order work for Deer Island As-Needed Design contracts. This was partially offset by planned FY23 work completed in FY24 for Nut Island Odor Control and HVAC Improvements, and timing of work for Clinton Screw Pumps Replacement Phase 1 – Construction.

Waterworks variances are primarily due to timing of community loan distributions for the Water Loan Program, timing of work for Section 89/29 Replacement – Construction and WASM/Spot Pond Supply Mains West Pressure Reducing Valves – Construction, timing of consultant’s work for Tunnel Redundancy Preliminary Design and Massachusetts Environmental Policy Act (MEPA) Review, prior permit issue for Waltham Water Pipeline, timing of services for Geotechnical Support. This was partially offset by planned FY23 work completed in FY24 for Wachusett Lower Gatehouse Pipe & Boiler Replacement – Construction, and timing of work for Carroll Plant Chemical Feed System Improvements – Construction.

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	6.0	5.4	(0.7)	-10.8%
Treatment	1.3	0.7	(0.6)	-48.0%
Residuals	0.0	0.0	0.0	0.0%
CSO	1.0	0.1	(0.9)	-86.3%
Other	10.8	3.0	(7.7)	-71.9%
Total Wastewater System Improvements	\$19.1	\$9.2	(\$9.9)	-51.8%
Waterworks System Improvements				
Drinking Water Quality Improvements	0.8	0.9	0.0	5.1%
Transmission	12.9	8.4	(4.6)	-35.4%
Distribution & Pumping	10.6	5.8	(4.7)	-44.8%
Other	11.1	16.1	5.0	44.9%
Total Waterworks System Improvements	\$35.5	\$31.2	(\$4.3)	-12.1%
Business & Operations Support	\$3.1	\$0.8	(\$2.3)	-74.2%
Total MWRA	\$57.6	\$41.2	(\$16.5)	-28.6%

FY24 Spending by Program:

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

Other Wastewater: Net underspending of \$7.7 million

- \$7.7 million for Community I/I due to timing of community distributions of grants and loans.

Other Waterworks: Net overspending of \$5.0 million

- \$5.7 million for Local Financial Assistance due to timing of community loan distributions.
- This overspending was partially offset by underspending of \$0.4 million for Carroll Plant SCADA Upgrade Construction due to timing of work.

Water Distribution and Pumping: Net underspending of \$4.7 million

- \$2.5 million for Section 89/29 Replacement – Construction, \$1.2 million for CP-1 NEH Improvements, and \$0.5 million for CP3-Sections 23, 24, 47 Rehabilitation due to timing of work.

Waterworks Transmission: Net underspending of \$4.6 million

- \$1.3 million for Tunnel Redundancy Preliminary Design & MEPA Review due to timing of consultant work.
- \$1.2 million for Waltham Water Pipeline due to prior permit issues.

- \$0.5 million for Geotechnical Support Services due to timing of support services.
- \$0.5 million for WASM/Spot Pond Supply Mains Pressure Reducing Valves due to timing of work.
- This underspending was partially offset by overspending of \$0.6 million for Wachusett Lower Gatehouse Pipe & Boiler Replacement – Construction due to planned FY23 work completed in FY24.

Business & Operations Support: Net underspending of \$2.3 million

- \$1.1 million for As-Needed Design Contracts due to lower than projected task order work.
- \$0.5 million for MAXIMO Interface Enhancements and \$0.4 for Core Switches due to timing and scheduling of work.
- \$0.4 million for Security Equipment & Installation due to timing of security initiatives.

Combined Sewer Overflow: Net underspending of \$0.9 million

- \$0.6 million for Chelsea 008 CSO Pipe Replacement due to timing of work.

Interception & Pumping: Net underspending of \$0.7 million

- \$0.9 million for Braintree/Weymouth Improvements – Construction due to timing and long lead time for equipment.
- This underspending was partially offset by overspending of \$0.3 million for Nut Island Odor Control & HVAC Improvements Phase 2 – Construction due to planned FY23 work completed in FY24.

Wastewater Treatment: Net underspending of \$0.6 million

- \$0.8 million for Clarifier Rehab Phase 2 Construction due to timing of work and \$0.5 million for lower than projected Deer Island task order work.
- This underspending was partially offset by overspending of \$0.3 million for Clinton Screw Pumps Replacement Phase 1 – Construction due to timing of work and \$0.2 million for Radio Repeater System Upgrade 2 due to contractor progress.

Construction Fund Balance

The construction fund balance was \$101.5 million as of the end of September. Commercial Paper/Revolving Loan available capacity was \$195 million.

ATTACHMENTS:

Attachment 1 – Variance Summary September 2023

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1
FY24 Actuals vs. FY24 Budget

	Sep 2023 Year-to-Date				
	Period 3 YTD Budget	Period 3 YTD Actual	Period 3 YTD Variance	%	FY24 Approved
<u>EXPENSES</u>					
WAGES AND SALARIES	\$ 28,098,801	\$ 24,837,402	\$ (3,261,399)	-11.6%	\$ 127,828,242
OVERTIME	1,459,281	1,586,433	127,152	8.7%	5,727,593
FRINGE BENEFITS	6,341,629	5,580,480	(761,149)	-12.0%	25,823,383
WORKERS' COMPENSATION	536,099	542,695	6,596	1.2%	2,144,395
CHEMICALS	6,696,321	6,210,059	(486,262)	-7.3%	28,269,124
ENERGY AND UTILITIES	6,511,238	7,061,712	550,474	8.5%	31,064,890
MAINTENANCE	11,809,266	10,331,150	(1,478,116)	-12.5%	38,574,256
TRAINING AND MEETINGS	123,660	33,455	(90,205)	-72.9%	498,597
PROFESSIONAL SERVICES	2,505,416	1,782,356	(723,060)	-28.9%	10,410,484
OTHER MATERIALS	1,149,343	1,689,490	540,147	47.0%	7,167,400
OTHER SERVICES	8,260,673	8,061,236	(199,437)	-2.4%	38,494,660
TOTAL DIRECT EXPENSES	\$ 73,491,727	\$ 67,716,468	\$ (5,775,262)	-7.9%	\$ 316,003,024
INSURANCE	\$ 1,016,345	\$ 1,066,446	\$ 50,101	4.9%	\$ 4,065,380
WATERSHED/PILOT	4,518,943	4,021,583	(497,360)	-11.0%	30,358,187
HEEC PAYMENT	1,699,632	1,699,632	-	0.0%	7,500,650
MITIGATION	444,772	444,772	-	0.0%	1,779,086
ADDITIONS TO RESERVES	1,965,259	1,965,259	-	0.0%	7,861,035
RETIREMENT FUND	15,972,804	15,972,804	-	0.0%	15,972,804
POST EMPLOYEE BENEFITS	-	-	-	---	2,849,365
TOTAL INDIRECT EXPENSES	\$ 25,617,755	\$ 25,170,495	\$ (447,258)	-1.7%	\$ 70,386,507
STATE REVOLVING FUND	\$ 20,460,231	\$ 20,460,231	\$ -	0.0%	\$ 90,798,263
SENIOR DEBT	71,273,286	71,273,286	-	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	17,257,308	17,257,308	-	0.0%	69,931,072
LOCAL WATER PIPELINE CP	-	-	-	---	7,744,625
CAPITAL LEASE	804,265	804,265	-	0.0%	3,217,060
VARIABLE DEBT	-	(644,369)	(644,369)	---	-
DEFEASANCE ACCOUNT	-	-	-	---	-
DEBT PREPAYMENT	-	-	-	---	4,000,000
TOTAL CAPITAL FINANCE EXPENSE	\$ 108,607,793	\$ 107,963,424	\$ (644,369)	-0.6%	\$ 487,759,367
TOTAL EXPENSES	\$ 207,717,275	\$ 200,850,387	\$ (6,866,889)	-3.3%	\$ 874,148,898
<u>REVENUE & INCOME</u>					
RATE REVENUE	\$ 208,567,000	\$ 208,567,000	\$ -	0.0%	\$ 834,268,000
OTHER USER CHARGES	2,952,059	2,925,466	(26,593)	-0.9%	10,390,434
OTHER REVENUE	727,035	614,627	(112,408)	-15.5%	5,838,903
RATE STABILIZATION	76,371	76,371	-	0.0%	305,482
INVESTMENT INCOME	5,172,290	6,732,860	1,560,570	30.2%	23,346,079
TOTAL REVENUE & INCOME	\$ 217,494,755	\$ 218,916,324	\$ 1,421,569	0.7%	\$ 874,148,898

