



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Chair: B. Card  
Vice-Chair: J. Carroll  
Secretary: A. Pappastergion  
Board Members:  
P. Flanagan  
J. Foti  
B. Peña  
H. Vitale  
J. Walsh  
P. Walsh  
M. White-Hammond  
J. Wolowicz

## **BOARD OF DIRECTORS' MEETING**

**To be Held on Wednesday, October 19, 2022**

Time: 1:00pm

**To be Held Virtually Pursuant to An Act Relative to  
Extending Certain State of Emergency Accommodations**

**WebEx Meeting Link (Registration Required)**

<https://mwra.webex.com/mwra/onstage/g.php?MTID=e4a6f7572944c961ed4a91dc4c4c0dc97>

Event Number: 2337 561 4810      Password: 101922

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

## **AGENDA**

### **I. APPROVAL OF MINUTES**

### **II. REPORT OF THE CHAIR**

### **III. REPORT OF THE EXECUTIVE DIRECTOR**

### **IV. EXECUTIVE SESSION**

i. Approval of September 14, 2022 Executive Session Minutes

#### **A. Litigation**

1. *Conservation Law Foundation, Inc. v. Massachusetts Water Resources Authority*, USDC, No. 1:22-CV-10626: Update (verbal)

### **V. WATER POLICY & OVERSIGHT**

#### **A. Contract Amendments/Change Orders**

1. Section 4 Walnut St. Bridge Pipe Restraint Replacement: R. Zoppo Corp., Contract 7483, Change Order 3

### **VI. PERSONNEL & COMPENSATION**

#### **A. Information**

1. Recruitment and Retention Efforts

#### **B. Approvals**

1. PCR Amendments – October 2022
2. Appointment of Manager, Metro Maintenance

**VI. PERSONNEL & COMPENSATION (Continued)**

**B. Approvals (Continued)**

3. Appointment of Director, Human Resources

**VII. ADMINISTRATION, FINANCE & AUDIT**

**A. Information**

1. Update on Environmental Justice Efforts
2. Delegated Authority Report – September 2022
3. FY22 Year-End Capital Improvement Program Spending Report
4. FY22 Year-End Financial Update and Summary
5. FY2023 Financial Update and Summary as of September 2022

**B. Approvals**

1. Amendment to the Eighty-Fifth Supplemental Resolution

**C. Contract Amendments/Change Orders**

1. Dental Insurance: Dental Service of Massachusetts, Inc. d/b/a Delta Dental of Massachusetts Contract A631, Amendment 1
2. Senior Web Developer Consultant: Computer & Engineering Services, Inc., WRA-5076Q, Amendment 2
3. Application Developer Consultant: Lancesoft, WRA=5125Q Amendment 1

**VIII. WASTEWATER POLICY & OVERSIGHT**

**A. Information**

1. 2021 Outfall Monitoring Overview
2. MWRA Industrial Waste Report #38: Industrial Pretreatment Program Annual Report to EPA for FY22

**B. Approvals**

1. Financial Assistance Agreement/Memorandum of Understanding with BWSC for Further Improvements to Four BWSC CSOs

**IX. CORRESPONDENCE TO THE BOARD**

**X. OTHER BUSINESS**

**XI. ADJOURNMENT**

## MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of September 14, 2022

---

A meeting of the Massachusetts Water Resources Authority (“MWRA”) Board of Directors was held on September 14 2022. The meeting was conducted via remote participation by the Board of Directors pursuant to Chapter 20 of the acts of 2021 and subsequent acts extending certain COVID-19 measures adopted during the state of emergency.

Chair Card presided remotely from MWRA headquarters. Also present from the Board were Messrs. Flanagan (remote participation); Foti (remote participation); Pappastergion (remote participation from MWRA headquarters); Peña (remote participation from MWRA headquarters); Vitale (remote participation); Jack Walsh; (remote participation) Patrick Walsh (remote participation); Rev. White-Hammond (remote participation from MWRA headquarters); and Ms. Wolowicz (remote participation). Mr. Carroll was absent.

MWRA staff participants remotely from MWRA’s headquarters included Carolyn Francisco Murphy, General Counsel; Thomas Durkin, Director, Finance; Michele Gillen, Director, Administration; Patterson Riley, Special Assistant for Affirmative Action; and, Assistant Secretary Kristin MacDougall. Joseph Favaloro, MWRA Advisory Board (Advisory Board) also participated remotely from MWRA headquarters.

Other MWRA staff in attendance remotely included Frederick Laskey, Executive Director; David Coppes, Chief Operating Officer; Carolyn Fiore, Deputy Chief Operating Officer; Kathy Murtagh, Director, Tunnel Redundancy; Paula Weadick, Director, MIS; Valerie Moran, Director, Waterworks; David Duest, Director, Wastewater Treatment; Christian Murphy, Program Manager, Deer Island Capital Engineering; Rebecca Weidman, Director, Regulatory and Environmental Affairs; Stephen Estes-Smargiassi, Director, Planning and Sustainability; and, Matthew Horan, Deputy Director of Finance and Treasurer; Andrea Murphy, Director, Human Resources; and Assistant Secretary Ria Convery. Vandana Rao, Executive Office of Environmental Affairs (EEA), was also in attendance virtually.

Chair Card called the meeting to order at 1:02pm. MWRA General Counsel Francisco Murphy took roll call of Board Members in attendance. The Chair announced that except for Executive Session, the meeting was open to the public 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 the meeting would move into Executive Session after the Executive Director’s report, and that the Open Session would resume after the adjournment of Executive Session.

General Counsel Francisco Murphy explained that all motions would be individually presented and given an opportunity for discussion and deliberation; further, that after discussion and deliberation, any Board Member could request an individual roll call vote on that motion. She also noted that if no request for an individual vote were made or concerns raised, the motion would advance for an omnibus roll call vote at the conclusion of all the presentations.

### APPROVAL OF JULY 20, 2022 MINUTES

A motion was duly made and seconded to approve the minutes of the Board of Directors' meeting of July 20, 2022.

Chair Card asked if there was any discussion or objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. I)

### REPORT OF THE CHAIR

On behalf of the Board of Directors, Chair Card welcomed Reverend Mariama White-Hammond to the Board, and congratulated her on her appointment by City of Boston Mayor Wu. Next, she reported that the Commonwealth continued to experience extreme drought and that some improvements were seen in the area of forest fire containment. She advised that the Baker-Polito Administration's Drought Management Task Force (DMTF), led by Vandana Rao, EEA, was monitoring conditions and working with municipal partners to ensure water supply availability for drinking, public safety and firefighting. Chair Card then provided a Legislative update, including the status of Governor Baker's economic development bill and supplemental budget; American Rescue Plan Act (AARPA) funding; and, work to apply AARPA funding to implement energy and environmental initiatives. (ref. II)

### REPORT OF THE EXECUTIVE DIRECTOR

On behalf of MWRA staff, Mr. Laskey joined Chair Card in welcoming Rev. White-Hammond to the Board. He then thanked Ms. Rao for her work on the DMTF. Mr. Laskey reported that the City of Cambridge had activated an emergency connection with MWRA's water system, drawing approximately 14 million gallons per day, and that the Cambridge City Council was exploring the potential to join the MWRA system. He then advised that system expansion studies were underway for Ipswich and Weymouth and that several MetroWest-area municipalities had also inquired about joining the MWRA water system, driven in part by PFAS concerns. Mr. Laskey then briefly described water-related topics on the meeting agenda. Next, he acknowledged the anniversary of September 11, 2001 and briefly updated Board Members on MWRA security and emergency preparedness initiatives. Finally, Mr. Laskey invited MWRA Director of Administration Michele Gillen to provide an overview of recent procurement and personnel matters.

Ms. Gillen updated Board Members on MWRA's ongoing staffing challenges and recruitment and retention initiatives, including proposed recruitment and retention pay rates for OMC laborers; the engagement of a staffing firm to recruit for a hard-to-fill position; a new employee mentoring program; negotiations with collective bargaining units regarding career paths and entry level positions; and ongoing diversity, equity and inclusion efforts. She also reported that staff were preparing to launch compensation studies as recommended by the MWRA Advisory Board, and that Advisory Board Executive Director Joseph Favaloro would serve as a voting member on the study selection committee. Ms. Gillen then advised that MWRA was approximately at 100 positions below its FTE goal and noted that 12 new hires were expected in September. Next, she reported that staff were preparing to undertake a disparity study to ensure appropriate levels of engagement with women and minority owned businesses. Finally, Ms. Gillen thanked MWRA Special Assistant for Affirmative Action Patterson Riley and Associate Special Assistant Tomeka

Cribb-Jones for their leadership on MWRA's diversity, equity and inclusion endeavors. (ref. III)

### EXECUTIVE SESSION

Chair Card requested that the Board move into Executive Session to discuss real estate and litigation, since Open Session may have a detrimental effect on the negotiating and litigating positions of the Authority. She announced that the planned topics of discussion in Executive Session were Watershed Land Acquisition and a Conservation Law Foundation litigation update. She announced that the Board would return to Open Session after the conclusion of Executive Session.

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

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

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

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

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

The Board moved 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 1:20pm and adjourned at 2:03pm.

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

## WASTEWATER POLICY AND OVERSIGHT

### Information

#### Update on Deer Island Combined Heat and Power Study

Staff presented an update on MWRA's Combined Heat and Power (CHP) Study for the Deer Island Treatment Plant performed by Black & Veatch. MWRA Deputy Chief Operating Officer Carolyn Fiore provided background on MWRA's long-term CHP infrastructure planning program and the Deer Island study's scope. Next, MWRA Deer Island Treatment Plant Director David Duest explained that the goal of the Deer Island study was to develop recommendations to reliably and economically meet the plant's energy needs, maximize on-site generation, and reduce electricity purchases. Christian Murphy, MWRA Program Manager, Deer Island Capital Engineering, summarized the study's methodology and findings. He then presented staff's recommendations based on study analysis, including the replacement of Deer Island's existing Thermal/Power Plant steam-based system with three hydronic boilers fueled primarily with digester gas and supplemented with fuel oil; and, electricity generation via an array of digester-gas fueled spark ignition reciprocating engines. He explained that the heat recaptured from engine exhaust and new boiler output would enable Deer Island to fully meet thermal demand. Finally, Mr. Murphy described MWRA staff's follow-up analysis of the study results, and advised that next steps would be the procurement of a consultant to prepare a detailed design.

Chair Card complimented staff on their work on the study, and asked staff to elaborate on net present value calculations. Mr. Murphy explained how the values were calculated. Board Member Jack Walsh expressed some reservations about the project, and asked when MWRA purchased its recent upgrades to the existing CHP system. Mr. Duest explained the MWRA added its new backpressure turbine circa 2010 which helped increase the efficiency of the existing CHP system. There was discussion and questions and answers about the long-term cost benefits of installing a new CHP system; the potential to use alternative means of fuel in as a backup to digester gas; and the study's useful life estimates for equipment. Mr. Laskey advised that the Deer Island CHP project presented opportunities to increase the plant's operational efficiency; reduce fossil fuel dependence; and, provide major energy efficiency and environmental benefits. He explained that staff would pursue cost-saving and funding opportunities to offset costs. Rev. White-Hammond noted the good timing of such a project with respect to the potential for available funding from other sources. She further advised that such a project would serve as a positive example for other entities. Chair Card agreed with Rev. White-Hammond and encouraged coordinated support in seeking funding. There was discussion about the project's next steps, including funding; the development of a scope of services; and, preliminary design. There was also general discussion about Deer Island's generators; maintenance costs; steam engine safety; and, project costs.

Committee Chair Jack Walsh asked if there were any questions from the Board. Hearing none, he moved to the next informational item. ref. V A.1)

### Interim Measures to Address PCBs at Cottage Farm CSO Facility

MWRA Director of Environmental and Regulatory Affairs Rebecca Weidman presented an update on MWRA's interim measures to address PCBs at the Cottage Farm CSO Facility. She provided an overview of the facility's location and functions, and background on elevated PCB levels that were detected in the main building in 2012-2014. She then described steps taken to address PCBs, including the submittal of an updated abatement plan to EPA, and EPA's subsequent request to implement interim measures to protect workers while MWRA performed facility rehabilitation and abatement work. Next, Ms. Weidman presented examples of interim measures taken including administrative controls; personal protective equipment; training; air scrubbers with HEPA filtration units; dust removal, and, proper materials disposal. She explained that the interim measures were expected to be complete in October 2022, at which time air samples would be taken to determine the efficacy of the cleaning. Finally, Ms. Weidman advised that staff recommended an expedited abatement and encapsulation schedule with design work estimated to be completed in 2023, and the completion of work in 2025, rather than in 2031 as originally proposed.

Committee Chair Jack Walsh asked if there were any questions from the Board. Hearing none, he moved to the next informational item. (ref. V A.2)

### Extension Requests - Charles River and Alewife Brook/Upper Mystic River Variance Determinations

MWRA Chief Operating Officer David Coppes presented an overview of extension requests for Charles River/Alewife Brook/Upper Mystic River variances. He described the locations and functions of MWRA's Combined Sewer Overflow (CSO) facilities and outfalls, and provided an overview of MWRA's Long Term CSO Control Program. He then explained that outfalls owned by MWRA, the City of Cambridge and the City of Somerville discharged into the receiving waters of Alewife Brook, the Upper Mystic River, and the Lower Charles River under variances to the water quality standards. He explained that the variances require MWRA, Cambridge and Somerville to each submit a long term control plan for each of their systems to further control or eliminate CSO discharges, with drafts of the plans due by June 2023. He noted that in response to the submission of work plans DEP and EPA requested close coordination between MWRA, Cambridge and Somerville; projections of future climate change in the development of the "typical year," and, expanded public participation processes. He then explained that while MWRA, Cambridge and Somerville agreed to the new requirements, a time extension would be needed to fulfill them and develop the long term control plans. Mr. Coppes advised that it could take as much as two or three years of additional time to fully complete the requirements in the manner suggested by DEP and EPA. Mr. Coppes noted that staff have had conversations with both DEP and EPA about a potential schedule change request, for which DEP and EPA appear supportive given that MWRA, Cambridge and Somerville are trying to be responsive to their requests. Mr. Coppes advised that any change would reopen the variance process, with publication and the opportunity for public comments. Finally, Mr. Coppes advised that staff intended to formally submit MWRA's request for an extension to DEP by the deadline in late September.

Chair Card expressed support of the plan as outlined by Mr. Coppes, and recommended that



MWRA request an extension for as much time as needed to fulfill the variance requirements.

Committee Chair Jack Walsh asked if there was further discussion or any questions from the Board. Hearing none, he moved to approvals. (ref V A.3)

### Approvals

#### Infiltration/Inflow Local Financial Assistance Program – Funding Phase Addition

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve an additional \$100 million funding phase (Phase 14) to the MWRA's Infiltration/Inflow Local Financial Assistance Program with 75% grants and 25% interest-free loans.

MWRA Director of Planning and Sustainability Stephen Estes-Smargiassi provided an overview of MWRA's Infiltration and Inflow (I/I) Financial Assistance Program, including its purpose and success. He noted that the program is an important part of MWRA's commitment to preventing sanitary sewer overflows and meeting MWRA's NPDES permit flow limits at Deer Island. He explained that staff was requesting Board approval for the addition of Phase 14 of the I/I Program, as recommended by the MWRA Advisory Board. Finally, Mr. Estes-Smargiassi noted that 16 MWRA communities had already fully utilized their authorized grant loan funds and advised that as with the previous phases, the funds would be proportionally allocated based on each community's share of sewer costs.

Chair Card asked if there was further discussion or any objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. V B.1)

### WATER POLICY AND OVERSIGHT

#### Information

#### Metropolitan Water Tunnel Program Update

MWRA Director of Tunnel Redundancy Kathleen Murtagh presented a status update on the Metropolitan Water Tunnel Program. She reported that the Program was currently in the Preliminary Design phase, which was expected to continue through January 2024. She presented a brief overview of anticipated Program milestones including the start of Final Design in 2024 and the first tunnel segment construction in 2027. She then described the alternatives evaluation process through which staff selected a preferred alternative and two backup alternatives for the locations of construction and connection shaft sites. She then presented the characteristics of each alternative. Ms. Murtagh noted that the evaluation included considerations of multiple factors including constructability; hydraulic and operational requirements; social and community concerns, including potential noise and traffic; proximity to cultural resources; and, cost. Finally, she provided an overview of upcoming Program activities, including the Draft Environmental Impact Review (DEIR) submittal phase, preliminary contract packaging; phasing and sequencing; land acquisition; an overall program cost estimate and schedule; and, continued coordination with key stakeholders.

Mr. Jack Walsh asked if multiple tunnel segments would be mined at the same time. Ms. Murtagh



explained it was possible that the timing of some mining operations could overlap.

Committee Vice Chair Vitale asked if there was further discussion or any questions from the Board. Hearing none, he moved to the next informational item. (ref. VI A.1)

#### Reservoir and Drought Status Update

Mr. Estes-Smargiassi presented an update on MWRA's reservoir status. He reported that while most of Massachusetts was experiencing drought, MWRA's reservoir levels remained within normal operating ranges. Next, he provided an overview of MWRA's DEP-approved drought plan; drought projections; historical data on drought; MWRA water system storage levels, and water use trends. Mr. Estes-Smargiassi then shared recent examples of MWRA's public messaging to encourage water conservation and efficiency. Mr. Estes-Smargiassi explained that MWRA was able to provide water supply assistance if necessary to neighboring communities if necessary, and that Cambridge, Wellesley, Wakefield and Burlington were withdrawing additional MWRA water due to drought and PFAS concerns. Finally, he advised that MWRA continued to work closely with the DMTF and would update board members on any significant changes.

Rev. White-Hammond requested more information about MWRA's drought trigger levels. Mr. Estes-Smargiassi provided a brief summary of MWRA's drought planning stages and associated operational and public response actions.

Committee Vice Chair Vitale asked if there was further discussion or any questions from the Board. Hearing none, he moved to approvals. (ref. VI A.2)

There was discussion about postponing some agenda items due to time constraints.

#### Approvals

##### Five-Year Waiver of Entrance Fee

A motion was duly made and seconded that the Board of Directors approve revisions to MWRA Policy OP.10: Admission of New Community to MWRA Water System, to permit a waiver of MWRA's Entrance Fee, under certain conditions, for communities entering the system or purchasing additional water during the next 5 years, as further set forth in the September 14, 2022 Staff Summary presented and filed with the records of this meeting. The five-year waiver would extend through calendar year 2027. Communities seeking the entrance fee waiver would need to show that they are seeking admission to or additional water supply from MWRA because their local sources are impacted by water quality issues, their water supply is located in a stressed basin, or local economic development is significantly constrained by their existing water supply. Communities will be responsible for the cost of connecting to MWRA's system. A total maximum of 20 million gallons per day would be available under this waiver for communities that are not currently members of MWRA. There is no volume limit for communities that are currently members of the MWRA water system.

Mr. Coppes outlined the Advisory Board's recommended waiver of the entrance fee for communities joining the MWRA water system which staff also recommend. He presented factors

considered in MWRA's proposal, as recommended by the Advisory Board, to temporarily waive MWRA water system entrance fees for a five-year period, under certain conditions, with a 20 million gallon per day (mgd) volume limit for new community use. Mr. Coppes noted the water supply challenges faced by communities due to PFAS, stressed river basins like the Ipswich River and drought or limited water supply. He also noted interest by communities to join over the years and their citing to the entrance fee requirement, in addition to infrastructure costs, as an impediment to joining. He described the system expansion study in process (both to the north and south), and historical data on MWRA reservoir withdrawals versus safe yield. He explained that since MWRA's creation system use has dropped well below the safe yield, and on a five year running average MWRA's demand is now under 200 mgd leaving ample capacity for other uses or needs. He explained that staff's projections and analyses were based on conservative estimates for potential growth due to population and employment. He further explained that the projection shows an availability of over 50 mgd of water while still being able to keep within the safe yield. Mr. Coppes also discussed the cost and revenue implications and the information in the tables in the staff summary for both the short and long term financial impact and staff's conclusion that any forgone revenue from waiving the entrance fee is more than made up by additional water sales and results in a decrease to the assessment for all other member communities. He noted while there is no guarantee that new communities will join, by adopting these changes MWRA would be making water resources more available to the communities in need, with the added advantage of the financial benefit to its member communities.

Mr. Favaloro was available for questions from the Board.

Mr. Vitale complimented MWRA and Advisory Board staff on the clarity of the Staff Summary. Board Member Rev. White-Hammond requested more information on the administrative process for adding communities to the MWRA water system, and for ensuring sufficient water supplies for new communities. Mr. Coppes explained that MWRA's water supplies were more than sufficient to supply 20 mgd to new communities as proposed. Mr. Favaloro added that all communities seeking to enter the MWRA system would undergo a regulatory process with additional approvals from the Advisory Board and Board of Directors. Board Member Pappastergion expressed support for the fee waiver, adding that it would benefit communities, MWRA and ratepayers. Chair Card also expressed support for the waiver, noting that it would support public health and community economic development. Board Member Peña commended the Advisory Board, Mr. Laskey and MWRA staff for developing a proposal that could help financially disadvantaged communities, as well as be a benefit to current members, especially in disadvantaged communities, with revenue reallocation. Board Member Foti agreed, adding that the waiver would make MWRA membership more feasible and affordable for communities. Mr. Laskey thanked Mr. Favaloro and Advisory Board members and staff for all their hard work in developing the fee waiver proposal.

Chair Card asked if there was further discussion or any objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. VI B.1)

Contract Amendments/Change OrdersAgency-Wide Technical Assistance Consulting Services: CDM Smith Inc., Contract 7692, Amendment 3

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Amendment 3 to Contract 7692, Agency-Wide Technical Assistance Consulting Services, with CDM Smith Inc., increasing the contract amount by \$250,000, from \$4,000,000 to \$4,250,000, with no increase in contract term.

Ms. Weidman presented MWRA's current and proposed system expansion study areas. She advised that the proposed Amendment would fund the addition of MetroWest communities to an existing water system expansion study for the Ipswich River Basin and the South Shore. She explained that amending the existing contract would be the most efficient and expedient way to expand the study area.

(Mr. Pappastergion temporarily left the meeting during the presentation.)

Chair Card asked if there was any discussion or objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. VI C.1)

Section 4 Walnut St Bridge Pipe Restraint Replacement: R. Zoppo Corp., Contract 7483, Change Order 3

This item was postponed due to time constraints. (ref. VI C.2)

PERSONNEL AND COMPENSATIONApprovalsPCR Amendments - September 2022

This item was postponed due to time constraints. (ref. VII A.1)

Appointment of Manager, Metro Maintenance

This item was postponed due to time constraints. (ref. VII A.2)

Contract Amendments/Change OrdersDental Insurance: Dental Service of Massachusetts, Inc. d/b/a Delta Dental of Massachusetts Contract A631, Amendment 1

This item was postponed due to time constraints. (ref. VII B.1)

ADMINISTRATION, FINANCE AND AUDITInformationUpdate on Environmental Justice Efforts

This item was postponed due to time constraints. (ref. VIII A.1)

Delegated Authority Report – July and August 2022

This item was postponed due to time constraints. (ref. VIII A.2)

FY 2022 Fourth Quarter Orange Notebook

This item was postponed due to time constraints. (ref. VIII A.3)

FY22 Year-End Capital Improvement Program Spending Report

This item was postponed due to time constraints. (ref. VIII A.4)

FY22 Year-End Financial Update and Summary

This item was postponed due to time constraints. (ref. VIII A.5)

ApprovalsBond Defeasance of Future Debt Service

A motion was duly made and seconded to authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$27,150,000.00 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by \$30.5 million in the FY24 through FY27 timeframe.

MWRA Director of Finance Thomas Durkin described staff's process for evaluating its positive budget variance. He explained that applying the variance to prepay debt service in the future years most challenged in terms of increases to assessments had proven to be effective in managing rates. Finally, Mr. Durkin advised that staff were seeking Board approval to use this strategy for the FY2022 budget variance.

Mr. Vitale expressed support for the defeasance, and asked staff for total surplus and defeasance amounts as of June 30, 2022. Mr. Durkin explained that MWRA typically executes two defeasances annually; the first defeasance in calendar year 2022 was completed in June, and staff was requesting approval for the second. MWRA Deputy Director of Finance and Treasurer Matthew Horan added that the FY2022 total surplus was approximately \$30.9 million after the June defeasance (\$25.4 million) and includes debt service assistance carried forward from FY2022 (Approximately \$1.2 million). Finally, Mr. Horan explained the process for funding the proposed defeasance, and noted that any surplus would be applied to the following year's defeasance.

Board Member Jack Walsh asked staff for the amount of MWRA's total debt obligation. Mr. Horan advised that it was approximately \$4.3 billion, down from its 2012 peak of \$5.9 billion. He explained that the debt service reduction trend was projected to continue and that staff did not anticipate reaching MWRA's debt cap of \$6.5 billion. Mr. Horan attributed the debt decrease in large part to MWRA's defeasance strategy.

Mr. Laskey added that staff's conservative approach to budgeting was proving to be successful in reducing MWRA's debt service, which rating agencies point to.

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

Chair Card asked if there was further discussion or any objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. VIII B.1)

#### Contract Awards

##### Managed Cyber Security Services: NWN Corporation, Contract 7658

A motion was duly made and seconded to approve the recommendation of the Selection Committee to award Contract 7658, Managed Cyber Security Services, to NWN Corporation to provide cyber security services for the Authority, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$2,691,092.00, for a contract term from the Notice to Proceed to June 30, 2028.

Ms. Gillen invited questions from Board Members.

Chair Card asked if there was any discussion or objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. VIII C.1)

#### OMNIBUS ROLL CALL VOTE

Chair Card called for an omnibus roll call vote on the motions made and seconded.

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

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

Voted: to approve the minutes of the Board of Directors' meeting of July 20, 2022; (ref. I)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve an additional \$100 million funding phase (Phase 14) to the MWRA's Infiltration/Inflow Local Financial Assistance Program with 75% grants and 25% interest-free loans; (ref. V B.1)

Further, voted: that the Board of Directors approve revisions to MWRA Policy OP.10: Admission of New Community to MWRA Water System, to permit a waiver of MWRA's Entrance Fee, under certain conditions, for communities entering the system or purchasing additional water during the next 5 years, as further set forth in the

September 14, 2022 Staff Summary presented and filed with the records of this meeting. The five-year waiver would extend through calendar year 2027. Communities seeking the entrance fee waiver would need to show that they are seeking admission to or additional water supply from MWRA because their local sources are impacted by water quality issues, their water supply is located in a stressed basin, or local economic development is significantly constrained by their existing water supply. Communities will be responsible for the cost of connecting to MWRA's system. A total maximum of 20 million gallons per day would be available under this waiver for communities that are not currently members of MWRA. There is no volume limit for communities that are currently members of the MWRA water system; (ref. VI B.1)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 3 to Contract 7692, Agency-Wide Technical Assistance Consulting Services, with CDM Smith Inc., increasing the contract amount by \$250,000, from \$4,000,000 to \$4,250,000, with no increase in contract term; (ref. VI C.1)

Further, voted: to authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$27,150,000.00 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by \$30.5 million in the FY24 through FY27 timeframe; (ref. VIII B.1) and,

Further, voted: to approve the recommendation of the Selection Committee to award Contract 7658, Managed Cyber Security Services, to NWN Corporation to provide cyber security services for the Authority, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$2,691,092.00, for a contract term from the Notice to Proceed to June 30, 2028. (ref. VIII C.1)

#### CORRESPONDENCE TO THE BOARD

There was no correspondence to the Board.

#### OTHER BUSINESS

Chair Card advised that the items postponed due to time constraints may be included on future Board Meeting agendas. She asked Board Members to consider starting future Board Meetings earlier and asking questions in advance of the meeting.

#### 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>
Card		
Flanagan		
Foti		



<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Pappastergion		
Peña		
Vitale		
J. Walsh		
P. Walsh		
White-Hammond		
Wolowicz		


The meeting adjourned at 3:32pm.

Approved:     October 19, 2022

Attest:


\_\_\_\_\_  
Andrew M. Pappastergion, Secretary

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** October 19, 2022  
**SUBJECT:** Section 4 Walnut Street Bridge Pipe Restraint Replacement  
R. Zoppo Corp.  
Contract 7483, Change Order 3

---

Corinne M. Barrett, Director, Construction  
Jeffrey Bina, P.E. Construction Coordinator  
Preparer/Title



---

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

---

*This item was postponed from the September 14, 2022 Board of Directors meeting.*

---

### RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 3 to Contract 7483, Section 4 Walnut Street Bridge Pipe Restraint Replacement, for an amount not to exceed \$90,000, increasing the contract from \$388,900 to \$478,900, with no increase in contract term.

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

### DISCUSSION:

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

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

## This Change Order

Change Order 3 consists of the following item:

Furnish and Install Two Steel Collars

Around Section 4 Cast Iron Pipes

Not to Exceed \$90,000

This contract requires the removal and replacement of three existing thrust restraint rods and installation of one missing fourth thrust restraint rod on the 48-inch Cast Iron Pipe spanning the Walnut Street Pipe Bridge.



*Attachment point for missing rod highlighted with red arrow. Obstructing structural member highlighted with yellow arrow.*

Prior to construction commencing, a thick amount of vegetation, a MBTA fence and the required MBTA Right of Way access permit along with the need for specialized access equipment, prevented access to confirm the location of the fourth restraint rod. Contract work included removal of this vegetation and acquiring the required permits and providing the necessary access equipment. After commencement of the contract, the contractor provided access to investigate existing conditions. Field investigation confirmed an obstruction that prevents the fourth rod from being installed as specified. The obstruction is a structural member and cannot be removed or relocated without extraordinary measures.

In order to install the fourth restraint rod, a steel collar must be installed at each end of the pipe crossing. This collar will allow the transfer of thrust load radially to avoid the obstruction. All four thrust rod loads will be shifted approximately 19 degrees around the perimeter of the pipe using these two collars. This shift will allow installation of the thrust restraint rods without interference with the pipe bridge structural member.

The approved PCO for this item of work was identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to an amount not to exceed \$90,000 for this additional work with no increase in contract term.

**CONTRACT SUMMARY:**

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$314,900	180 Days	02/15/22
Change Orders:			
Change Order 1*	\$14,000	0 Days	04/11/22
Change Order 2*	\$60,000	180 Days	07/28/22
Change Order 3	<u>\$90,000</u>	<u>0 Days</u>	Pending
Total Change Orders:	\$164,000	180 Days	
Adjusted Contract:	\$478,900	360 Days	

\*Approved under delegated authority

If Change Order 3 is approved, the cumulative total value of all change orders to this contract will be \$164,000 or 56% of the original contract amount. Work on this project is approximately 51% complete.

**BUDGET/FISCAL IMPACT:**

The FY2023 CIP includes \$403,900 for Contract 7483. The adjusted contract amount is \$478,900 or \$75,000 over the CIP amount. This amount will be absorbed within the five-year CIP spending cap.

**MBE/WBE PARTICIPATION:**

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

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** October 19, 2022  
**SUBJECT:** Recruitment and Retention Efforts




---

**COMMITTEE:** Personnel & Compensation

X  INFORMATION  
  VOTE

Susan Carter, Employment Manager, Human Resources  
Andrea Murphy, Director of Human Resources  
Preparer/Title

  
Michele S. Gillen  
Director, Administration

---

**RECOMMENDATION:**

For information only. There is a related recommendation for the Board’s consideration in the PCR Amendment staff summary also being presented at this meeting.

**DISCUSSION:**

Staff have previously highlighted for the Board the ongoing and significant difficulty in recruiting and retaining personnel as well as the steps staff are taking and considering to address this. This staff summary provides an update and some new proposed strategies with respect to recruitment and retention.

Staffing Levels

As of August 31, 2022, there are 1051.3 full time employees (FTE’s), which is about 100 positions below the budgeted FTE number. There are over 100 jobs posted. There are approximately 100 employees who are at or near their maximum pension amounts who could retire any time. Since staff last updated the Board in May, 43 employees have resigned or retired and staff have filled 102 positions (41 hires and 61 promotions and transfers).

New Strategies

Staff have previously recommended and the Board approved a recruitment rate for hard to fill positions, including most recently for Operators and Area Supervisors as a short-term, temporary measure. Staff also recommended a temporary increase in the shift differential for Operators and Area Supervisors. It appears that some combination of the recruitment rate and the increase in pay differential may have been factors in the hiring of two operators and one Area Supervisor. However, the limited number of licensed water and wastewater operators in Massachusetts continues to hinder

staff's ability to fill those positions and there continue to be staffing shortages in the Water OCC and at Deer Island. Staff are working with the union on a longer-term solution to rebuild and maintain the bench by creating a career ladder that begins with entry level "in training" positions. Employees would be provided formal classroom water/wastewater license exam preparation training by an outside entity as well as hands on facility training by MWRA staff.

OMC Laborer is another position that is currently hard to fill. There are currently 14 OMC Laborer vacancies. This position requires a Commercial Driver's License and there is a shortage of truck drivers across the country. There is also a shortage of approved third-party trainers to provide CDL training as is now required by the Federal Department of Transportation. Other entities are offering CDL drivers higher salaries and, in some cases signing bonuses. As a short-term temporary measure, staff are recommending a recruitment rate of Step 3 for this position. As a longer-term solution, staff are considering creating entry-level positions in which MWRA would provide CDL training through an approved third party vendor.

Automotive Technicians are also difficult to fill. Staff are recommending a career ladder for Fleet Services as a longer-term solution by creating an entry-level position of Automotive Repair Assistant -in -Training. The employee will be provided with classroom and on-the-job training. Staff worked with the union on a re-organizational plan and are recommending a downgrade of a supervisor position to a working foreman to assist with the career ladder as well as the creation of the entry-level in training position Staff have successfully implemented a Co-Op program and collaborated with a local vocational school on this effort.

Staff are also developing an Employee Referral Bonus program to encourage current employees to assist in recruiting qualified candidates. The candidates must successfully complete the probationary period in order for an employee to receive a bonus. Staff will soon determine whether or not to move forward with this program.

Related, the MWRA Advisory Board's recommended a compensation study with a focus on total compensation for 30 hard to fill titles and on overall recruitment and retentions. Staff agree that this is a very good recommendation and has prepared as scope of work focused on hard to fill positions. The compensation study Request for Proposals/Qualification has been posted. Proposals are due October 19, 2022. The selection committee for this procurement includes high-level MWRA managers as well as the Executive Director of the MWRA Advisory Board.

Finally, the MWRA contracted with Core Consulting through NACWA to develop and implement a formal mentoring program. That program is well underway and is currently in the "pairing of mentors and mentees" phase.

### Diversity, Equity and Inclusion (DEI)

All of the efforts to enhance recruitment and workforce development are consistent with the 5-Year Strategic Business Plan goals to "Foster a diverse and inclusive workplace" and to "Foster and sustain an excellent workforce."



For example, staff have developed partnerships with a number of vocational technical high schools in an effort to hire interns and hopefully entry-level staff into the newly created positions. These partnerships enhance MWRA's ongoing staffing diversity efforts.