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget YTD September	FY24 Actuals September	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	28,098,801	24,837,402	(3,261,399)	-11.6%	Wages and Salaries are under budget by \$3.3 million or 11.6%. Year to date, there have been 109 fewer average FTEs (1,059 versus 1,168 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	1,459,281	1,586,433	127,152	8.7%	Overtime expenses were greater than budget by \$127,000 or 8.7%. Greater than budget spending at Deer Island of \$104,000 and Field Operations of \$51,000 primarily due to excessive rain events. Year-to-date rainfall was a major contributor for the increased overtime. This overspending was partially offset by Engineering & Construction of \$18,000.
Fringe Benefits	6,341,629	5,580,480	(761,149)	-12.0%	Fringe Benefit spending was lower than budget by \$761,000 or 12.0%. Lower than budget in Health Insurance of \$634,000, 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. In addition, there was lower spending on Medicare of \$57,000, Paid Family Medical Leave of \$32,000, Dental Insurance of \$17,000, and Unemployment Insurance of \$13,000.
Worker's Compensation	536,099	542,695	6,596	1.2%	Worker's Compensation expenses were greater than budget by \$7,000 or 1.2%. The higher expenses were due to Medical Payments of \$18,000, partially offset by favorable variances in Compensation Payments of \$8,000, and Administrative Expenses of \$3,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
Chemicals	6,696,321	6,210,059	(486,262)	-7.3%	Chemicals were lower than budget by 486,000 or 7.3%. Lower than budget spending on Sodium Hypochlorite of \$336,000 driven by Water Operations of \$572,000 due to contract pricing, partially offset by DITP of \$262,000 million due to additional usage for disinfection and odor control due to higher flows. Carbon Dioxide was lower than budget by \$137,000 primarily due to lower deliveries, Other Oxidizers (Bioxide) at Framingham PS was lower than budget by \$77,000 due to less deliveries and lower price, Soda Ash of \$50,000 primarily due to less than anticipated deliveries, and Polymer of \$49,000 due to lower secondary waste sludge production as a result of reduced wasting during the many storm events, partially offset by Ferric Chloride of \$178,000, driven by DITP to keep the orthophosphate levels in the digesters at the desired target level, and Activated Carbon of \$69,000 driven by DITP of \$63,000 due to timing of replacements. DITP flows are 21.4% greater than the budget and the CWTP flows are 6.2% less than the budget through September. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget YTD September	FY24 Actuals September	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Utilities	6,511,238	7,061,712	550,474	8.5%	Utilities were greater than budget by \$550,000 or 8.5%. Overspending in Electricity of \$483,000 primarily at DITP of \$339,000 driven by higher demand usage charges due to the many rain events and higher real time pricing on the supply contract. Electricity in Field Operations was greater than budget by \$97,000 due to higher use than budget.
Maintenance	11,809,266	10,331,150	(1,478,116)	-12.5%	Maintenance was lower than budget by \$1.5 million or 12.5%, largely driven by the timing of projects. <i>Maintenance Services</i> are under budget by \$2.0 million driven by Plant and Machinery Services of \$1.8 million due to timing of work for the Norumbega Cell #3 tank cleaning and Building and Ground Services of \$331,000 also due to timing of work. <i>Maintenance Materials</i> are over budget by \$523,000 million driven by Warehouse Inventory of \$595,000 due to need for spare parts as well as purchasing of materials early due to supply chain issues, Plant & Machinery Materials of \$215,000 and Electrical Materials of \$107,000 due to timing, partially offset by Special Equipment Materials of \$222,000 and Building and Grounds Materials of \$123,000 also due to timing.
Training & Meetings	123,660	33,455	(90,205)	-72.9%	Training & Meetings was lower than budget by \$90,000 or 72.9% is primarily due to timing driven by MIS (\$72,000), Procurement (\$9,000), Water Redundancy (\$8,000), and Engineering & Construction (\$6,000), partially offset by higher spending in Field Operations \$8,000.
Professional Services	2,505,416	1,782,356	(723,060)	-28.9%	Professional Services were less than budget by \$723,000 or 28.9% driven by lower Other Services of \$307,000 due to timing of services including the Disparity Study, Legal Services of \$148,000 and Computer Systems Consultant of \$129,000 due to timing.
Other Materials	1,149,343	1,689,490	540,147	47.0%	Other Materials were greater than budget by \$540,000 or 47.0% driven by Computer Hardware of \$304,000 primarily due to timing of equipment purchases, Vehicle Expense of \$165,000 due to timing of vehicle expenses including electrical vehicle charging stations originally anticipated to be completed by FY23, Vehicle Purchases/Replacements of \$26,000 due to timing and supply chain issues.
Other Services	8,260,673	8,061,236	(199,437)	-2.4%	Other Services were lower than budget by \$199,000 or 2.4% driven by Telecommunications of \$694,000 due to less than anticipated costs, Memberships/Dues/Subscriptions of \$265,000 due to timing, Sludge Pelletization of \$134,000 due to lower quantities, and Police Details of \$58,000 due to less than anticipated need.
Total Direct Expenses	73,491,727	67,716,468	(5,775,259)	-7.9%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget YTD September	FY24 Actuals September	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,016,345	1,066,446	50,101	4.9%	Higher Payments/Claims of \$45,000 and higher Premiums of \$5,000 than budgeted
Watershed/PILOT	4,518,943	4,021,583	(497,360)	-11.0%	Lower Watershed Reimbursement of \$497,000 driven by lower spending on Wages & Salaries and Fringe Benefits.
HEEC Payment	1,699,632	1,699,632	-	0.0%	
Mitigation	444,772	444,772	-	0.0%	
Addition to Reserves	1,965,259	1,965,259	-	0.0%	
Pension Expense	15,972,804	15,972,804	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	25,617,755	25,170,496	(447,259)	-1.7%	
Debt Service					
Debt Service	109,795,090	109,150,721	(644,369)	-0.6%	Lower than budget debt service was a result of lower than budget variable interest expense of \$644,000 due to lower interest rates.
Debt Service Assistance	(1,187,297)	(1,187,297)	-	0.0%	
Total Debt Service Expenses	108,607,793	107,963,424	(644,369)	-0.6%	
Total Expenses					
Total Expenses	207,717,275	200,850,388	(6,866,886)	-3.3%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget YTD September	FY24 Actuals September	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Revenue & Income					
Rate Revenue	208,567,000	208,567,000	-	0.0%	
Other User Charges	2,952,059	2,925,466	(26,593)	-0.9%	
Other Revenue	727,035	614,627	(112,408)	-15.5%	Other Revenue was \$112,000 or 15.5% under budget due to Miscellaneous Revenue of \$88,000, Profit and Loss on Disposal of Equipment of \$60,000, Energy Revenue of \$53,000, partially offset by Penalties of \$70,000 and Permit Fees of \$18,000.
Rate Stabilization	76,371	76,371	-	0.0%	HEEC Reserve.
Investment Income	5,172,290	6,732,860	1,560,570	30.2%	Investment Income is over budget due to higher than budgeted interest rates.
Total Revenue	217,494,755	218,916,324	1,421,569	0.7%	
Net Revenue in Excess of Expenses	9,777,480	18,065,936	8,288,455		

**Totals may not add up due to rounding*

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

	FY24 Budget September	FY24 Actuals September	Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$6,025	\$5,374	(\$651)	-10.8%	<u>Underspending</u> Braintree/Weymouth Improvements - Construction: \$891k (timing of work and long lead time for equipment) Remote Headworks & Shaft Access Improvements - Construction: \$242k (timing of final work) <u>Offset Overspending</u> Nut Island Odor Control & HVAC Improvements Phase 2 - Construction: \$336k (planned FY23 work completed in FY24) Fuel Oil Tank Replacement Phase 2 - Construction: \$238K (contractor progress)
Treatment	\$1,269	\$660	(\$609)	-48.0%	<u>Underspending</u> Primary & Secondary Clarifier Rehab Phase 2 Construction: \$785k (timing of work) As-Needed Design: \$511k (lower than projected task order work) <u>Offset Overspending</u> Clinton Screw Pumps Replacement Phase 1 - Construction: \$342k (timing of work) and Misc. VFD Replacements: \$205k (timing of work) Radio Repeater System Upgrade 2: \$243k (contractor progress)
Residuals	\$0	\$0	\$0	0.0%	
CSO	\$1,050	\$144	(\$906)	-86.3%	<u>Underspending</u> CHE008 Pipe Replacement: \$618k (work scheduled for FY24 performed in FY23)
Other Wastewater	\$10,758	\$3,020	(\$7,739)	-71.9%	<u>Underspending</u> I/I Local Financial Assistance: \$7.7M (timing of community distributions of grants and loans)
Total Wastewater	\$19,102	\$9,198	(\$9,904)	-51.8%	
Waterworks					
Drinking Water Quality Improvements	\$823	\$865	\$42	5.1%	<u>Overspending</u> CWTP Chemical Feed System Improvements - Construction: \$707k (timing of work) <u>Offset Underspending</u> CWTP Technical Assistance: \$563k (lower than projected task order work)

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

	FY24 Budget September	FY24 Actuals September	Actuals vs. Budget		Explanations
			\$	%	
Transmission	\$12,934	\$8,350	(\$4,584)	-35.4%	<u>Underspending</u> Tunnel Redundancy Preliminary Design & MEPA Review: \$1.3M (timing of consultant work) Waltham Water Pipeline - Construction and REI: \$1.2M (prior permit issues) Geotechnical Support Services: \$503k (timing of support services) WASM/Spot Pond Supply Mains West (SPSM) Pressure Reducing Valves (PRV) - Construction: \$494k (timing of work) WASM 3 - MEPA/Design/CA/RI: \$483k (timing of consultant work) <u>Offset Overspending</u> Wachusett Lower Gatehouse Pipe & Boiler Replacement - Construction: \$644k (planned FY23 work completed in FY24)
Distribution & Pumping	\$10,589	\$5,847	(\$4,742)	-44.8%	<u>Underspending</u> Section 89/29 Replacement - Construction: \$2.5M, and CP-1 NEH Improvements: \$1.2M, and CP3-Sections 23, 24, 47 Rehabilitation: \$471k (timing of work) <u>Offset Overspending</u> CP-2, Sections 25 & 24 - Construction: \$265k (contractor progress)
Other Waterworks	\$11,108	\$16,094	\$4,986	44.9%	<u>Overspending</u> Local Water Pipeline Financial Assistance Program: \$5.7M (timing of community distributions) <u>Offset Underspending</u> CWTP SCADA Upgrade Construction: \$408k (timing of work)
Total Waterworks	\$35,454	\$31,156	(\$4,298)	-12.1%	
Business & Operations Support					
Total Business & Operations Support	\$3,091	\$797	(\$2,295)	-74.2%	<u>Underspending</u> As-Needed Design Contracts: \$1.1M (lower than projected task order work) MAXIMO Interface Enhancements: \$500k, and Core Switches: \$440k (timing of work) Security Equipment & Installation: \$383k (timing of security initiatives) <u>Offset Overspending</u> Office Space Modifications: \$215k (timing of work)
Total MWRA	\$57,648	\$41,151	(\$16,497)	-28.6%	