**STAFF SUMMARY**

**TO:** Board of Director  
**FROM:** Frederick A Laskey, Executive Director  
**DATE:** October 19, 2022  
**SUBJECT:** PCR Amendments - October 2022



---

**COMMITTEE:** Personnel and Compensation

       INFORMATION  
  X   VOTE

Andrea Murphy, Director of Human Resources  
Preparer/Title

  
Michèle S. Gillen  
Director, Administration

---

**RECOMMENDATION:**

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

**DISCUSSION:**

The Position Control Register (PCR) 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 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 PCR Amendments**

There are eleven PCR Amendments this month.

Organizational Changes:

1. New position in the Administration Division, Fleet Services Department for a Unit 2 Grade 11 Assistant Automotive Technician in Training position to provide a career ladder to attract entry-level candidates.
2. Title and grade change to one vacant position in the Administration Division, Fleet Services from Vehicle Services Supervisor Unit 2 Grade 18 to Vehicle Services Foreman Unit 2 Grade 17 to better meet the staffing needs of the department.
3. New position in the Operations Division, Laboratory Services Department for a Unit 9 Grade 18 Chemist I position to work on lead and copper lab testing.
4. Salary adjustment to eight filled positions in the Operations Division, Grounds Maintenance and Inspection-Water Departments for OMC Laborer Unit 2 Grade 13 per union agreement for internal pay adjustment due to new recruitment rate.

**BUDGET/FISCAL IMPACT:**

The annualized budget impact of these PCR amendments will be a maximum cost of \$168,828. Staff will ensure that the cost increase associated with this PCR amendment will not result in spending over the approved FY23 Wages and Salaries budget.

**ATTACHMENTS:**

New Job Descriptions  
Old Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY  
POSITION CONTROL REGISTER AMENDMENTS  
FISCAL YEAR 2023**

**PCR AMENDMENTS REQUIRING BOARD APPROVAL - October 19, 2022**

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		
B4	Administration Fleet Services TBD	N/A	N/A	N/A	N/A	N/A	Assistant Automotive Technician in Training	2	11	\$0	\$45,930	-	\$63,479	\$45,930	-	\$63,479	New position to provide a career ladder to attract entry-level candidates.
B5	Administration Fleet Services 8310006	V	T, G	Vehicle Services Supervisor	2	18	Vehicle Services Foreman	2	17	\$89,591	\$59,804	-	\$85,583	-\$29,787	-\$4,008	To better meet staffing needs.	
B6	Operations Laboratory Services TBD	N/A	N/A	N/A	N/A	N/A	Chemist I	9	18	\$0	\$61,338	-	\$84,877	\$61,338	-	\$84,877	New position to support lead and copper lab testing.
B7	Operations Pipe Maintenance Water 3384033	F	S	OMC Laborer	2	13	OMC Laborer	2	13	\$50,087	\$54,530	-	\$54,530	\$4,443	-	\$4,443	Per union agreement. Internal pay adjustment due to new recruitment rate.
B8	Operations Pipe Maintenance Water 3383047	F	S	OMC Laborer	2	13	OMC Laborer	2	13	\$50,087	\$54,530	-	\$54,530	\$4,443	-	\$4,443	Per union agreement. Internal pay adjustment due to new recruitment rate.
B9	Operations Inspection - Water 3384047	F	S	OMC Laborer	2	13	OMC Laborer	2	13	\$50,087	\$54,530	-	\$54,530	\$4,443	-	\$4,443	Per union agreement. Internal pay adjustment due to new recruitment rate.
B10	Operations Pipe Maintenance Wastewater 5434045	F	S	OMC Laborer	2	13	OMC Laborer	2	13	\$50,087	\$54,530	-	\$54,530	\$4,443	-	\$4,443	Per union agreement. Internal pay adjustment due to new recruitment rate.
B11	Operations Grounds Maint - Metro 5411028	F	S	OMC Laborer	2	13	OMC Laborer	2	13	\$52,853	\$54,530	-	\$54,530	\$1,677	-	\$1,677	Per union agreement. Internal pay adjustment due to new recruitment rate.
B12	Operations Grounds Maint - Metro 5411031	F	S	OMC Laborer	2	13	OMC Laborer	2	13	\$52,853	\$54,530	-	\$54,530	\$1,677	-	\$1,677	Per union agreement. Internal pay adjustment due to new recruitment rate.
B13	Operations Grounds Maint - Metro 5411026	F	S	OMC Laborer	2	13	OMC Laborer	2	13	\$52,853	\$54,530	-	\$54,530	\$1,677	-	\$1,677	Per union agreement. Internal pay adjustment due to new recruitment rate.
B14	Operations Grounds Maint - West 3394038	F	S	OMC Laborer	2	13	OMC Laborer	2	13	\$52,853	\$54,530	-	\$54,530	\$1,677	-	\$1,677	Per union agreement. Internal pay adjustment due to new recruitment rate.
<b>BOARD TOTAL=</b>					11						<b>TOTAL:</b>			\$101,961	-	\$168,828	

**MWRA  
POSITION DESCRIPTION**

**NEW**

**POSITION:** Assistant Automotive Technician in Training

**DIVISION:** Administration

**DEPARTMENT:** Fleet Services

**BASIC PURPOSE:**

Receives on-the-job training to learn how to assist with minor automotive maintenance and repairs, transporting Authority vehicles, equipment, and parts, and cleaning automotive maintenance shop. Shadows other staff to acquire the necessary skills.

**SUPERVISION RECEIVED:**

Reports to the Vehicle Services Repair Foreman. May receive some assignments from Automotive Technicians.

**SUPERVISION EXERCISED:**

None.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Carries out and completes minor repairs on Authority vehicle/equipment fleet such as repairing tires, lube/oil/filter, greasing, changing bulbs and checking fluids and coolants with guidance and training by higher level staff.
- Operates repair equipment such as strut machine, tire machine, wheel balance machine, brake lathe, acetylene and oxygen torch and air conditioning recovery equipment with guidance and training higher level staff.
- Responds to road calls as directed, performs minor repairs on the road such as tire changes, jump starts, etc. after being trained to do so.
- Assists Automotive Technician as directed by the supervisory staff.
- Performs work under the guidance of the Automotive Technician as directed by higher-level staff.

- Transports vehicles, equipment, and automotive repair parts to and from vehicle maintenance vendors and sites.
- Assists in stocking and maintaining inventory counts.
- Cleans shop floor and trash daily and cleans vehicles and equipment as requested.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Basic reading, writing, mathematical and oral communication skills as normally attained through a high school education or equivalent. Vocational Technical courses or training preferred; and
- (B) Some work experience in the trades or technical field preferred; or
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated interest and willingness to learn minor maintenance and automotive/equipment repair functions.
- (B) Willingness to participate in on-the-job training about job functions and training to on workplace safety.
- (C) Familiarity with computers preferred.
- (D) Demonstrated reading, writing, mathematical and oral communication skills.
- (E) Ability to perform duties for extended periods of time in variable climatic conditions.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicles Operators license.



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

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

### **PHYSICAL DEMANDS:**

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

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

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 50 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception, and the ability to adjust focus.

### **WORK ENVIRONMENT:**

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

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee regularly works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in 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 very loud in field settings, and moderately loud at other work locations.

**October 2022**

**MWRA  
POSITION DESCRIPTION**



**POSITION:** Vehicles Services Foreman

**DIVISION:** Administration

**DEPARTMENT:** Fleet Services

**BASIC PURPOSE:**

Working foreman who works on the shop floor to provide supervision of daily operations, personnel and activities of Fleet Services repair site at Chelsea. Serves as liaison to Vehicle Services Supervisor. Complete initial and final diagnosis of repairs needed.

**SUPERVISION RECEIVED:**

Reports to the Vehicle Services Supervisor.

**SUPERVISION EXERCISED:**

Automotive Technicians, Assistant Automotive Technicians, and Assistant Automotive Technicians in Training.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Supervises garage staff in the repair, maintenance and proper inspection of vehicles and equipment at multiple sites. Trains less-experienced staff on work assignments.
- Issues work assignments based on skills and requirements.
- Manages adherence to preventive maintenance schedules .
- Supervises vehicle/equipment repairs to insure warranty and recalls are handled in a timely manner.
- Develops cost estimates for repairs, rebuilding of vehicles and equipment.
- Maintains staff daily attendance log.
- Manages hazardous materials handling and disposal as well as other safety-related functions.
- Monitors/reviews all work by outside vendors.
- Supervises fueling depot. Insure equipment is properly maintained. Monitor the receipt and issue of fuels.
- Writes and conducts Review Appraisals for repair maintenance staff.

- Insures cleanliness and safety of shop floor
- Provides “hands on” on the job training for Assistant Automotive Technician and Assistant Automotive Technician in Training.
- Monitors Authority radio communications system.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A high school diploma or equivalent, some college preferred; and
- (B) Five (5) to Eight (8) years of experience in an automotive/equipment maintenance environment that includes the repair and maintenance of gasoline and diesel vehicles and heavy-duty equipment; and
- (C) Minimum of two (2) years supervisory experience in automotive/equipment maintenance environment or completion of the MWRA Supervisory Development program; and
- (D) Experience of repair equipment such as but not limited to strut machine, tire machine, wheel balancing machine, acetylene & oxygen torch; and
- (E) Working experience with personal computer applications required; or
- (F) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of computerized & electrical diagnostic tools such as Autel and computer-based General Motors and Ford original equipment manufacturer (OEM) software.
- (B) Knowledge of occupational hazards, hazardous material regulations and safety practices common to the trade.
- (C) Basic reading, writing, mathematical, scientific, and demonstrated written and oral communication skills.

**SPECIAL REQUIREMENTS:**

Valid Massachusetts Driver’s Class “B” driver’s license required

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

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

### **PHYSICAL DEMANDS:**

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

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

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 50 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception, and the ability to adjust focus.

### **WORK ENVIRONMENT:**

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

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee regularly works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in 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 very loud in field settings, and moderately loud at other work locations.

**October 2022**

**MWRA  
POSITION DESCRIPTION**

**OLD**

**POSITION:** Vehicles Services Supervisor

**DIVISION:** Administration & Finance

**DEPARTMENT:** Fleet Services

**BASIC PURPOSE:**

Provides supervision of daily operations, personnel and activities of Fleet Services repair site at Chelsea.

**SUPERVISION RECEIVED:**

Reports to the Manager, Vehicle Maintenance

**SUPERVISION EXERCISED:**

None.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Supervises foremen and garage staff in the repair, maintenance and proper inspection of vehicles and equipment at multiple sites.
- Manages adherence to preventive maintenance schedules, contacting departments when appointments are missed.
- Reviews all work orders for completeness and work with foremen to obtain missing information.
- Supervises vehicle/equipment repairs to insure warranty and recalls are handled in a timely manner.
- Develops cost estimates for repairs, rebuilding of vehicles and equipment.
- Manages purchasing and maintenance of shop equipment.
- Utilizes personal computers and specialized application equipment to perform related duties such as scheduling, work order handling.
- Manages hazardous materials handling and disposal as well as other safety-related functions.
- Serves as a liaison with warehouse on the purchasing and stocking of automotive inventory.
- Monitors/reviews all work by outside vendors.
- Supervises pooling, scheduling and maintenance of MWRA equipment fleet & on-site motor pool.

- Supervises fueling depot. Insure equipment is properly maintained. Monitor the receipt and issue of fuels.
- Writes and conducts Work Review Appraisals for repair maintenance staff.
- Insures cleanliness and safety of shop floor
- Develops and oversees educational training programs for repair staff
- Monitors Authority radio communications system.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A high school diploma or equivalent, some college preferred; and
- (B) Eight (8) to ten (10) years experience in an automotive/equipment maintenance environment that includes the repair and maintenance of gasoline and diesel vehicles and heavy-duty equipment; and
- (C) Minimum of three (3) years supervisory experience in automotive/equipment maintenance environment; and
- (D) Experience in purchasing and distribution of automotive parts; and
- (E) Experience with operation of forklifts, material handling equipment, tow and ramp trucks; and
- (F) Experience of repair equipment such as but not limited to strut machine, tire machine, wheel balancing machine, acetylene & oxygen torch; and
- (G) Working experience with personal computer applications required; or
- (H) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of computerized & electrical diagnostic tools such as, but not limited to, TECH 1 & 2, Master Tech, and OTC Gas Analyzer.
- (B) Knowledge of occupational hazards, hazardous material regulations and safety practices common to the trade.

- (C) Basic reading, writing, mathematical, scientific, and demonstrated written and oral communication skills.

**SPECIAL REQUIREMENTS:**

Valid Driver's Class D Drivers License (CDL preferred).

Current ASE Certification (within past five years): Refrigerant Recycling & Recovery (ASE or equivalent), Brakes, Suspension/Steering, Electrical/Electronic Systems, Engine Performance, Diesel Engines, Heating & Air Conditioning, Engine Repair, Automatic Transmission/Transaxle (Master Auto or Truck Technician, L1 or L2 preferred)

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

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

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 100 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception, and the ability to adjust focus.

**WORK ENVIRONMENT:**

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

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee regularly works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in 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 very loud in field settings, and moderately loud at other work locations.

**August, 2001**

**MWRA  
POSITION DESCRIPTION**



**POSITION:** Chemist I  
**DIVISION:** Operations  
**DEPARTMENT:** Laboratory Services, Quality Assurance

**BASIC PURPOSE:**

Performs a variety of moderately complex chemical analyses on water, wastewater and air, using prescribed procedures.

**SUPERVISION RECEIVED:**

Works under the general supervision of a Laboratory Supervisor, WQCHM, I, II, III.

**SUPERVISION EXERCISED:**

None.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Performs a wide range of moderately complex chemical analyses and tests and operates all related equipment, assuring adherence to Standard Operating Procedures (SOPs).
- Assists in research studies and in the investigations of alternative procedures and equipment by performing analyses and tests, and the appropriate preparation data.
- Provides technical direction to technicians and laboratory support personnel by reviewing and confirming the results of routine tests, and providing instruction to assure conformity to SOPs.
- Performs minor troubleshooting, maintenance and calibration duties on a variety of standard instrumentation and instructs or oversees technicians in their performance of routine equipment maintenance duties.
- Maintains current knowledge of analytical procedures and equipment.
- Follows SOPs to maintain accurate reliable data, and to affect the efficient transfer of the data to the LIMS and or other data management systems.



- Utilizes standard applications software and prepares accurate statistical and graphics displays, as instructed.
- Prepares purchase requisitions to reorder standard supplies and materials, and may lead or perform duties to take inventory of supplies and equipment parts.
- Provides instruction to technicians in laboratory safety, assures that safety procedures are followed, and maintains clean and safe work areas.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A four (4) year college degree in chemistry or a related field is required; and
- (B) Two (2) years of experience in chemical analysis, quality control and statistical techniques; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Thorough knowledge of state of the art modern chemical laboratory methods, procedures, materials and equipment.
- (B) Thorough knowledge and experience in proper sampling techniques and analytical procedures.
- (C) Skill in the operation of the listed tools and equipment.

**SPECIAL REQUIREMENTS:**

- A valid Massachusetts Class D Motor Vehicle Operators License.

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

Laboratory equipment and instruments, telephone, personal computer including word processing and other software, 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 duties.

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

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move more than 50 pounds. Specific vision abilities required by this job include close, distance, color and peripheral vision, depth perception, and the ability to adjust focus.

### **WORK ENVIRONMENT:**

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

While performing the duties of this job, the employee regularly works in a laboratory environment. The employee regularly works near moving mechanical parts, is frequently exposed to outdoor weather conditions, and occasionally works in high, precarious places and is exposed to fumes and airborne particles, toxic or caustic chemicals and the risk of electric shock.

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

**August 2018**

**MWRA  
POSITION DESCRIPTION**

**POSITION:** OMC Laborer

**DIVISION:** Operations

**DEPARTMENT:** Wastewater Operations, Western Operations, Equipment Maintenance,  
Metro Pipe Maintenance

**BASIC PURPOSE:**

Performs routine and skilled manual tasks as assigned. Assists operations, maintenance and skilled trades staff as required. May be required for overtime in extended workday and emergency situations. May be required for regular, on-call rotations.

**SUPERVISION RECEIVED:**

Works under the general supervision of a foreman or supervisor.

**SUPERVISION EXERCISED:**

None.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Performs tasks requiring some specialized skill in the maintenance and operation of equipment such as pickup trucks, pump trucks, tractors, mowers, pumps, generators and pneumatic tools, cement mixers, air compressors, snow removal equipment, sewer maintenance equipment, etc.
- Performs manual tasks requiring some specialized skill or knowledge in assisting skilled tradesmen engaged in construction, maintenance and repair work, including minor adjustments and repair of equipment.
- Performs a variety of manual tasks in connection with valve operations, pipeline construction and maintenance such as cleaning culverts and drains, digging ditches, spreading asphalt, caulking lead joints, and assisting in valve installations, repair of valves and pipeline under pressure 6" to 72" in diameter and the chlorination of water mains.
- Gases, oils and greases trucks, automobiles and miscellaneous grounds maintenance equipment.
- Performs a variety of manual tasks in connection with building and grounds maintenance work such as grass cutting, shoveling snow, repair of fences, disposing of trash and maintaining general building cleanliness.
- Assists personnel of a higher grade in all aspects of plant maintenance and repairs, including but not

limited to diesel engine overhaul, positive displacement pump overhaul and repair, centrifugal pump overhaul and repair, re-chaining of grit channels and sedimentation tanks and building concrete structures.

- Assists in the repair of electrical and mechanical equipment.
- Assists in upkeep and cleaning of MWRA equipment, structures and facilities such as screen chambers, tidegates and regular chambers.
- Assists in the handling and storage of stock, loads, unloads, moves and transports material, equipment, freight and supplies.
- Works as a member of a multi-crew, as needed.

### **SECONDARY DUTIES:**

- Performs related duties as required.

### **MINIMUM QUALIFICATIONS:**

Education and Experience:

(A) A high school diploma or GED; or

(B) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Working knowledge of the use of common tools, construction and sewer maintenance equipment, and of one or more of the mechanical or building trades.

(B) Ability to operate various types of vehicles and equipment including light automotive trucks and equipment, ten-wheel dump trucks, snow plows, pickup trucks, tractors and power-driven grounds maintenance equipment.

(C) Ability to perform manual labor of semi-skilled nature, use/make minor repairs to small tools and simple mechanical equipment.

(D) Basic knowledge of the operation and maintenance of facilities.

(E) Ability to perform heavy manual labor for extended periods of time, under varying climatic conditions.

(F) Ability to follow oral and written instructions.

### **SPECIAL REQUIREMENTS:**

Must possess a current valid Class B Massachusetts Commercial Drivers License.

Will be subject to the MWRA Controlled Substance and Alcohol Testing Policy and the random drug-testing program.

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

Motor vehicle, power and hand tools, mobile radio, telephone, beeper.

### **PHYSICAL DEMANDS:**

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

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

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 100 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception, and the ability to adjust focus.

### **WORK ENVIRONMENT:**

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

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee regularly works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in 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 very loud in field settings, and moderately loud at other work locations.

**May 2001**

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** October 19, 2022  
**SUBJECT:** Appointment of Manager, Metro Maintenance  
Operations Division




---

**COMMITTEE:** Personnel & Compensation

     INFORMATION  
  X   VOTE

Andrea Murphy, Director, Human Resources  
Charles Ryan, Director, Wastewater O&M  
Stephen Cullen, Director, Wastewater  
Preparer/Title

  
David W. Coppes P.E.  
Chief Operating Officer

---

*This item was postponed from the September 14, 2022 Board of Directors meeting.*

### RECOMMENDATION:

To approve the appointment of Mr. William Carter to the position of Manager, Metro Maintenance (Non-union, Grade 14) at an annual salary of \$146,000.00 commencing on a date to be determined by the Executive Director.

### DISCUSSION:

The position of Manager, Metro Maintenance manages the maintenance group's activities to ensure proper planning and completion of maintenance work necessary to meet the operational needs and asset protection requirements of the 45 water and wastewater facilities in the metropolitan Boston area. These facilities are critical to MWRA's mission and must be available at all times. This position is responsible for implementing industry best maintenance practices to increase staff productivity, monitor asset performance indicators and implement programs to maximize asset life while reducing equipment downtime.

To be successful, the Manager, Metro Maintenance must coordinate and communicate with all departments to ensure that equipment is maintained properly and is available when required. The maintenance program is critical to the success of the operation of the metropolitan water and wastewater facilities and must be evaluated on a continuous basis to ensure short-term and long-term equipment needs are available.

The Manager, Metro Maintenance oversees a staff of 104, including all trade groups: Electrical, Mechanic, HVAC, Plumbers, Facilities Specialists, and Building and Grounds personnel. The Manager, Metro Maintenance and has two direct reports: one Senior Program Manager and one Work Coordination Manager, and reports to the Director of Wastewater Operations and Maintenance.

## **Selection Process**

The position was posted internally. Three candidates applied for the position and were referred to the Operations Division, having met the minimum qualifications. The Director, Wastewater; Director, Wastewater Operations and Maintenance; and Manager of Operations Support interviewed all three candidates. Mr. William Carter was unanimously selected as the best qualified candidate for the position.

Mr. Carter has worked in the wastewater field for the past 17 years. Currently, Mr. Carter holds the position of Area Manager, Maintenance at Deer Island. In this position, he regularly consults with both operations and maintenance groups to identify problems and recommend solutions for the rotating assets at Deer Island. Furthermore, he provides engineering assistance to the maintenance group, including estimating equipment replacement budgets, creating technical specifications, and conducting bid reviews. Mr. Carter has good familiarity with MWRA's computerized maintenance management system (Maximo) and he is a regular contributor to the development of new job plans, plant notification/shutdown coordination, best maintenance practices and asset documentation. He has project management experience and has supervised consultants and contractors for work performed on Deer Island.

Mr. Carter has good experience with MWRA workforce procedures and programs and has a solid grasp of the expectations of a maintenance manager through direct involvement with equipment replacement upgrades and through supervision of MWRA maintenance crews. He has excelled in his current position and has become an essential resource for the Deer Island maintenance group. In his previous employment, Mr. Carter worked at AECOM for seven years preparing designs and specifications for mechanical processes at wastewater facilities.

Mr. Carter holds a Bachelor of Science degree in Mechanical Engineering Technology from Wentworth Institute of Technology and is an Engineer-in-Training (New Hampshire).

## **BUDGET/FISCAL IMPACT:**

There are sufficient funds for this position in the FY23 Current Expense Budget.

## **ATTACHMENTS:**

Resume of William Carter  
Position Description  
Organization Chart

# WILLIAM J. CARTER

---

## **PROFESSIONAL EXPERIENCE:**

- **Massachusetts Water Resources Authority**, Deer Island Treatment Plant, Winthrop, MA; April 2012 to Present
  - **Area Manager** – October 2016 to Present
    - Manage maintenance activities for the Liquid Train process area from April 2017 to present
    - Manage maintenance activities for the Power and Pump process area from October 2016 to April 2017
    - Oversee the work of multiple trades including Mechanics, Plumbers, Electricians, Instrument and Control Technicians, and Supervisors.
    - Monitor ongoing activities and ensure that policies and procedures are being followed
    - Assess the condition of existing assets and provide recommendations for repair or replacement
    - Ensure monthly preventative maintenance and predictive maintenance goals are met
    - Develop and manage yearly budgets for the area's maintenance activities
    - Coordinate planned maintenance with Operations staff
    - Review contract documents and provide comments from a maintenance perspective
    - Develop specifications and Staff Summaries.
  - **Project Manager, Mechanical** – April 2012 to October 2016
    - Develop professional services scopes for proposal requests
    - Prepare engineer estimates for work to be completed
    - Support maintenance and operations staff by providing engineering evaluations, recommendations, and designs
      - Investigate issues with current process equipment and systems and identify viable solutions
      - Develop technical specifications for equipment purchases
      - Develop construction sequence plans and establish lock-out/tag-out lists
      - Coordinate with multiple technical disciplines to achieve a unified solution.
      - Communicate with consultants and contractors to monitor project progress and budget
      - Review and monitor work activities of contractors for compliance with contract documents.
      - Witness field testing of equipment
      - Provide field notes to aid in updating record drawings
  - Maintain positive working relationships with operations and maintenance personnel as well as consultants, contractors, and vendors.
- **AECOM** (formerly Metcalf & Eddy), Wakefield, MA; August 2005 to April 2012
  - Developed technical specifications and design drawings for mechanical process and plumbing disciplines using sound engineering practices and ensuring applicable code compliance. Projects involved water treatment plants, wastewater treatment plants, and pumping stations.
  - Maintained files in accordance with an ISO 9001 certified Quality Management System
  - Supervise designers and drafters in the development of design drawing packages
  - Perform engineering calculations including pipe and duct sizing, as well as pump calculations
  - Created calculation spreadsheets to streamline the design process
  - Assess existing conditions of treatment facilities and pump stations

## **EDUCATION:**

- Wentworth Institute of Technology, Boston, MA; 2001-2005
  - Bachelor of Science in Mechanical Engineering Technology, 2005
  - Associates of Applied Sciences, Mechanical Engineering Technology, 2004

## **LICENSE:**

- Engineer-in-Training, New Hampshire Serial Number 4457

## **CURRENT TRAINING/CERTIFICATIONS:**

- Tower Climber Competent Person, November 2019
- Permit-Required Confined Space trained
- Disaster Management for Water and Wastewater Utilities
- Pump System Optimization
- ASCE Managing the Design Process

## **TECHNICAL SKILLS:**

- Proficient with the following software: Microsoft Word, Excel, and PowerPoint; AutoCAD, Adobe Acrobat Pro

## **AWARDS**

- MWRA Extraordinary Service Award – 2017 – Deer Island Valve Replacement Team

## **COMMITTEES**

- AWWA Committee 285: Solids Handling Pumps



**MWRA  
POSITION DESCRIPTION**

**POSITION:** Manager, Maintenance (Metro)  
**DIVISION:** Operations  
**DEPARTMENT:** Field Operations, Wastewater O&M

**BASIC PURPOSE:**

Manages the maintenance group's activities to ensure proper planning and completion of maintenance work necessary to meet operational needs and asset preservation requirements of the 45 water and wastewater facilities in the Metropolitan-Boston area. Required to be on-call for emergencies.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Director, Wastewater Operations and Maintenance.

**SUPERVISION EXERCISED:**

Exercises close supervision over the assigned Senior Program Managers, Work Coordination Manager, Program Managers and Contract Services Group and maintenance line staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Manages Program Managers and maintenance line staff to ensure proper assignment and functioning of the work unit.
- Reviews, monitors and evaluates work performed in facilities and recommends appropriate improvements in equipment, techniques and procedures.
- Works with the Director, Wastewater and Operations and Maintenance, Assets Manager, and Engineering group to develop long-term maintenance strategies, implements new maintenance initiatives, capital projects, and required maintenance programs. Assigns work to ensure department meets maintenance milestones identified in the Authority's business plan.
- Manages staff hiring of trades maintenance personnel. Prepares and submits organizational and personnel written recommendations to the Director, Wastewater Operations and Maintenance as needed.
- Continuously reviews staff licensing and training requirements and works with the MWRA

Training group and Occupational Health and Safety group to ensure staff are trained to perform their necessary maintenance activities in a safe and effective manner.

- Manages the development of the Maintenance Group's budget. Audits individual Program Manager's performance to budget. Identifies variances and works with staff and budget group to explain variances and take corrective action.
- With the Assistance of the Work Coordination Group, generates and reviews department's performance versus key performance indicators ("KPIs") such as work back log, preventive maintenance, and predictive maintenance. Develops new KPIs as needed. Recommends and implements corrective actions to department procedures as required.
- In conjunction with the Senior Program Manager, ensures that the MAXIMO system and Work Coordination Group are delivering the necessary information and services required to meet day-to-day maintenance planning and work needs for Field Operations.
- Works with the Directors, Senior. Program Managers, Program Managers and Engineering groups to develop long range maintenance strategies, capital program projects expenses and required maintenance projects.
- Works closely with the Work Coordination, Operations, Engineering, and other FOD Managers to provide cost effective maintenance services ensuring optimum facility performance.
- Manages department-wide efforts to track and improve crew efficiency and accountability in Field Operations.
- Manages the Maintenance staff implementation of the Reliability Centered Maintenance strategy.
- Submits annual organizational and personnel recommendations for the maintenance group to the Director, Wastewater O&M and Director, Wastewater.
- Continually reviews staff training requirements and takes the necessary steps to insure proper development and delivery of the training programs by the Training group; assists with managerial and supervisory training.
- Manages the development of the Maintenance Group's budget, audits individual manager's performance to budget, identifies variances and works with individuals to explain variances and take corrective action to minimize.
- Advises engineering personnel relative to the resolution of technical maintenance problems within the Facility.
- Approves daily allocation of personnel based on priorities established by the planning and

scheduling group, and Water and Wastewater Operations.

- Reviews work back log and takes corrective action to minimize.
- Establishes accountability and efficiency programs, goals and benchmarks for the metropolitan maintenance unit.
- Uses Maximo to the fullest extent possible to plan, track and evaluate work efforts.
- With the assistance of the Snr. Program Manager and Work Coordination Manager, obtains, reviews and analyzes data on work performed by staff; develops appropriate benchmarks and reports on significant trends with recommendations for appropriate action.
- With the assistance of the Senior Program Manager, establishes in conjunction with the Asset Manager, a comprehensive work practices that ensures proper data integrity within Maximo including updating equipment information as new equipment is purchased. Responsible for writing and/or approving equipment specifications, justifications, staff summaries and maintenance reports to ensure maintenance materials and services are acquired as needed.
- Performs quality assurance/quality control (QA/QC) audits on standard work procedures, such as but not limited to staff working on priority jobs, safety procedures being followed, appropriate staff levels by job, material availability, daily dispatch compliance, and technician work documentation on work orders and in Maximo.
- Utilizes personal computers, data terminals, and special applications software to perform related duties such as work scheduling, inventory maintenance, Maximo, Lawson, etc.
- Promotes the MWRA safety program by supporting the supervisors' weekly safety meetings, attending/supporting the monthly safety committee meetings, keeping informed of the crews' safety records and formally investigating accidents with the assistance of the Safety Group.
- Reviews assigned employees' performance per MWRA procedures.
- Acts as liaison and promotes harmonious relations with other maintenance units, vendors and MWRA departments.
- Manages the Department in a manner that is consistent with MWRA's goals of Diversity, Equity, and Inclusion. Administers the application of collective bargaining provisions and personnel policies in the work place. Serves as Step I grievance Hearing Officer.
- Participates in the Emergency Operations Center (EOC) staffing for emergency response as required.
- Acts as a back-up to the Director, Wastewater O&M in his absence.

## **SECONDARY DUTIES:**

- Assists employees with preparation of injury/illness reports, safety and maintenance work orders, and ensure that they keep high quality, accurate related documents and records.
- Assists in maintaining harmonious labor management relations through proper applications of collective bargaining agreement provisions and established personnel policies.
- Promotes and participates in the cross-functional work practices.
- Performs other related duties as required.

## **MINIMUM QUALIFICATIONS:**

### Education and Experience:

- (A) A Bachelor's degree in Engineering, Facilities Management or related discipline; and
- (B) Eight (8) to ten (10) years of water / wastewater design, operations and/or maintenance management experience of which five (5) years must be management/supervisory experience, preferably in the management of a large maintenance workforce; or
- (C) Any equivalent combination of education and experience.

### Necessary Knowledge, Skills and Abilities:

- (A) Working knowledge of the maintenance, repair, and replacement of equipment within a large industrial, water or wastewater treatment plant or liquid processing facility.
- (B) Ability to plan, organize, direct, train and assign work through subordinate managers and supervisors in a unionized environment.
- (C) Ability to learn and use maintenance related computer software.
- (D) Knowledge, experience and understanding of maintenance practices using a computerized maintenance management system such as but not limited to Maximo and Lawson.
- (E) Knowledge, experience and understanding of Reliability Centered Maintenance methodology. Familiar with its principles, application, and outcomes to increase maintenance effectiveness and productivity.
- (F) Excellent interpersonal, written, and verbal communication skills.

### **SPECIAL REQUIREMENTS:**

Is required to be part of an on-call rotation for emergencies 24 hours a day, 7 days a week

A valid Massachusetts Class D Motor Vehicle Operators License.

A valid Grade 6 wastewater operator's license or 4D Drinking Water Supply Facilities Operators license preferred.

A Certified Maintenance and Reliability Professionals (CMRP) certification preferred.

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

Mobile radio, telephone, personal computer including word processing and other software, copy and fax machine.

### **PHYSICAL DEMANDS:**

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

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools, or controls and reach with hands and arms. The employee 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:**

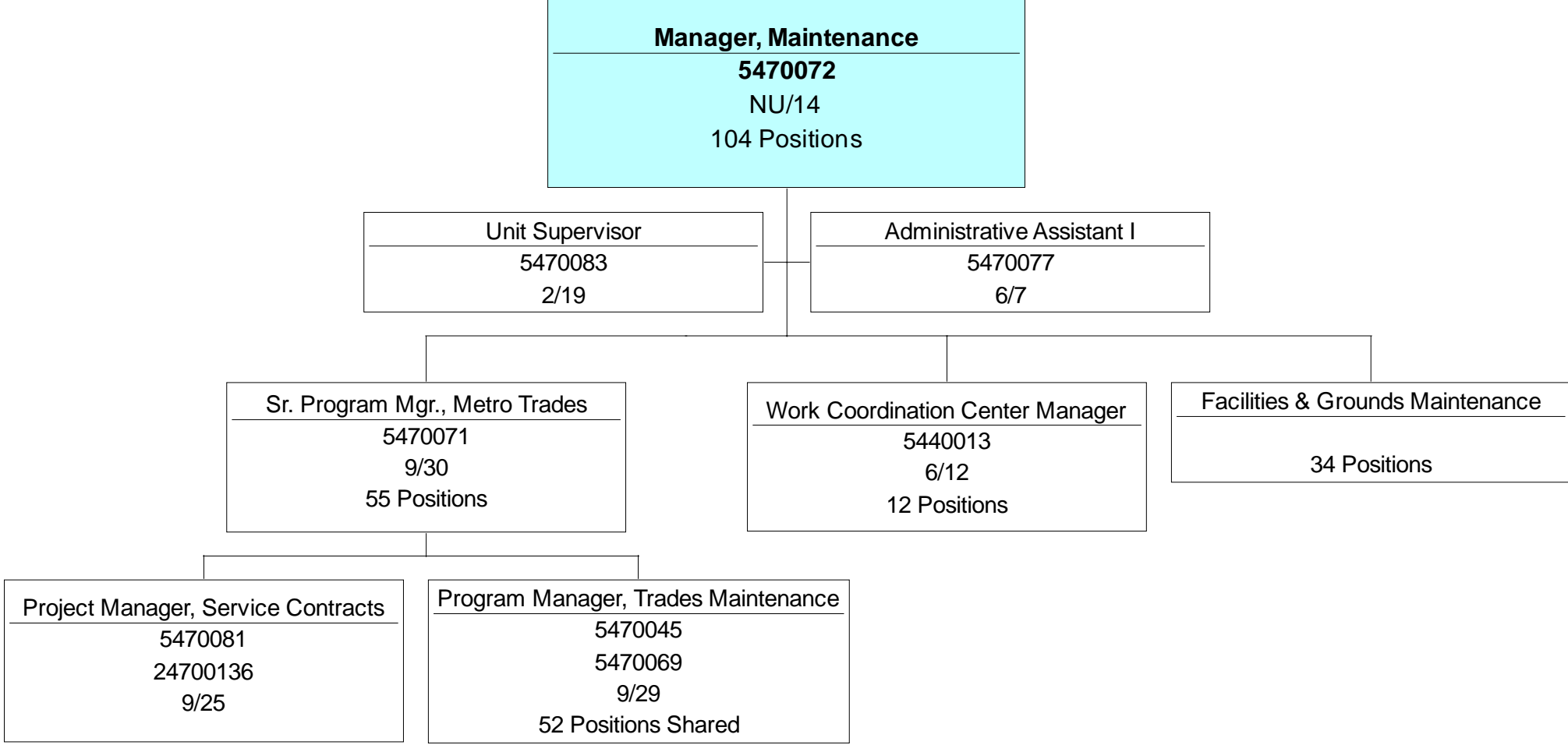
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

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.