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 18, 2023
SUBJECT: Termination of Interest Rate Hedge Agreements



COMMITTEE: Administration, Finance & Audit

 INFORMATION
 X VOTE

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


Thomas J. Durkin
Director of Finance

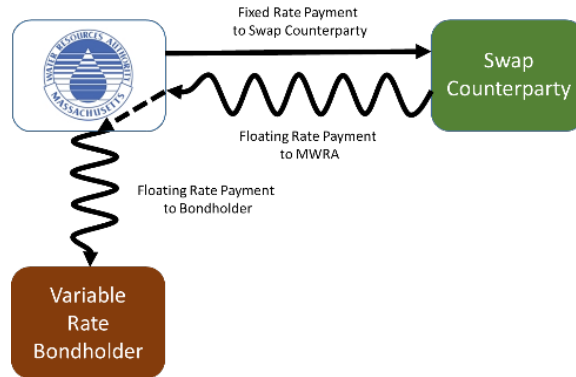
Between 1998 and 2001, MWRA entered into six different interest rate hedge agreements (swap agreements) to mitigate the budget volatility of variable interest rates and achieve a lower cost of debt than was available with traditional fixed rate debt. Now with changes to short- and long-term interest rates and an overall decrease of variable rate debt, staff believe MWRA can achieve overall debt service savings by terminating the swap agreements. Staff propose using the remaining FY23 favorable budget variance to make the required termination payment of approximately \$27.6 million to provide future debt service savings. Based on projected variable interest rates, terminating the swap agreements could result in budget savings ranging from \$4.3 million to \$14.5 million for MWRA ratepayers.

RECOMMENDATION:

To authorize the Executive Director or his designee, on behalf of the Authority, to terminate of all or a portion of the Authority’s existing interest rate hedge agreements with Citigroup Financial Products Inc., Morgan Stanley Capital Services Inc., Barclays Bank PLC, and Wells Fargo, NA including any termination payments due in connection with the termination thereof as calculated pursuant to the applicable International Swap and Derivatives Association Agreements.

DISCUSSION:

Between 1998 and 2001, MWRA entered into six interest rate hedge agreements (swap agreement) with various financial institutions. Swap agreements are often utilized to reduce the financial risk of changes in interest rates. Five of MWRA’s six swap agreements were designed to hedge overall exposure to variable interest rates. Under the terms of these agreements, a financial institution pays MWRA a floating interest rate based off of an agreed upon index, and MWRA pays a fixed rate determined at the time the transaction was closed. The floating index received from the counterparty should approximate the variable interest rate paid to the bondholders cancelling that expense. MWRA had one swap agreement where a floating rate was paid to the counterparty and MWRA received a fixed payment back. The following graphic is an example of a fixed to floating interest rate swap agreement.



MWRA primarily utilized swap agreements for refunding transactions. Generally, the fixed rate paid to a swap counterparty is lower than the rates available in the traditional fixed rate market. This lower interest rate comes with some risks including the counterparty’s failure to perform, the floating rate paid to MWRA being less than owed to the bondholders (basis risk), and termination risk. An example of termination risk occurred when Lehman Brothers and its subsidiaries, including those serving as counterparties in MWRA swap agreements, filed for bankruptcy on September 15, 2008. The bankruptcy was a termination event, which resulted in MWRA owing \$51.6 million to Lehman Brothers. Fortunately, under the terms of the swap agreement MWRA was able to procure new counterparties (Barclays Bank PLC and Wells Fargo, NA) to purchase the swaps and provide the funds to make the payment to Lehman Brothers. Without those funds, MWRA would have been required to make the termination payment. At the time the swap agreement is entered into, the transaction has a zero value where both parties have an agreement that exactly matches the market. As long- and short-term interest rates change, the value of the transaction changes in value to MWRA and the counterparty. Currently, all of the existing swap agreements have a negative value meaning the transaction is more valuable to the counterparty than to MWRA, and as a result a termination a payment would be owed. The following table details MWRA’s current swaps, the termination values (Mark to Market) as of September 30, 2023 and current fixed interest rate.

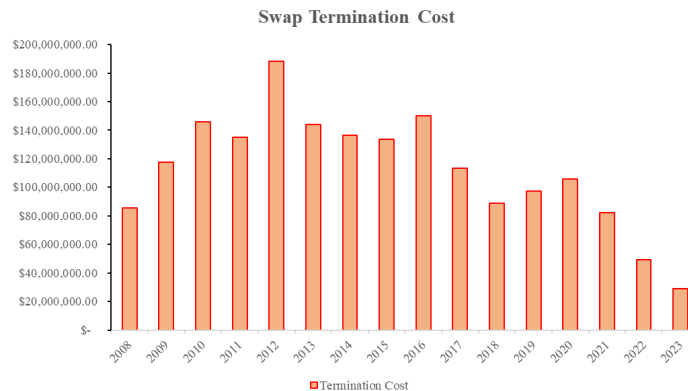
Swap Counter Party	Notional Amount Outstanding	Mark to Market September 30, 2023	Fixed Payment Paid by MWRA	All In Cost of Swap
Citigroup Financial Products, Inc.	\$ 21,775,000	\$ (212,473)	3.994%	4.519%
Morgan Stanley Capital Services, Inc.	\$ 14,520,000	\$ (137,269)	4.032%	4.559%
Barclays Bank PLC	\$ 65,050,000	\$ (9,293,053)	6.585%	7.110%
Wells Fargo Bank, NA	\$ 65,050,000	\$ (9,994,997)	6.935%	7.460%
Barclays Bank PLC	\$ -	\$ (7,947,118)	6.585%	7.110%
Total	\$ 166,395,000	\$ (27,584,910)		

As discussed above, the fixed rates paid on the swap agreements are generally lower than the bond market fixed rates at the time of the transaction. When these swap agreements were closed, fixed market interest rates ranged from 5.01% (Citigroup and Morgan Stanley) to 5.82% (Barclays and Wells Fargo). While the Barclays and Wells Fargo swap agreements currently have fixed interest rates between 6.58% and 6.935%, the fixed rate paid changed over the contract term, which resulted in a blended rate of 5.15%.

While the swap agreement fixed rates are lower than the traditional market, they are generally higher than variable interest rates. Although variable rate debt is a lower cost of funds, it comes with greater budget volatility since the interest rates can change on a daily or weekly basis. Given the budget risk associated with variable rate debt, the Credit Rating Agencies generally indicate that variable rate should represent about 15% of the total bonds outstanding for an entity with a debt portfolio similar to MWRA. When the decision was made to enter into these agreements MWRA's variable rate debt was near its peak levels of approximately 30% of the portfolio. As shown on the graph, over the last several years MWRA has seen a significant decline in its outstanding variable rate debt going from 23% of the portfolio in 2008 to approximately 9% today.



In addition to the reduction in outstanding variable rate debt, the increasing short- and long-term interest rates have reduced the overall termination value of the swaps to the lowest levels since 2008. As shown in the following graph, the termination values for the swaps peaked at \$188.5 million in 2012 and have dropped to approximately \$27.6 million today.



As a result of the lower variable rate debt and reduced termination payments, staff believe now is the correct time to terminate the existing swaps. In addition to eliminating the swap agreement risks detailed above, the termination would also result in projected lower debt service cost. With the termination of the swaps, the fixed payment to the swap counterparty is eliminated and MWRA is left with a standalone floating rate bond. These bonds would then function the same as all of MWRA's other variable rate bonds. Historically, variable rate debt has been a lower cost of funds because the bondholders on a weekly basis can decide to not continue to hold the bonds, which eliminates long-term credit and interest risk. With the elimination of those risks, bondholders will accept a lower interest rate.

Currently, the all-in fixed interest rate costs for the active swap agreements ranges from 4.52% to 7.46%. If MWRA terminates the swaps, the interest costs for the swaps would be reduced from those levels to potentially lower floating rates. In order to evaluate the potential impact of terminating the swaps, staff evaluated several different projected short-term rate scenarios, depicted in the table below. The first scenario (shaded yellow) is the average of the weekly floating rate debt index from 1989 to present. The second scenario (shaded blue) is the average of the same index from July 2022 to present. The third scenario (shaded pink) is the average of the weekly index from 1989 to January 2008. The period for the third scenario was selected since it represents a higher rate environment which might be more indicative of rates over the next several years. Staff reviewed the various interest rate scenarios with MWRA’s Financial Advisor. MWRA’s Financial Advisor believes the rate scenarios are reasonable and defensible. The table also compares the interest expense associated with the swap agreements (white column) to the scenarios listed above.