**August 2022**

Operations - Wastewater O&M  
**Metro Maintenance - Summary**  
September, 2022



**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** October 19, 2022  
**SUBJECT:** Appointment of Director, Human Resources




---

**COMMITTEE:** Personnel & Compensation

     INFORMATION  
  X   VOTE

Andrea Murphy, Director, Human Resources  
Preparer/Title

  
Michele S. Gillen  
Director, Administration

---

**RECOMMENDATION:**

To approve the appointment of Wen-Hwei (Wendy) Chu to the position of Director, Human Resources, (Non-Union, Grade 16) in the Administration Division, at an annual salary of \$162,000, commencing on a date to be determined by the Executive Director.

**DISCUSSION:**

The position of Director, Human Resources will become vacant upon the retirement of the incumbent in January 2023. The position reports to the Director of Administration and is responsible for all human resource policies and programs, directing all personnel and labor relations functions and implementing human resource activities that support MWRA's organizational goals and objectives. The Director manages the employment, compensation and benefits programs, collective bargaining and union contract administration, human resource information systems, training and development and workers' compensation programs.

The incumbent has been in that position since 2018. Since that appointment, several events, including the Covid-19 pandemic, critically important social and civil justice movements as well as significant legal and regulatory changes such as the Pay Equity and Paid Family Leave laws, have changed the role of Human Resource Directors in every employment sector, including at MWRA. The "Great Covid Resignation" and other factors have put tremendous pressure on the employment market which has required new and creative recruitment, retention and succession planning. MWRA, like most employers, has rightly doubled down on its Diversity, Equity and Inclusion efforts by reviewing, modifying and expanding an already robust DEI program – many of those efforts are done in a partnership with AACU and Human Resources. The shift to a hybrid work model for certain positions is a fundamental change in the way business operations are conducted. All of this has required updates to policies, procedures and programs in a way not seen before.

The Director of Human Resources job description has been updated to reflect the changes described above.



## **Selection Process**

The position of Director, Human Resources was posted internally and two qualified and highly regarded candidates applied for this position. Those candidates were interviewed by the Director, Administration, the Special Assistant for Affirmative Action and the current Director, Human Resources. Upon completion of the interviews, Attorney Wen-Hwei “Wendy” Chu was recommended to the Executive Director for the position based on her qualifications and experience. A second interview with Attorney Chu was conducted by the Executive Director who concurred with staff’s recommendation.

Attorney Chu’s legal career has focused exclusively on labor and employment law in the public sector as an attorney in a public entity or as an attorney in private practice representing public entities.

Attorney Chu currently has served as the MWRA Associate General Counsel, Labor and Employment since April, 2021. In that capacity, Attorney Chu has provided senior managers advice and counsel on labor and employment matters, including labor relations, collective bargaining, harassment and discrimination, FMLA and PFML and has also lead and conducted employment-related investigations. She served as a key and reliable resource during the Covid Pandemic as staff navigated through ever evolving guidance, regulations and laws. Attorney Chu is a valued partner to the Human Resources team during collective and impact bargaining and to Human Resources and AACU on inquiries and requests for accommodations under the Americans with Disabilities Act (“ADA”).

Prior to her tenure at MWRA, Attorney Chu was in private practice representing public employers, including municipalities and school committees, in labor and employment litigation before various administrative bodies such as the Massachusetts Commission Against Discrimination (MCAD), the U.S. Equal Employment Opportunity Commission, the Department of Labor Relations (DLR) and the Department of Unemployment Assistance. In her prior role she also advised public employers on a wide range of labor and employment topics such as collective bargaining, FMLA, ADA, discipline and discharge and workplace harassment and discrimination.

Attorney Chu began her legal career at the Human Resources Division of the Commonwealth where she served as Labor Counsel for four years. Following that, Attorney Chu was employed by the US Environmental Protection Agency to serve as Assistant Regional Counsel for Region 1. Attorney Chu was the sole labor and employment attorney for the Region, providing advice and counsel on labor relations matters, such as contract negotiations, grievances and unfair labor practices, and employee discipline, leave and discrimination matters.

She later returned to work at the Human Resources Division of the Commonwealth as an Assistant General Counsel/Diversity Officer. She represented the agencies in labor and employment litigation before state administrative bodies including the MCAD, the DLR and the Civil Service Commission, and in arbitration hearings. She also counseled state agencies in federal and state labor and employment matters including labor relations, collective bargaining, harassment and discrimination and FMLA leave, and conducted employment-related investigations. Attorney Chu

developed, reviewed and provided advice and training on statewide employment policies. Finally, she served as the reasonable accommodation officer and co-chair of the agency's diversity committee, and was responsible for promoting and highlighting diversity in employment and investigating internal complaints of discrimination.

Attorney Chu is a highly respected member of the team whose skills and experience align well with MWRA's Human Resources and Diversity, Equity and Inclusion related goals and objectives.

Attorney Chu received her Bachelor of Arts degree from Columbia University in 1995 and her Juris Doctor from Boston College in 2002. She is member in good standing of the Massachusetts Bar and is admitted to practice before the state and federal courts.

**BUDGET/FISCAL IMPACT:**

There are sufficient funds for this position in the FY23 Current Expense Budget.

**ATTACHMENTS:**

Resume of Wendy Chu  
Position Description  
Organizational Chart

# WENDY H. CHU

---

## EDUCATION

### **BOSTON COLLEGE LAW SCHOOL**

**NEWTON, MA**

*Juris Doctor, 2002*

### **COLUMBIA UNIVERSITY**

**NEW YORK, NY**

*Bachelor of Arts – East Asian Languages and Culture, 1995*

## PROFESSIONAL EXPERIENCE

### **MASSACHUSETTS WATER RESOURCES AUTHORITY**

*Associate General Counsel – Labor & Employment, 2021 – Present*

Provide legal counsel to MWRA's Executive Team, Human Resources, and other managers on a broad range of labor and employment matters, including personnel actions, collective bargaining, and conflicts of interest. Represent MWRA in grievance arbitrations, unfair labor practice charges before the Department of Labor Relations, and discrimination matters before the Massachusetts Commission Against Discrimination. Participate in collective bargaining with union partners. Develop, revise, and implement employment policies. Conduct and advise on workplace investigations. Review reasonable accommodation and extended family/medical leave requests. Supervise Senior Staff Counsels.

### **VALERIO DOMINELLO & HILLMAN, LLC**

*Attorney, 2018 – 2021*

### **DEUTSCH WILLIAMS BROOKS DERENSIS & HOLLAND, P.C.**

*Senior Associate, 2016 – 2018*

Represented private and public sector employers (state entities, cities, towns, school committees) in labor and employment litigation, including grievance arbitrations and administrative adjudicatory proceedings before the Massachusetts Commission Against Discrimination, U.S. Equal Employment Opportunity Commission, Department of Labor Relations, Department of Unemployment Assistance, and Civil Service Commission. Advised employers on a wide range of labor and employment law topics, including collective bargaining, labor relations, FMLA, FFCRA, ADA, discipline and discharge, workplace harassment and discrimination, civil service, and layoffs and demotions. Conducted investigations into allegations of workplace harassment and discrimination. Led workplace trainings on employer policies related to anti-discrimination and conflicts of interest.

### **COMMONWEALTH OF MASSACHUSETTS, HUMAN RESOURCES DIVISION**

*Assistant General Counsel/Diversity Officer, 2012 – 2016*

*Labor Counsel, 2003 – 2007*

Assisted in the management and supervision of legal personnel who service various state agencies on labor and employment law matters. Served as legal counsel on labor and employment litigation before state administrative agencies, including the Massachusetts Commission Against Discrimination, Department of Labor Relations, and Civil Service Commission. Represented state agencies in grievance arbitration hearings. Counseled state agencies in state and federal labor and employment law matters, including labor relations, discrimination, harassment, FMLA, and civil service. Developed, reviewed, and provided advice and training on statewide employment policies, including FMLA leave, progressive discipline, and the Massachusetts Earned Sick Time law. Participated in collective bargaining negotiations on behalf of management. Conducted employment-related investigations at the request of the administration. Responsible for promoting and highlighting diversity in employment, investigating internal

**PROFESSIONAL  
EXPERIENCE**

(cont.)

complaints of discrimination, facilitating reasonable accommodation requests, and co-chairing the agency's diversity committee.

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 1**

*Assistant Regional Counsel, 2008 – 2012*

Served as the Region's sole labor and employment attorney. Provided advice and counsel to management on labor relations matters (e.g., contract negotiations, grievances, unfair labor practices), employee discipline, employee leave, and employment discrimination matters. Represented the Region in litigation before federal administrative agencies, including the Federal Labor Relations Authority, Merit Systems Protection Board, Equal Employment Opportunity Commission, and Federal Mediation and Conciliation Service. Represented the agency in grievance arbitration hearings. Led highly sensitive investigation into allegations of harassment, discrimination, and retaliation. Counseled agency employees on federal ethics requirements. Researched and responded to inquiries on federal appropriations law. Performed legal reviews of agency agreements on various subject matters. Responded to subpoena requests in accordance with agency regulations.

**H.E.R.E.I.U., LOCAL 6**

*Assistant Business Agent, 2002 – 2003*

Represented hotel and restaurant workers in grievances and other contractual disputes with management. Assisted with grievance arbitration hearings. Negotiated side agreements and other resolutions with management.

**FRIEDMAN KAPLAN SEILER & ADELMAN, LLP**

*Corporate Paralegal, 1995 – 1997, 1998 – 1999*

Assisted corporate attorneys in various transactions, including mergers, acquisitions, and initial public offerings. Reviewed and edited corporate filings. Processed incorporation documents. Performed legal research. Supervised newer paralegals.

**THOMSON REUTERS SUBSIDIARY**

*Data Analyst, 1997 – 1998*

Analyzed transactional data related to public corporations for database product marketed to corporations and news organizations.

**LEGAL  
INTERNSHIPS**

**VLADECK, WALDMAN, ELIAS & ENGELHARD, P.C.**

*Law Clerk, Summer 2001*

Performed legal research on labor and employment law issues. Assisted attorneys with grievance arbitration hearings.

**LEGAL**  
**INTERNSHIPS**  
**(cont.)**

**COMMONWEALTH OF MASSACHUSETTS, DEPARTMENT OF SOCIAL SERVICES**  
**(currently known as Department of Children & Families)**

*Legal Intern, Summer 2000*

Assisted attorneys in the Office of General Counsel in various matters. Performed legal research on employment discrimination, termination of parental rights, and appointment of guardian ad litem.

**BAR**  
**ADMISSIONS**

- Massachusetts Bar, 2002
- US District Court for the District of Massachusetts, 2019

MWRA  
**POSITION DESCRIPTION**

**POSITION:** Director, Human Resources

**DIVISION:** Administration

**DEPARTMENT:** Human Resources

**BASIC PURPOSE:**

Directs human resources (HR) and labor relations functions including developing and implementing policies, procedures, and programs. Recruits and retains a diverse high-performing skilled enterprise workforce. Provides leadership as an effective HR Business Partner to divisions to ensure MWRA meets its mission of providing reliable, cost-effective, and high-quality water and sewer services as well as its commitment to maintaining a diverse staff and a safe, inclusive workplace.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Director, Administration.

**SUPERVISION EXERCISED:**

Exercises general supervision over six units: Employment, Labor Relations, HR Operations, Compensation, Benefits & HRIS, and Training & Development and direct supervision of an Administrative Systems Coordinator. Indirectly supervises other professional and administrative HR staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Serves as a strategic Human Resources advisor to the Executive Director, Director of Administration and senior managers to support and advance MWRA's mission and business objectives.
- Provides guidance to six critical Human Resources units and manages the day-to-day operations and administration of the HR department and its various units including supervising staff, preparing and administering department budgets, establishing goals and objectives, and tracking measurable performance indicators and related activities.
- Formulates and recommends personnel policies and human resource programs. Directs the interpretation and ensures consistent and fair application of personnel and labor relations policies throughout the Authority. Ensures human resource programs are internally equitable and externally competitive that comply with federal and state laws and regulations.
- Establishes a work environment where all employees feel safe, valued, and respected.
- In collaboration with MWRA's Affirmative Action and Compliance Unit, advances MWRA's Diversity, Equity and Inclusion ("DEI") objectives through a variety of means, including DEI training, professional development opportunities, career path development and mentoring.

- Develops and implements workforce planning and succession planning to ensure MWRA has the right employees with the right skills in the right place at the right time. Projects anticipated retirement and turnover and strategizes methods to preserve institutional knowledge and promote cross-training. Builds pipeline of internal candidates by enhancing internship, job shadowing, and career development programs.
- Develops and maintains a comprehensive recruitment and retention program.
- Oversees fair recruitment and employment programs and ensures compliance with Equal Employment Opportunity regulations and the Authority's Affirmative Action Plan.
- Partners with department heads and other managers in recruiting, selecting and onboarding key leaders. Interviews and reviews candidates for top management positions.
- Directs the wage and salary programs, classification and job evaluation process, performance appraisal, and employee benefits programs.
- Directs collective bargaining negotiations, contract administration and grievance proceedings for five bargaining units and manages employee relations for Non Union managers.
- Oversees the Authority's workers' compensation and health and safety programs to ensure a safe work environment and minimize injury and maximize productivity.
- Ensure staff provide safety and workplace violence instruction to all employees.
- Directs the maintenance of the HRIS system and electronic and printed personnel files as well as recommendations, development, and implementation of any HRIS system upgrades or major changes.
- Directs organizational and employee development efforts including needs assessment and delivery of managerial, supervisory, technical and non-technical training programs to equip staff to meet operations, engineering, and management challenges. Provides continuing education and occupation-specific training to ensure staff maintain the required licenses and certifications necessary. Tracks employee completion of periodic mandatory training such as ethics and sexual harassment prevention.
- Conducts research relating to new, progressive or innovative techniques or approaches to employee issues and problems and evaluates their application to the Authority. Advises department managers on applying personnel policies and procedures, taking into account their business needs and requirements. Advises managers on sensitive topics such as performance, discipline, and allegations of harassment or misconduct.
- In conjunction with the Law Division and the Affirmative Action & Compliance Unit (AACU) directs investigations into allegations of violation of policies regarding conduct (i.e. sexual harassment, discrimination, workplace violence, etc.). Recommends final resolution of the complaints.
- Works with Law Division to interpret and implement new laws or mandates.

- Assesses HR and employee impact of any proposed changes such as reorganization, staff reassignment, and new working conditions.
- Presents employment, labor relations and other Human Resources recommendations to the MWRA Board of Directors.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- Solid knowledge of business operations and human resource administration as normally attained through a four (4) year college program in public administration, business or related field. An advanced degree or graduate certificate is preferred; and
- Preferred certifications:
- SHRM: Senior Professional in Human Resources (SPHR) or Professional in Human Resources (PHR); or
- IPMA-HR: Senior Certified Professional (SCP) or Certified Professional (CP); and
- Thorough understanding of human resources administration and management as acquired through ten (10) to twelve (12) years experience of which at least five (5) years are in a supervisory and/or managerial capacity and at least three (3) years are in the public sector; or
- Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- Excellent analytical, interpersonal, negotiation, strategic planning, and communication skills.
- Ability to successfully interact with high-level executives.
- Ability to maintain confidentiality and diplomacy.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle Operators License.

Ability to work evenings or weekends for urgent business issues or respond to business calls on MWRA assigned phone after hours.

**TOOLS AND EQUIPMENT USED:**

Office machines as normally associated with the use of telephone, cell phone, 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 feel, finger, handle or operate objects, including office equipment or controls and reach with hands and arms. The employee is occasionally required to stand and walk. The employee is regularly required to sit, and talk or hear.

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

Occasional site visits to MWRA locations may involve working in outside weather conditions. The employee may be exposed to strenuous, dangerous, or stressful conditions. On rare occasions in the field, the employee may need to use personal protective and safety equipment to minimize the risk of illness and injury.

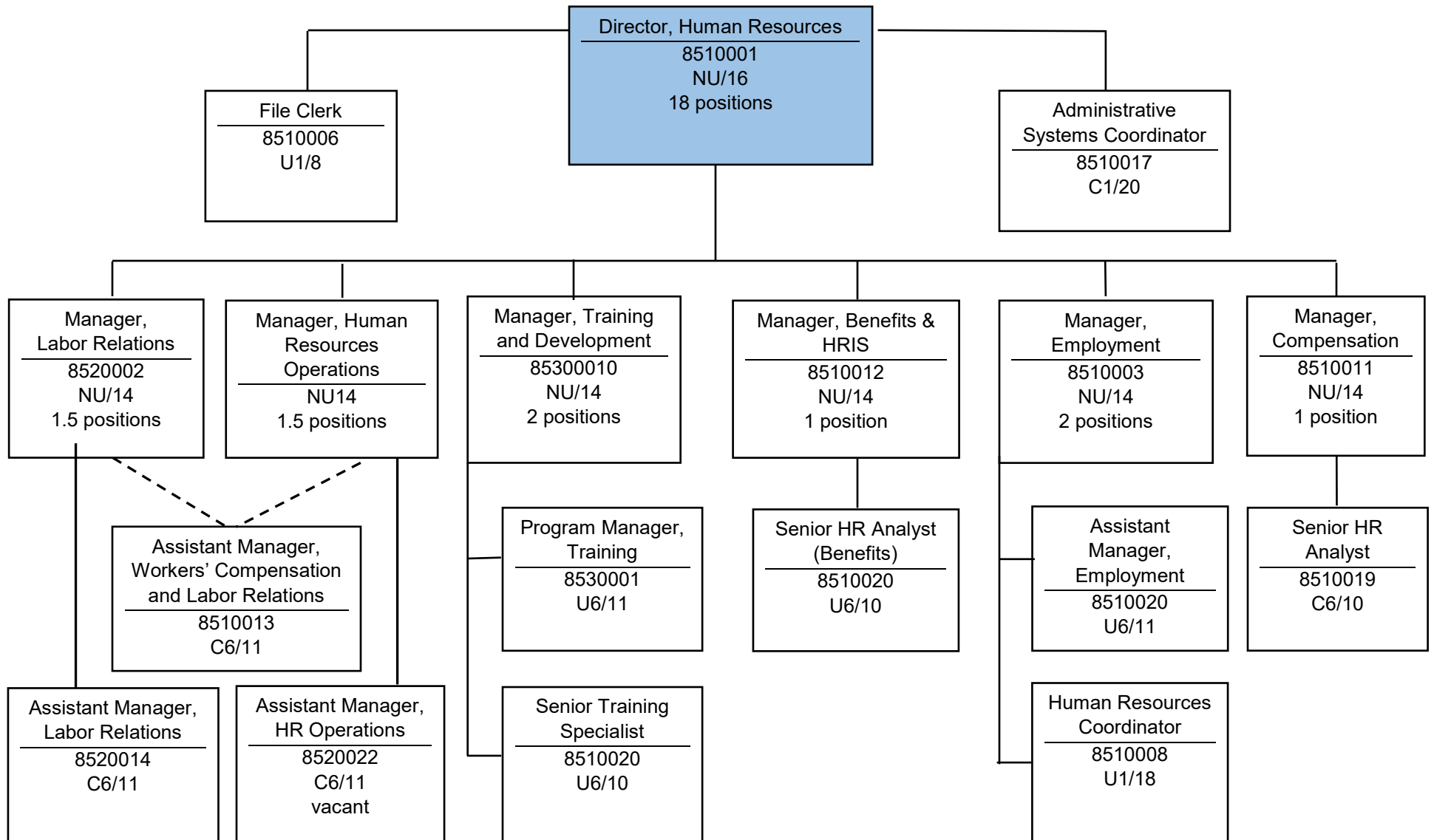
### **WORK ENVIRONMENT:**

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


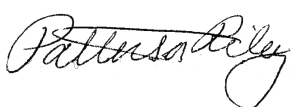
While performing the duties of this job, the employee regularly works in an office environment. The noise level in the normal office work environment is quiet but is usually loud in field settings.

July 2022

**Administration Division  
Human Resources Department  
October 2022**




**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
Patterson Riley, Special Assistant for Affirmative Action  
**DATE:** October 19, 2022  
**SUBJECT:** Update on Environmental Justice Initiatives 

**COMMITTEE:** Administration, Finance, and Audit

X  INFORMATION  
  VOTE

Tomeka Cribb-Jones, Assoc. Special Asst. for Affirmative Action  
Katherine Ronan, Project Manager  
Rebecca Weidman, Director, Env. and Regulatory Affairs  
Preparer/Title

  
Michele S. Gillen  
Director, Administration

*This item was postponed from the September 14, 2022 Board of Directors meeting.*

**RECOMMENDATION:**

For information only. This is a biannual update on MWRA’s efforts to implement and comply with new environmental justice initiatives and regulatory requirements.

**DISCUSSION:**

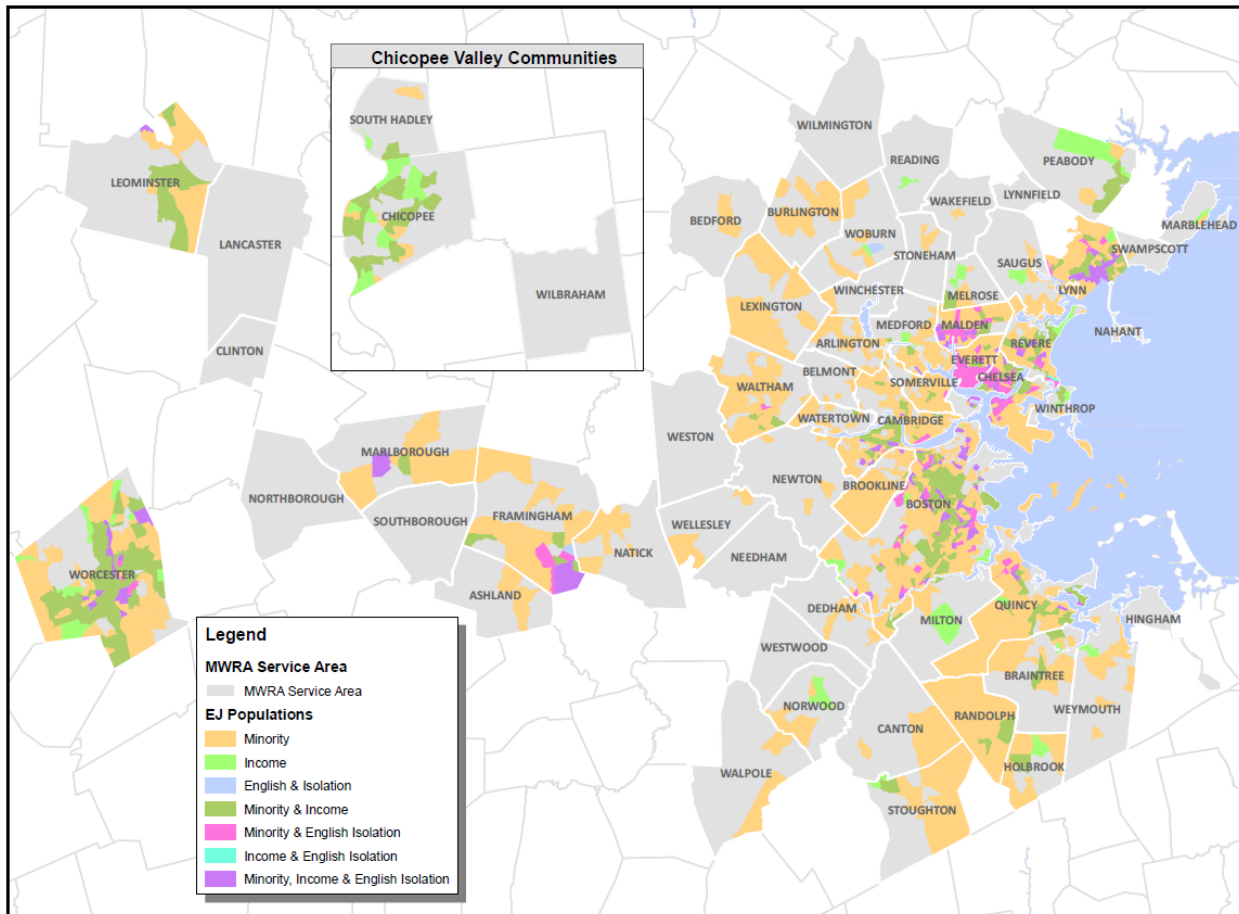
Environmental justice (EJ) is based on the principal that all people have a right to be protected from environmental hazards, and to live in and enjoy a clean and healthful environment regardless of race, color, national origin, income, or English language proficiency. In late 2021, MWRA submitted a draft EJ Strategy to the Executive Office of Energy and Environmental Affairs (EEOEA); the next step is to submit an annual report outlining progress towards implementing initiatives and projects in EJ communities at the end of 2022. MWRA must also comply with new education and outreach requirements associated with the Massachusetts Environmental Policy Act (MEPA) regulations and Massachusetts’ Department of Environmental Protection’s (MassDEP’s) new Sewage Notification Regulations.

MWRA’s EJ strategy outlines the Authority’s plan for promoting EJ considerations across MWRA’s programs, policies and activities. In order to implement this strategy, MWRA is taking action in various areas. The first set of activities is related to enhanced discussions and awareness of potential impacts and benefits to the EJ populations we serve and work around. The second set of activities is related to complying with new and revised regulations.

MWRA staff are reviewing current and future projects through an EJ lens, looking at the associated costs and benefits for each project to our communities (specifically EJ populations). All new engineering design and construction projects are being reviewed for their impacts and benefits to surrounding EJ populations. Beginning with the July Board package, a brief discussion characterizing the surrounding EJ populations and reviewing impacts and benefits of the project to those populations has been added to relevant staff summaries. Next, MWRA will take a

comprehensive look at the Capital Improvement Plan (CIP) and include a discussion about impacted EJ populations in the CIP. MWRA also intends to develop a methodology to quantify the cumulative environmental impact and benefit of each of our projects on the surrounding community. Further, MWRA is committed to collaborating with other state and federal agencies to review and build upon current work designed to identify EJ populations and Indigenous tribes with disproportionately high and adverse environmental exposures.

*MWRA Service Area and Environmental Justice Populations*



MWRA launched a new public facing EJ web page, <https://www.mwra.com/02org/html/EJ.html>. This new page includes a variety of resources, including links to other MWRA web pages, such as the construction project summary pages and the job posting page. Visitors to [www.mwra.com](http://www.mwra.com) are able to translate all of the web pages using “Google Translate.” Staff are also developing factsheets and outreach materials for specific projects and working with translation services to translate these key documents into languages spoken in the geographic area impacted by the project. These professionally translated materials will be available on project webpages as they are developed. As MWRA’s EJ program evolves and grows, we will update the EJ web page. MWRA also intends to launch an internal EJ web page. This web page will provide MWRA staff with EJ resources, trainings, mapping tools, and templates for construction design contracts, among other things.

Beginning July 6, 2022, MWRA and all other sanitary sewerage systems throughout the Commonwealth were required to comply with MassDEP’s Sewage Notification Regulations (314 CMR 16.00: Notification Requirements to Promote Public Awareness of Sewage Pollution).

Included in these regulations is a requirement to provide rapid notification to the public (within two hours of confirmation) of any combined sewer overflows (CSOs) or certain sanitary sewer overflows (SSOs). All notifications must be available in the languages spoken in the communities directly affected by the discharge and identified as EJ populations due to lacking English language proficiency. To meet these requirements, MWRA is using Google Translate to translate all notifications into 14 identified EJ languages, and is issuing notices through email and text via Everbridge.

In December 2021, revised MEPA regulations (301 C.M.R. 11.00) were promulgated and include new EJ requirements. The goal of a MEPA review is to avoid, minimize, and mitigate damage to the environment associated with the project to the maximum extent possible. The MEPA regulations set 12 review thresholds (e.g., alteration of wetlands, waterways, and tidelands; new water withdrawals; additional generation of wastewater) for projects that require a state agency action (e.g., require a permit, financial assistance, or land transfer from state agencies).

The review thresholds established in the revised MEPA regulations remain unchanged. Effective the beginning of 2022, for projects required to be reviewed through MEPA, project proponents will need to take additional measures to improve public participation by EJ populations located within one mile of a project or within five miles of a project if it will impact air quality. Such measures may include reaching out to EJ population contacts identified by the MEPA office, translating key documents, providing translation services at public meetings, and requiring public meetings to be held at locations accessible by public transportation. Additionally, most MEPA filings for projects within close proximity to an EJ population will now require the development of an Environmental Impact Report (EIR). These EIRs must include an assessment of existing unfair or inequitable environmental burden, an analysis of project impacts to determine disproportionate adverse effects, and an analysis of project impacts to determine climate change effects to surrounding EJ populations.

MWRA currently has two upcoming projects that will undergo MEPA review and include an EJ analysis as part of the EIR: the Section 22 Rehabilitation Project and the Tunnel Redundancy Program. Outreach to EJ populations impacted by these projects began this month in advance of filing with MEPA. More information will be available on these efforts as the MEPA review process proceeds.

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

There are limited budget implications for implementing the new MEPA requirements and the new Sewage Notification Regulations. MWRA staff have identified all projects currently in design that will be required to meet the new MEPA requirements. Generally, MEPA review is only required for a small percentage of MWRA's projects. For future projects, MWRA will incorporate the new outreach and analysis components into scoping and design efforts.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** October 19, 2022  
**SUBJECT:** Delegated Authority Report – September 2022


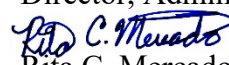


---

**COMMITTEE:** Administration, Finance & Audit

X INFORMATION  
\_\_\_ VOTE

Linda Grasso, Asst. to the Executive Director  
Barbara Aylward, Administrator A & F  
Preparer/Title

  
Michele S. Gillen  
Director, Administration  
  
Rita C. Mercado  
Acting 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 – September 30, 2022.