Fiscal Year	Estimated Swap Payment	Projected Variable Rate			Gross Debt Service Difference		
		Average Rates Since 1989 (2.58%)	Average Rates Since July 2022 (3.18%)	Average Rates Before 2008 (3.71%)	Average Rates Since 1989 (2.58%)	Average Rates Since July 2022 (3.18%)	Average Rates Before 2008 (3.71%)
2024	\$ 6,412,493	\$ 2,480,154	\$ 3,056,934	\$ 3,566,423	\$ (3,932,339)	\$ (3,355,559)	\$ (2,846,070)
2025	\$ 9,360,615	\$ 3,392,141	\$ 4,181,011	\$ 4,877,846	\$ (5,968,474)	\$ (5,179,604)	\$ (4,482,769)
2026	\$ 8,414,023	\$ 2,413,031	\$ 2,974,201	\$ 3,469,901	\$ (6,000,992)	\$ (5,439,822)	\$ (4,944,121)
2027	\$ 5,924,812	\$ 1,916,467	\$ 2,362,157	\$ 2,755,850	\$ (4,008,345)	\$ (3,562,655)	\$ (3,168,962)
2028	\$ 5,073,913	\$ 1,816,320	\$ 2,238,720	\$ 2,611,840	\$ (3,257,593)	\$ (2,835,193)	\$ (2,462,073)
2029	\$ 5,026,560	\$ 1,816,320	\$ 2,238,720	\$ 2,611,840	\$ (3,210,240)	\$ (2,787,840)	\$ (2,414,720)
2030	\$ 5,026,560	\$ 1,816,320	\$ 2,238,720	\$ 2,611,840	\$ (3,210,240)	\$ (2,787,840)	\$ (2,414,720)
2031	\$ 5,105,467	\$ 1,967,680	\$ 2,425,280	\$ 2,829,493	\$ (3,137,787)	\$ (2,680,187)	\$ (2,275,973)
2032	\$ 4,433,100	\$ 1,683,880	\$ 2,075,480	\$ 2,421,393	\$ (2,749,220)	\$ (2,357,620)	\$ (2,011,707)
2033	\$ 3,705,800	\$ 1,406,960	\$ 1,734,160	\$ 2,023,187	\$ (2,298,840)	\$ (1,971,640)	\$ (1,682,613)
2034	\$ 2,889,543	\$ 1,096,715	\$ 1,351,765	\$ 1,577,059	\$ (1,792,828)	\$ (1,537,778)	\$ (1,312,483)
2035	\$ 2,018,373	\$ 765,615	\$ 943,665	\$ 1,100,943	\$ (1,252,758)	\$ (1,074,708)	\$ (917,430)
2036	\$ 1,086,685	\$ 411,510	\$ 507,210	\$ 591,745	\$ (675,175)	\$ (579,475)	\$ (494,940)
2037	\$ 1,004,920	\$ 381,840	\$ 470,640	\$ 549,080	\$ (623,080)	\$ (534,280)	\$ (455,840)
2038	\$ 40,330	\$ 31,820	\$ 39,220	\$ 45,757	\$ (8,510)	\$ (1,110)	\$ 5,427
Total	\$ 65,523,191	\$ 23,396,773	\$ 28,837,883	\$ 33,644,197	\$ (42,126,418)	\$ (36,685,308)	\$ (31,878,995)

As shown in the table above, the projected debt service savings associated with these different scenarios ranges from \$31.9 million to \$42.1 million over the next 14 years. These annual debt service reductions will reduce future rate increase, similar to the impact of a defeasance or refunding. Since MWRA would be required to make an upfront termination payment, currently estimated at \$27.6 million, staff offset the projected debt service savings by that amount to determine the total potential benefit of the transaction. The following table details the transaction cost by scenario after the termination payment.

Estimated Termination Cost	\$ 27,584,910	\$ 27,584,910	\$ 27,584,910
Projected Transaction Impact	\$ (14,541,509)	\$ (9,100,399)	\$ (4,294,085)

The total projected impact of the transaction could result in overall savings to MWRA of between \$4.3 million to \$14.5 million. If the Board approves the termination of the swap agreements, staff will work with Bond Counsel and MWRA’s Financial Advisor to finalize the termination payment amount and execute the transaction. The termination transaction will also have to be presented to the State Finance and Governance Board for their review and comment.

Staff anticipate coming back to the Board at a later meeting to recommend utilizing the FY23 funds remaining after the swap termination to execute a defeasance to provide targeted rate relief over the next several fiscal years.

BUDGET/FISCAL IMPACT:

The swap agreement termination payment will be made from the favorable budget variance remaining from FY23. Staff project that savings from this transaction could range from \$4.3 million to \$14.5 million.

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 18, 2023
SUBJECT: 2022 Deer Island Outfall Monitoring Overview



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

Rebecca Weidman, Deputy Chief Operating Officer
Betsy Reilley, Ph.D., Director, Environmental Quality
David Wu, Sr. Program Manager, Environmental Quality
Preparer/Title



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

RECOMMENDATION:

For information only.

DISCUSSION:

MWRA monitors the Deer Island Treatment Plant effluent, as well as the water, sediment and the health of fish and shellfish in Massachusetts and Cape Cod Bays. Calendar year 2022 marked the 31st consecutive year of monitoring, and 22 years since the effluent discharge moved to Massachusetts Bay. The *Outfall Monitoring Overview* report summarizes and analyzes monitoring results for any potential environmental impacts from Deer Island discharges. As in previous years, MWRA has not identified any adverse impacts, a finding with which regulators, their science advisory panel, and public interest groups agree. Under the current National Pollutant Discharge Elimination System (NPDES) permit for Deer Island, MWRA must submit the *Outfall Monitoring Overview* to federal and state regulatory agencies each year by November 15. This staff summary provides the Board of Directors with highlights of the 2022 *Outfall Monitoring Overview* and the 2023 monitoring, as well as a summary of any special monitoring efforts and collaborations with the science advisory panel.

The Deer Island NPDES permit¹ requires MWRA to monitor the environment around the Massachusetts Bay outfall. MWRA carefully analyzes monitoring data to identify potential impacts to the Bay's ecosystem. Key results are compared to 95 thresholds contained in MWRA's Contingency Plan.² Required monitoring includes measurements of the Deer Island Treatment Plant's effluent quality, and of receiving water, sediments, fish and shellfish. Other studies include

¹ The current NPDES permit expired in 2005. EPA released a draft Deer Island NPDES permit on May 31, 2023. The comment period for the draft permit is open until November 28, 2023.

² The Contingency Plan is a requirement of the current NPDES permit. It contains 20 effluent thresholds and more than 70 numeric thresholds for bay conditions calculated from environmental monitoring data (for example, annual average chlorophyll levels near the outfall). An exceedance of a threshold requires rapid notification to EPA, DEP, the science advisory panel, and the public. Some exceedances (for example, harmful algal blooms, known informally as "red tide") can lead to enhanced sampling for further evaluation of the event. The Contingency Plan requirement has been eliminated from the draft NPDES permit.

modeling water quality and continuous monitoring using instruments on a buoy in Massachusetts Bay. MWRA monitored baseline conditions in Boston Harbor, Massachusetts Bay, and Cape Cod Bay starting in the early 1990s, and began discharge monitoring when the outfall came on line in September 2000.

There were four Contingency Plan exceedances in 2022:

- July 2022: High cell counts of *Alexandrium catanella*, a harmful algal bloom species known informally as “red tide,” in the nearfield³;
- August 2022: Low dissolved oxygen percent saturation at the Stellwagen Basin monitoring location in the farfield;
- September 2022: Low dissolved oxygen concentration and percent saturation at the Stellwagen Basin monitoring location and low dissolved oxygen concentration in the outfall nearfield; and
- October 2022: Low dissolved oxygen concentration at the Stellwagen Basin monitoring location and the outfall nearfield.

Additionally, there has been one Contingency Plan exceedance in 2023 to date:

- July 2023: Low dissolved oxygen concentration and percent saturation at the Stellwagen Basin monitoring location; and
- September 2023: Low dissolved oxygen concentration and percent saturation at the Stellwagen Basin monitoring location.

After reviewing the data around the *Alexandrium* exceedance, staff concluded that the outfall was not the cause. *Alexandrium* blooms are a natural occurrence throughout the wider Gulf of Maine region, and the 2022 bloom was no exception.

Review of the information associated with the dissolved oxygen exceedances also indicates they are not linked to the outfall; dissolved oxygen in Massachusetts Bay is greatly influenced by offshore conditions. For all the exceedances in 2022 and 2023, MWRA measured dissolved oxygen levels close to or below historical lows at all monitoring locations, indicating a wider, more regional problem. One major influence is increasing water temperatures, which are seen globally, regionally, and in MWRA’s data. At higher temperatures, dissolved oxygen levels decline. The recent dissolved oxygen exceedances may be related to these wider trends.

Summary of Effluent Quality Monitoring in 2022

- The Deer Island Treatment Plant earned a Platinum 16 Peak Performance Award from the National Association of Clean Water Agencies for 16 years of 100% compliance with permit effluent limits.
- Total suspended solids loads from effluent were about 14 tons per day, a fraction of the solids load discharged in the early 1990s (Figure 1).

³ The nearfield is defined as a seven and a half by six-mile area centered on the outfall. Stations in the nearfield are often compared with “farfield” stations outside this area.

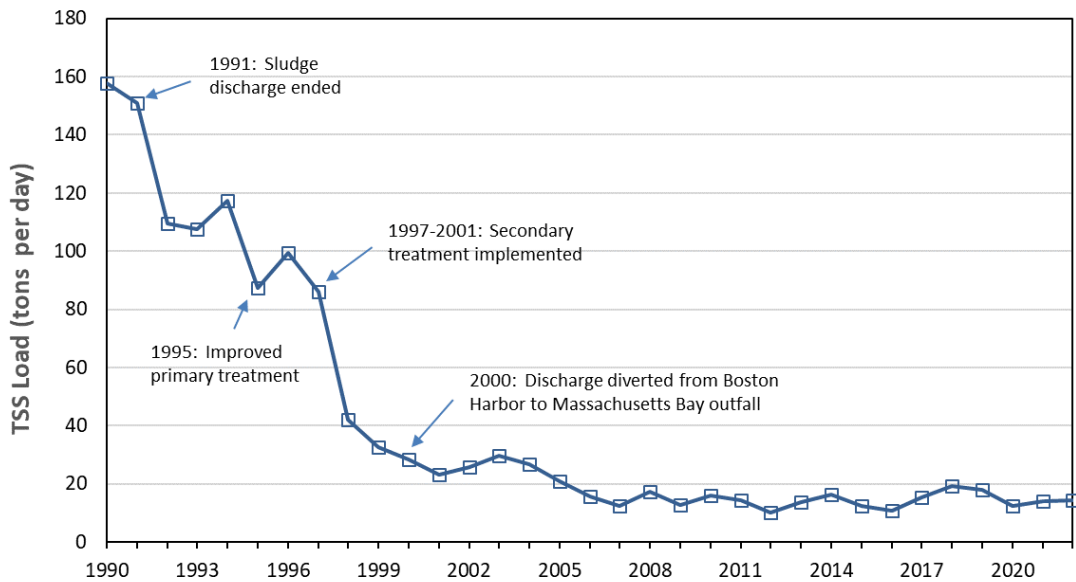


Figure 1. Annual total suspended solids discharges remained extremely low in 2022 compared to the early 1990s.

- Metals loads in the effluent remain at low levels. Like solids, metal loads have decreased significantly since 1990 (Figure 2).

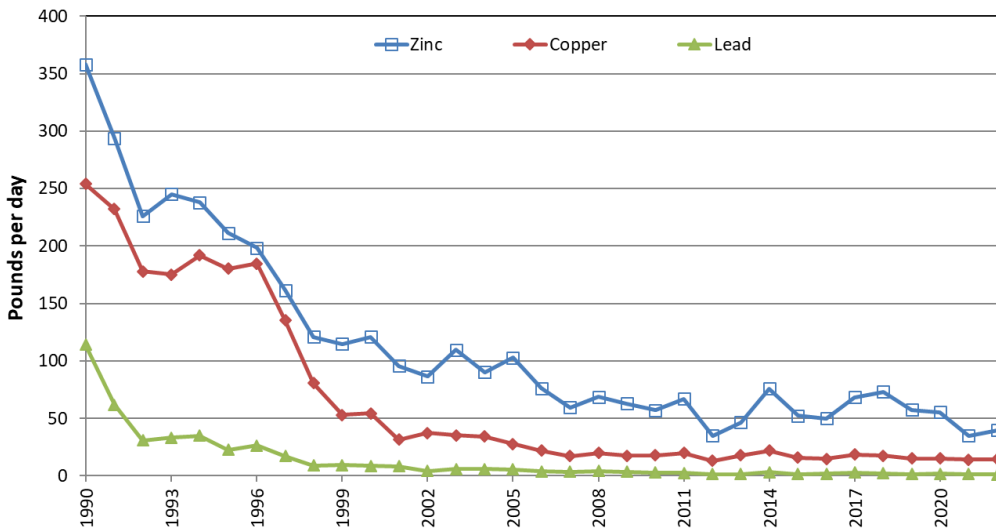


Figure 2. Annual loads of metals continue to be low compared to the early 1990s.

- Total effluent nitrogen load in 2022 did not exceed the Contingency Plan threshold for effluent nitrogen load (Figure 3). Levels are lower than the 2019 exceedance of this threshold and comparable to 2017 and 2018. The reasons for the variability are not entirely clear, but do not appear to have a strong correlation to annual rainfall.

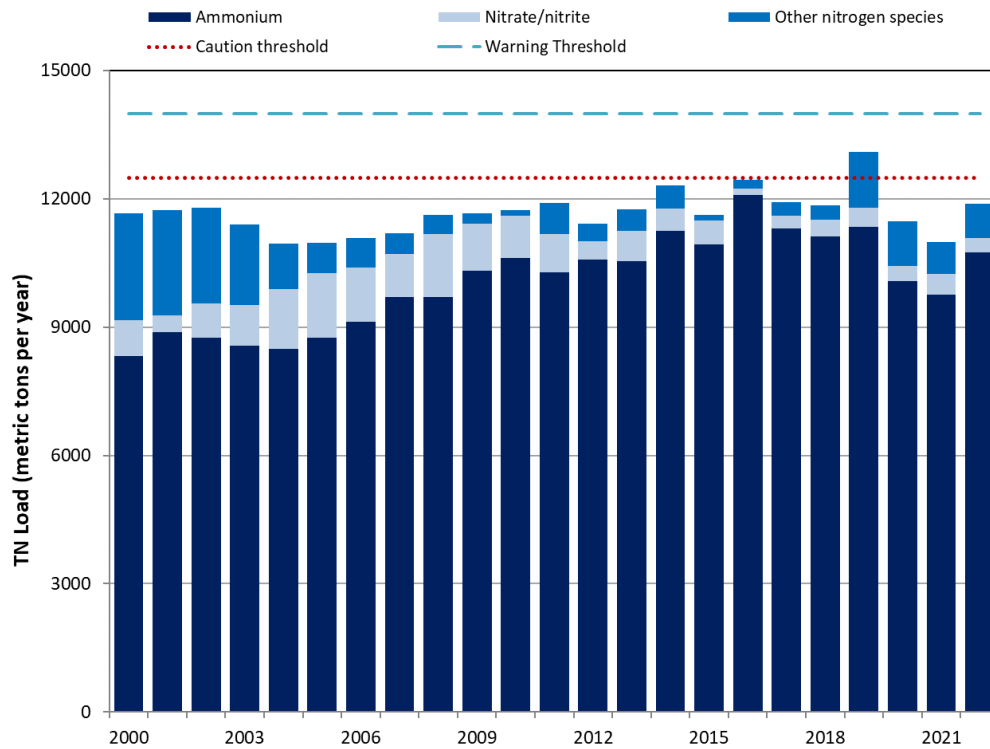


Figure 3. Annual effluent nitrogen load

Environmental Monitoring Results

Results of 2022 monitoring in Massachusetts Bay found that, as in past years:

- no adverse impacts of the outfall discharge on environmental quality were identified in Massachusetts or Cape Cod Bays;
- water quality remains good and plankton communities remain diverse and normal;
- the seafloor animal community is healthy and diverse; and
- flounder liver disease remains low.

Water Quality Monitoring

Nutrients

The monitoring plan was designed to address concerns about whether effluent nitrogen would cause excess algal growth, which could decrease the amount of oxygen in the water; change the types or amount of plankton, potentially adversely impacting the food web; or increase blooms of harmful algal species. Therefore, sampling focuses on the potential nitrogen impacts (especially those of ammonium, a specific type of nitrogen) as only about 30% of nitrogen is removed during treatment. After the outfall was relocated in 2000 from the harbor to its current offshore location, ammonium levels increased in the Bay, but only near the outfall (Figure 4).