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, 2022

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	09/01/22	<b>MODELING MASSACHUSETTS BAY WATER QUALITY</b> AWARD OF A CONTRACT TO THE HIGHEST RANKED PROPOSER FOR THE MODELING OF MASSACHUSETTS BAY WATER QUALITY FOR A TERM OF 36 MONTHS.	OP-442	AWARD	DELTA RES USA, INC.	\$180,210.46
C-2.	09/19/22	<b>DORCHESTER INTERCEPTOR SEWER REHABILITATION, SECTIONS 240/241/242</b> FURNISH AND INSTALL EPOXY LINING IN 13 LINEAR FEET OF SEWER IN LIEU OF THE SPECIFIED 48-INCH X 36-INCH CURED-IN-PLACE LINER; FURNISH AND INSTALL 32 LINEAR FEET OF 36-INCH BY 48-INCH CURED-IN-PLACE LINER IN LIEU OF SPECIFIED 28-INCH BY 42-INCH CURED-IN-PLACE LINER; EXCAVATE ADDITIONAL TEST PIT TO LOCATE BOSTON WATER AND SEWER COMMISSION WATER LINE.	7279	1	MICHELS CORPORATION	\$115,566.21
C-3.	09/22/22	<b>REHABILITATION OF WASM 3 SECTIONS W11/W12/W16/51</b> INCREASE COMMODITY PRICE ADJUSTMENTS AND PIPE WALL REPAIR ALLOWANCES; FURNISH AND INSTALL CONCRETE MANHOLE WITH FRAME AND COVER; MODIFY THE SUPPORT OF EXCAVATION; CLEAN AND INSTALL CEMENT LINING AT AN ADDITIONAL STUB CONNECTION.	6544	5	ALBANESE D&S, INC.	\$107,782.50
C-4.	09/28/22	<b>BRAINTREE-WEYMOUTH PUMP STATION IMPROVEMENTS RESIDENT ENGINEERING/INSPECTION SERVICES</b> AWARD OF A CONTRACT TO THE HIGHEST RANKED PROPOSER TO PROVIDE RESIDENT ENGINEERING AND INSPECTION SERVICES AT THE BRAINTREE-WEYMOUTH PUMP STATION FOR A TERM OF 24 MONTHS.	7683	AWARD	CDM SMITH, INC.	\$858,575.14
C-5.	09/29/22	<b>GRIFFIN WAY/EASTERN AVENUE TRAFFIC SIGNALIZATION</b> AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR INSTALLATION OF TRAFFIC SIGNALS AT THE INTERSECTION OF GRIFFIN WAY AND EASTERN AVENUE IN CHELSEA FOR A TERM OF 365 CALENDAR DAYS.	OP-339	AWARD	DAGLE ELECTRIC CORP.	\$677,594.00




## PURCHASING DELEGATED AUTHORITY ITEMS SEPTEMBER 1 - 30, 2022

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	
P-1	09/08/22	<b>PURCHASE OF SIX DRUMS OF DIGESTER MIXER GREASE</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR SIX DRUMS OF DIGESTER MIXER GREASE FOR DEER ISLAND. THIS MIXER GREASE CONTAINS ADDITIVES FOR IMPROVEMENT OF RUST AND OXIDATION PROTECTION, ADHESIVE POWER, AND PRESSURE-ABSORBING CAPACITY THAT IS ESSENTIAL TO THE PROPER OPERATION OF THE EIGHT DIGESTERS.			AQUA SOLUTIONS, INC.	\$25,170.00
P-2	09/08/22	<b>MAINTENANCE AND SUPPORT FOR THE PORTIA INVESTMENT AND CASH MANAGEMENT SYSTEM</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE YEAR OF MAINTENANCE AND SUPPORT OF THE PORTIA INVESTMENT AND CASH MANAGEMENT SYSTEM WHICH IS USED TO MANAGE THE MWRA'S CASH AND INVESTMENT PORTFOLIO.			SS&C TECHNOLOGIES, INC.	\$65,490.35
P-3	09/08/22	<b>MAINTENANCE AND SUPPORT FOR THE LABORATORY INFORMATION MANAGEMENT SYSTEM</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE YEAR OF MAINTENANCE AND SUPPORT OF THE LABORATORY INFORMATION MANAGEMENT SYSTEM WHICH IS USED FOR COMPLIANCE WITH DEP'S LABORATORY CERTIFICATION REQUIREMENTS.			LABWARE, INC.	\$70,814.50
P-4	09/08/22	<b>SUPPLY AND DELIVERY OF CONCRETE PRODUCTS</b> AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF CONCRETE PRODUCTS TO THE MWRA ON AN AS-NEEDED BASIS.	WRA 5156		AGGREGATE INDUSTRIES	\$78,099.50
P-5	09/08/22	<b>PURCHASE OF ONE LATHE MACHINE</b> AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE LATHE MACHINE TO REPLACE AN EXISTING LATHE MACHINE THAT WAS INSTALLED IN 1994 AT THE DEER ISLAND TREATMENT PLANT MAINTENANCE MACHINE SHOP.	WRA-5165		A. GREEN COMPANY, INC.	\$106,397.50
P-6	09/12/22	<b>PURCHASE OF ONE MUFFIN MONSTER GRINDER</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE "MUFFIN MONSTER" SEWAGE GRINDER FOR HINGHAM PUMP STATION.			JWC ENVIRONMENTAL, LLC	\$32,512.00
P-7	09/19/22	<b>SUPPLY AND DELIVERY OF AQUA AMMONIA</b> AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF AQUA AMMONIA FOR THE CARROLL WATER TREATMENT PLANT. AQUA AMMONIA IS USED FOR SECONDARY DISINFECTION.	WRA-5179		BORDEN & REMINGTON CORPORATION	\$464,674.20
P-8	09/19/22	<b>SUPPLY AND DELIVERY OF HYDROFLUOROSILICIC ACID</b> AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR SUPPLY AND DELIVERY OF HYDROFLUOROSILICIC ACID. HYDROFLUOROSILICIC ACID IS A SOURCE OF FLUORIDE THAT IS COMMONLY ADDED TO PUBLIC DRINKING WATER SUPPLIES TO HELP PREVENT TOOTH DECAY.	WRA-5180		UNIVAR SOLUTIONS USA, INC.	\$482,406.00
P-9	09/19/22	<b>SUPPLY AND DELIVERY OF FERRIC CHLORIDE</b> AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF FERRIC CHLORIDE FOR THE DEER ISLAND TREATMENT PLANT. FERRIC CHLORIDE IS USED TO CONTROL DISSOLVED PHOSPHORUS CONCENTRATIONS IN THE SLUDGE DIGESTATE TO PREVENT THE BUILD OF STRUVITE, A BY-PRODUCT OF ANAEROBIC SLUDGE DIGESTION.	WRA-5181		KEMIRA WATER SOLUTIONS, INC.	\$4,180,000.00
P-10	09/19/22	<b>SUPPLY AND DELIVERY OF SODIUM HYPOCHLORITE</b> AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF SODIUM HYPOCHLORITE FOR THE DEER ISLAND TREATMENT PLANT. SODIUM HYPOCHLORITE IS USED FOR PATHOGEN CONTROL TO DISINFECT THE PLANT'S EFFLUENT.	WRA-5176		BORDEN & REMINGTON CORPORATION	\$5,611,800.00
P-11	09/20/22	<b>SUPPLY AND DELIVERY OF DRY POLYMER</b> AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF DRY POLYMER FOR THE CLINTON WASTEWATER TREATMENT PLANT. DRY POLYMER IS USED FOR THE SLUDGE DEWATERING PROCESS AND SECONDARY CLARIFICATION.	WRA-5194Q		ATLANTIC COAST POLYMERS, INC.	\$38,080.00
P-12	09/20/22	<b>REMOVAL AND REPLACEMENT OF ACTIVATED CARBON</b> AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE REMOVAL AND REPLACEMENT OF ACTIVATED CARBON AT THE BRAINTREE/WEYMOUTH REPLACEMENT PUMP STATION AND HOUGH'S NECK PUMPING STATION. ACTIVATED CARBON IS USED TO TREAT EXHAUST AIR TO PREVENT ODORS FROM IMPACTING NEARBY RESIDENTS.	WRA-5195Q		CARBON ACTIVATED CORPORATION	\$57,000.00
P-13	9/23/22	<b>MAINTENANCE AND SUPPORT FOR THE PRETREATMENT INFORMATION MANAGEMENT SYSTEM</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE YEAR OF MAINTENANCE AND SUPPORT FOR THE PRETREATMENT INFORMATION MANAGEMENT SYSTEM FOR THE MWRA'S TOXIC REDUCTION AND CONTROL UNIT (TRAC).			INFLECTION POINT SOLUTIONS, LLC	\$115,000.00
P-14	09/27/22	<b>PURCHASE OF SIX WEMCO WEARPLATES AND THREE BACK PLATES</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR SIX WEMCO WEARPLATES AND THREE BACK PLATES FOR THE RECIRCULATION PUMPS AT THE DEER ISLAND TREATMENT PLANT.			WESCOR ASSOCIATES, INC.	\$26,940.00
P-15	09/27/22	<b>PURCHASE OF 63 WEBEX MEETING SUBSCRIPTIONS</b> AWARD OF A PURCHASE ORDER UNDER STATE CONTRACT ITT72 TO THE LOWEST RESPONSIVE BIDDER FOR 63 WEBEX MEETING SUBSCRIPTIONS.	WRA-5197Q		EPLUS TECHNOLOGY, INC.	\$54,822.60
P-16	09/27/22	<b>PETROLEUM HYDROCARBONS MONITORING</b> AWARD OF A TWO-YEAR PURCHASE ORDER CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE ANALYSIS OF EXTRACTABLE AND VOLATILE PETROLEUM HYDROCARBONS IN WASTEWATER SAMPLES AND TOTAL PETROLEUM HYDROCARBON AND CYANIDE IN BIOSOLIDS SAMPLES FOR THE DEER ISLAND TREATMENT PLANT.	WRA-5192		EUROFINS ENVIRONMENT TESTING AMERICA HOLDINGS, INC.	\$77,175.00


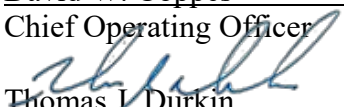
**POSITION CONTROL REGISTER (PCR) LOCATION CHANGES September 2022**

DATE OF CHANGE	POSITION TITLE	CURRENT PCR#	CURRENT COST CENTER	NEW PCR #	NEW COST CENTER	REASON FOR CHANGE
8/6/2022	.Net Developer/Programmer III	8610083	MIS	8610083	MIS	Title change to better meet staffing needs.
8/6/2022	Project Engineer, CADD- DISC	5525078	E&C	5525078	E&C	Title change to better meet staffing needs.
8/6/2022	Project Engineer, CADD- DISC	55250130	E&C	55250130	E&C	Title change to better meet staffing needs.
8/6/2022	Project Manager, Environmental Permitting	5210102	Operations Planning and Policy	5210102	Operations Planning and Policy	Title change to better meet staffing needs.
9/24/2022	Administrative Systems Coordinator	8310018	Fleet Services	8310018	Fleet Services	To better reflect job responsibilities.
9/24/2022	Administrative Coordinator	8810006	Procurement	8910012	Occupational Health and Safety	To better meet staffing needs.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** October 19, 2022  
**SUBJECT:** Fiscal Year 2022 Year-End Capital Improvement Program Spending Report

**COMMITTEE:** Administration, Finance & Audit

       VOTE  
  X   INFORMATION  
  
David W. Coppes  
Chief Operating Officer  
  
Thomas J. Durkin  
Director, Finance

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

*At the end of each fiscal year, staff present the Board with a recap of the Capital Improvement Program. FY22 was the fourth year of MWRA’s five-year spending cap for FY19-23 established at \$984.8 million. The FY22 capital budget was \$207.3 million. The FY22 capital spending totaled \$138.5 million, \$68.8 million or 33.2% lower than budget.*

*In FY22, the Authority reached substantial completion of the Chelsea Creek Headworks Upgrades, Deer Island Gravity Thickener Rehabilitation, Dorchester Interceptor Sewer Construction, Wastewater Meter Equipment Replacement, CP-6 Tops of Shafts 6, 8, and 9A, Deer Island Chemical Tank and Digester Pipe Construction, and Shaft 2 Construction.*

*The Authority made significant progress on several major projects including Nut Island Odor Control and HVAC Improvements, Weston Aqueduct Supply Mains CP-1, Weston Aqueduct Pressure Reducing Valves Improvements, Northern Extra High Improvements CP-1, Carroll Treatment Plant SCADA Improvements, and NIH Section 89 Replacement Construction.*

*In FY22, MWRA managed 82 design and construction contracts and awarded 23 contracts valued at \$163.9 million.*

*This item was postponed from the September 14, 2022 Board of Directors meeting.*

**RECOMMENDATION:**

For information only. The Fiscal Year 2022 Year-End Capital Program Spending Report highlights MWRA’s major capital program accomplishments during FY22 and provides explanations for spending variances.

*Please see Attachment A for the full Report.*

## **DISCUSSION:**

### **Projects that were completed or reached substantial completion in FY22 included:**

- Chelsea Creek Headworks Upgrades - \$82.5 million
- Deer Island Treatment Plant Gravity Thickener Rehab - \$20.2 million
- Deer Island Chemical Tank and Digester Pipe Construction - \$8.8 million
- Wastewater Metering Equipment Replacement - \$3.9 million
- Dorchester Interceptor Sewer Construction - 4.2 million
- Tops of Shafts 6, 8, 9A Rehab - 2.2 million
- Weston Aqueduct Sluice Gates Construction - \$2.2 million
- River Road Improvements at Wachusett - \$1.9 million
- Shaft 2 Construction - \$1.6 million
- Fuel Oil Tank Replacement Phase 1 - 1.5 million
- Deer Island Combined Heat & Power Alternatives Study - \$1.1 million
- Clinton Valve and Pipe Replacement - \$0.5 million
- As-Needed Construction Services/Resident Engineering/Inspection Contract 1 - \$0.4 million
- Wachusett Dam Bridge Crane Removal - \$0.3 million
- Harbor Outfall Monitoring and Loading System Upgrade - \$0.2 million

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

- Nut Island Headworks Odor Control and HVAC Improvements Construction - 73% complete
- Weston Aqueduct Supply Mains (WASM) 3 Rehab CP-1 - 66%
- Tunnel Redundancy Preliminary Design & MEPA Review – 46%
- WASM/Spot Pond Supply Mains Pressure Reducing Valves Improvements - 27%
- Carroll Water Treatment Plant SCADA Upgrades - 23%
- Northern Extra High Improvements Construction - 19%
- Northern Intermediate High Section 89/29 Replacement - 13%
- Rehab of Sections 23,24,47 Rehab - 11%

MWRA pipelines rehabilitated or constructed in FY22 totaled 3.4 miles for water and wastewater projects.

*Please see Attachment D for a detailed breakdown of the linear footage of pipeline rehabilitated or constructed by project for FY22.*

### **Major contracts awarded by MWRA in FY22 with the following Notice to Proceed or Award dates include:**

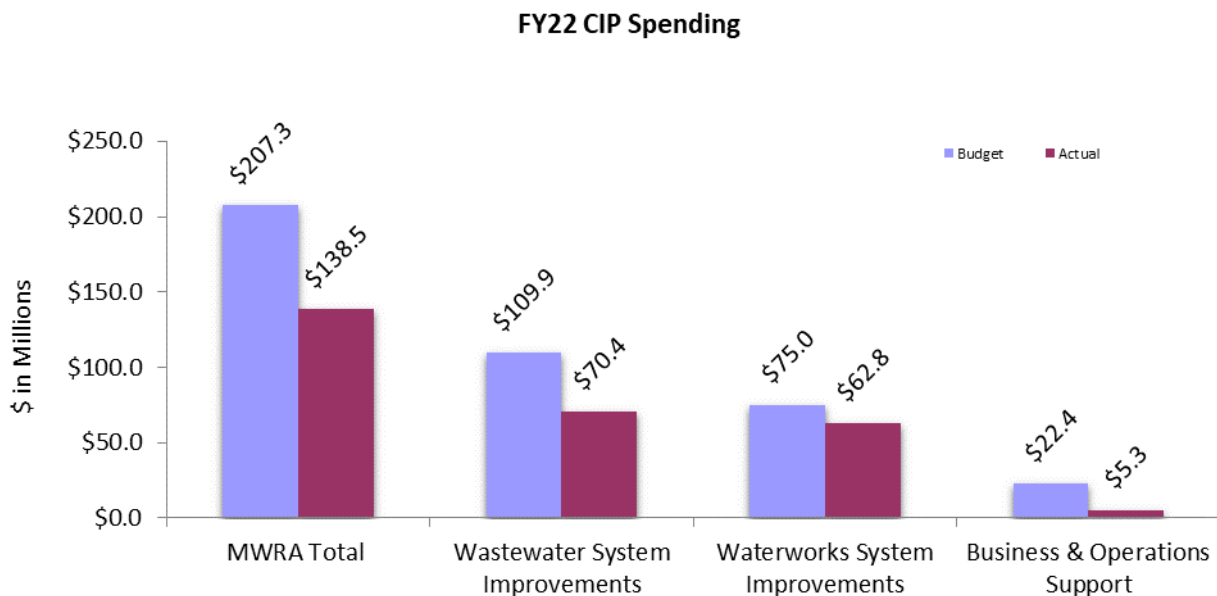
- Waltham Water Pipeline Construction – May 2022 - \$31.9 million
- CP-3 Section 23,24, 47 Rehab – October 2021 - \$26.8 million
- Office Space Modifications – June 2022 - \$19.6 million
- Carroll Water Treatment Plant SCADA Upgrade – July 2021 - \$12.9 million
- NEH Improvements, CP-1 – February 2022 - \$11.7 million

- Wachusett Bastion Rehab Construction – December 2021 - \$3.9 million
- Screw Pump Replacement – December 2021 - \$3.5 million
- Electrical Distribution Upgrades at Southborough – May 2022 - \$2.6 million
- Soda Ash & Ammonia Equipment Replacement – January 2022 - \$2.5 million
- Remote Headworks Shaft Access Improvements Construction – June 2022 - \$2.4 million
- Marlborough Pump Station Emergency Connection – September 2021 - \$0.9 million
- Edge Switches – July 2021 - \$0.9 million
- NEH Improvements REI – April 2022 - \$0.9 million
- New Roofs at Water Pump Station Construction – October 2021 - \$0.7 million
- Wachusett Lower Gatehouse Windows & Doors – August 2021 - \$0.6 million
- Replacement of Odor Control Dampers – January 2022 - \$0.5 million
- Quabbin Water Supply Construction – April 2022 - \$0.5 million
- MSSP/SIEM – February 2022 - \$0.4 million
- Wachusett Bastion Rehab REI – January 2022 - \$0.4 million
- Soda Ash and Ammonia Equipment Replacement REI – January 2022 - \$0.3 million
- Walnut Street Bridge Truss Construction – January 2022 - \$0.3 million
- Information Technology Systems Management – December 2021 - \$0.1 million

*Please see Attachment C for FY22 Planned versus Actual/Revised CIP Notices to Proceed for a complete list of contracts awarded.*

FY22 also included overall spending of \$35.1 million for the community financial assistance programs on both the water and wastewater sides. Inflow and Infiltration (I/I) spending consisted of \$21.1 million in grants and \$10.2 million in loans offset by \$5.9 million in prior period loan repayments for net spending of \$25.4 million. The Local Water System Assistance Program spending was \$38.4 million in loans, including CVA communities, offset by \$28.6 million in prior period loan repayments for net spending of \$9.7 million that includes Lead Service Line Replacement loans of \$6.3 million.

**Major Variances to FY22 Budget**



For FY22, total Capital Improvement Program spending was budgeted at \$207.3 million. Total spending was \$138.5 million, which was \$68.8 million or 33.2% below budget. Underspending

was reported in Wastewater of \$39.5 million, \$12.2 million in Waterworks Improvements, and \$17.2 million in Business and Operations Support.

The table below reports the FY22 spending and variances by major program:

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
<b>Wastewater System Improvements</b>				
Interception & Pumping	52.4	35.0	(17.5)	-33.3%
Treatment	28.0	5.3	(22.7)	-81.0%
Residuals	0.1	0.0	(0.1)	0.0%
CSO	4.3	4.7	0.4	9.7%
Other	25.1	25.4	0.3	1.2%
<b>Total Wastewater System Improvements</b>	<b>\$109.9</b>	<b>\$70.4</b>	<b>(\$39.5)</b>	<b>-35.9%</b>
<b>Waterworks System Improvements</b>				
Drinking Water Quality Improvements	3.2	4.3	1.1	34.5%
Transmission	29.2	30.1	0.9	2.9%
Distribution & Pumping	19.1	14.0	(5.1)	-26.9%
Other	23.4	14.4	(9.0)	-38.5%
<b>Total Waterworks System Improvements</b>	<b>\$75.0</b>	<b>\$62.8</b>	<b>(\$12.2)</b>	<b>-16.3%</b>
<b>Business &amp; Operations Support</b>	<b>\$22.4</b>	<b>\$5.3</b>	<b>(\$17.2)</b>	<b>-76.6%</b>
<b>Total MWRA</b>	<b>\$207.3</b>	<b>\$138.5</b>	<b>(\$68.8)</b>	<b>-33.2%</b>

The \$68.8 million variance is the net of \$78.2 million in less than budgeted spending on 34 projects offset by \$9.4 million in more than budgeted spending on 14 projects. The main reasons for the project spending variances in order of magnitude are:

**Wastewater Treatment:** Net underspending of \$22.7 million

- \$4.9 million for Motor Control Center and Switchgear Replacement - Design/ESDC/REI and Construction, \$4.1 million for Clarifier Rehabilitation Phase 2 – Construction and ESDC, \$3.1 million for Fire Alarm System Replacement - Design/CA and Construction, and \$2.0 million for DI Dystor Membrane Replacements all due to updated construction schedules.
- \$1.8 million for Winthrop Terminal Facility VFD and Motors Replacements, \$0.7 million for Miscellaneous VFD Replacements, \$0.7 million for Clinton Screw Pump Replacement, and \$0.6 million for Gravity Thickener Rehabilitation due to timing of work.
- \$0.9 million for As-Needed Technical Assistance due to lower than projected task order work.
- \$0.5 million for Digester and Storage Tank Rehabilitation - Design/ESDC due to updated schedule.

**Interception & Pumping:** Net underspending of \$17.5 million

- \$10.3 million for Prison Point Design CA/RI and Construction due to project on hold.
- \$1.8 million for Ward Street and Columbus Park Headworks - Design/CA due to completion of some design and inspection tasks later than anticipated.
- \$1.4 million for Nut Island Odor Control and HVAC Improvements - Construction Phase 2 and CA/REI: \$1.4 million (contractor behind schedule)
- \$0.8 million for Interceptor Renewal No. 3, Dorchester Interceptor Sewer – Construction due to timing of contractor work. Contract is substantially complete.

- \$0.7 million for Remote Headworks Shaft Access Improvements - Construction, \$0.5 million for Fuel Oil Tank Replacement - Phase 2 Construction due to updated construction schedules.
- This underspending was partially offset by overspending of \$1.5 million for Chelsea Creek Headworks Upgrades – Construction, CA and REI and \$0.9 million for Wastewater Metering Construction due to work scheduled for FY21 performed in FY22.

**Business and Operations Support:** Net underspending of \$17.2 million

- \$2.5 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to lower than projected task order work.
- Cabling: \$2.7 million, Lawson Upgrade: \$1.8 million, MSSP/SIEM: \$1.4 million, Office Space Modifications: \$1.2 million, Sans Storage: \$694,000, MAXIMO Upgrade: \$560,000 and MAXIMO Interface Enhancements: \$304,000, Archiving and Data Management: \$545,000, Information Security Plan Implementation: \$360,000, SAP BO Migration: \$315,000, and Instrumentation and Controls: \$310,000 (updated schedules and timing of work)
- \$1.7 million for Vehicle Purchases due to timing of purchases.

**Other Waterworks:** Net underspending of \$9.0 million

- \$8.2 million for Local Financial Assistance due to timing of community loan distributions.
- \$0.4 million for New Roofs at Water Pumping Stations due to updated schedule.

**Water Distribution and Pumping:** Net underspending of \$5.1 million

- \$4.3 million for Section 89 and 29 Replacement Construction and REI due to updated schedules.
- \$1.3 million for Sections 50 and 57 Water Rehabilitation - Design/ESDC due to contract scope reduction.
- \$1.1 million for CP-3 Sections 23, 24, 47 Final Design/CA/RI due to less than anticipated Final Design and CA/RI work.
- \$0.7 million for Cathodic Protection Shafts N and W due to schedule change.
- \$0.4 million for Southern Extra High Redundancy Design CA/RI due to less than anticipated CA/RI services.
- This underspending was partially offset by overspending of \$1.8 million for CP3-Sections 23, 24, 47 due to contract awarded higher than budgeted, and \$1.8 million for CP-1 NEH Improvements due to contractor progress.

**Drinking Water Quality Improvements:** Net overspending of \$1.1 million

- \$0.8 million for Marlborough Pumping Station Construction due to award greater than budgeted and additional scope of work.
- \$0.6 million for Ancillary Modifications – Construction due to contractor progress.
- \$0.4 million for As-Needed Technical Assistance due to greater than projected task order work.
- This overspending was partially offset by underspending of \$0.5 million for Carroll Water Treatment Plant Parapet Wall Repairs due to updated schedule.

**Waterworks Transmission:** Net overspending of \$0.9 million

- \$2.5 million for WASM 3 Rehabilitation, CP-1, and \$1.5 million for WASM/Spot Pond Supply Mains Pressure Reducing Valves Improvements due to contractor progress.

- \$1.9 million for Metropolitan Tunnel Redundancy Administration, Legal and Public Outreach due to earlier than anticipated land purchase.
- \$0.4 million for Program Support Services due to timing of consultant work.
- This overspending was partially offset by underspending of \$1.5 million for Wachusett Lower Gatehouse Pipe and Boiler Replacement, \$1.1 million for Chestnut Hill Emergency Pumping Station Improvements, and \$0.8 million for CP2 Shaft 5 due to updated construction schedules, and \$0.7 million for Tunnel Redundancy Preliminary Design and MEPA Review due to timing of consultant work.

**Combined Sewer Overflow:** Net overspending of \$0.4 million

- \$0.7 million for East Boston CSO Control - BOS014 due to work completed earlier than anticipated.
- \$0.6 million for Dorchester Inflow Removal Construction due to timing of payment.
- This overspending was partially offset by underspending of \$0.5 million for Chelsea 008 Pipe Replacement due to schedule change, and \$0.3 million for CSO Performance Assessment due to time extension.

**Other Wastewater:** Net overspending of \$0.3 million

- \$0.3 million for Infiltration/Inflow Financial Assistance due to timing of grant and loan distributions.

*Please see Attachment B for detailed FY22 CIP variance explanations of all FY22 projects.*

**FY23 Outlook**

Looking ahead to FY23, the projected capital spending is \$293.0 million including contingency of \$14.6 million. Projects with the largest budgeted spending in FY23 include Deer Island Asset Protection of \$38.1 million, Metropolitan Redundancy Interim Improvements of \$35.2 million, Metropolitan Tunnel Redundancy of \$25.7 million, Infiltration/Inflow Local Financial Assistance of \$25.1 million, Local Water System Assistance Program of \$23.4 million, Corrosion and Odor Control of \$17.6 million, Facility Asset Protection of \$14.0 million, and New Connecting Mains – Shaft 7 to WASM 3 of \$14.0 million.

In FY23, 69 contracts or phases of projects with a total budget of \$503.6 million are expected to be awarded. Staff will be completing the design and progressing to the bid and award stage on several major projects such as the Deer Island Clarifier Rehabilitation Phase 2 Construction, WASM 3 Rehab CP-2, Deer Island Fire Alarm System Construction, Deer Island Motor Control Center and Switchgear Replacement Construction, Combined Heat & Power Design/ESDC/REI, New Connecting Mains Sections 25 and 24 CP-2, Metropolitan Tunnel Redundancy Geotechnical Support Services, and Section 75 Extension CP-1.

*Please see Attachment E for FY23 Planned Contract Awards.*

**ATTACHMENTS:**

- A. Fiscal Year 2022 Year-End Capital Program Spending Report
- B. FY22 CIP Year-End Variance Report
- C. FY22 Planned versus Actual/Revised Contract Awards
- D. Linear Footage of Rehabilitated or New Pipelines in FY22
- E. FY23 Planned Capital Contract Awards



MASSACHUSETTS WATER RESOURCES AUTHORITY

# Capital Program Spending Report

for

## Fiscal Year 2022



September 14, 2022

# Fiscal Year 2022 Year-End Capital Program Spending Report

---

Table of Contents –

Introduction	1
FY22 Capital Program Highlights	2
FY22 Spending Variances	9
Change Orders Review	17
Master Plan and the FY22 CIP Process	17
FY23 Outlook based on FY23 CIP	18

## Introduction

Since its inception in 1986, MWRA has expended \$9.0 billion on capital initiatives. Of this spending 70% has supported improvements to Wastewater treatment, interception, pumping and combined sewer overflow (CSO) systems, 27% has supported Waterworks treatment, transmission, distribution and water protection improvements, and 2% has supported Business and Operations Support initiatives. Through FY22, nearly 70% of the capital spending has been for court mandated projects. The long-term strategy for capital work is identified in the Authority’s Master Plan which was first published in 2006, updated in 2013 and 2019, and serves as a road map for inclusion of projects in the Capital Improvement Program (CIP) in every budget cycle. Going forward, MWRA expects to spend \$4.2 billion on system improvements between FY23-FY32 with main emphasis on Asset Protection and Water System Redundancy initiatives including the Metropolitan Tunnels Long-Term Redundancy Project.

<b>MWRA Capital Spending FY1986 - FY2032</b>				
<b>(in millions)</b>				
	Expenditures FY86 - FY22		Planned Expenditures FY23 - FY32	
	Amount	% of Total	Amount	% of Total
<b>Program</b>				
Wastewater	\$6,312	70%	\$1,741	42%
Waterworks	\$2,496	27%	\$2,355	56%
Business & Operations Support	\$161	2%	\$79	2%
<b>Total MWRA</b>	<b>\$8,970</b>	<b>100%</b>	<b>\$4,174</b>	<b>100%</b>

To date, MWRA has spent \$912.2 million on the Wastewater CSO program and plans to spend an additional \$4.6 million through FY25.

To date, MWRA has distributed \$274.3 million in grants and \$235.3 million in no-interest loans to fund 646 separate projects in 43 communities under the I/I Local Financial Assistance Program. Additionally, \$530.0 million in Local Water Pipeline Assistance Program loans has been distributed to member communities.

**FY22 Spending**

Total CIP spending in FY22 was \$138.5 million which was \$68.8 million or 33.2% less than the \$207.3 million budgeted.

Spending by program in FY22 was:

Program	FY22 Budget (in millions)	FY22 Actuals (in millions)	Variance	% Variance
Wastewater	\$109.9	\$70.4	(\$39.5)	-35.9%
Waterworks	\$75.0	\$62.8	(\$12.2)	-16.3%
Business & Operations Support	\$22.4	\$5.3	(\$17.2)	-76.6%
<b>Total</b>	<b>\$207.3</b>	<b>\$138.5</b>	<b>(\$68.8)</b>	<b>-33.2%</b>

FY22 included spending of \$37.9 million not directly under MWRA’s control, most notably the Inflow and Infiltration (I/I) program, the Local Water Pipeline programs, and CSO Community Managed projects. The community assistance programs are either loan or grant programs to support the MWRA’s member communities’ local water and sewer infrastructure. In FY22, MWRA expended \$48.6 million in water and I/I loans and \$21.1 million in I/I grants offset by \$34.6 million in prior period loan repayments for net spending of \$35.1 million. An additional \$2.8 million was expended on the CSO Community Managed projects. After accounting for these programs which are not directly under MWRA’s control, the FY22 CIP underspending is \$62.3 million or 38.2%.

**FY22 Capital Program Highlights**

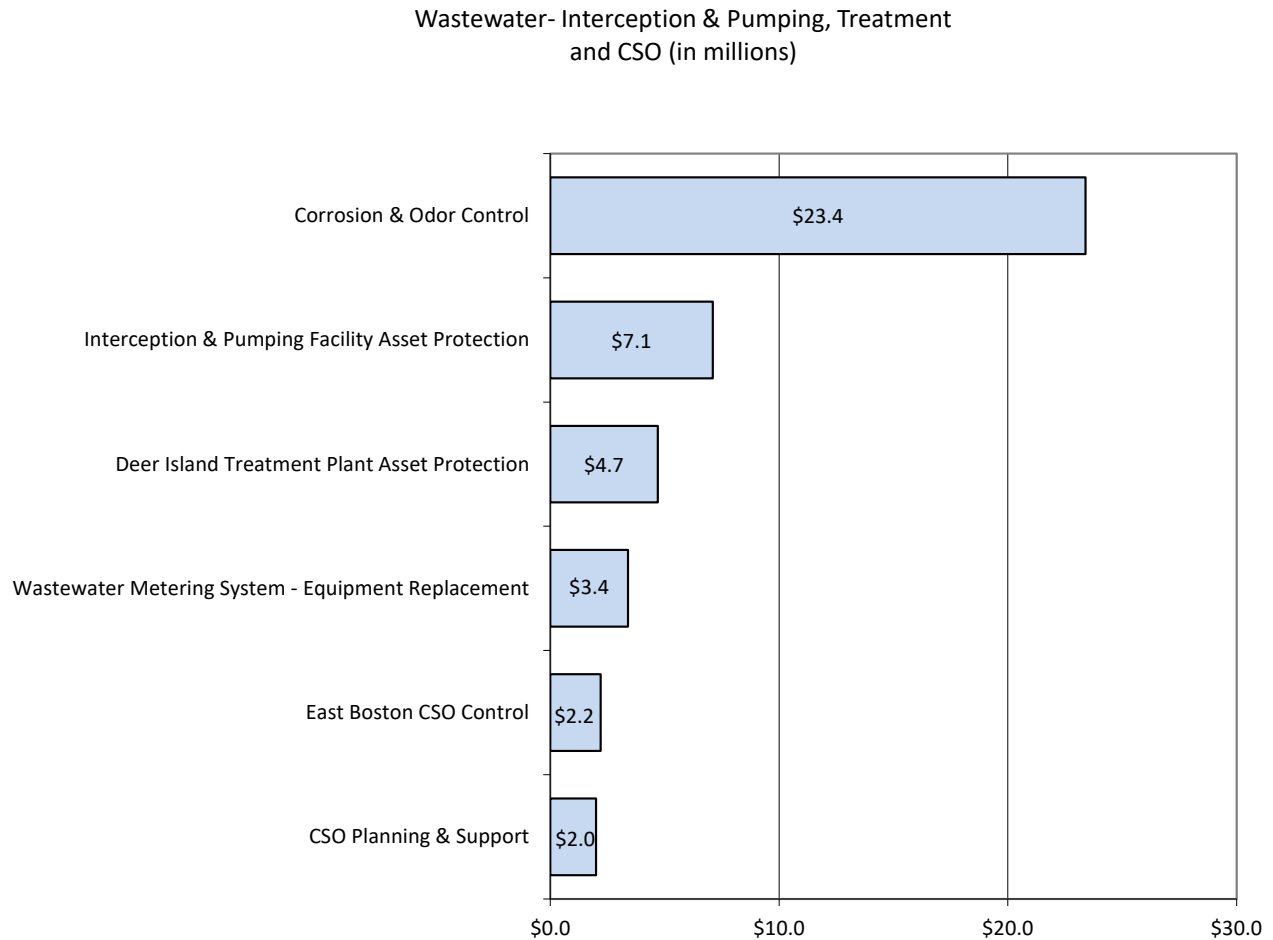
This section highlights the spending and key accomplishments by major program categories and projects.

**Wastewater System**

During FY22, the MWRA spent \$70.4 million on Wastewater system projects: \$35.0 million for Interception & Pumping projects, \$5.3 million for Treatment projects, \$4.7 million for CSO projects, and \$25.4 million for Other Wastewater projects.

## Wastewater Interception & Pumping, Treatment, and CSO Projects

Total FY22 spending for Interception & Pumping was \$35.0 million, Treatment was \$5.3 million, and CSO was \$4.7 million. The largest spending occurred on the following:



### ***Key Accomplishments in Wastewater - Interception and Pumping:***

- Chelsea Creek Headworks Upgrades
  - Substantially complete in August 2021
- Dorchester Interceptor Sewer Construction
  - Substantially complete in December 2021
- Fuel Oil Tank Replacement Phase 1
  - Substantially complete in December 2021

- Wastewater Meter Equipment Replacement
  - Substantially complete in February 2022
- Remote Headworks Shaft Access Improvements
  - Contract awarded in June 2022

***Key Accomplishments in Wastewater – Treatment:***

- DITP Gravity Thickener Rehab
  - Substantially completed in September 2021
- DITP Chemical Tank and Digester Pipe Construction
  - Substantially completed in December 2021
- Combined Heat & Power Alternatives Study
  - Substantially completed in January 2022
- DITP Replacement of Odor Control Dampers
  - NTP issued in February 2022
- Clinton Valves and Pipe Replacement
  - Substantially complete in January 2022
- Clinton Screw Pump Replacement
  - NTP issued in January 2022

**Wastewater System – Combined Sewer Overflow (CSO) Projects**

Total FY22 spending for CSO projects was \$4.7 million which was primarily for the Somerville Marginal In-System Storage, CSO Performance Assessment, East Boston CSO Control and Dorchester Infiltration/Inflow work.

***Key Accomplishments in CSO:***

- East Boston Sewer Separation CSO Control – BOS014 improvements began in July 2021.

**Wastewater - Other**

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

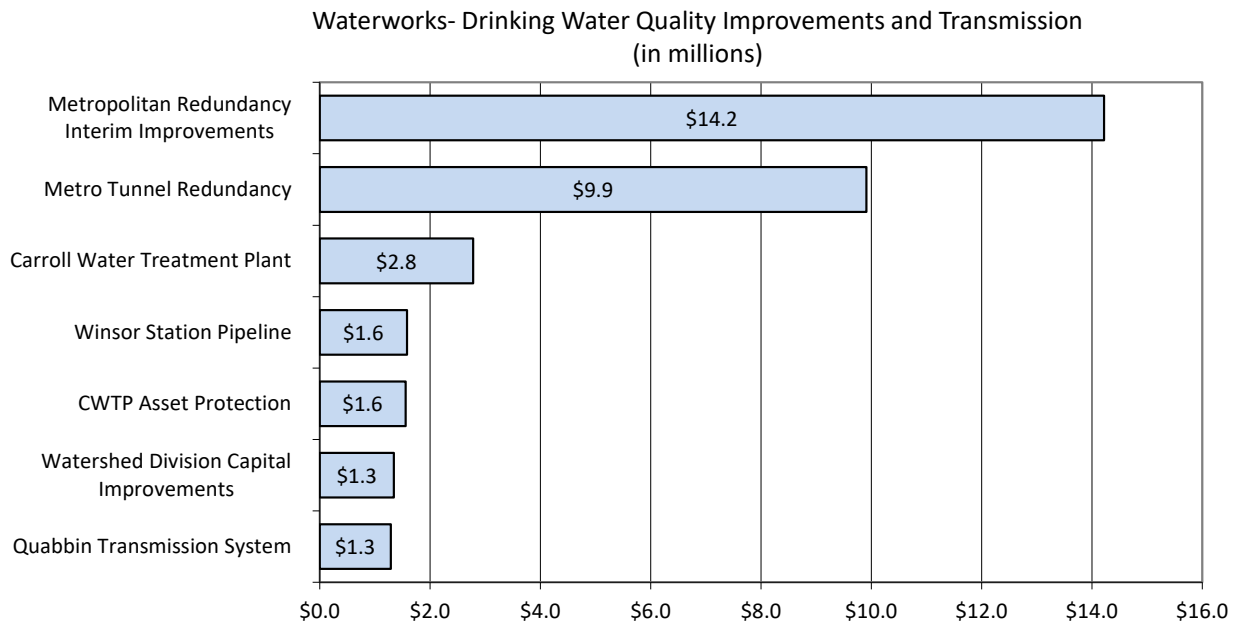
In FY22, MWRA distributed \$21.1 million in grants and \$10.2 million in no-interest loans which is offset by repayment of prior-period loans of \$5.9 million resulting in net spending of \$25.4 million.