Only sites near the outfall consistently show higher ammonium from effluent

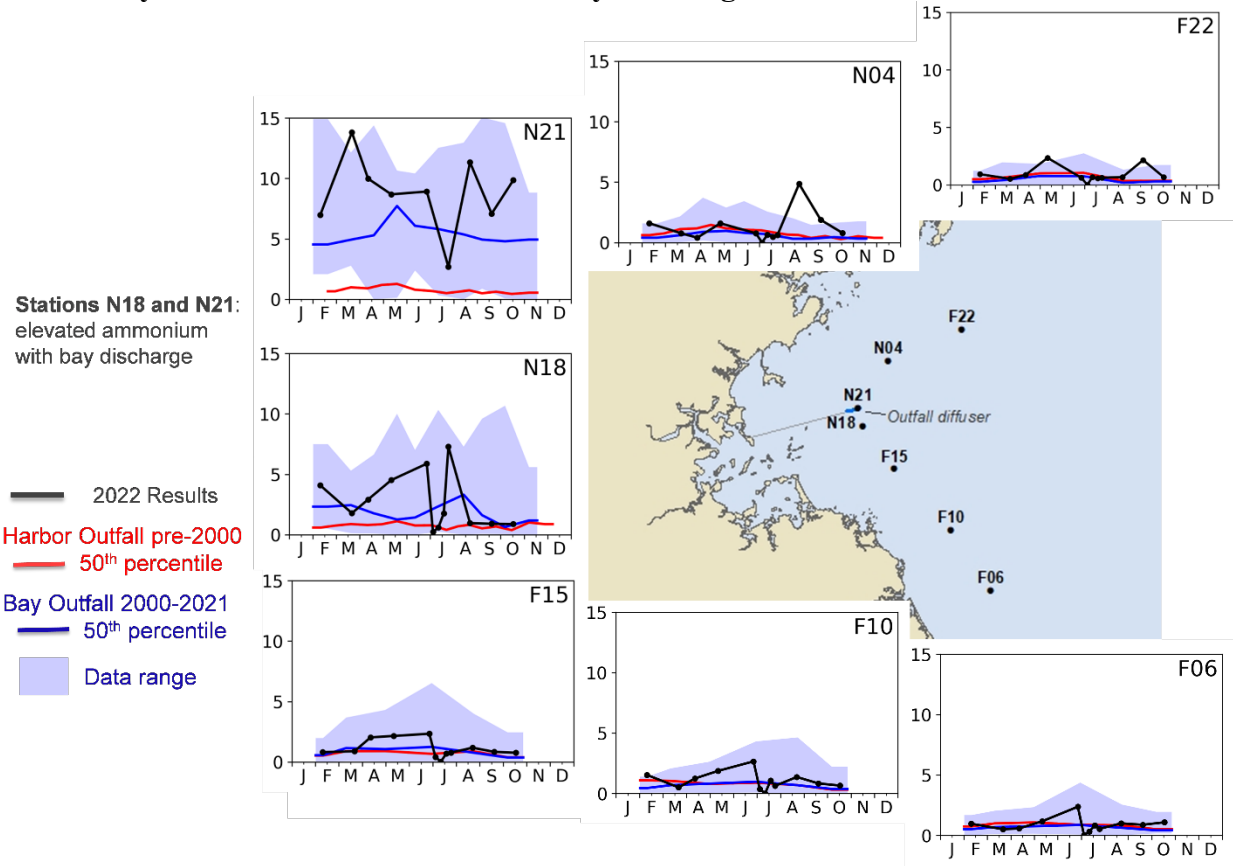


Figure 4. In Massachusetts Bay, ammonium has historically increased within a local area near the outfall. (See stations N18 and N21). Intermittent higher than usual results at locations farther from the outfall are likely the result of variable ocean currents and other natural conditions.

Plankton

Although the outfall has not resulted in increased algae, MWRA continues to monitor phytoplankton communities, including potential and confirmed nuisance species. There was a bloom of *Alexandrium catenella*, a species responsible for some harmful algal blooms (known informally as “red tide”) in Massachusetts Bay in 2022. The Contingency Plan threshold for *Alexandrium* was exceeded in late June, and the required weekly response monitoring began shortly thereafter. The weekly monitoring ended with the subsidence of the bloom in late July. Analysis of the available data indicated that the bloom originated in the Gulf of Maine and *Alexandrium* cells were brought south to Massachusetts Bay by natural means. There was no evidence of a link to the outfall.

In 2023, there was no *Alexandrium* bloom, but there was an extremely large bloom of *Tripes muelleri*, which is not a harmful algal species. The bloom began in spring 2023 and only began to wane in August 2023. MWRA’s observations of this bloom matched with regional observations throughout the Gulf of Maine, indicating this bloom was unrelated to the outfall.

Oxygen

Before the outfall was relocated offshore in 2000, there was concern that effluent nutrients might lead to excess algal growth. If that occurred, it could cause oxygen levels to decline when the algae die and decay, so MWRA monitors oxygen conditions closely. Oxygen conditions in Massachusetts Bay are strongly seasonal: oxygen declines through summer and then returns to

higher levels in the fall when wind strength increases and causes bay waters to overturn. No major change from this cycle was observed in 2022, but lower levels of oxygen later in the year were less than Contingency Plan thresholds, continuing a trend first seen in late 2021. The Contingency Plan threshold exceedances occurred in August, September, and October 2022.

As of the date of this staff summary, there have been two exceedances of the Contingency Plan dissolved oxygen threshold in 2023. The July 25 survey measured low bottom water dissolved oxygen concentration and percent saturation at the Stellwagen Basin monitoring location (F22). The following survey on August 29 measured dissolved oxygen concentration and percent saturation above the thresholds. However, the September 12 survey again measured low dissolved oxygen concentrations and percent saturation below the thresholds at F22.

In Massachusetts Bay, there was no hypoxia (extremely low oxygen levels that are dangerous to marine life) seen in either 2022 or 2023.

Investigations have concluded that the cause for the exceedances in both 2022 and 2023 was likely natural variability, as oxygen conditions in the Bay are largely determined by offshore influences. There are known long-term regional trends of increasing temperatures and declining oxygen seen in many datasets, including MWRA's monitoring data. MWRA presented 2022 oxygen data at the Outfall Monitoring Science Advisory Panel's February 2023 meeting. The Panel agreed that the outfall was not the cause of the low dissolved oxygen in 2022. In addition to these wider trends, another factor in 2023 may have been the major *Tripos* bloom – as the algae die and fall through the water column, decomposing organic matter consumes available oxygen.

Monitoring the Sea Floor near the Outfall and in the Harbor

Sea floor habitat (the benthos) is a major component of a healthy marine ecosystem and is of particular interest in studies of pollutant effects because many contaminants ultimately end up in the sediments. MWRA's benthic monitoring assesses the health of animal communities and the concentrations of toxic contaminants in sediments (Figure 5). Healthy, diverse groups of animals, including worms, mollusks, and crustaceans typical of New England, were observed in 2022, as in past years.

Fish and Shellfish Monitoring

Because flounder live in close contact with the bottom sediments, their health, especially rates of liver disease, is an indication of the effects of contaminants in the sea floor. During the 1970s and 1980s, fin rot and liver disease (including liver tumors) associated with contaminant exposure were common in winter flounder taken from Boston Harbor. Sampling of flounder has continued as part of MWRA's monitoring since 1991.

The flounder study has documented substantial declines in tumor precursors as the flounder population recovered in the Harbor, with no increases in fish caught near the Mass Bay outfall. In 2022, the percentage of flounder containing tumor precursors was very low at both Deer Island Flats and near the outfall. Importantly, liver tumors have not been observed in flounder from the harbor since 2004, and have never been observed in flounder caught near the outfall.



Figure 5. Polychaete worms such as these are the dominant animals in the soft sediments near the outfall.

Information Outreach Efforts

MWRA informs the public, area environmental groups, colleagues in academia and the wastewater industry about the findings from its monitoring. In 2022 and 2023 staff:

- shared beach and river monitoring results with municipalities, regional watershed associations, and interested citizens;
- began to upload MWRA's harbor and river monitoring data to EPA's Water Quality eXchange System, making MWRA's monitoring data more widely available to the public;
- met periodically with researchers and students from universities (for example, Woods Hole Oceanographic Institute and University of California-Berkeley) to share results of MWRA's monitoring, learn about current academic research, and discuss emerging issues of environmental concern (such as climate change); and
- participated in advisory and oversight committees for regional monitoring and outreach groups, including the Sea Grant College program, EPA, the Massachusetts Bays National Estuary Partnership and the Northeast Regional Association of Coastal Ocean Observing Systems. Staff promote outreach and information gathering on issues important to MWRA.

Staff will post the 2022 *Outfall Monitoring Overview* on MWRA's website and issue a summary of results.

Other Monitoring Program Activities


Contaminants of Emerging Concern. These compounds – such as per-and polyfluoroalkyl substances (PFAS) and microplastics – are widespread in the environment. Public health concerns for these compounds are not well known, and there are no regulations, limits, or monitoring requirements, with the exception of PFAS, which are now being added to NPDES permits.

MWRA is participating in several projects to assess the presence of these contaminants in both the effluent and in Massachusetts Bay.

BUDGET/FISCAL IMPACT:

The FY24 Current Expense Budget for required harbor and outfall monitoring, including the water column, sediment, fish and shellfish monitoring, water quality modeling, and instrumented buoys, is \$2.0 million.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 18, 2023
SUBJECT: MWRA Industrial Waste Report #39: Industrial Pretreatment Program
Annual Report to EPA for FY23

COMMITTEE: Wastewater Policy & Oversight

X INFORMATION
 VOTE

Rebecca Weidman, Deputy Chief Operating Officer
Matthew Dam, Director, TRAC
Preparer/Title


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

RECOMMENDATION:

For information only.

DISCUSSION:

MWRA's Toxic Reduction and Control (TRAC) Department operates the Industrial Pretreatment Program to control the level of toxic substances discharged into the sanitary sewer system from commercial and industrial sources. Through permits, inspections, sampling and enforcement, the program helps to keep excessive levels of toxics out of the sanitary sewer system to: (a) protect worker health and safety; (b) protect municipal and MWRA infrastructure; (c) prevent interference with the operation of the Deer Island and Clinton Wastewater Treatment Plants; (d) prevent the pass-through of pollutants into receiving waters; and (e) enable MWRA to beneficially reuse its residuals for the production of fertilizer.

In April 2022, the Conservation Law Foundation filed a complaint for what it claimed were violations of the Clean Water Act, alleging that MWRA failed to take adequate enforcement action under its Industrial Pretreatment Program. MWRA stood by its record of enforcement. In February 2023, the district court entered judgment for the Authority, allowing the Authority's motion to dismiss the case. MWRA continues to prioritize enforcement and bringing industries into compliance with their permits.

MWRA is required by its National Pollutant Discharge Elimination System (NPDES) Permits and U.S. EPA regulations (40 CFR 403.12(i)) to submit an annual report to the EPA and MassDEP that describes the activities and accomplishments of MWRA's Industrial Pretreatment Program. Staff will be submitting the FY23 Annual Report (Industrial Waste Report #39) to EPA and MassDEP on or before October 31, 2023, which is the required submittal deadline.

Staff estimate that approximately 3% of the total flow to the treatment plants comes from permitted sewer user facilities, but this flow represents a significantly higher proportion of toxics discharged to the system. TRAC currently oversees approximately 2,250 permitted sewer users. There were 186 facilities that met MWRA's definition of Significant Industrial User (SIU) during FY23. SIUs

require substantial oversight due to the nature of the pollutants they discharge and/or the volume of their flows. Some of the highlights included in the report are described in this summary.

Significant Industrial User

SIU is defined by EPA regulations and includes those sewer users subject to federal categorical standards, permitted users with flows equal to or above 25,000 gallons per day, or those users that MWRA determines have a reasonable potential to violate MWRA's regulations. There were 186 industries that met the definition of SIU at some point during FY23. At the end of FY23, there were 179 SIUs regulated by MWRA. The number of SIUs can vary during the year as a result of companies going out of business, a change in their pretreatment processes, or a new company being added. TRAC met EPA's requirements for inspections and sampling in FY23, inspecting all of the 186 SIUs and sampling 160 SIUs. In FY23, 26 SIUs were not sampled for the following reasons: four SIUs did not discharge during the year; one industry went out of business early in the fiscal year without adequate time to sample; another industry changed to a Non-Significant Industrial User; and 20 SIUs hold non-discharging SIU permits and, therefore, cannot be sampled by MWRA.



Figure 1: Annual Significant Industrial User Inspection

Pursuant to MWRA's Deer Island NPDES permit, EPA requires TRAC to issue 90% of MWRA's SIU permits within 120 days of the industries' current permit expiration dates, or MWRA's receipt of a Sewer Use Discharge Permit Application, whichever is later, and 100% within 180 days. TRAC issued or renewed 61 permits to SIUs during the fiscal year: 90% of SIU permits (55 permits) within 120 days and 95% of permits (58 permits) within 180 days. There are three SIU permits that exceeded the 180-day time period for issuance. Two of these were carry-overs from issues encountered in the prior year, as reported to the Board in October 2022, and one was the result of construction delays at the permitted facility.

The Clinton Wastewater Treatment Plant's General NPDES permit in effect during FY23 requires staff to issue all permits in the Clinton Sewer Service Area within 90 days of their application received dates or previous expiration dates, whichever is later. Nine permits were issued to industries in the Clinton area, including four permits that were issued outside of the 90-day timeframe due to late payment of permit fees by the permittee.

Inspections and Monitoring Programs

Staff are responsible for permitting, inspecting, and monitoring a variety of other types of facilities to minimize the discharge of toxics to the sewer and assist other MWRA programs. In FY23, staff conducted 1,158 industrial/commercial facility inspections of other regulated industries, 121 inspections associated with the septage program, including inspections of haulers and septage receiving sites, and 650 inspections of oil/water separators. There are ten septage receiving sites and more than 4,000 gas/oil separators within MWRA's service area.

TRAC's monitoring staff conducted 1,262 sampling events to characterize wastewater flow from SIU and non-SIU permitted facilities. In addition, TRAC's monitoring staff conducted an additional 1,272 monitoring events to support MWRA's NPDES permits, MWRA's local limits program, other MWRA projects, and to evaluate discharges to the sewer in response to emergencies.

TRAC continues to implement strategies to deal with emerging contaminants such as per- and polyfluoroalkyl substances (PFAS). In FY23 TRAC's monitoring staff conducted a total of 28 sampling events at industrial users, 75 sampling events for Local Limits to begin data collection to better understand where PFAS are coming into the collection system and two sampling events for NPDES permit compliance.

Enforcement Program

This year, the total number of SIUs in Significant Noncompliance¹ at some point during the year was 28, which is a decrease from the 30 SIUs in FY22. In the last quarter of FY23, however, only eight SIUs were in Significant Noncompliance. MWRA is planning to host SIU meetings during the spring of 2024. SIU meetings provide an opportunity to review and reinforce methods for maintaining compliance.

In FY23, TRAC issued a total of 201 Notices of Violations to industrial and commercial facilities, compared to 224 in FY22. A total of 70 other higher-level enforcement actions were issued in FY23 in response to a variety of persistent discharge and reporting violations, up from 14 higher-level enforcement actions in FY22. In FY23, TRAC identified 71 gas/oil separators requiring Trap Warning Letters due to identified issues with maintenance or accessibility, compared to 51 in FY22.



Figure 2: Monitoring Significant Industrial User

TRAC assessed and collected a total of \$100,000 in penalties in FY23 against permitted sewer users, compared to \$20,000 in penalties assessed and collected in FY22. The amount of penalties assessed and collected can vary significantly from year to year, as a result of the timing of the violations, assessment of the penalty, resolution of any administrative appeal, and collection.

Program Cost Recovery

MWRA's Incentive and Other Charges Program continues to recover a substantial portion of MWRA's costs of inspecting, monitoring, and permitting industrial sewer users. The total adjusted amount billed under the program in FY23 was \$2,802,082, an increase from \$2,623,764 in FY22. As of September 2023, collections for FY23 bills were at \$2,826,930 (compared to \$2,693,958 in FY22), an approximate 101% recovery of the adjusted amount invoiced. The additional revenue

¹MWRA is required to annually update the EPA regarding SIUs that meet EPA's definition of Significant Noncompliance. Each industrial user is evaluated for Significant Noncompliance four times during the year. MWRA evaluates each SIU based on discharge and reporting requirements.

is the result of payment of interest, payment of outstanding permitting and monitoring charges, and new industries opening in the service area.

FY23 Accomplishments

Industrial Pretreatment Program Audit

In November of FY23, TRAC revised over 400 Sewer Use Discharge Permits. Revisions included recommendations by EPA’s October 2021 audit of TRAC’s Industrial Pretreatment Program. Some of the permit revision changes include updated language for pH monitoring and recordkeeping, notification to the MWRA in the event of an upset or non-complying discharge, and updated language around specific prohibitions and bypass prohibitions.

CROMERR Compliance

In accordance with EPA’s Cross-Media Reporting Regulation (CROMERR), TRAC successfully registered all laboratories submitting wastewater sample results on behalf of TRAC permitted industrial users with an EPA Shared CROMERR Services user account. This makes all data received in MWRA’s Pre-treatment Information Management System CROMERR compliant. TRAC requested EPA approval for the proposed process of electronic receipt of self-monitoring data. Approval is still pending.

Clinton Wastewater Treatment Plant General NPDES Permit

In FY23, MWRA received the Clinton Plant’s General NPDES permit. MWRA conducted an analysis of the industrial discharge limits for permitted industrial users in the Clinton Sewerage Service Area and prepared a technical evaluation of those results. TRAC submitted that evaluation, the updated Local Limits Studies for the Clinton Wastewater Treatment Plant to EPA and DEP in accordance with EPA guidelines to confirm that MWRA has implemented appropriate discharge limits from industrial users.

TRAC also completed a full industrial survey of the Clinton Wastewater Treatment Plant service area. The industrial survey was completed to capture potential industrial sources of PFAS in the service area. These industries will be monitored during calendar year 2024 as required by the NPDES permit.




Figure 2: Collecting PFAS samples at the Clinton Wastewater Treatment

BUDGET/FISCAL IMPACT:

In FY23, the TRAC Department recovered \$2,826,930 or 57.1% of the Department’s actual Current Expense Budget (CEB) spending of \$4,950,788 through Permit Charges. FY23 revenue of \$2,826,930 was an increase of \$132,972 over FY22. This year-over-year change is driven by a 3.0% increase to the permitting and monitoring charges. The increase in percent recovered of the Department’s actual CEB spending is due to being 4.7% below budget in personnel costs. In FY24, permitting and monitoring charges will increase by another 3.0% in accordance with the most recently promulgated TRAC regulations.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 18, 2023
SUBJECT: Technical Assistance Consulting Services – Deer Island Treatment Plant
AECOM Technical Services, Inc. - Contract 7981
CDM Smith Inc. - Contract 7982
Hazen and Sawyer, P.C. - Contract 8018

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION

 X VOTE


Michele S. Gillen

Director of Administration


David W. Coppes, P.E.

Chief Operating Officer

David Duest, Director, Deer Island Treatment Plant
Richard J. Adams, Manager, Engineering Services
Preparer/Title

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award separate contracts to AECOM Technical Services, Inc., CDM Smith Inc. and Hazen and Sawyer, P.C., for the provision of as-needed technical assistance consulting services for the Deer Island Treatment Plant and to authorize the Executive Director, on behalf of the Authority, to execute Contract 7981 with AECOM Technical Services, Inc., Contract 7982 with CDM Smith Inc. and Contract 8018 with Hazen and Sawyer, P.C., each in an amount not to exceed \$2,400,000 for a contract term of three years from the Notice to Proceed.

DISCUSSION:

Over the past 25 years, MWRA has awarded many as-needed technical assistance contracts to supplement in-house staff on high priority or unanticipated projects for the Deer Island and Clinton Wastewater Treatment Plants. These contracts provide expertise on short-term, high priority assignments requiring specialized engineering disciplines that are not cost effective for MWRA to maintain on an in-house basis. Under previous technical assistance contracts at the plant, MWRA has issued task orders for a wide variety of design and/or inspection services, including:

- internal and external chemical tank inspections;
- design of miscellaneous upgrades and repairs at the Clinton Wastewater Treatment Plant;
- roof replacement design for multiple buildings;
- corrosion evaluation on various process equipment, concrete tanks and pipeline systems;
- design of replacement of the Geodesic Domes for the two Sludge and Gas Storage Tanks;
- and
- replacement of three odor control valves at the Centrifuge Thickener Building.

These contracts include several specialized engineering disciplines such as architecture, geotechnical, surveying, fire protection, control systems, chemical, corrosion and odor control, permitting, and security. The contracts are written to ensure that adequate resources are available to quickly and comprehensively respond to MWRA’s needs, particularly when emergency or unanticipated situations arise.