**Waterworks System**

During FY22, the MWRA spent \$62.8 million on Waterworks system projects: \$4.3 million for Drinking Water Quality Improvement projects, \$30.1 million for Transmission projects, \$14.0 million for Distribution and Pumping projects, and \$14.4 million for Other Waterworks projects.

**Waterworks System – Drinking Water Quality Improvements and Transmission**

Total FY22 spending for Drinking Water Quality Improvements and Transmission projects was \$4.3 million and \$30.1 million, respectively. Projects with the largest spending are listed below:



**Key Accomplishments in Drinking Water Quality Improvements:**

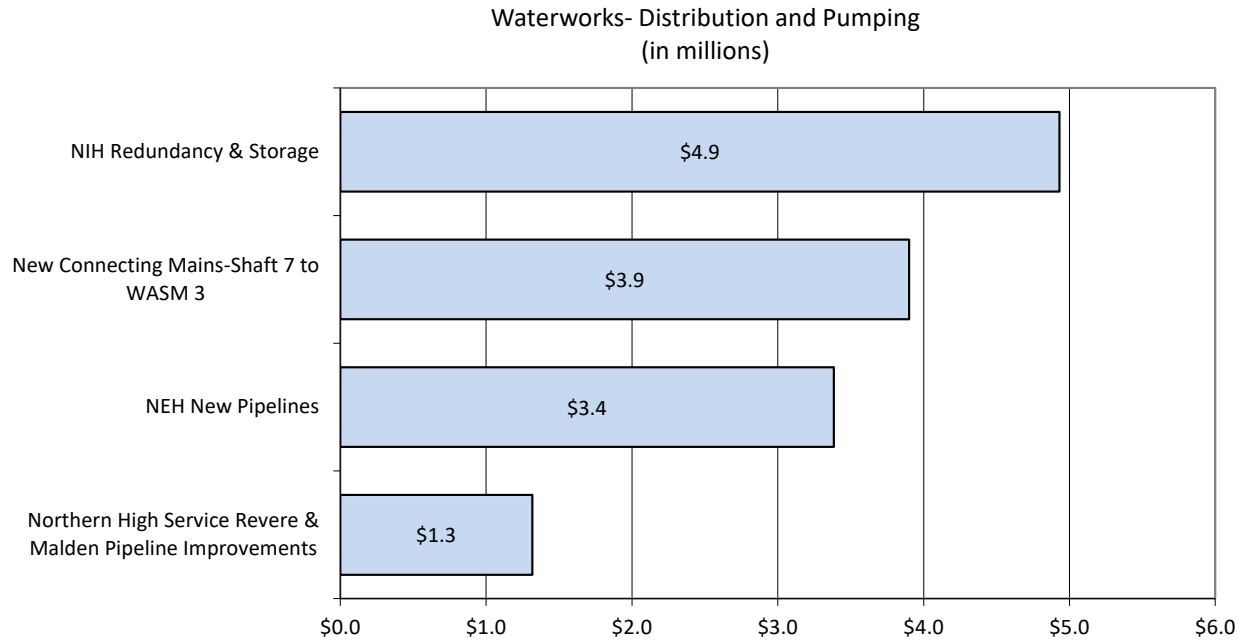
- Marlborough Emergency Pump Station Connection
  - NTP issued in November 2021
- Carroll Water Treatment Chemical Feed System Improvements
  - NTP issued in March 2022
- Carroll Water Treatment Chemical Feed System Improvements Resident Engineering/Inspection
  - NTP issued in March 2022

***Key Accomplishments in Transmission:***

- Weston Aqueduct Sluice Gates Construction
  - Substantially completed in September 2021
- Wachusett Dam Bridge Crane Removal
  - Substantially completed in September 2021
- Wachusett Lower Gate House Windows and Doors
  - NTP issued in October 2021
- River Road Improvements Construction
  - Substantially completed in November 2021
- Wachusett Bastion Building Rehabilitation
  - NTP issued in January 2022
- Wachusett Bastion Building Rehabilitation Resident Engineering/Inspection
  - NTP issued in January 2022
- CP-6 Tops of Shafts 6, 8, and 9A Rehab
  - Substantially completed in April 2022
- Waltham Water Pipeline Construction
  - Contract awarded in May 2022
- Quabbin Water Supply Construction
  - Contract awarded in June 2022
- Shaft 2 Construction
  - Substantially completed in June 2022

**Waterworks System - Distribution and Pumping**

Total FY22 spending for Distribution and Pumping projects totaled \$14.0 million. Projects with the largest spending are listed below:



***Key Accomplishments in Distribution and Pumping:***

- CP-3 Section 23, 24, 47 Rehab
  - NTP Issued in November 2021
- Walnut Street Bridge Truss Construction
  - NTP Issued in February 2022
- CP-1 Northern Extra High Improvements Construction
  - NTP Issued in March 2022
- Northern Extra High Improvements Resident Engineering/Inspection
  - NTP Issued in April 2022

**Waterworks – Other**

Total FY22 spending for Waterworks Other totaled \$14.4 million.

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

In FY22, MWRA distributed \$38.4 million in Local Water Pipeline Assistance Program loans to member communities offset by repayment of prior-period loans of \$28.7 million which resulted in total net receipts of \$9.7 million.



- Carroll Water Treatment Plant SCADA Upgrades Construction  
NTP issued in September 2021
- New Roofs at Belmont, Spring Street, and Lexington Street Pumping Stations  
NTP issued in November 2021
- Electrical Distribution Upgrades at Southborough
  - NTP issued in June 2022

### **Business & Operations Support**

Total FY22 spending for Business and Operations Support totaled \$5.3 million.

#### ***Key Accomplishments in Business & Operations Support:***

- Edge Switches
  - Awarded Phase 1 in July 2021 and Phase 2 in January 2022
- ITSM Access Management
  - NTP issued in December 2021
- As-Needed Design Contract 17
  - Substantially completed in December 2021
- Harbor Outfall Monitoring and Loading System Upgrade (HOML)
  - Substantially completed in May 2022
- MSSP/SIEM
  - NTP issued in May 2022
- As-Needed Construction Services/Resident Engineering Inspection Contract 1
  - Substantially completed in May 2022

### **Total New or Rehabilitated Pipeline**

In addition to measuring spending on CIP projects, MWRA tracks the mileage of pipeline that is rehabilitated or added to its infrastructure. During FY22, the MWRA rehabilitated or constructed 3.4 miles of water and wastewater pipeline. These numbers do not include the rehabilitated or replaced pipelines of our member communities which are funded through our Inflow/Infiltration (I/I) and Water Loan programs as referenced above.

Refer to Attachment D for the specific linear footage of rehabilitated or new pipelines by project in FY22.

**FY22 Spending Variances**

Total FY22 capital spending was \$138.5 million which was \$68.8 million or 33.2% less than the \$207.3 million budget. The variance is primarily due to underspending for the Deer Island Treatment Plant Asset Protection, Interception & Pumping Facility Asset Protection, Local Water System Assistance Program, IT Application Improvement Program, IT Infrastructure Program, and NIH Redundancy & Storage.

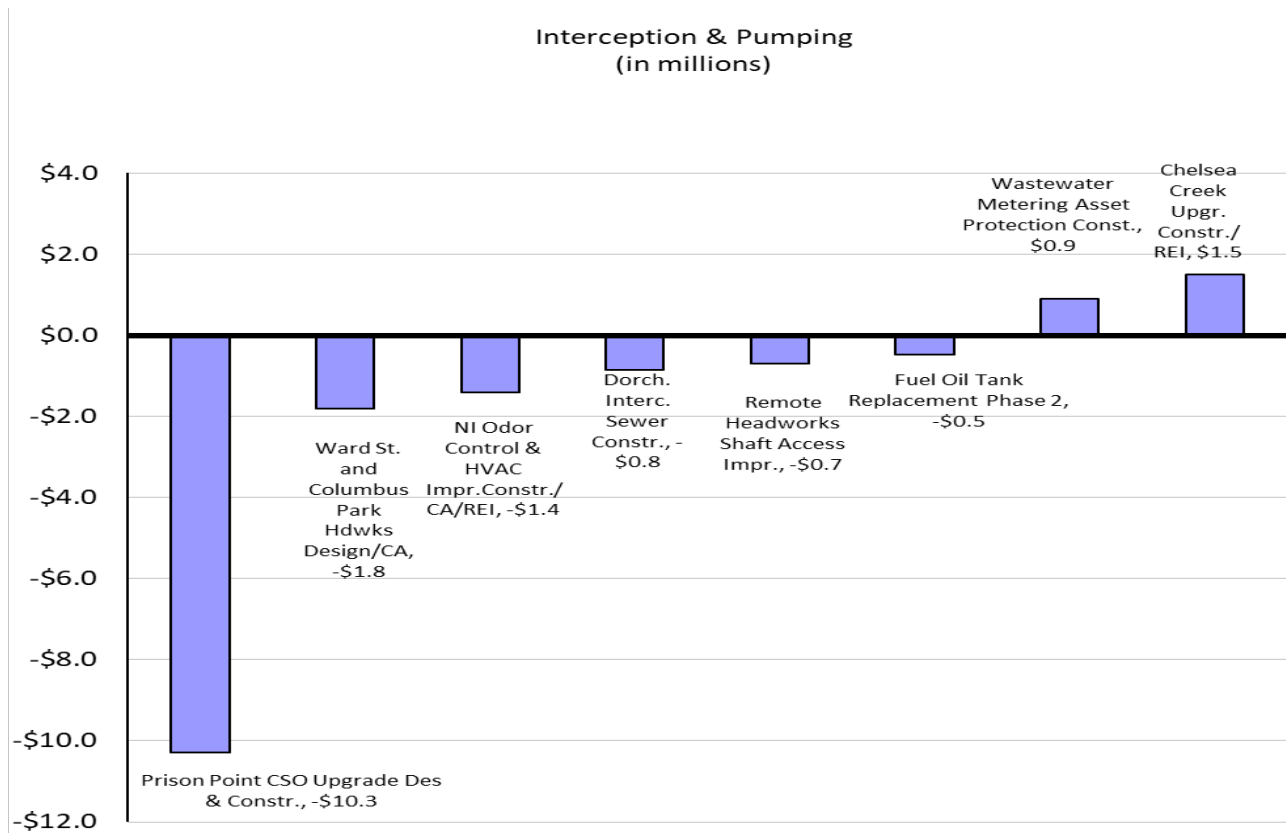
**FY22 Spending Variances (\$000s)**

Program	Budgeted Spending	Actual Spending	Variance to Budget		% Actual Spending to Total Spending
			\$	%	
<b>Total Wastewater System</b>	<b>\$109,856,079</b>	<b>\$70,399,720</b>	<b>(\$39,456,359)</b>	<b>-35.9%</b>	<b>51%</b>
Interception & Pumping	\$52,404,058	\$34,951,978	(\$17,452,080)	-33.3%	25%
Treatment	\$27,985,618	\$5,307,238	(\$22,678,380)	-81.0%	4%
Residuals	\$55,556	\$1,499	(\$54,057)	-97.3%	0%
Combined Sewer Overflow	\$4,297,145	\$4,715,910	\$418,765	9.7%	3%
Other Wastewater Programs	\$25,113,702	\$25,423,092	\$309,390	1.2%	18%
<b>Total Waterworks System</b>	<b>\$75,011,613</b>	<b>\$62,800,564</b>	<b>(\$12,211,049)</b>	<b>-16.3%</b>	<b>45%</b>
Drinking Water Quality Improvement	\$3,222,038	\$4,332,698	\$1,110,660	34.5%	3%
Transmission	\$29,221,983	\$30,074,875	\$852,892	2.9%	22%
Distribution and Pumping	\$19,117,648	\$13,970,533	(\$5,147,115)	-26.9%	10%
Other Waterworks Programs	\$23,449,944	\$14,422,458	(\$9,027,486)	-38.5%	10%
<b>Business &amp; Operations Support</b>	<b>\$22,444,681</b>	<b>\$5,262,180</b>	<b>(\$17,182,501)</b>	<b>-76.6%</b>	<b>4%</b>
<b>Total MWRA</b>	<b>\$207,312,373</b>	<b>\$138,462,467</b>	<b>(\$68,849,905)</b>	<b>-33.2%</b>	<b>100%</b>

**FY22 Variances for Major Projects**

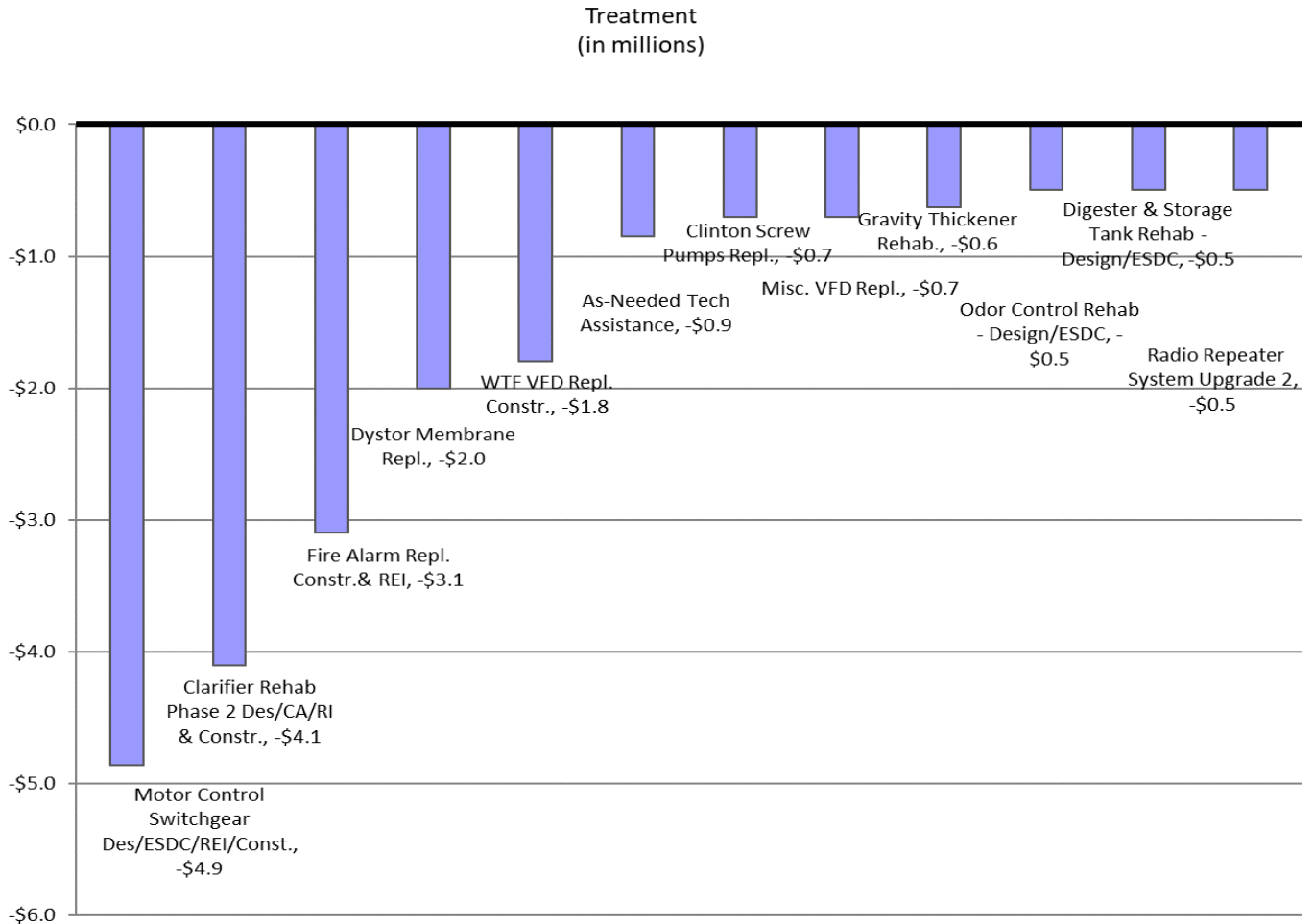
Please see Attachment B for the full FY22 CIP variance explanations by project.

## Wastewater - Interception & Pumping



- Total FY22 Budget: \$52.4 million
- Total FY22 Expended: \$35.0 million
- \$17.5 million less than budgeted spending
  - Underspending in Interception & Pumping Facility Asset Protection totaling \$13.6 million, including
    - \$10.3 million for Prison Point Design CA/RI and Construction due to project on hold.
    - \$1.8 million for Ward Street and Columbus Park Headworks Upgrades Design/CA due to completion of some design and inspection tasks later than anticipated.
    - \$1.4 million for Nut Island Odor Control & HVAC Improvements Phase 2 Construction and CA/REI due to contractor being behind schedule.
    - \$0.8 million for the Dorchester Interceptor Sewer Construction due to timing of contractor work.
    - \$0.7 million for Remote Headworks Shaft Access Improvements Construction due to updated schedule.
    - This underspending was partially offset by overspending of \$1.5 million for Chelsea Creek Headworks Upgrades - Construction, CA and REI due to work scheduled for FY21 performed in FY22, and \$0.9 million for Wastewater Metering Construction due to work scheduled for FY21 completed in FY22.

## Wastewater – Treatment and CSO



### **Deer Island Treatment Plant Asset Protection:**

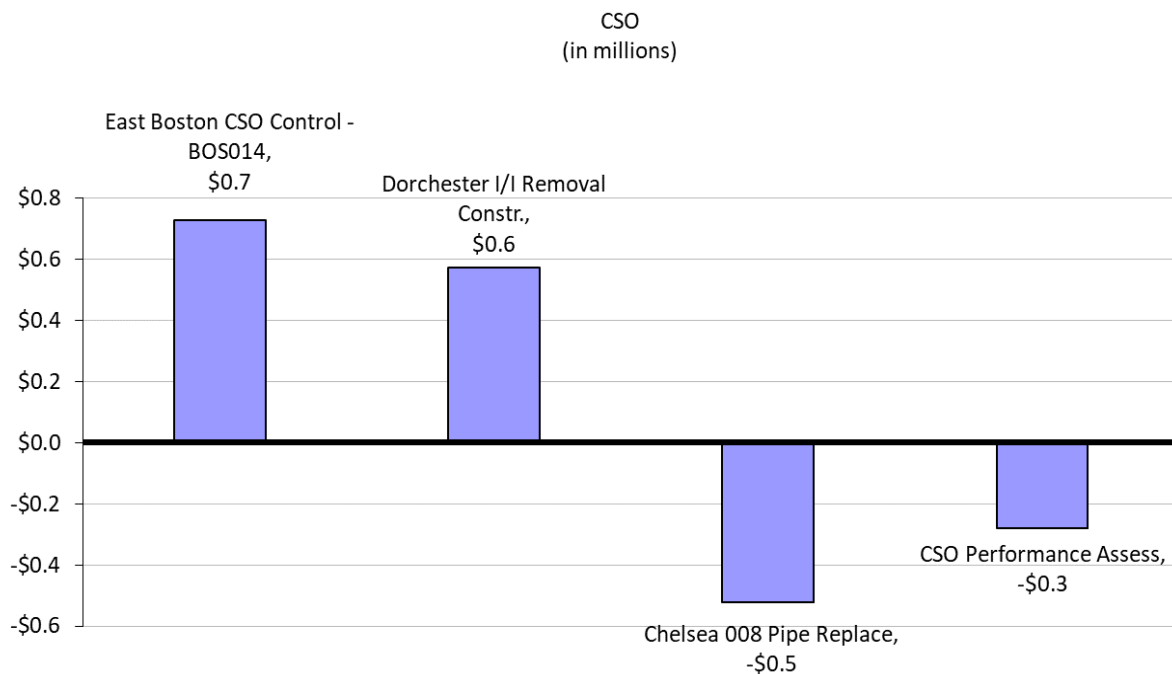
- Total FY22 Budget: \$25.8 million
- Total FY22 Expended: \$4.7 million
- \$21.0 million less than budgeted spending
  - Underspending on various projects, including
    - \$4.9 million for DI Motor Control Center Switchgear Replacement Design/ESDC/REI and Construction due to updated construction schedule.
    - \$4.1 million for Clarifier Rehabilitation Phase 2 Construction and ESDC due to updated construction schedule.
    - \$3.1 million for Fire Alarm Replacement Design/CA and Construction due to updated schedules and \$2.0 million for Dystor Membrane Replacement, Odor Control Rehab - Design/ESDC for \$0.5 million, Digester & Storage Tank Rehabilitation - Design/ESDC for \$0.5 million, and Radio Repeater System Upgrade 2 for \$0.5 million due to updated schedules.

- \$1.8 million for Winthrop Terminal Facility VFD Replacements, \$0.7 million for Miscellaneous VFD Replacements, and \$0.6 million for Gravity Thickener Rehabilitation due to timing of work.
- \$0.9 million for As-Needed Technical Assistance due to lower than projected task order work.

**Clinton Wastewater Treatment Plant:**

- Total FY22 Budget: \$2.2 million
- Total FY22 Expended: \$0.6 million
  - Less than budgeted spending primarily due to \$0.7 million for Clinton Screw Pump Replacements due to timing of work.

**Wastewater - Combined Sewer Overflows (CSO's)**

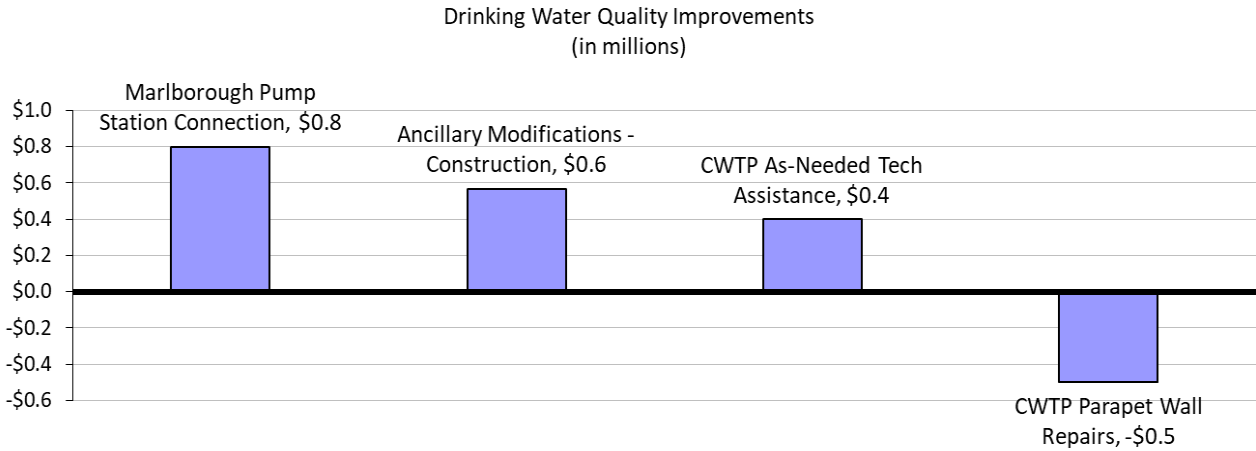


- Total FY22 Budget: \$4.3 million
- Total FY22 Expended: \$4.7 million
- \$0.7 million more than budgeted spending for East Boston CSO Control - BOS014 due to work completed earlier than anticipated, and \$0.6 million for Dorchester Inflow Removal Construction due to timing of payment.
- This overspending was partially offset by underspending of \$0.5 million for Chelsea 008 Pipe Replacement due to schedule change, and \$0.3 million for CSO Performance Assessment due to time extension.

### Wastewater - Other

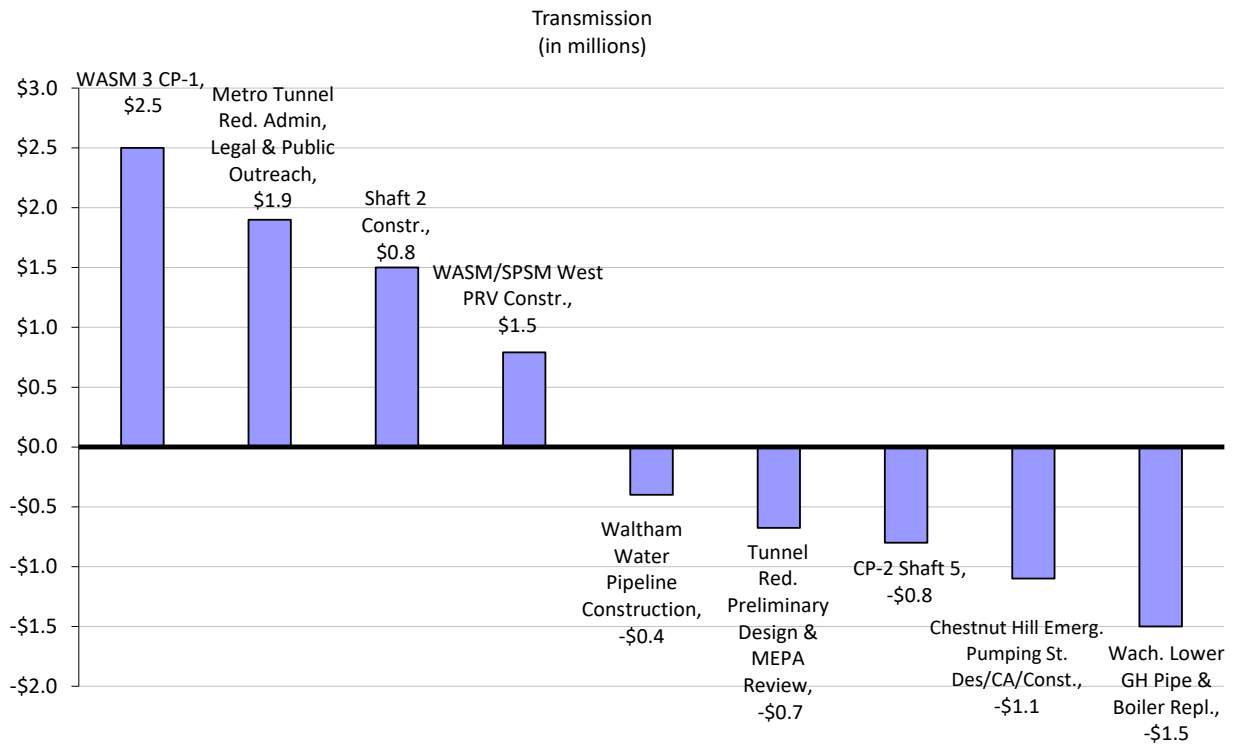
- \$0.3 million less than budgeted spending for I/I Local Financial Assistance resulting from \$1.9 million in greater than budgeted no-interest loans, \$1.5 million in less than budgeted grant distributions and \$0.1 million for repayments for previous loan distributions.

### Waterworks - Drinking Water Quality Improvements



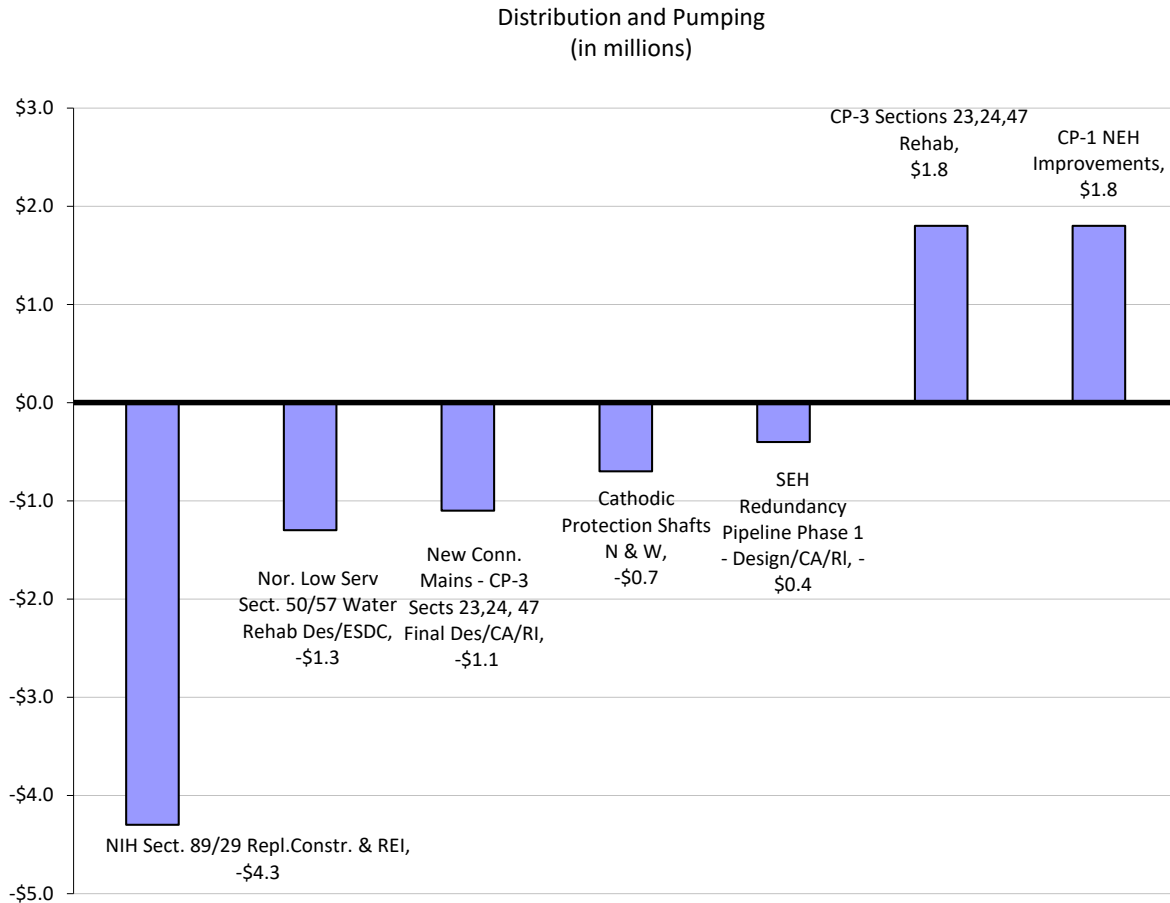
- Total FY22 Budget: \$3.2 million
- Total FY22 Expended: \$4.3 million
- \$1.1 million greater than budgeted spending
  - \$0.8 million for Marlboro Pump Station Construction due to contract award greater than budgeted and additional scope of work.
  - \$0.6 million for Ancillary Modifications – Construction due to contractor progress.
  - \$0.4 million for As-Needed Technical Assistance due to greater than projected task order work.
  - This overspending was partially offset by underspending of \$0.5 million for Carroll Water Treatment Plant Parapet Wall Repairs due to updated schedule.

## Waterworks – Transmission



- Total FY22 Budget: \$29.2 million
- Total FY22 Expended: \$30.1 million
- \$0.9 million greater than budgeted spending
  - Overspending on various projects, including
    - \$2.5 million for WASM 3 Rehabilitation, CP-1, and \$1.5 million for WASM/Spot Pond Supply Mains West Pressure Reducing Valves – Construction due to contractor’s progress.
    - \$1.9 million for Metropolitan Tunnel Redundancy Administration, Legal & Public Outreach due to timing of land purchase.
    - \$0.8 million for Shaft 2 – Construction due to timing of work.
  - This overspending was partially offset by underspending on various projects, including \$1.5 million for Wachusett Lower Gatehouse Pipe and Boiler Replacement – Construction, \$1.1 million for Chestnut Hill Emergency Pump Station Improvements - Design/CA and Construction, \$0.8 million for CP2 Shaft 5, and Waltham Water Pipeline due to updated construction schedules. Also, \$0.7 million for Metropolitan Tunnel Redundancy Preliminary Design & MEPA Review due to timing of consultant work.

## Waterworks - Distribution and Pumping



- Total FY22 Budget: \$19.1 million
- Total FY22 Expended: \$14.0 million
- \$5.1 million less than budgeted spending
  - Underspending on various projects, including
    - \$4.3 million for NIH Section 89/29 Replacement Construction/REI due to updated schedules.
    - \$1.3 million for Sections 50 & 57 Water Rehabilitation due to reduced scope.
    - \$1.1 million for CP-3 Sections 23, 24, 47 Final Design/CA/RI due to less than anticipated Final Design and CA/RI work.
    - \$0.7 million for Cathodic Protection Shafts N & W due to schedule change.
    - \$0.4 million for Southern Extra High Redundancy Design CA/RI due to less than anticipated budgeted spending for CA/RI services.
    - This underspending was partially offset by overspending of \$1.8 million for CP3-Sections 23, 24, 47 due to contract awarded higher than budgeted, and \$1.8 million for CP-1 NEH Improvements due to contractor progress.



## **Waterworks - Other**

- Total FY22 Budget: \$23.4 million
- Total FY22 Expended: \$14.4 million
- \$9.0 million less than budgeted spending
  - \$8.2 million for the Local Water System Assistance Program due to timing of community loan requests.
  - \$0.4 million for New Roofs at Water Pumping Stations due to updated schedule.

## **Business & Operations Support**

- Total FY22 Budget: \$22.4 million
- Total FY22 Expended: \$5.3 million
- \$17.2 million less than budgeted spending
  - \$2.5 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to lower than projected task order work.
  - Cabling: \$2.7M, Lawson Upgrade: \$1.8M, MSSP/SIEM: \$1.4M, Office Space Modifications: \$1.2M, Sans Storage: \$0.7 million, MAXIMO Upgrade: \$0.6 million and MAXIMO Interface Enhancements: \$0.3 million, Archiving & Data Management: \$0.5 million, Information Security Plan Implementation: \$0.4 million, SAP BO Migration: \$0.3 million, and Instrumentation & Controls: \$0.3 million (updated schedules and timing of work)
  - \$1.7 million for Vehicle Purchases due to timing of purchases.

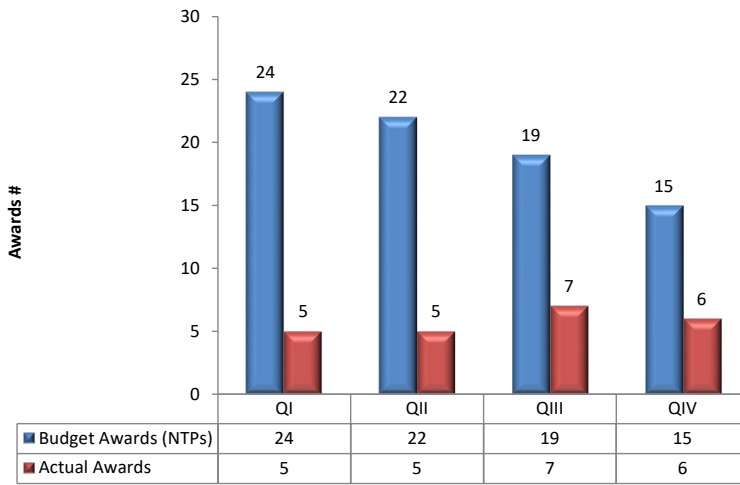
## **FY22 CIP Contract Awards**

The FY22 CIP planned the award of 80 contracts with a value of \$420.0 million. During FY22, the MWRA awarded 23 contracts valued at \$163.9 million, representing 29% of contracts and 39% of contract funding. Of the 80 planned awards, 23 contracts were awarded, 40 are expected to be awarded in FY23, 11 have been rescheduled beyond FY23, and 10 are being done in-house, were deleted, renamed, or scope moved to another contract. Of the 40 contracts that shifted to FY23: 6 were due to permitting issues, 17 due to scope changes, 13 due to changes in priorities, and 4 due to bidder issues/outside consultant/contractor delays/additional specification review.