Task orders up to and including \$50,000 require approval by the Deputy Chief Operating Officer, while task orders greater than \$50,000 up to and including \$100,000 require approval by the Chief Operating Officer. When a task order greater than \$100,000 is needed, the Chief Operating Officer will confer with the Executive Director prior to approval.

Potential future technical assistance task orders include the design of the following projects:

- Biosolids facility equipment replacements;
- Clinton Wastewater Treatment Plant tank coating and concrete repair;
- Deer Island Treatment maintenance coating; and
- Replacement of windows and doors at the Deer Island historic pump station.

On July 22, 2023, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P) that was publicly advertised in the Central Register, the Boston Herald, Banner Publication and El Mundo. On August 18, 2023, proposals were received from the following five firms: AECOM Technical Services, Inc., Brown and Caldwell, Hazen and Sawyer, P.C., Kleinfelder Northeast, Inc., and CDM Smith Inc. The RFQ/P included the following evaluation criteria and points: Cost - 30 points; Qualifications and Key Personnel - 30 points; Relevant Experience/Past Performance - 30 points; and Technical Approach, Capacity/Organization and Management Approach – 10 points.

Because the exact scope and estimated labor hours under the contract are unknown, staff developed a sample cost exercise designed to compare the costs of the proposers. MWRA provided an approximate total number of hours that may be expended based on the average annual distribution of hours from prior technical assistance contracts and required the proposers to provide average chargeable hourly rates per labor category, including multipliers incorporating indirect costs and profit. Proposers' submitted rates were inserted into the formula and the results were as follows:

PROPOSER	SAMPLE COST EXERCISE ESTIMATE
Kleinfelder	\$2,152,118.16
AECOM Technical Services	\$2,357,630.00
CDM Smith	\$2,375,950.00
<i>Engineer’s Estimate</i>	<i>\$2,400,000.00</i>
Brown and Caldwell	\$2,494,160.12
Hazen and Sawyer	\$2,641,424.82

The sample cost exercise estimates ranged from 10.3% below to 10.0% above the Engineer's Estimate. The five voting members on the Selection Committee reviewed, scored and ranked the proposals as follows:

Proposer	Total Final Score	Order of Preference* Points	Ranking
AECOM Technical Services	396	6	1
CDM Smith	390	9	2
Hazen and Sawyer	358	15	3
Brown and Caldwell	325	22	4
Kleinfelder	323	23	5

*Order of Preference represents the sum of individual Selection Committee members' rankings where the firm receiving the highest number of points is assigned a "1," the firm receiving the next highest number of points is assigned a "2," and so on.

AECOM Technical Services was ranked first by four of the five Selection Committee members and received the highest number of points in four of the evaluation categories. The Selection Committee was in agreement that AECOM's proposal was excellent. AECOM had the second lowest overall price in the cost exercise and requested nine salary waivers, but had the lowest indirect rates, included key personnel with excellent qualifications and past relevant experience, and submitted a very strong technical team. AECOM's cost exercise was about 1.8% lower than the Engineer's Estimate. The proposed project team has extensive relevant experience, including working for MWRA on several technical assistance contracts. AECOM also proposed numerous multidisciplinary key personnel and specialty subconsultants. AECOM's references on both MWRA and non-MWRA projects were very good to excellent. Authority staff reported that AECOM's performance on the existing and past Deer Island Technical Assistance contracts has been excellent, and the proposed Project Manager is very organized, has good technical knowledge, and has been very responsive to MWRA's needs and requirements. AECOM's Technical Approach was very good and demonstrated a clear understanding of the process, including an evaluation of alternatives, emphasis on communication, the importance of quality assurance and quality control, and management and execution of short notice assignments.

CDM Smith proposed the third lowest cost and was ranked second overall by the Selection Committee members. Four of the five Selection Committee members ranked CDM Smith second, with one other member ranking the firm first. CDM Smith's cost exercise was approximately 1% lower than the Engineer's Estimate. The firm provided excellent key personnel. CDM Smith's proposal identified several multidisciplinary personnel that would be available to work on this contract. Several of the proposed key personnel have had recent experience on Deer Island and are very qualified, and all exceeded the experience requirements. The external references for both water and wastewater projects were excellent.

Hazen and Sawyer proposed the highest cost and was ranked third overall by Selection Committee members. Even though Hazen and Sawyer had the highest overall cost it had the third lowest overall cost for project management related activities, the second lowest multiplier for field-related activities and was the only firm that did not request any salary cap waivers. Hazen and Sawyer's cost exercise was approximately 10% higher than the Engineer's Estimate. The Selection Committee was in agreement that Hazen and Sawyer's proposal was very good. In addition, it included key personnel with very good qualifications and experience, and included a strong technical approach. The proposed project team has extensive relevant wastewater experience, including working for MWRA on two prior Deer Island technical assistance contracts. Hazen and Sawyer's references on both MWRA and non-MWRA projects were good to very good. MWRA staff reported that Hazen and Sawyer's performance on the past technical assistance contracts has

been good overall, and the proposed Project Manager is well organized, has good technical knowledge, and has been very responsive to MWRA's needs and requirements. Finally, Hazen and Sawyer's technical approach was good, and demonstrated a clear understanding of the MWRA process.

Brown and Caldwell, and Kleinfelder, were ranked fourth and fifth, respectively, by the Selection Committee. Brown and Caldwell proposed the fourth highest cost for the cost exercise with the highest Principal, Project Manager and Resident Engineer average comprehensive direct hourly rates. Brown and Caldwell's cost exercise was approximately 3.9% higher than the Engineer's Estimate. While most of the key personnel appear to meet the RFQ/P requirements, some of the senior positions, specifically the Principal and the Project Manager, were filled by staff with significantly less experience than that of the other firms, which caused Brown and Caldwell's scoring to be less favorable than the chosen firms in this category. While Brown and Caldwell appears to have sufficient capacity to meet the contract requirements, and the technical approach was well presented and thought out, its management approach did not appear to be as efficient as that of the selected firms.

Kleinfelder had the lowest overall total cost for the cost exercise, but had the highest hourly field rate and four direct labor waiver requests. Kleinfelder's cost exercise was approximately 10.3% lower than the Engineer's Estimate. Kleinfelder's proposal included a number of key technical positions that were to be filled by subconsultants and the direct rates for these subconsultants have not been audited. Subsequent audits may result in a change in the proposed cost. The Selection Committee was concerned about the potential impact on the quality and the timeliness of the deliverables due to the dependency of the use of subconsultants in key technical roles. In addition, Kleinfelder has no previous experience involving Deer Island projects. Due to the firm's significant use of subconsultants, and limited experience with Deer Island related projects, Kleinfelder was not scored as highly as the selected firms.

Based on final rankings, and for the reasons set forth above, the Selection Committee recommends the award of Contract 7981 to AECOM Technical Services, Inc., Contract 7982 to CDM Smith Inc. and Contract 8018 to Hazen and Sawyer, P.C., each in an amount not to exceed \$2,400,000 and for a contract term of 36 months from the Notice to Proceed.

BUDGET/FISCAL IMPACT:

The FY24 Capital Improvement Program budget includes \$2,400,000 each for three three-year Deer Island Technical Assistance Consulting Services contracts.

MBE/WBE PARTICIPATION:

Due to the specialized and uncertain nature of this work, the Affirmative Action and Compliance Unit established a MBE/WBE participation requirement of 0% for this contract. However, AECOM Technical Services, Inc. proposed 5.17% WBE participation, CDM Smith Inc. proposed 10% MBE participation and Hazen and Sawyer, P.C. proposed 1.5% MBE and 3% WBE participation. These will be incorporated as requirements for each contract.



**WATER SUPPLY CITIZENS
ADVISORY COMMITTEE**
to the Mass. Water Resources Authority

485 Ware Road
Belchertown MA 01007
(413) 213-0454
fax: (413) 213-0537
email: info@wscac.org

October 12, 2023

Dear Madam Chair and Members of the MWRA Board of Directors,

I am delighted to introduce myself as the new Executive Director of the Water Supply Citizens Advisory Committee (WSCAC). The committee hired me on the 2nd of October to replace Lexi Dewey, who retired at the end of September.

I am sending you my profound appreciation for your support of the WSCAC mission, which is an important and noble mission. It is shown by studies (Hanasaki et al., 2013; Martin-Ortega, 2023; etc.) that the water crisis (water quality and availability) cannot be solved in the world (including our communities) if local and regional socio-economic disparities are not taken into consideration. You have made the incorporation of socio-economic disparities possible by providing a framework for exchange to donors and recipients' communities of the Quabbin and the Wachusett reservoirs. WSCAC and WAC (Wastewater Advisory Committee) are valuable frameworks we should be defending and protecting.

The presence of WSCAC (and WAC) not only provides a framework for exchange but also engages communities living around the reservoirs to preserve their environment for better water quality and quantity by adopting appropriate behaviors. By providing this exchange framework, you give communities a voice in decision-making for suitable management of their water resources. This can ensure efficient and long-term water resource preservation.

I want to express my gratitude for the opportunity given to me to lead the WSCAC Committee, which committee works to ensure the involvement of donors and recipients in our water resource management. I request your collaboration, your guidance, and your support of our mission, which mission is key to efficiently managing water resources. Our work constitutes a bridge to conciliate or dissipate disparities and to continually create trust between communities and MWRA as a drinking water provider.

I thank you in advance for welcoming me and helping me to fulfill this mission successfully. I look forward to meeting you virtually at the October 18th Board of Directors meeting and welcome the opportunity to work with you. I hope doors will be opened for me when I knock.

Sincerely,

Moussa Albert Siri

WSCAC Executive Director