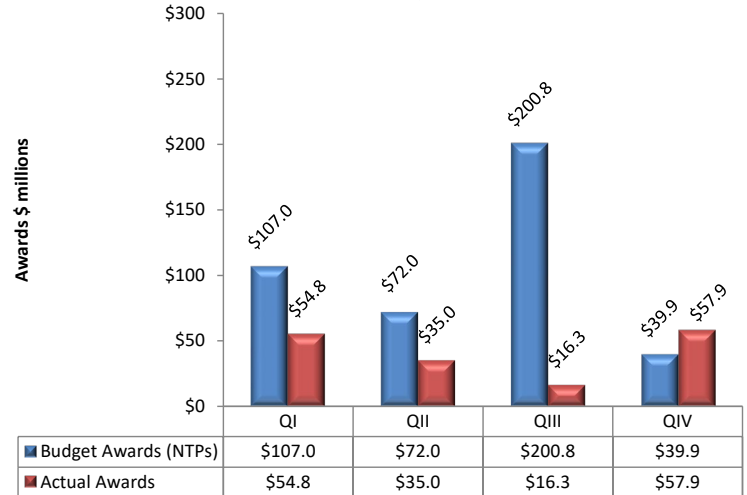
A comparison of the FY22 budgeted contracts and the FY22 actual contract awards are detailed below:

FY22 Contracts (\$ in Millions)				
Program	Budget		Actual	
	#	\$	#	\$
Total MWRA	80	420.0	23	163.9
Wastewater	33	308.2	4	45.9
Waterworks	36	92.8	15	97.0
Business Operations & Support	11	19.0	4	21.0

FY22 Budget and Actual Awards (#)



FY22 Budget and Actual Awards (\$)



Please refer to Attachment C for a full listing of contracts planned to be awarded in FY22 and actual awards.

### **Change Orders Review**

Management of change orders remains a top priority. Total change orders for MWRA-managed active capital projects were 5.5% of award value through June 2022. This percentage is within the target of 10% for change orders as a percentage of awards.

### **Master Plan and the FY22 CIP Process**

To arrive at the FY22 Final CIP, the Authority identified the needs of the programs taking into account the recommendations of the Master Plan. The long-term strategy for capital work is

identified in the Authority’s Master Plan which was published in 2006 and updated in 2013 and 2019. The Master Plan serves as a road map for inclusion of projects in the CIP in every budget cycle.

The updated Master Plans focused on capital needs over the next 40-years and are intended to be the principal framework for annual capital planning. The Plans focus on projects that require capital spending during the next two 5-year CIP cap cycles: FY19-23 and FY24-28. Potential capital needs during the next 10-year (FY29-38) and 20-year (FY39-53) planning periods will also be identified.

### **FY19-23 Spending Cap**

MWRA spending during the FY19-23 timeframe is planned to be \$672.6 million, with additional net spending of \$160.3 million for the community I/I (Infiltration and Inflow) loan and grant program and \$68.4 million for the community water pipeline loan program. Annual cash flows for the Cap period are shown below in millions:

		FY19	FY20	FY21	FY22	FY23	Total
							FY19-23
<b>FY23 Final</b>	Projected Expenditures	\$142.9	\$150.4	\$148.4	\$164.4	\$278.5	\$884.5
	I/I Program	(39.6)	(33.7)	(31.3)	(30.6)	(25.1)	(160.3)
	Water Loan Program	(13.8)	(4.3)	(14.9)	(12.0)	(23.4)	(68.4)
	<b>MWRA Spending</b>	<b>\$89.4</b>	<b>\$112.3</b>	<b>\$102.2</b>	<b>\$121.8</b>	<b>\$230.0</b>	<b>\$655.8</b>
	Contingency	0.0	0.0	0.0	0.0	14.6	14.6
	Inflation on Unawarded Construction	0.0	0.0	0.0	0.0	2.2	2.2
	Chicopee Valley Aqueduct Projects	(0.0)	0.0	0.0	0.0	0.0	(0.0)
	<b>FY23 Proposed FY19-23 Spending</b>	<b>\$89.4</b>	<b>\$112.3</b>	<b>\$102.2</b>	<b>\$121.8</b>	<b>\$246.8</b>	<b>\$672.6</b>

The format of the Cap table has changed from prior cap periods to account separately for MWRA spending, which excludes the local I/I grant and loan program and the local water pipeline loan spending which are both outside of MWRA’s control. As in past Caps, contingency for each fiscal year is incorporated into the CIP to fund the uncertainties inherent to construction. The contingency budget is calculated as a percentage of budgeted expenditure outlays. Specifically, contingency is 7% for non-tunnel projects and 15% for tunnel projects. Inflation is added for unawarded construction contracts. Finally, the Cap excludes Chicopee Valley Aqueduct system projects.

### **FY23 Outlook Based on FY23 CIP**

Looking ahead to FY23, the projected capital spending is \$278.5 million. Projects with the largest budgeted spending in FY23 include Deer Island Asset Protection of \$38.1 million, Metropolitan Redundancy Interim Improvements of \$35.2 million Metropolitan Tunnel Redundancy of \$25.7 million, Infiltration/Inflow Local Financial Assistance of \$25.1 million, Local Water System

Assistance Program of \$23.4 million, Corrosion and Odor Control of \$17.6 million, Facility Asset Protection of \$14.0 million, and New Connecting Mains – Shaft 7 to WASM 3 of \$14.0 million.

In FY23, 69 contracts or phases of projects with a total budget of \$503.6 million are expected to be awarded. Staff will be completing the design and progressing to the bid and award stage on several major projects such as the Deer Island Treatment Plant (DITP) Clarifier Rehabilitation Phase 2 Construction, WASM 3 Rehab CP-2, Deer Island Fire Alarm System Construction, Deer Island Motor Control Center and Switchgear Replacement Construction, Combined Heat & Power Design/ESDC/REI, New Connecting Mains Sections 25 & 24 CP-2, Metropolitan Tunnel Redundancy Geotechnical Support Services, and Section 75 Extension CP-1.

*Please see Attachment E for FY23 Planned Contract Awards.*

**ATTACHMENT B  
FY22 CIP Year-End Variance Report (\$000's)**

	FY22 Budget	FY22 Actuals	Actuals vs. Budget		Explanations
			\$	%	
<b>Wastewater</b>					
Interception & Pumping (I&P)	\$52,404	\$34,952	(\$17,452)	-33.3%	<u>Underspending</u> Prison Point Design CA/RI and Construction: \$10.3M (project on hold) Ward Street & Columbus Park Headworks - Design/CA: \$1.8M (completed some design and inspection tasks later than anticipated) Nut Island Odor Control & HVAC Improvements - Construction Phase 2 and CA/REI: \$1.4M (contractor behind schedule) Interceptor Renewal No. 3, Dorchester Interceptor Sewer - Construction: \$846k (timing of contractor work. Contract is substantially complete.) Remote Headworks Shaft Access Improvements - Construction: \$700k, Fuel Oil Tank Replacement - Phase 2 Construction: \$482k, and Somerville Marginal CSO Facility Rehabilitation - Design/CA/REI: \$300k, (updated construction schedules) Siphon Structure Rehabilitation Design/CS/RI: \$302k (permitting delays) Interceptor Renewal 7, Malden & Melrose - Study/Design/CA: \$298k (some Design tasks delayed) <u>Offset Overspending</u> Chelsea Creek Headworks Upgrades - Construction, CA and REI: \$1.5M (work scheduled for FY21 performed in FY22) Wastewater Metering Construction: \$912k (work scheduled for FY21 completed in FY22. Contract is substantially complete.)
Treatment	\$27,986	\$5,307	(\$22,678)	-81.0%	<u>Underspending</u> Motor Control Center and Switchgear Replacement - Design/ESDC/REI and Construction: \$4.9M, Clarifier Rehabilitation Phase 2 - Construction and ESDC: \$4.1M, Fire Alarm System Replacement - Design/CA and Construction: \$3.1M, DI Dystor Membrane Replacements: \$2.0M, and Eastern Seawall Design/ESDC/REI: \$438k (updated construction schedules) Winthrop Terminal Facility (WTF) VFD Replacement - Construction: \$1.8M, Clinton Screw Pump Replacement: \$746k, Miscellaneous VFD Replacements FY19-FY23: \$700k, and Gravity Thickener Rehabilitation: \$628k (timing of work) As-Needed Technical Assistance: \$851k (lower than projected task order work) Odor Control Rehab - Design/ESDC: \$533k, Digester & Storage Tank Rehabilitation - Design/ESDC: \$514k, Radio Repeater System Upgrade 2: \$500k, and Cryogenics Plant Equipment Replacement - Design: \$495k, and Clinton Landfill Cell No. 1 Closure: \$300k (updated schedules)
Residuals	\$56	\$1	(\$54)	-97.3%	

**ATTACHMENT B**  
**FY22 CIP Year-End Variance Report (\$000's)**

	FY22 Budget	FY22 Actuals	Actuals vs. Budget		Explanations
			\$	%	
CSO	\$4,297	\$4,716	\$419	9.7%	<u>Overspending</u> East Boston CSO Control - BOS014: \$727k (work completed earlier than anticipated) Dorchester Inflow Removal Construction: \$572k (timing of payment) <u>Offset Underspending</u> Chelsea 008 Pipe Replacement: \$523k (schedule change) CSO Performance Assessment: \$281k (time extension)
Other Wastewater	\$25,114	\$25,423	\$309	1.2%	<u>Overspending</u> I/I Local Financial Assistance: \$309k (timing of community distributions of grants and loans)
<b>Total Wastewater</b>	<b>\$109,856</b>	<b>\$70,400</b>	<b>(\$39,456)</b>	<b>-35.9%</b>	

**ATTACHMENT B  
FY22 CIP Year-End Variance Report (\$000's)**

	FY22 Budget	FY22 Actuals	Actuals vs. Budget		Explanations
			\$	%	
<b>Waterworks</b>					
Drinking Water Quality Improvements	\$3,222	\$4,333	\$1,111	34.5%	<u>Overspending</u> Marlboro Pump Station Construction: \$814k (contract award greater than budgeted and additional scope of work) Ancillary Modifications - Construction: \$567k (contractor progress) CWTP As-Needed Technical Assistance: \$421k (greater than projected task order work) <u>Offset Underspending</u> CWTP Parapet Wall Repairs: \$522k (updated schedule)
Transmission	\$29,222	\$30,075	\$853	2.9%	<u>Overspending</u> WASM 3 Rehabilitation, CP-1: \$2.5M, and WASM/Spot Pond Supply Mains West Pressure Reducing Valves - Construction: \$1.5M (contractors progress) Metropolitan Tunnel Redundancy Administration, Legal & Public Outreach: \$1.9M (timing of land purchase), and Program Support Services: \$392k (timing of consultant work) Shaft 2 - Construction: \$791k (timing of work) Wachusett Dam Bridge Crane Removal: \$291k (FY21 planned work completed in FY22) <u>Offset Underspending</u> Wachusett Lower Gatehouse Pipe and Boiler Replacement - Construction: \$1.5M, Chestnut Hill Emergency Pump Station Improvements - Design/CA and Construction: \$1.1M, and CP2 Shafts 5, 9: \$833k (updated construction schedules) Tunnel Redundancy Preliminary Design & MEPA Review: \$676k (timing of consultant work) Waltham Water Pipeline - Construction: \$444K (award later than anticipated) WASM/Spot Pond Supply Mains West Pressure Reducing Valves - Design/CA: \$303k (schedule change)

**ATTACHMENT B  
FY22 CIP Year-End Variance Report (\$000's)**

	FY22 Budget	FY22 Actuals	Actuals vs. Budget		Explanations
			\$	%	
Distribution & Pumping	\$19,118	\$13,971	(\$5,147)	-26.9%	<u>Underspending</u> Section 89/29 Replacement - Construction and RE/RI Services: \$4.3M (updated schedules) Sections 50 & 57 Water Rehabilitation - Design/ESDC; \$1.3M (contract scope reduction) New Connecting Mains CP3-Sections 23, 24, 47 Final Design/CA/RI: \$1.1M (less than anticipated Final Design and CA/RI work) Cathodic Protection Shafts N & W: \$700k, and Cathodic Protection Metro South - Design/CA: \$324k (schedule changes) SEH Redundancy Pipeline Phase 1 - Design/CA/RI: \$365k (Construction Administration and Resident Inspection services less than anticipated budgeted spending) <u>Offset Overspending</u> CP3-Sections 23, 24, 47 Rehabilitation: \$1.8M (awarded higher than budgeted) CP-1 NEH Improvements: \$1.8M (contractor progress)
Other Waterworks	\$23,450	\$14,422	(\$9,027)	-38.5%	<u>Underspending</u> Local Water Pipeline Financial Assistance Program: \$8.2M (timing of community distributions) New Roofs at Water Pumping Stations - Construction: \$410k (updated schedule) and REI:\$225k (work being done in-house)
<b>Total Waterworks</b>	<b>\$75,012</b>	<b>\$62,801</b>	<b>(\$12,211)</b>	<b>-16.3%</b>	



**ATTACHMENT B  
FY22 CIP Year-End Variance Report (\$000's)**

	FY22 Budget	FY22 Actuals	Actuals vs. Budget		Explanations
			\$	%	
<b>Business &amp; Operations Support</b>					
<b>Total Business &amp; Operations Support</b>	\$22,445	\$5,262	(\$17,183)	-76.6%	<u>Underspending</u> As-Needed Technical Assistance and CS/REI Services: \$2.5M (lower than projected task order work) FY19-23 Vehicle Purchases: \$1.7M (due to timing) Security Equipment & Installation: \$316k (updated schedules and timing of work) Cabling: \$2.7M, Lawson Upgrade: \$1.8M, MSSP/SIEM: \$1.4M, Office Space Modifications: \$1.2M, Sans Storage: \$694k, MAXIMO Upgrade: \$560k and MAXIMO Interface Enhancements: \$304k, Archiving & Data Management: \$545k, Information Security Plan Implementation: \$360k, SAP BO Migration: \$315k, and Instrumentation & Controls: \$310k (updated schedules and timing of work)
<b>Total MWRA</b>	\$207,312	\$138,462	(\$68,850)	-33.2%	

**ATTACHMENT C  
FY22 Planned Contract Awards**

Program/Project	Contract No.	Subphase	NTP	Revised NTP FY23 Final	FY22 Budget	Award Amount \$s in Millions	Vendor	Schedule Change Reason Code *	Secondary Codes*
IT Infrastructure Program	7802	Future Workplace	Jul-21	Jul-22	\$0.5			3	6
<b>Facility Asset Protection</b>	<b>7462</b>	<b>Prison Point Rehab - Construction</b>	<b>Jul-21</b>		<b>\$42.5</b>	<b>\$39.5</b>	<b>Barletta Heavy Division</b>	1	
<b>Waterworks Facility Asset Protection</b>	<b>7626</b>	<b>New Roofs at Water PS Construction</b>	<b>Jul-21</b>	<b>Dec-21</b>	<b>\$0.5</b>	<b>\$0.7</b>	<b>MDM Engineering</b>	1	
Waterworks Facility Asset Protection	7628	New Roofs at Water PS REI	Jul-21		\$0.3			2	
<b>Quabbin Transmission System</b>	<b>7788</b>	<b>Wachusett Lower Gate House Windows &amp; Doors</b>	<b>Jul-21</b>	<b>Oct-21</b>	<b>\$0.3</b>	<b>\$0.6</b>	<b>J J Cardosi</b>	1	
Facility Asset Protection	7785	Chelsea Creek Hdws Radio Equip	Aug-21	Jul-22	\$0.1			3	7
DI Treatment Plant Asset Protection	7420	MCC & Switchgear Replace Construction	Aug-21	Oct-22	\$11.2			3	7
<b>DI Treatment Plant Asset Protection</b>	<b>7913</b>	<b>Replacement of Odor Control Dampers</b>	<b>Aug-21</b>	<b>Jan-22</b>	<b>\$0.5</b>	<b>\$0.5</b>	<b>Harding &amp; Smith</b>	1	
<b>Quabbin Transmission System</b>	<b>7697</b>	<b>Wachusett Bastion Rehabilitation Construction</b>	<b>Aug-21</b>	<b>Feb-22</b>	<b>\$2.0</b>	<b>\$3.9</b>	<b>MAS Building &amp; Bridge</b>	1	
Application Improvement Program	7652	Hyperion	Sep-21	Mar-23	\$0.4			3	6
IT Infrastructure Program	7664	Instrumentation & Controls IT	Sep-21	Dec-22	\$0.3			3	6
Braintree-Weymouth Relief Facilities	7366	B/W Improvements - Construction	Sep-21	Aug-22	\$8.8			3	5
Braintree-Weymouth Relief Facilities	7683	B/W Improvements - REI	Sep-21	Aug-22	\$0.7			3	5
Facility Asset Protection	7689	Somerville-Marginal CSO Facility Rehab Des/CA	Sep-21	Nov-22	\$2.4			3	5
DI Treatment Plant Asset Protection	7052	Digester & Storage Tank Rehab Design/ESD	Sep-21	Oct-22	\$4.1			3	5
DI Treatment Plant Asset Protection	7088	Odor Control Rehabilitation - Design/ESDC	Sep-21	Mar-23	\$5.3			3	5
DI Treatment Plant Asset Protection	7169	Gas Protect System Replacement Phase 2	Sep-21	Jul-23	\$3.5			6	
<b>Clinton Wastewater Treatment Plant</b>	<b>7704</b>	<b>Screw Pump Replacement</b>	<b>Sep-21</b>	<b>Jan-22</b>	<b>\$3.5</b>	<b>\$3.5</b>	<b>IPC Lydon, LLC</b>	1	
Catholic Protection Of Distribution Mains	7610	Catholic Protection Shafts N&W	Sep-21	Jun-22	\$2.5			3	5
<b>Spot Pond Supply Mains Rehabilitation</b>	<b>7483</b>	<b>Walnut St Bridge Truss-Construction</b>	<b>Sep-21</b>	<b>Feb-22</b>	<b>\$0.2</b>	<b>\$0.3</b>	<b>R Zoppo Corp</b>	1	
<b>Central Monitoring System</b>	<b>7582</b>	<b>CWTP SCADA Upgrade Construction</b>	<b>Sep-21</b>	<b>Sep-21</b>	<b>\$14.0</b>	<b>\$12.9</b>	<b>LeVangie Electric Company</b>	1	
Waterworks Facility Asset	7711	Masonry/Structure Repair Des/ESDC	Sep-21	Jul-22	\$1.3			3	6
Watershed Div Cap Impr.	7569	QAB Concept Des Report	Sep-21	Dec-22	\$0.3			3	5
<b>MWRA Facilities Management</b>	<b>7980</b>	<b>Office Space Modifications</b>	<b>Sep-21</b>	<b>Aug-22</b>	<b>\$2.0</b>	<b>\$19.6</b>	<b>WES Construction</b>	1	
Application Improvement Program	7286	Lawson Upgrade	Oct-21	Dec-22	\$7.6			3	6
Information Security Program ISP	7440	Inform Security Plan Implementation	Oct-21	Oct-23	\$0.4			2	
Facility Asset Protection	7555	Fuel Oil Tank Replacement Construction Phase 2	Oct-21	Jul-22	\$1.5			3	6
DI Treatment Plant Asset Protection	7051	Fire Alarm System Replacement - Construction	Oct-21	Mar-23	\$28.8			3	4
Section 80 Rehabilitation	6892	Section 80 Rehabilitation Design/CA	Oct-21	Jul-23	\$2.5			2	
Quabbin Transmission System	7380	Wachusett Lower Gate House Pipe Replacement Construction	Oct-21	Oct-22	\$4.1			3	5
Quabbin Transmission System	7717	Wachusett Lower Gate House Pipe Replacement REI	Oct-21	Oct-22	\$0.5			3	5
CWTP Asset Protection	7737	Corrosion Control Pipe Loop Study	Nov-21	Mar-23	\$0.5			3	6
CWTP Asset Protection	7755	CWTP Parapet Wall Repairs	Nov-21	Jan-24	\$0.5			2	
<b>Information Security Program ISP</b>	<b>7657</b>	<b>ITSM Access Management</b>	<b>Dec-21</b>	<b>Jan-24</b>	<b>\$0.3</b>	<b>\$0.07</b>	<b>Carahsoft</b>	1	
<b>Information Security Program ISP</b>	<b>7658</b>	<b>MSSP/SIEM</b>	<b>Dec-21</b>	<b>Jun-22</b>	<b>\$5.2</b>	<b>\$0.4</b>	<b>ePlus Technology</b>	1	
Facility Asset Protection	7508	Cottage Farm Chemical Build Improvement-Design	Dec-21	Sep-22	\$1.0			3	4
DI Treatment Plant Asset Protection	7134	Radio Repeater System Upgrade 2	Dec-21	Sep-22	\$2.5			3	4
DI Treatment Plant Asset Protection	7135	DI Dystor Membrane Replacements	Dec-21	Aug-22	\$4.0			3	5
DI Treatment Plant Asset Protection	7139	Cryogenics Plant Equipment Replace-Design	Dec-21	Sep-22	\$5.3			3	6
DI Treatment Plant Asset Protection	7426	Fire System Replacement - REI	Dec-21	Mar-23	\$2.1			3	4
Clinton Wastewater Treatment Plant	7371	Clinton WWTP Rehabilitation Des/ESDC/RE	Dec-21	Dec-25	\$1.5			5	
Clinton Wastewater Treatment Plant	7648	Digester Cover Replacement	Dec-21	Aug-22	\$0.8			3	7
Clinton Wastewater Treatment Plant	7735	Clinton Fire Alarm Replacement	Dec-21	Aug-23	\$0.9			5	
Clinton Wastewater Treatment Plant	7754	Landfill Cell #1 Closure	Dec-21	Oct-22	\$1.0			3	4
Waterworks Facility Asset	7729	Beacon St Line Des/ESDC	Dec-21	Oct-22	\$0.9			3	5
<b>Quabbin Transmission System</b>	<b>7716</b>	<b>Wachusett Bastion Rehabilitation REI</b>	<b>Dec-21</b>	<b>Feb-22</b>	<b>\$0.4</b>	<b>\$0.4</b>	<b>Kleinfelder Northeast</b>	1	
Application Improvement Program	7666	PI (OSI)	Jan-22	Jan-23	\$0.3			3	6
<b>Facility Asset Protection</b>	<b>7550</b>	<b>Remote HW Shaft Access Improvement-Construction</b>	<b>Jan-22</b>	<b>Jun-22</b>	<b>\$2.8</b>	<b>\$2.4</b>	<b>WES Construction</b>	1	

**ATTACHMENT C  
FY22 Planned Contract Awards**

Program/Project	Contract No.	Subphase	NTP	Revised NTP FY23 Final	FY22 Budget	Award Amount \$s in Millions	Vendor	Schedule Change Reason Code *	Secondary Codes*
Facility Asset Protection	7781	Remote HW Shaft Access Improvement ESDC/REI	Jan-22	Jun-22	\$0.3			3	7
Residuals Asset Protection	7143	Residuals Facility Plan / EIR	Jan-22		\$1.0			2	
Quabbin Transmission System	7726	Wachusett Lower Gate House Building Rehabilitation REI	Jan-22		\$0.3			2	
Metro Redundancy Interim Improvements	7562	CHEPS Improvements Construction	Jan-22	Aug-23	\$3.0			4	
Metro Redundancy Interim Improvements	7669	CHEPS Improvements REI	Jan-22	Aug-23	\$0.6			4	
Metro Redundancy Interim Improvements	7671	CP2 Shaft 5	Jan-22	Oct-22	\$2.5			3	5
Metro Redundancy Interim Improvements	7702	CP2 Tops of Shafts REI	Jan-22	Dec-22	\$0.3			3	6
Chelsea Trunk Sewer	7915	Chelsea 008 Connection Relief	Feb-22	Aug-22	\$0.6			3	5
<b>New Connect Mains-Shaft 7 to WASM 3</b>	<b>6392</b>	<b>CP3-Sect 23,24,47, Rehabilitation</b>	<b>Feb-22</b>	<b>Nov-21</b>	<b>\$14.7</b>	<b>\$26.8</b>	<b>Albanese D &amp; S</b>	1	
Quabbin Transmission System	7789	Wachusett Lower Gate House Roof & Repointing	Feb-22	Feb-24	\$0.4			5	
Metro Redundancy Interim Improvements	7672	Waltham Water Pipeline REI	Feb-22	Jun-22	\$1.0			3	6
<b>Metro Redundancy Interim Improvements</b>	<b>7457</b>	<b>Waltham Water Pipeline Construction</b>	<b>Feb-22</b>	<b>May-22</b>	<b>\$13.8</b>	<b>\$31.9</b>	<b>Baltazar Construction</b>	1	
Metro Redundancy Interim Improvements	7547	Waltham Water Pipeline CA	Feb-22		\$1.5			2	
<b>IT Infrastructure Program</b>	<b>7662</b>	<b>Edge Switches</b>	<b>Mar-22</b>	<b>Mar-22</b>	<b>\$1.4</b>	<b>\$0.9</b>	<b>ePlus Technology, Inc.</b>	1	
DI Treatment Plant Asset Protection	7395	Clarifier Rehabilitation Phase 2 - Construction	Mar-22	Oct-22	\$149.0			3	5
DI Treatment Plant Asset Protection	7397	Clarifier Rehabilitation Phase 2 - REI	Mar-22	Dec-22	\$3.0			3	5
Cathodic Protection Of Distribution Mains	7950	Cathodic Protection Metro South DES/CA	Mar-22	Jul-23	\$4.6			5	
Facility Asset Protection	7827	Hingham Pump Station Rehabilitation Design	Apr-22	Oct-22	\$0.9			3	6
<b>Northern Extra High Service New Pipeline</b>	<b>6522</b>	<b>CP-1 NEH Improvements</b>	<b>Apr-22</b>	<b>Apr-22</b>	<b>\$4.4</b>	<b>\$11.7</b>	<b>Albanese D &amp; S</b>	1	
<b>Northern Extra High Service New Pipeline</b>	<b>7724</b>	<b>NEH Improvements REI</b>	<b>Apr-22</b>	<b>Apr-22</b>	<b>\$2.6</b>	<b>\$0.9</b>	<b>CDM Smith</b>	1	
<b>CWTP Asset Protection</b>	<b>7598</b>	<b>Soda Ash &amp; Ammonia Equipment Replacement</b>	<b>Apr-22</b>	<b>Mar-22</b>	<b>\$3.0</b>	<b>\$2.5</b>	<b>Walsh Construction, LLC</b>	1	
Quabbin Transmission System	7698	Wachusett Lower Gate House Building Boiler & Lead Rehabilitation	Apr-22		\$0.7			2	
Dam Projects	7615	Sudbury/Foss Dam Construction	Apr-22	Jul-23	\$1.8			5	
Metro Redundancy Interim Improvements	7670	CP3 Shafts 7, 7B, 7C, 7D	Apr-22	Apr-24	\$2.5			6	
Metro Redundancy Interim Improvements	7703	CP3 Tops of Shafts REI	Apr-22	Jun-24	\$0.3			6	
MWRA Facilities Management	6983	Design/Engineering Services Demolition of DI Old Admin Building	May-22		\$0.7			2	
Siphon Structure Rehabilitation	6225	Construction	May-22	Sep-22	\$8.3			3	4
Residuals Asset Protection	7145	Residuals Facility Upgrades - Design	May-22	Aug-23	\$2.0			5	
Rehab of Other Pump Station	7526	PS Rehabilitation-Des/CA	May-22	May-23	\$3.9			3	6
DI Treatment Plant Asset Protection	6730	CHP Des/ESDC/REI	Jun-22	Jan-23	\$5.6			3	5
DI Treatment Plant Asset Protection	7734	DITP Roofing Replacement	Jun-22	Sep-22	\$3.0			3	5
Watershed Division Capital Improvements	7752	Quabbin Water Supply Des/CA/RI	Jun-22	Jun-22	\$0.3			2	

80 Anticipated Contract Awards Planned Contracts Awards in FY22

\$420.0

19 Planned Awards Awarded in FY22

\$159.6

Unplanned Awards

Carroll Water Treatment Asset Protection	7791	Marlborough Pump Station Emergency Connection	Sep-21	Nov-21	\$0.5	\$0.9	GVC Construction & Engineering, Inc.		
Carroll Water Treatment Asset Protection	7972	Soda Ash & Ammonia Equipment Replacement REI		Jul-22	-	\$0.3	CDM Smith		
Watershed Division Capital Improvements	7753	Quabbin Water Supply Construction	May-22	May-22	\$0.9	\$0.5	Mass-West Construction, Inc.		
Waterworks Facility Asset	7425	Electrical Distribution Upgrades at Southborough	Jul-22	Jul-22	\$1.2	\$2.6	Dagle Electrical Construction		

4 Unplanned Awards in FY22

\$4.3

23 Total Awards FY22

\$163.9

**ATTACHMENT C**  
**Planned Awards**

**\* Reason Codes:**

1. NTP issued in FY22
2. Project/Phase eliminated or being performed in-house; combined with another project, or phase completed but on hold.
3. NTP expected in FY23
4. Schedule change due to permitting.
5. Scope changes.
6. Changes in priorities.
7. Bidder Issue/Outside Design Delay/Contractor issue/Additional specifications review

**ATTACHMENT D**  
**Linear Footage of Rehabilitated or New Pipelines**  
**FY22 (July 2021 - June 2022)**

	<u>Contract #</u>	<u>Type</u>	<u>Linear Feet</u>
<b><u>WASTEWATER PROJECTS</u></b>			
Dorchester Interceptor Sewer	7279	Rehab	15
<b><u>WATERWORKS PROJECTS</u></b>			
WASM 3 CP-1	7067	Rehab	4,952
		New	836
Northern Extra High CP-1	6522	New	1,178
NIH Sections 89 & 29 Replacement	7117	New	1,051
		Rehab	1,000
CP-3 Sections 23,24,47 Rehab	6392	Rehab	4,248
		New	788
River Road Rehab, Clinton	7701	New	682
Cosgrove Storage Facility	6650C	Rehab	441
		New	15
Tops of Shafts 6,8, and 9A	7561	Rehab	30
CWTP Sodium Hypochlorite Piping & Pumps	7085H	New	2,751
Marlborough Emergency Pumping Station Connection	7791	New	38
<b><u>TOTAL PIPELINE REHABILITATED OR CONSTRUCTED IN FY22</u></b>			
	<b><u>Linear Feet</u></b>		<b><u>Miles</u></b>
Wastewater Projects	15		0.0
Water Projects	<u>18,010</u>		<u>3.4</u>
<b>Total</b>	<b>18,025</b>		<b>3.4</b>

**ATTACHMENT E  
FY23 CIP Planned Awards**

<b>Project</b>	<b>Contract No.</b>	<b>Subphase</b>	<b>Notice to Proceed</b>	<b>FY23 Budget (\$ in Millions)</b>
IT Infrastructure Program	7802	Future Workplace	Jul-22	\$0.5
Braintree-Weymouth Relief	7995	Intermediate Pump Station Transformer Replacement	Jul-22	\$0.3
Facility Asset Protection	7555	Fuel Oil Tank Replement Constr Phase 2	Jul-22	\$1.5
Facility Asset Protection	7785	Chelsea Creek Hdwks Radio Equipment	Jul-22	\$0.4
<b>Waterworks Facility Asset Protection</b>	<b>7425</b>	<b>Electrical Distrib. Upgrades at Southborough</b>	<b>Jul-22</b>	<b>\$2.6</b>
Waterworks Facility Asset	7711	Masonry/Structural Repairs Design/Engineering Services During Construction	Jul-22	\$1.6
<b>MWRA Facilities Management</b>	<b>7980</b>	<b>Office Space Mods</b>	<b>Aug-22</b>	<b>\$15.3</b>
Chelsea Trunk Sewer	7915	CHE008 Pipe Replacement	Aug-22	\$1.4
<b>Braintree-Weymouth Relief</b>	<b>7366</b>	<b>B/W Improvements - Construction</b>	<b>Aug-22</b>	<b>\$10.0</b>
Braintree-Weymouth Relief	7683	B/W Improvements - Resident Engineering Inspection	Aug-22	\$0.8
Treatment Plant Asset Protection	7135	DI Dystor Membrane Replacements	Aug-22	\$4.0
Clinton Wastewater Treatment Plant	7648	Digester Cover Replacement	Aug-22	\$2.1
Cathodic Protection Of Distribution Mains	6439	Cathodic Protection Shaft E Impr.	Aug-22	\$0.8
Carroll Water Treatment Plant	7973	Technical Assistance 13	Aug-22	\$1.2
Carroll Water Treatment Plant	7974	Technical Assistance 14	Aug-22	\$1.2
Applicat Improv Program	7656	Archiving & Data Mgmt	Sep-22	\$0.5
Siphon Structure Rehabilitation	6225	Construction	Sep-22	\$8.3
Siphon Structure Rehabilitation	7996	Siphon Structure Phase 1 Resident Engineering Inspection	Sep-22	\$0.2
Facility Asset Protection	7508	Cottage Farm Chemical Building & Diesel Engine Design	Sep-22	\$1.8
DI Treatment Plant Asset Protection	7134	Radio Repeater System Upgrade 2	Sep-22	\$3.0
DI Treatment Plant Asset Protection	7139	Cryogenics Plant Equipment Replacement Design-ESDC-REI	Sep-22	\$6.3
DI Treatment Plant Asset Protection	7734	DITP Roofing Replacement	Sep-22	\$6.0
IT Infrastructure Program	7654	NetScalers	Oct-22	\$0.1
Facility Asset Protection	7827	Hingham Pump Station Rehab Design	Oct-22	\$1.9

**ATTACHMENT E  
FY23 CIP Planned Awards**

<b>Project</b>	<b>Contract No.</b>	<b>Subphase</b>	<b>Notice to Proceed</b>	<b>FY23 Budget (\$ in Millions)</b>
DI Treatment Plant Asset Protection	7052	Digester & Storage Tank Rehab Design/ESDC	Oct-22	\$6.0
DI Treatment Plant Asset Protection	7110	HVAC Design/ESDC	Oct-22	\$2.4
DI Treatment Plant Asset Protection	7395	Clarifier Rehab Phase 2 - Construction	Oct-22	\$180.0
DI Treatment Plant Asset Protection	7420	Motor Control Center & Switchgear Replace Construction	Oct-22	\$19.5
Clinton Wastewatr Treat Plant	7754	Landfill Cell #1 Closure	Oct-22	\$1.0
Waterworks Facility Asset Protection	7729	Beacon St Line Design/ESDC	Oct-22	\$1.2
Quabbin Transmission Syst.	7380	Wachusett Lower Gatehouse Pipe & Boiler Replacement Construction	Oct-22	\$5.1
Quabbin Transmission Syst.	7717	Wachusett Lower Gatehouse Pipe Replaceemnt REI	Oct-22	\$0.6
Metro Redundancy Interim Improvements	7671	CP2 Shafts 5	Oct-22	\$2.5
Capital Maintenance Planning	7990	As-Needed Design Contract 20	Nov-22	\$2.0
Facility Asset Protection	7689	Somerville-Marginal CSO Facility Rehab Design/Construction Administration	Nov-22	\$2.4
Facility Asset Protection	7989	Belle Isle Rehab Design/ESDC/REI	Nov-22	\$1.0
Watershed Division Capital Improvements	7577	Maintenance Garage/Wash Bay/Storage Building Construction	Nov-22	\$3.9
Capital Maintenance Planning	7991	As-Needed Design Contract 21	Dec-22	\$2.0
Applications Improvements Program	7286	Lawson Upgrade	Dec-22	\$7.6
IT Infrastructure Program	7664	Instrumentation & Controls IT	Dec-22	\$0.3
DI Treatment Plant Asset Protection	7397	Clarifier Rehab Phase 2 - REI	Dec-22	\$7.3
DI Treatment Plant Asset Protection	8018	As-Needed Design 10-1	Dec-22	\$1.8
DI Treatment Plant Asset Protection	7981	As-Needed Design 10-2	Dec-22	\$1.8
DI Treatment Plant Asset Protection	7982	As-Needed Design 10-3	Dec-22	\$1.8
Metro Tunnel Redundancy	7557	Geotechnical Support Services	Dec-22	\$13.5
Metro Redundancy Interim Improvements	7702	CP2 Tops of Shafts REI	Dec-22	\$0.3
Watershed Division Capital Impr.	7569	QAB Concept Des Report	Dec-22	\$0.3
Application Improvements Program	7666	PI (OSI)	Jan-23	\$0.3

**ATTACHMENT E  
FY23 CIP Planned Awards**

<b>Project</b>	<b>Contract No.</b>	<b>Subphase</b>	<b>Notice to Proceed</b>	<b>FY23 Budget (\$ in Millions)</b>
Facility Asset Protection	7217	Interceptor Renewal 7-Malden & Melrose-Construction	Jan-23	\$8.1
Facility Asset Protection	7751	Intercept Renewal 7 REI	Jan-23	\$1.3
DI Treatment Plant Asset Protection	6730	Combined Heat & Poweer Design/ESDC/REI	Jan-23	\$14.5
Metro Redundancy Interim Improvements	6543	WASM 3 Rehab CP-2	Jan-23	\$49.8
New Connect Mains-Shaft 7 to WASM 3	7680	Sect 24, 25, 47, 75, 59, & 60 REI	Feb-23	\$4.3
Application Improvements Program	7652	Hyperion	Mar-23	\$0.4
IT Infrastructure Program	7661	Core Switches	Mar-23	\$0.5
DI Treatment Plant Asset Protection	7051	Fire Alarm System Replacement - Construction	Mar-23	\$31.0
DI Treatment Plant Asset Protection	7088	Odor Control Rehab - Design/ESDC	Mar-23	\$8.5
DI Treatment Plant Asset Protection	7094	HVAC Equipment Replac REI	Mar-23	\$6.2
DI Treatment Plant Asset Protection	7426	Fire System Replacement - REI	Mar-23	\$3.5
Southern Spine Distribution Mains	7120	Section 22 - Design/ESDC	Mar-23	\$2.7
555 CWTP Asset Protection	7737	Corr Control Pipe Loop Study	Mar-23	\$0.5
Quabbin Transmission Syst.	6940	Oakdale High Line Repl. Constr	Mar-23	\$0.5
New Connect Mains-Shaft 7 to WASM 3	6956	Sect 25 & 24 - Construction CP-2	Apr-23	\$14.2
Waterworks Facility Asset Protection	7676	Steel Tanks Improvements REI	Apr-23	\$1.1
New Connecting Mains-Shaft 7 to WASM 3	7484	Section 75 Extension - Construction CP-1	May-23	\$12.1
Rehab of Other Pump Stations	7526	Pumping Stations Rehab-Design/CA	May-23	\$4.0
Spot Pond Supply Mains Rehab	7787	Walnut St Bridge Truss Repair	May-23	\$0.8
Metro Redundancy Interim Improvements	7600	Shaft 5 Impr. Constr.	May-23	\$3.0
Applicat Improvements Program	7650	MAXIMO Upgrade	Jun-23	\$0.6

**69 Total Planned Contracts**

**\$503.6**



### STAFF SUMMARY

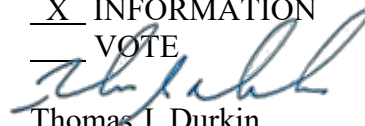
**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** September 14, 2022  
**SUBJECT:** FY22 Year-End Financial Update and Summary



**COMMITTEE:** Administration, Finance & Audit

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

X INFORMATION  
VOTE

  
Thomas J. Durkin  
Director, Finance

*This item was postponed from the September 14, 2022 Board of Directors meeting.*

#### RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2022, based on the audited fiscal-year financial close.

#### DISCUSSION:

The total FY22 year-end variance is \$30.9 million (after \$25.4 million defeasance), due to lower direct expenses of \$18.2 million, indirect expenses of \$1.3 million, lower debt service costs of \$4.7 million, and higher revenue of \$6.7 million.

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

Direct expenses were \$18.2 million below budget, driven by lower spending for Wages & Salaries, Maintenance, Other Materials, Fringe Benefits, Professional Services, and Workers Compensation, partially offset by higher spending on Utilities.

Indirect expenses were \$1.3 million below budget due to lower spending on Watershed Reimbursement associated with lower costs for maintenance, equipment, and telecommunications, lower HEEC Revenue Requirement, and lower Insurance Payments/Claims.

Debt Service expenses were \$4.7 million below budget driven by lower than anticipated interest rates, lower than anticipated SRF spending due to bond issue timing, and lower Local Water Pipeline CP interest rates, partially offset by higher than anticipated senior debt, as a result of defeasance expenditures.

Revenue was \$6.7 million greater than budget, driven by Other Revenue of \$3.5 million, and Other User Charges of \$1.7 million, and Investment Income of \$1.5 million.

Of the \$30.9 million surplus, \$1.2 million in Debt Service Assistance, as in prior years, was applied against the FY23 budget.

Staff are recommending that the remaining approximately \$29.7 million of the FY22 surplus be used to defease debt to provide targeted rate relief for communities between FY24-27. This rate management strategy has proven to be very effective in the past few years in managing assessment increases over time. The proposed defeasance scenario is being presented to the Board at this meeting in a separate staff summary.

**FY22 Current Expense Budget**

The CEB expense variances for FY22 by major budget category were:

- Lower Direct Expenses of \$18.2 million or 7.0% under budget. Spending was lower for Wages and Salaries, Maintenance, Other Materials, Fringe Benefits, Professional Services, Workers’s Compensation, Chemicals, Training & Meetings, and Overtime. Spending was higher than budget for Utilities and Other Services.
- Lower Indirect Expenses of \$1.3 million or 2.4% under budget primarily due to lower Watershed Reimbursements, HEEC expenses, and insurance payments/claims.
- Debt Service expenses were \$4.7 million or 0.9% below budget driven by lower than anticipated interest rates, lower than anticipated SRF spending due to bond issue timing, and lower Local Water Pipeline CP interest rates, partially offset by higher than anticipated senior debt, as a result of defeasance expenditures.

**FY22 Budget and FY22 Actual Variance by Expenditure Category  
(in millions)**

	<b>FY22 Budget</b>	<b>FY22 Actual</b>	<b>\$ Variance</b>	<b>% Variance</b>
Direct Expenses	\$259.8	\$241.7	-\$18.2	-7.0%
Indirect Expenses	\$56.7	\$55.3	-\$1.3	-2.4%
Capital Financing	\$496.5	\$491.9	-\$4.7	-0.9%
<b>Total</b>	<b>\$813.0</b>	<b>\$788.8</b>	<b>-\$24.2</b>	<b>-3.0%</b>

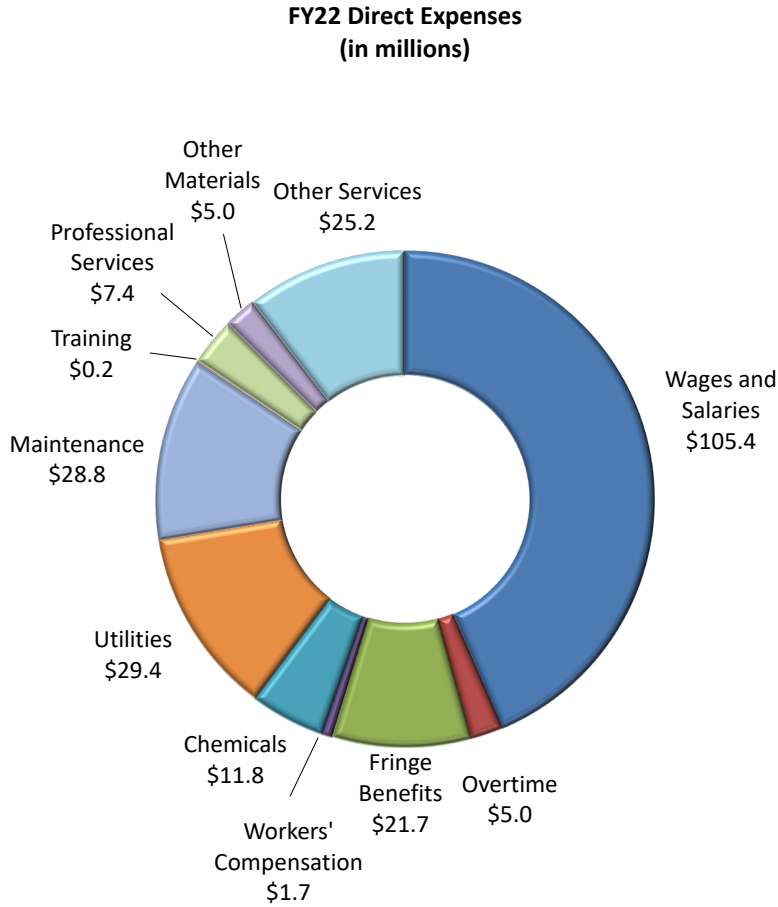
*Totals may not add due to rounding*

Total Revenues of \$819.7 million were \$6.7 million or 0.8% over budget driven by higher Other Revenue, Other User Charges, the receipt of Debt Service Assistance from the Commonwealth, and Investment Income.

*Please refer to Attachment 1 for a more detailed comparison by line item of the budget variances for FY22.*

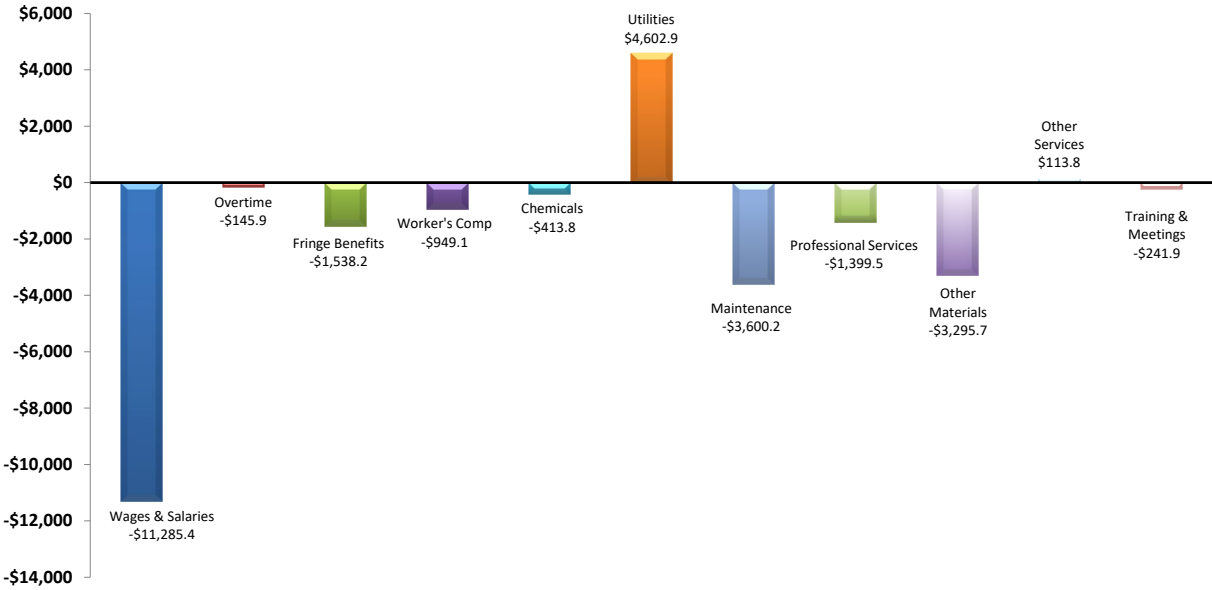
**Direct Expenses**

FY22 direct expenses totaled \$241.7 million, which was \$18.2 million or 7.0% less than budgeted.



Lower spending for Wages and Salaries, Maintenance, Other Materials, Fringe Benefits, Professional Services, Worker’s Compensation, Chemicals, Training and Meetings, and Overtime. Spending was higher than budget for Utilities and Other Services.

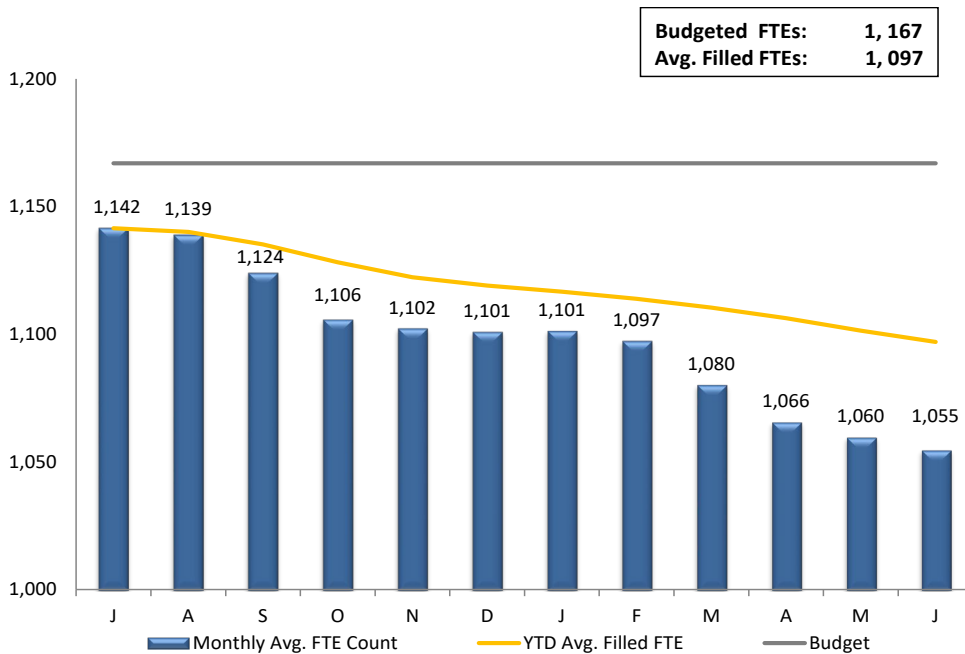
### FY22 Direct Expense Variance (in thousands)



### Wages and Salaries

Wages and Salaries are under budget by \$11.3 million or 9.7%. There were 70 fewer average FTEs (1,097 versus 1,167 budget) or 6.0% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions also contributed to Regular Pay being under budget.

### FY22 MWRA Full Time Equivalent (FTE) Position Trend



## **Maintenance**

Maintenance was less than budget by \$3.6 million or 11.1%, largely driven by the timing of projects. Maintenance Materials are under budget by \$1.3 million, driven by Plant and Machine Materials of \$523,000, Special Equipment Materials of \$436,000, and HVAC Materials of \$350,000. Maintenance Services are under budget by \$2.3 million driven by Building and Grounds Services of \$956,000 due to timing of service contracts, Computer Software/License Upgrades of \$675,000 due to the timing of the Windows Enterprise Assurance Renewal and the AutoCad upgrade, Special Equipment Services of \$464,000 primarily due to timing of service contracts and a lower award than budgeted for the telephone system maintenance contract, Electrical Services of \$299,000, and Computer Services of \$207,000 due to HP and Cisco Smartnet renewal contracts being less than budgeted and the Distributed Antenna System Support agreement at Deer Island being delayed. This is partially offset by higher Plant and Machinery Services of \$337,000 primarily due to timing.

## **Other Materials**

Other Materials were lower than budget by \$3.3 million or 39.5%, driven by less than budgeted spending for Other Materials of \$2.2 million primarily due to funding for the office space modifications now coming from the CIP, Vehicle Purchases/Replacements of \$875,000, Equipment/Furniture of \$337,000, and Computer Software of \$103,000, all largely due to the timing of purchasing. This underspending was partially offset by higher Computer Hardware of \$324,000 in MIS due to additional hardware purchased for teleworking.

## **Fringe Benefits**

Fringe Benefit spending was lower than budget by \$1.5 million or 6.6%. This is primarily driven by lower Health Insurance costs of \$1.2 million due to fewer than budgeted participants in health insurance plans, increased contribution by 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 lower than budget by \$1.4 million or 16.0%. The overall underspending is driven by lower spending in Computer Systems Consultant of \$1.3 million in MIS primarily due to a reduction in scope of Managed Security Services Provider (MSSP) Year 5 monitoring extension and a delay in Internet/Intranet Pipeline Upgrade project, Engineering of \$363,000 primarily in Field Operations, and Lab & Testing Analysis of \$339,000. This is partially offset by higher Other Services of \$405,000 primarily for design work for the move from CNY to Deer Island and Chelsea and Security Services of \$308,000 due to new contract pricing.

## **Worker's Compensation**

Worker's Compensation expenses were lower than budget by \$0.9 million or 36.3%. The lower expenses were due to favorable variances in Compensation Payments of \$576,000, Medical Payments of \$319,000, and Administrative Expenses of \$55,000.

## **Chemicals**

Chemicals were lower than budget by \$0.4 million or 3.4%. Lower than budget spending on Hydrogen Peroxide of \$384,000 driven by Deer Island based on usage as excessive rainfall early in the fiscal year helped lower H<sub>2</sub>S levels, Soda Ash of \$109,000 driven by Water Operations due to slightly lower average flows at Carroll, Activated Carbon of \$89,000 primarily driven by Deer Island due to timing of replacements, Polymer of \$76,000 driven by Deer Island due to less usage for centrifuge operations, and Carbon Dioxide of \$64,000 driven by Water Operations due to lower dosing combined with slightly lower flows through the year. This is partially offset by Ferric Chloride of \$275,000 driven by Deer Island to keep the orthophosphate levels in the digesters at the desired target level, and Liquid Oxygen of \$118,000 due to higher dosing. Deer Island flows are 5.6% higher than the budget and Carroll flows are 0.16% higher than the budget for FY22. 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.

## **Training and Meetings**

Training and Meetings expenses were lower than budget by \$0.2 million or 51.0% driven by reduced spending during the pandemic, as well as the timing of spending.

## **Overtime**

Overtime expenses were less than budget by \$0.1 million or 2.8%. Lower spending mainly in Field Operations of \$391,000 primarily for planned and emergency overtime being under budget, and Engineering & Construction of \$101,000, are partially offset by higher spending at Deer Island of \$310,000 and Clinton of \$42,000 for storm and shift coverage. Rainfall was a major contributor for the increased overtime at Deer Island and Clinton. In addition, vacancies at the Thermal Power Plant and Deer Island Operations continue to drive higher overtime costs than anticipated.

## **Other Services**

Other Services were higher than budget by \$0.1 million or 0.5%. Higher than anticipated sludge palletization costs of \$469,000 were due to a higher inflation adjustment per the terms of the contract for the second half of FY22. This was partially offset by lower than budgeted spending for Telecommunication costs of \$111,000, Health/Safety of \$99,000, and Grit and Screenings of \$89,000 due to lower quantities.

## **Utilities**

Utilities were greater than budget by \$4.6 million or 18.6%. Overspending in Electricity of \$3.6 million due to higher costs at Deer Island of \$2.3 million driven by power demand charges being more than budgeted based on flows, T&D rates from Eversource, and higher real time market prices for the non-block purchases under the Direct Energy contract. Higher electricity costs of \$1.3 million in Field Operations is primarily due to new T&D rates and quantity. Diesel Fuel is overspent by \$946,000 due to higher quantity purchased for Deer Island at a higher price.

## Indirect Expense

Indirect Expenses totaled \$55.3 million, which is \$1.3 million or 2.4% under budget. The variance is driven by lower Watershed Reimbursements of \$0.8 million, lower HEEC costs of \$0.4 million, and lower insurance payments/claims of \$0.2 million.

Based on FY22 operating activity only, the Watershed Division is \$501,000 or 2.8% under budget. When factoring in the FY21 balance forward (\$69,000) which was paid during Q1 of FY22, Watershed Reimbursement is \$433,000 or 2.4% below budget in FY22. In addition, the PILOT payment is \$336,000 or 3.8% below budget.

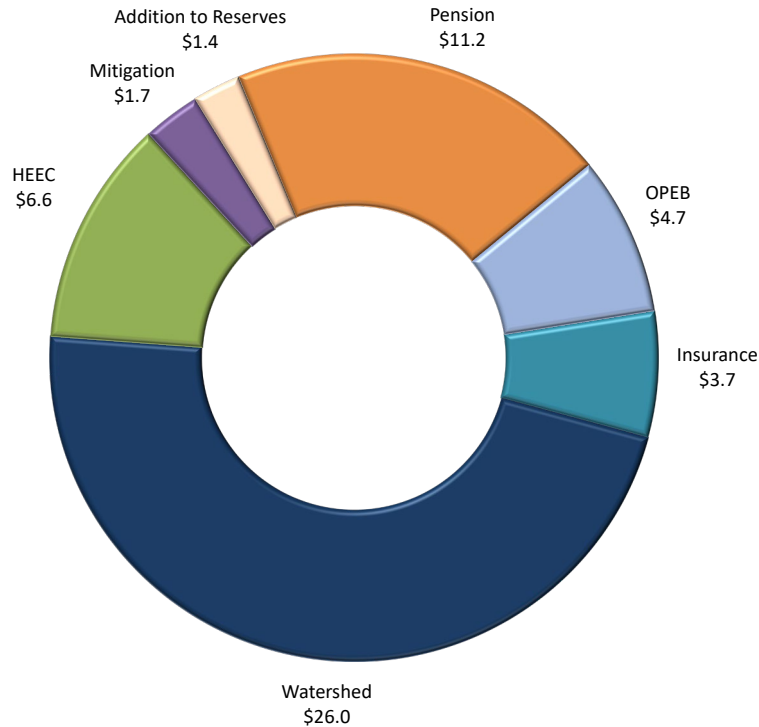
### FY22 Watershed Variance

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	18.9	18.6	-0.3	-1.7%
Operating Revenues - Offset	1.0	1.2	0.2	17.6%
<b>FY22 Operating Totals</b>	<b>17.9</b>	<b>17.4</b>	<b>-0.5</b>	<b>-2.8%</b>
DCR Balance Forward (FY21 4th quarter accrual true-up)	0.0	0.1	0.1	
<b>FY22 Adjusted Operating Totals</b>	<b>17.9</b>	<b>17.5</b>	<b>-0.4</b>	<b>-2.4%</b>
PILOT	8.8	8.5	-0.3	-3.8%
<b>Total Watershed Reimbursement</b>	<b>26.7</b>	<b>26.0</b>	<b>-0.8</b>	<b>-2.9%</b>

*Totals may not add due to rounding*

MWRA reimburses the Commonwealth of Massachusetts Department of Conservation (DCR) and Recreation - Division of Water Supply Protection – Office of Watershed Management for expenses. The reimbursements are presented for payment monthly in arrears. Accruals are being made monthly based on estimated expenses provided by DCR and true-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. The FTE count at the end of June was 138 (and 135.8 average for FY22) vs. a budget of 150.

**FY22 Indirect Expenses  
(in millions)**



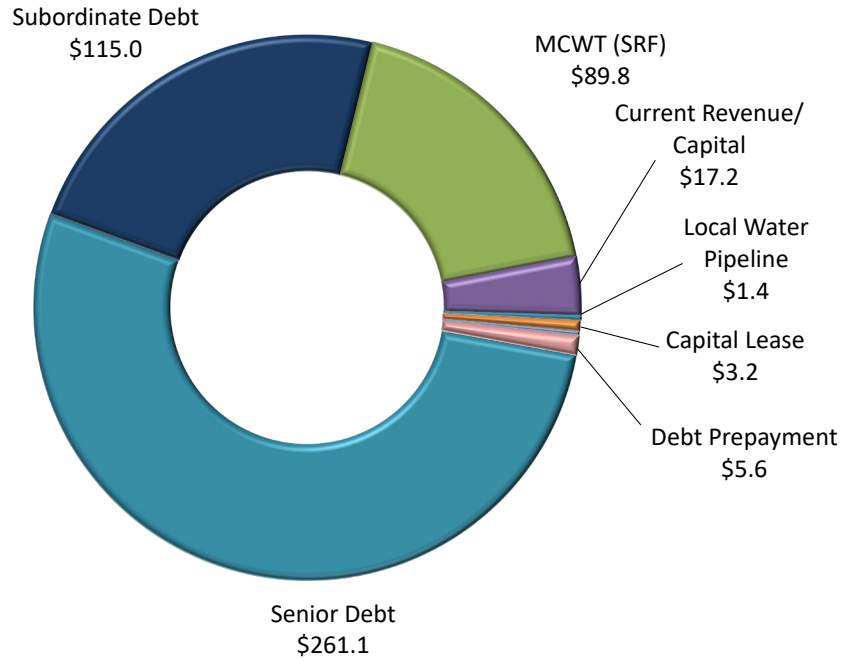
**Capital Financing**

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

Capital Finance totaled \$491.9 million and was \$4.7 million or 0.9% below budget after the impact of the spring defeasance. Surplus was a result of lower than budget variable interest expense of \$10.1 million due to lower interest rates combined with lower SRF spending of \$5.9 million due to bond issue timing, lower Water Pipeline Commercial Paper of \$4.8 million due to lower than budgeted interest rates, offset by higher Senior Debt of \$16.1 million, as a result of defeasance expenditures of \$25.4 million.

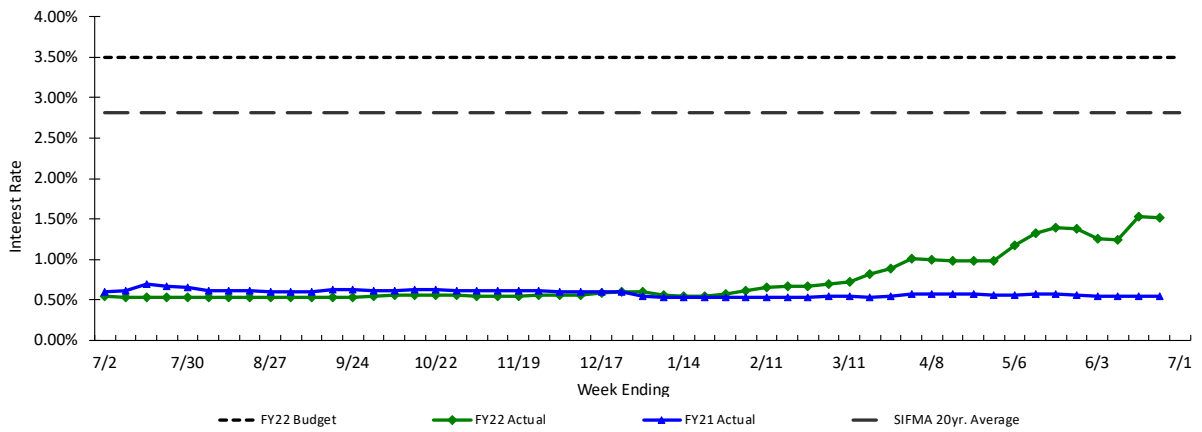


**Capital Finance  
(\$ in millions)**



The graph below reflects the FY22 actual variable rate trend by week against the FY22 Budget.

**Weekly Average Interest Rate on MWRA Variable Rate Debt  
(Includes liquidity support and remarketing fees)**



## **Revenue and Income**

Revenues of \$819.7 million were \$6.7 million or 0.7% over budget. Other Revenue was \$3.5 million or 54.2% over budget due to Payments from the Commonwealth of Massachusetts of \$1.2 million for Debt Service Assistance, higher Miscellaneous Revenue of \$1.2 million driven by \$443,000 in reimbursement from the Commonwealth of Massachusetts for Biobot costs associated with FY21, Energy Revenue of \$661,000, Income from the Disposal of Equipment of \$305,000, and Energy Rebates of \$264,000. Other User Charges were over budget by \$1.7 million or 18.9% primarily for unplanned water use by the Town of Burlington. Investment Income was \$1.5 million or 37.2% over budget due to higher than budgeted interest rates.

## **ATTACHMENTS:**

Attachment 1 – FY22 Variance Summary

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – FY22 Actual vs. FY22 Projection

ATTACHMENT 1  
FY22 Actuals vs. FY22 Budget

	FY22 Year-End				
	FY22 Budget	FY22 Actual	FY22 Variance	%	FY22 Approved
<b><u>EXPENSES</u></b>					
WAGES AND SALARIES	\$ 116,680,341	\$ 105,394,954	\$ (11,285,387)	-9.7%	\$ 116,680,341
OVERTIME	5,156,681	5,010,758	(145,923)	-2.8%	5,156,681
FRINGE BENEFITS	23,253,137	21,714,918	(1,538,219)	-6.6%	23,253,137
WORKERS' COMPENSATION	2,614,159	1,665,017	(949,142)	-36.3%	2,614,159
CHEMICALS	12,202,286	11,788,437	(413,849)	-3.4%	12,202,286
ENERGY AND UTILITIES	24,749,865	29,352,756	4,602,891	18.6%	24,749,865
MAINTENANCE	32,442,382	28,842,198	(3,600,184)	-11.1%	32,442,382
TRAINING AND MEETINGS	473,994	232,056	(241,938)	-51.0%	473,994
PROFESSIONAL SERVICES	8,773,258	7,373,709	(1,399,549)	-16.0%	8,773,258
OTHER MATERIALS	8,334,774	5,039,040	(3,295,734)	-39.5%	8,334,774
OTHER SERVICES	25,129,234	25,243,013	113,779	0.5%	25,129,234
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 259,810,111</b>	<b>\$ 241,656,856</b>	<b>\$ (18,153,254)</b>	<b>-7.0%</b>	<b>\$ 259,810,111</b>
INSURANCE	\$ 3,943,600	\$ 3,713,849	\$ (229,751)	-5.8%	\$ 3,943,600
WATERSHED/PILOT	26,731,490	25,962,906	(768,584)	-2.9%	26,731,490
HEEC PAYMENT	6,991,953	6,640,820	(351,133)	-5.0%	6,991,953
MITIGATION	1,693,360	1,693,360	-	0.0%	1,693,360
ADDITIONS TO RESERVES	1,412,647	1,412,647	-	0.0%	1,412,647
RETIREMENT FUND	11,205,000	11,205,000	-	0.0%	11,205,000
POST EMPLOYEE BENEFITS	4,673,624	4,673,624	-	0.0%	4,673,624
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 56,651,674</b>	<b>\$ 55,302,206</b>	<b>\$ (1,349,469)</b>	<b>-2.4%</b>	<b>\$ 56,651,674</b>
STATE REVOLVING FUND	\$ 95,673,399	\$ 89,764,495	\$ (5,908,904)	-6.2%	\$ 95,673,399
SENIOR DEBT	244,957,128	261,060,493	16,103,365	6.6%	244,957,128
DEBT SERVICE ASSISTANCE	(1,287,870)	(1,287,870)	-	0.0%	(1,287,870)
CURRENT REVENUE/CAPITAL	17,200,000	17,200,000	-	0.0%	17,200,000
SUBORDINATE MWRA DEBT	125,046,218	125,046,218	-	0.0%	125,046,218
LOCAL WATER PIPELINE CP	6,120,127	1,353,576	(4,766,551)	-77.9%	6,120,127
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%	3,217,060
VARIABLE DEBT	-	(10,083,161)	(10,083,161)	---	-
DEFEASANCE ACCOUNT	-	-	-	---	-
DEBT PREPAYMENT	5,609,355	5,609,355	-	0.0%	5,609,355
<b>TOTAL CAPITAL FINANCE EXPENSE</b>	<b>\$ 496,535,417</b>	<b>\$ 491,880,165</b>	<b>\$ (4,655,252)</b>	<b>-0.9%</b>	<b>\$ 496,535,417</b>
<b>TOTAL EXPENSES</b>	<b>\$ 812,997,202</b>	<b>\$ 788,839,227</b>	<b>\$ (24,157,975)</b>	<b>-3.0%</b>	<b>\$ 812,997,202</b>
<b><u>REVENUE &amp; INCOME</u></b>					
RATE REVENUE	\$ 792,084,000	\$ 792,084,000	\$ -	0.0%	\$ 792,084,000
OTHER USER CHARGES	9,222,883	10,962,933	1,740,050	18.9%	9,222,883
OTHER REVENUE	6,479,203	9,989,560	3,510,357	54.2%	6,479,203
RATE STABILIZATION	1,250,000	1,250,000	-	0.0%	1,250,000
INVESTMENT INCOME	3,961,116	5,435,309	1,474,193	37.2%	3,961,116
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 812,997,202</b>	<b>\$ 819,721,802</b>	<b>\$ 6,724,600</b>	<b>0.8%</b>	<b>\$ 812,997,202</b>

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

Total MWRA	FY22 Budget	FY22 Actuals	FY22 Actual vs. FY22 Budget		Explanations
			\$	%	
<b>Direct Expenses</b>					
Wages & Salaries	116,680,341	105,394,954	(11,285,387)	-9.7%	Wages and Salaries are under budget by \$11.3 million. Year to date, there have been 70 fewer average FTEs (1,097 versus 1,167 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	5,156,681	5,010,758	(145,923)	-2.8%	Overtime expenses were less than budget by \$146,000 or 2.8%. Lower spending mainly in Field Operations of \$391,000 primarily for planned and emergency overtime being under budget, Engineering & Construction of \$101,000, are partially offset by higher spending at Deer Island of \$310,000 and Clinton of \$42,000 for storm and shift coverage. Year-to-date rainfall was a major contributor for the increased overtime. In addition, vacancies at the Thermal Power Plant and DITP Operations continue to drive higher overtime costs than anticipated.
Fringe Benefits	23,253,137	21,714,918	(1,538,219)	-6.6%	Lower than budget in <b>Health Insurance</b> of \$1.2 million, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive. Also, <b>Dental Insurance</b> of \$102,000 and <b>Unemployment Insurance</b> of \$71,000 were lower than budget.
Worker's Compensation	2,614,159	1,665,017	(949,142)	-36.3%	The lower expenses were due to favorable variances in <b>Compensation Payments</b> of \$576,000, <b>Medical Payments</b> of \$319,000, and <b>Administrative Expenses</b> of \$55,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
Chemicals	12,202,286	11,788,437	(413,849)	-3.4%	Chemicals were lower than budget by \$0.4 million or 3.4%. Lower than budget spending on <b>Hydrogen Peroxide</b> of \$384,000 driven by DITP based on usage as excessive rainfall helped lower H2S levels, <b>Soda Ash</b> of \$109,000 driven by Water Operations due to slightly lower average flows at CWTP, <b>Activated Carbon</b> of \$89,000 primarily driven by Deer Island due to timing of replacements, <b>Polymer</b> of \$76,000 driven by DITP due to less usage for centrifuge operations, and <b>Carbon Dioxide</b> of \$64,000 driven by Water Operations due to lower dosing combined with slightly lower flows through the year. This is partially offset by <b>Ferric Chloride</b> of \$275,000 driven by DITP to keep the orthophosphate levels in the digesters at the desired target level, and <b>Liquid Oxygen</b> of \$118,000 due to higher dosing. DITP flows are 5.6% higher than the budget and CWTP flows are 0.16% higher than the budget through June. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.

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

Total MWRA	FY22 Budget	FY22 Actuals	FY22 Actual vs. FY22 Budget		Explanations
			\$	%	
Utilities	24,749,865	29,352,756	4,602,891	18.6%	Utilities were greater than budget by \$4.6 million or 18.6%. Overspending in <b>Electricity</b> of \$3.6 million primarily at DITP of \$2.3 million driven by power demand charges being more than budgeted based on flows, T&D rates from Eversource, and higher real time market prices for the non-block purchases under the Direct Energy contract. Also, Field Operations of \$1.3 million is over budget primarily due to new T&D rates and quantity. <b>Diesel Fuel</b> is overspent by \$946,000 driven by Deer Island Treatment Plant due to higher quantity purchase at a higher price. Also, Field Operations is overspent by \$199,000 due to lower quantity purchased at a higher price.
Maintenance	32,442,382	28,842,198	(3,600,184)	-11.1%	Maintenance was less than budget by \$3.6 million or 11.1%, largely driven by the timing of projects. <i>Maintenance Materials</i> are under budget by \$1.3 million, driven by <b>Plant and Machine Materials</b> of \$523,000, <b>Special Equipment Materials</b> of \$436,000, <b>HVAC Materials</b> of \$350,000, and <b>Pipe Materials</b> of \$262,000, all largely due to timing, partially offset by <b>Warehouse Inventory</b> of \$279,000. <i>Maintenance Services</i> are under budget by \$2.3 million driven by <b>Building &amp; Grounds Services</b> of \$956,000 due to timing of service contracts, <b>Special Equipment Services</b> of \$464,000 primarily due to timing of service contracts and a lower award than budgeted for the telephone system maintenance contract, and <b>Computer Services</b> of \$207,000 due to HP and Cisco Smartnet renewal contracts being less than budgeted and the Distributed Antenna System Support agreement at DITP being delayed. Also, <b>Computer Software Licenses</b> of \$675,000 and <b>Electrical Services</b> of \$299,000 primarily due to timing.
Training & Meetings	473,994	232,056	(241,938)	-51.0%	Lower than budget spending on <b>Training &amp; Meetings</b> by \$242,000 is driven by MIS of \$103,000, Tunnel Redundancy of \$20,000, Field Operations of \$19,000, DITP of \$15,000, and Procurement of \$11,000, partially offset by higher spending in Engineering & Construction of \$7,000.
Professional Services	8,773,258	7,373,709	(1,399,549)	-16.0%	Lower than budget spending primarily for <b>Computer Systems Consultant</b> of \$1.3 million in MIS primarily due to a reduction in scope of Managed Security Services Provider (MSSP) Year 5 monitoring extension and delay in Internet/Intranet Pipeline Upgrade project, <b>Engineering</b> of \$363,000 primarily in Field Operations, <b>Lab &amp; Testing Analysis</b> of \$339,000, partially offset by <b>Other Services</b> of \$405,000 primarily for design work for the move from CNY to DI and Chelsea.
Other Materials	8,334,774	5,039,040	(3,295,734)	-39.5%	Other Materials were lower than budget by \$3.3 million or 39.5%, driven by less than budgeted spending for <b>Other Materials</b> of \$2.2 million primarily due to funding for the office space modifications now coming from the CIP, <b>Vehicle Purchases/Replacements</b> of \$875,000, <b>Equipment/Furniture</b> of \$337,000, <b>Computer Software</b> of \$103,000, and <b>Office Supplies</b> of \$98,000, all largely due to the timing of purchasing. This underspending was partially offset by <b>Computer Hardware</b> of \$324,000 in MIS due to additional hardware purchased for teleworking.

**ATTACHMENT 2  
Current Expense Variance Explanations**

Total MWRA	FY22 Budget	FY22 Actuals	FY22 Actual vs. FY22 Budget		Explanations
			\$	%	
Other Services	25,129,234	25,243,013	113,779	0.5%	Other Services were higher than budget by \$0.1 million or 0.5%. Higher than anticipated sludge palletization costs of \$469,000 were due to a higher inflation adjustment per the terms of the contract for the second half of FY22. This was partially offset by lower than budgeted spending for Telecommunication costs of \$111,000, Health/Safety of \$99,000, and Grit and Screenings of \$89,000 due to lower quantities.
<b>Total Direct Expenses</b>	<b>259,810,111</b>	<b>241,656,856</b>	<b>(18,153,255)</b>	<b>-7.0%</b>	

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

Total MWRA	FY22 Budget	FY22 Actuals	FY22 Actual vs. FY22 Budget		Explanations
			\$	%	
<b>Indirect Expenses</b>					
Insurance	3,943,600	3,713,849	(229,751)	-5.8%	Lower Payments/Claims of \$206,000 and lower Premiums of \$22,000 than budgeted.
Watershed/PILOT	26,731,490	25,962,906	(768,584)	-2.9%	Lower Watershed Reimbursement of \$0.8 million favorable variance to budget driven by lower spending on (1) Maintenance (2) Equipment (3) Telecommunications (4) and Operational Supplies. Also, PILOT is \$336,000 below budget.
HEEC Payment	6,991,953	6,640,820	(351,133)	-5.0%	Decrease is due to HEEC Revenue Requirement (\$486,000), partially offset by and HEEC O&M charge \$135,000.
Mitigation	1,693,360	1,693,359	(1)	0.0%	
Addition to Reserves	1,412,647	1,412,646	(1)	0.0%	
Pension Expense	11,205,000	11,205,000	-	0.0%	
Post Employee Benefits	4,673,624	4,673,624	-	0.0%	
<b>Total Indirect Expenses</b>	<b>56,651,674</b>	<b>55,302,204</b>	<b>(1,349,470)</b>	<b>-2.4%</b>	
<b>Debt Service</b>					
Debt Service	497,823,287	493,168,036	(4,655,251)	-0.9%	Capital Finance totaled \$491.9 million and was \$4.7 million or 0.9% below budget after the impact of the spring defeasance. Surplus was a result of lower than budget variable interest expense of \$10.1 million due to lower interest rates combined with lower SRF spending of \$5.9 million due to bond issue timing, lower Water Pipeline CP of \$4.8 million due to lower than budgeted interest rates, offset by higher Senior Debt of \$16.1 million, as a result of defeasance expenditures of \$25.4 million.
Debt Service Assistance	(1,287,870)	(1,287,870)	-	0.0%	
<b>Total Debt Service Expenses</b>	<b>496,535,417</b>	<b>491,880,166</b>	<b>(4,655,251)</b>	<b>-0.9%</b>	
<b>Total Expenses</b>					
<b>Total Expenses</b>	<b>812,997,202</b>	<b>788,839,226</b>	<b>(24,157,976)</b>	<b>-3.0%</b>	

**ATTACHMENT 2  
Current Expense Variance Explanations**


Total MWRA	FY22 Budget	FY22 Actuals	FY22 Actual vs. FY22 Budget		Explanations
			\$	%	
<b>Revenue &amp; Income</b>					
Rate Revenue	792,084,000	792,084,000	-	0.0%	
Other User Charges	9,222,883	10,962,933	1,740,050	18.9%	Unplanned water use by the town of Burlington.
Other Revenue	6,479,203	9,989,560	3,510,357	54.2%	Other Revenue was \$3.5 million or 35.9% over budget due to <b>Payment From the Commonwealth of Massachusetts</b> of \$1.2 million for debt service assistance, <b>Miscellaneous Revenue</b> of \$1.2 million driven by \$443,000 for the reimbursement from the Commonwealth of Massachusetts for Biobot costs associated with FY21, <b>Energy Revenue</b> of \$661,000, <b>Income from the Disposal of Equipment</b> of \$305,000, and <b>Energy Rebates</b> of \$264,000.
Rate Stabilization	1,250,000	1,250,000	-	0.0%	HEEC Reserve.
Investment Income	3,961,116	5,435,309	1,474,193	37.2%	Investment Income is over budget is due to higher than budgeted interest rates.
<b>Total Revenue</b>	<b>812,997,202</b>	<b>819,721,802</b>	<b>6,724,600</b>	<b>0.8%</b>	
<b>Net Revenue in Excess of Expenses</b>	<b>-</b>	<b>30,882,576</b>	<b>30,882,576</b>		



**Attachment 3**  
**FY22 Actual vs. FY22 Projection**

TOTAL MWRA		FY22 Projection	FY22 Actual	Change FY22 Actual vs FY22 Projection	
				\$	%
<b>EXPENSES</b>					
WAGES AND SALARIES	\$	107,378,367	\$ 105,394,954	\$ (1,983,413)	-1.8%
OVERTIME		5,030,378	5,010,758	(19,620)	-0.4%
FRINGE BENEFITS		22,209,351	21,714,918	(494,433)	-2.2%
WORKERS' COMPENSATION		1,960,619	1,665,017	(295,602)	-15.1%
CHEMICALS		12,255,355	11,788,437	(466,918)	-3.8%
ENERGY AND UTILITIES		28,684,687	29,352,756	668,069	2.3%
MAINTENANCE		30,066,732	28,842,198	(1,224,534)	-4.1%
TRAINING AND MEETINGS		314,875	232,056	(82,819)	-26.3%
PROFESSIONAL SERVICES		7,895,932	7,373,709	(522,223)	-6.6%
OTHER MATERIALS		7,501,297	5,039,040	(2,462,257)	-32.8%
OTHER SERVICES		24,877,944	25,243,013	365,069	1.5%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$</b>	<b>248,175,536</b>	<b>\$ 241,656,856</b>	<b>\$ (6,518,680)</b>	<b>-2.6%</b>
INSURANCE	\$	3,943,600	\$ 3,713,849	(229,751)	-5.8%
WATERSHED/PILOT		25,450,160	25,962,906	512,746	2.0%
HEEC PAYMENT		6,640,820	6,640,820	-	0.0%
MITIGATION		1,693,359	1,693,359	-	0.0%
ADDITIONS TO RESERVES		1,412,646	1,412,646	-	0.0%
RETIREMENT FUND		11,205,000	11,205,000	-	0.0%
POSTEMPLOYMENT BENEFITS		4,673,624	4,673,624	-	0.0%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$</b>	<b>55,019,209</b>	<b>\$ 55,302,204</b>	<b>\$ 282,995</b>	<b>0.5%</b>
STATE REVOLVING FUND	\$	89,764,498	\$ 89,764,495	(3)	0.0%
SENIOR DEBT		238,650,582	261,060,493	22,409,911	9.4%
SUBORDINATE DEBT		114,008,631	114,963,057	954,426	0.8%
LOCAL WATER PIPELINE CP		1,431,079	1,353,576	(77,503)	-5.4%
CURRENT REVENUE/CAPITAL		17,200,000	17,200,000	-	0.0%
CAPITAL LEASE		3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT		5,609,355	5,609,355	-	0.0%
DEBT SERVICE ASSISTANCE		(1,287,870)	(1,287,870)	-	0.0%
<b>TOTAL DEBT SERVICE</b>	<b>\$</b>	<b>468,593,335</b>	<b>\$ 491,880,166</b>	<b>\$ 23,286,831</b>	<b>5.0%</b>
<b>TOTAL EXPENSES</b>	<b>\$</b>	<b>771,788,080</b>	<b>\$ 788,839,226</b>	<b>\$ 17,051,146</b>	<b>2.2%</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$	792,084,000	\$ 792,084,000	(0)	0.00%
OTHER USER CHARGES		10,693,360	10,962,933	269,573	2.5%
OTHER REVENUE		8,739,663	9,989,560	1,249,897	14.3%
RATE STABILIZATION		1,250,000	1,250,000	-	0.0%
INVESTMENT INCOME		4,100,116	5,435,309	1,335,193	32.6%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$</b>	<b>816,867,140</b>	<b>\$ 819,721,802</b>	<b>\$ 2,854,662</b>	<b>0.3%</b>
<b>VARIANCE:</b>			<b>\$ (30,882,576)</b>	<b>\$ 14,196,484</b>	<b>1.7%</b>

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** October 19, 2022  
**SUBJECT:** FY23 Financial Update and Summary through September 2022

---

**COMMITTEE:** Administration, Finance & Audit

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

X INFORMATION  
   VOTE

  
Thomas J. Durkin  
Director, Finance

---

### RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2023 through September 2022, comparing actual spending to the budget.

### DISCUSSION:

The total Year-to-Date variance for the FY23 CEB is \$7.7 million, due to lower direct expenses of \$4.9 million, indirect expenses of \$0.2 million, and debt service costs of \$1.6 million, and higher revenue of \$1.1 million.

### FY23 Current Expense Budget

The CEB expense variances through September 2022 by major budget category were:

- Lower Direct Expenses of \$4.9 million or 7.5% under budget. Spending was lower for Wages & Salaries, Maintenance, Other Services, Workers Compensation, Fringe Benefits, Overtime, and Training & Meetings. Spending was higher than budget for Utilities, Chemicals, Other Materials, and Professional Services.
- Lower Indirect Expenses of \$0.2 million or 0.8% under budget due primarily to lower Watershed reimbursements.
- Debt Service expenses were \$1.6 million or 1.4% under budget driven by lower than budgeted variable interest expense.
- Revenue was \$1.1 million or 0.5% over budget driven by Investment Income of \$1.1 million due to higher than budgeted interest rates.

**FY23 Budget and FY23 Actual Variance by Expenditure Category  
(in millions)**

	<b>FY23 Budget</b>	<b>FY23 Actual</b>	<b>\$ Variance</b>	<b>% Variance</b>
Direct Expenses	\$66.0	\$61.0	-\$4.9	-7.5%
Indirect Expenses	\$20.3	\$20.1	-\$0.2	-0.8%
Capital Financing	\$112.8	\$111.2	-\$1.6	-1.4%
<b>Total</b>	<b>\$199.1</b>	<b>\$192.4</b>	<b>-\$6.7</b>	<b>-3.3%</b>

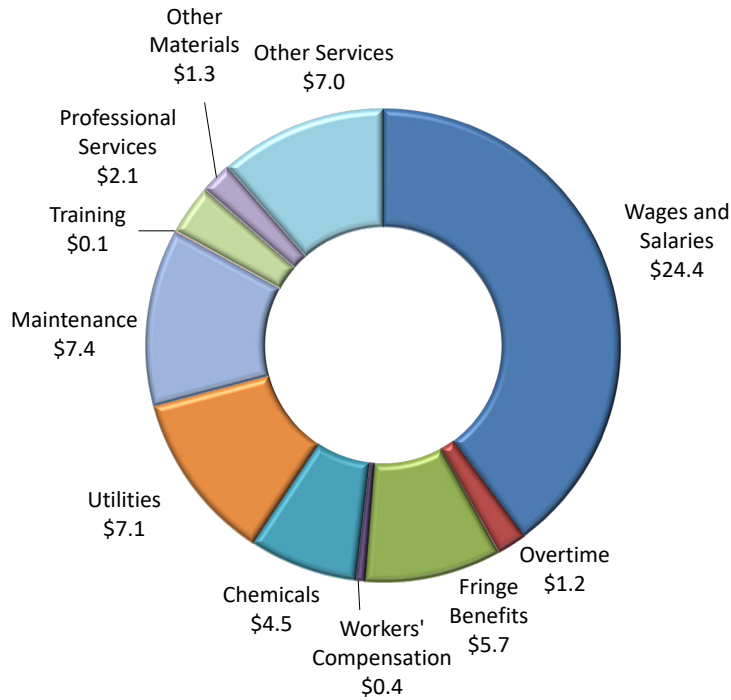
*Totals may not add due to rounding*

*Please refer to Attachment 1 for a more detailed comparison by line item of the budget variances for FY23.*

**Direct Expenses**

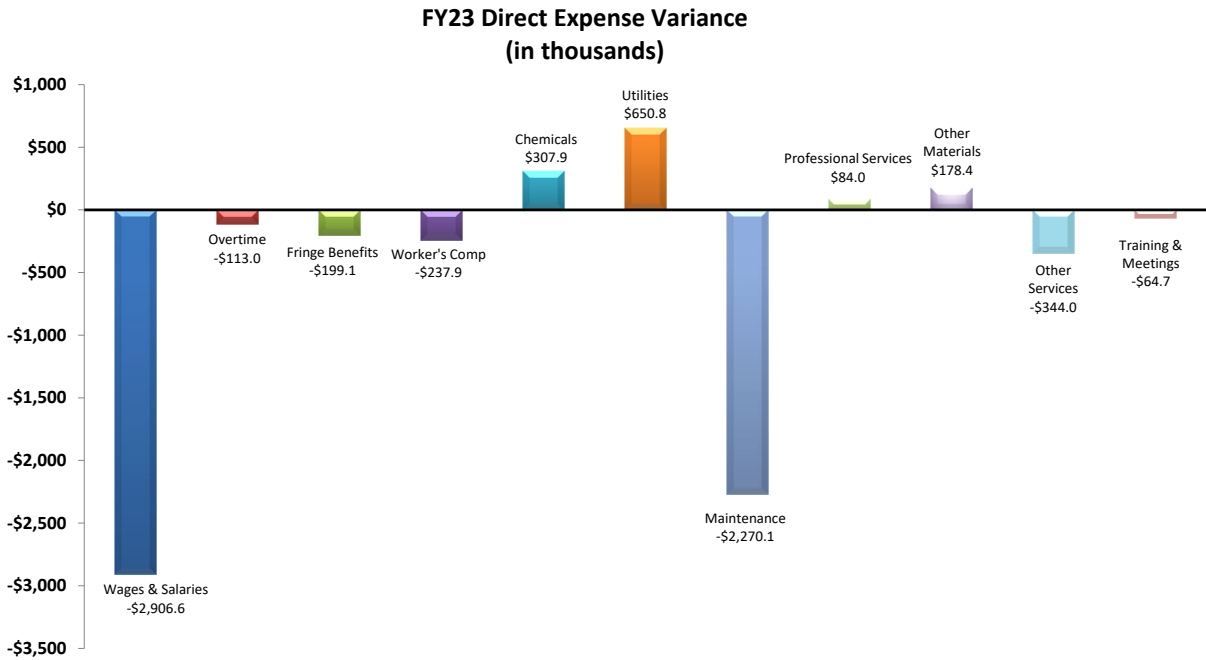
FY23 direct expenses through September totaled \$61.0 million, which was \$4.9 million or 7.5% less than budgeted.

**FY23 Direct Expenses  
(in millions)**



Lower than budgeted spending for Wages & Salaries, Maintenance, Other Services, Workers Compensation, Fringe Benefits, Overtime, and Training & Meetings. These were partially offset

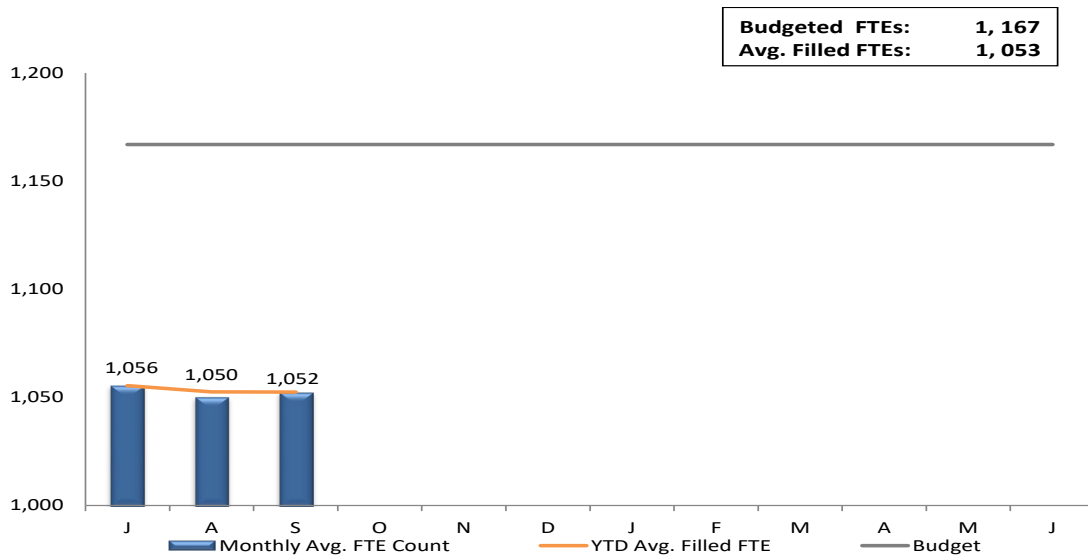
by higher than budgeted spending for Utilities, Chemicals, Other Materials, and Professional Services.



## Wages and Salaries

Wages and Salaries was under budget by \$2.9 million or 10.7%. Through September, there were 114 fewer average FTEs (1,053 versus 1,167 budget) or 9.8% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions also contributed to Regular Pay being under budget.

**FY23 MWRA Full Time Equivalent (FTE) Position Trend**



## **Maintenance**

Maintenance was less than budget by \$2.3 million or 23.5%, largely driven by the timing of projects. Maintenance Services were under budget by \$2.4 million, driven by Plant and Machinery Services of \$1.5 million which was primarily due to the timing of service contracts and project work (including the Norumbega Tank cleaning, the Piezometer Installation at Weston and Chestnut Hill Dams, and lower spending on pipe cleaning at Deer Island), Building and Grounds Services of \$1.0 million due to timing (including the Eastern Avenue Traffic Light in Chelsea, Shaft 8 Retaining Wall, and the floating dock repair at Deer Island). These were partially offset by higher spending for Computer Software Licenses of \$360,000 due to timing and the OKTA support renewal that was not budgeted. Maintenance Materials were over budget by \$106,000, driven by higher Electrical Materials of \$123,000 and HVAC Materials of \$120,000, partially offset by lower Plant and Machine Materials of \$236,000 due to timing.

## **Other Services**

Other Services were lower than budget by \$344,000 or 4.7%, primarily due to lower Sludge Pelletization of \$274,000 and Grit and Screenings Removal of \$71,000, both due to lower quantities, and Telecommunications of \$202,000. This is partially offset by higher Memberships/Dues/Subscriptions of \$334,000 due to timing.

## **Worker's Compensation**

Worker's Compensation expenses were lower than budget by \$238,000 or 37.8%. The lower expenses were due to favorable variances in Compensation Payments of \$165,000, Medical Payments of \$60,000, and Administrative Expenses of \$13,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

## **Fringe Benefits**

Fringe Benefit spending was lower than budget by \$199,000 or 3.4%. This was primarily driven by lower than budgeted spending in Health Insurance of \$172,000 due to fewer than budgeted participants in health insurance plans, the 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.

## **Overtime**

Overtime expenses were less than budget by \$113,000 or 8.4%. Lower spending in Field Operations of \$157,000 primarily for planned overtime (as a result of vacancies) and emergency overtime, and Engineering & Construction of \$34,000. These are partially offset by higher spending at Deer Island of \$87,000 and Clinton of \$10,000, both due to shift coverage. In addition, vacancies at the Thermal/Power Plant and Deer Island Operations continue to drive higher overtime costs than anticipated.

## **Training and Meetings**

Training and Meetings expenses were lower than budget by \$65,000 or 54.5% driven by the timing of spending.

## **Utilities**

Utilities were greater than budget by \$651,000 or 10.2%. Overspending in Electricity of \$686,000 primarily at Deer Island of \$550,000 is driven by higher real time pricing as well as higher usage. In addition, Field Operations is over budget by \$131,000 primarily due to higher Transmission and Distribution (T&D) costs as well as higher generation costs.

## **Chemicals**

Chemicals were greater than budget by \$308,000 or 7.3%. Higher than budget spending on Sodium Hypochlorite of \$372,000 driven by Deer Island of \$205,000 due to additional usage for disinfection and odor control due to lower flows, by the Carroll plant of \$108,000 mostly due to higher contract price, and Wastewater Operations of \$54,000 primarily at Nut Island Headworks. This was partially offset by lower Sodium Bisulfite of \$59,000 primarily in Wastewater Operations due to the lower flows. Deer Island flows are 17.4% lower than the budget and Carroll flows are 8.6% greater 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 Materials**

Other Materials were higher than budget by \$178,000 or 15.9% driven by Vehicle Purchase/Replacements of \$264,000 due to timing of purchases, partially offset by Computer Software of \$80,000 also due to timing.

## **Professional Services**

Professional Services were higher than budget by \$84,000 or 4.2% driven by Lab and Testing Analysis of \$115,000 largely due to the Red Tide alert, and Other Services of \$83,000 primarily due to timing. These were partially offset by lower Engineering Services of \$54,000 and Resident Inspection of \$38,000. Both of which were due to lower than projected task order work.

## **Indirect Expenses**

Indirect Expenses totaled \$20.1 million, which is \$154,000 or 0.8% lower than budget. The variance is driven by lower Watershed reimbursements.

Based on FY23 operating activity only, the Watershed Division is \$472,000 or 11.5% under budget. Lower spending on Wages and Salaries and Fringe Benefits is driving the variance. When factoring in the FY22 balance forward of \$304,000 which was paid during Q1 of FY23, Watershed Reimbursement is \$169,000 or 4.1% below budget through September 2022.

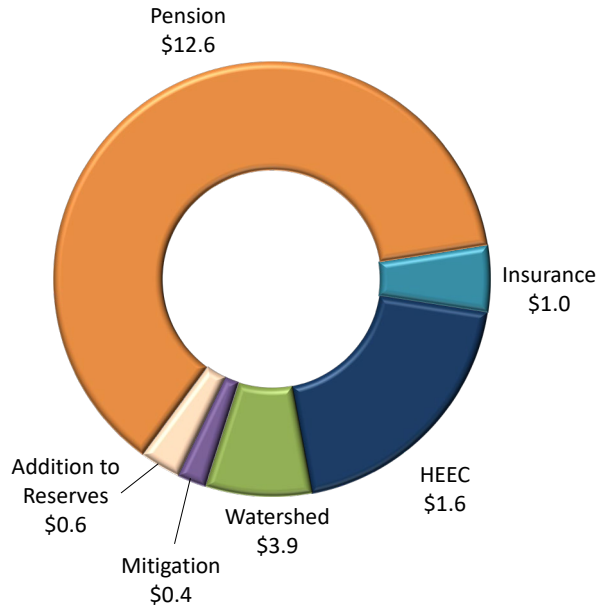
**FY23 Watershed Protection Variance**

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	4.4	4.3	-0.1	-3.3%
Operating Revenues - Offset	0.3	0.6	0.3	115.3%
<b>FY23 Operating Totals</b>	<b>4.1</b>	<b>3.6</b>	<b>-0.5</b>	<b>-11.5%</b>
DCR Balance Forward (FY22 year-end accrual true-up)	0.0	0.3	0.3	
<b>FY23 Adjusted Operating Totals</b>	<b>4.1</b>	<b>3.9</b>	<b>-0.2</b>	<b>-4.1%</b>
PILOT	0.0	0.0	0.0	0.0%
<b>Total Watershed Reimbursement</b>	<b>4.1</b>	<b>3.9</b>	<b>-0.2</b>	<b>-4.1%</b>

*Totals may not add due to rounding*

MWRA reimburses the Commonwealth of Massachusetts Department of Conservation (DCR) and Recreation - Division of Water Supply Protection – Office of Watershed Management for expenses. The reimbursements are presented for payment monthly in arrears. Accruals are being made monthly based on 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 142 (and 140 on a year-to-date basis) vs. a budget of 150.

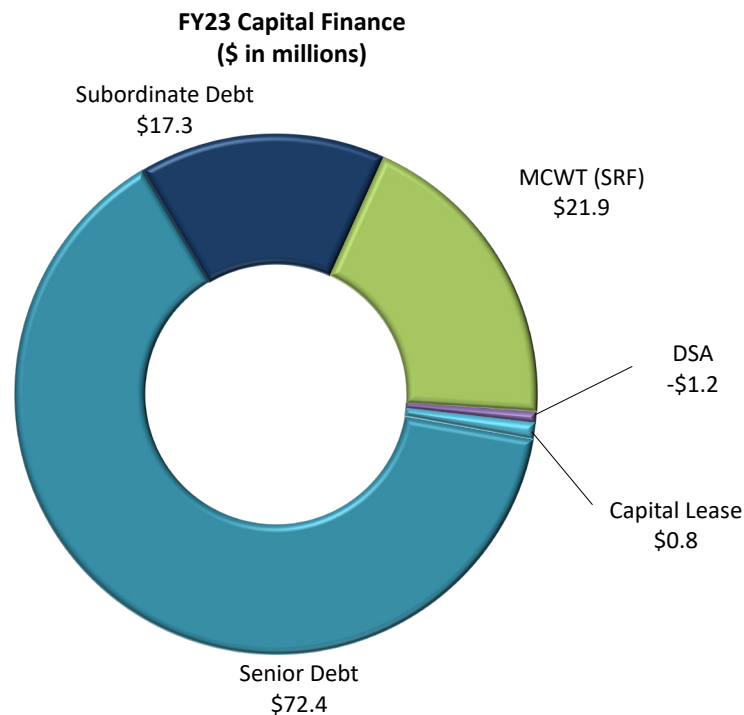
**FY23 Indirect Expenses  
(in millions)**



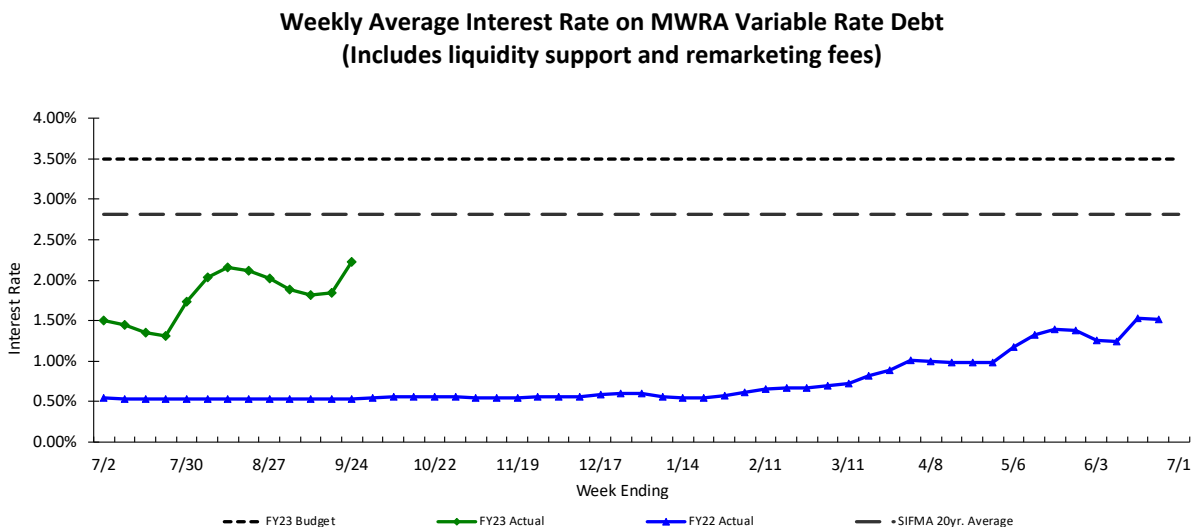
## Capital Financing

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 FY23 through September totaled \$111.2 million, which is \$1.6 million less than budget or 1.4%. This favorable variance is the result of lower than budgeted variable interest rates.



The graph below reflects the FY23 actual variable rate trend by week against the FY23 Budget.





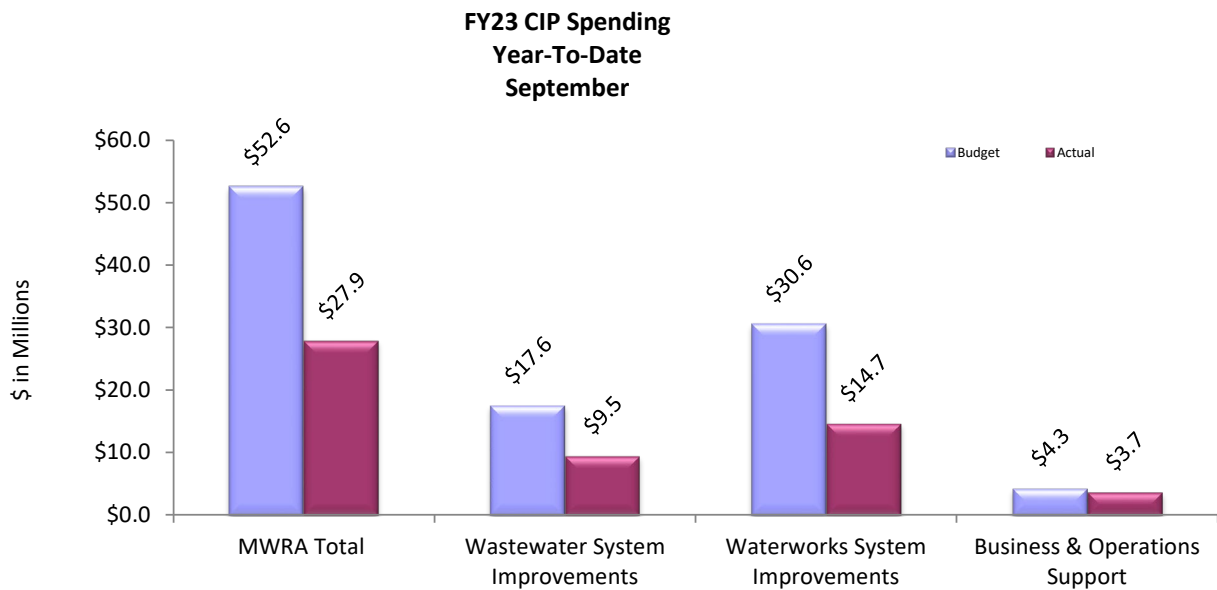
## **Revenue and Income**

Revenues of \$210.3 million were \$1.1 million or 0.5% over budget. Investment Income was \$1.1 million or 58.4% over budget due to higher than budgeted interest rates. (1.76% actual vs. 1.07% budget).

## FY23 Capital Improvement Program

Capital expenditures in Fiscal Year 2023 through September total \$27.9 million, \$24.6 million or 46.9% under budget.

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 \$29.4 million, \$9.6 million or 24.6% under budget.



Overall, CIP spending reflects the underspending in Wastewater Improvements (\$8.1 million), Waterworks (\$15.9 million) and Business and Operations Support (\$0.6 million). Major variances in Wastewater are primarily due to timing of community grants and loans for the I/I Local Financial Assistance Program, contractor behind schedule on Nut Island Odor Control and HVAC Improvements, completion of some design and inspection tasks later than anticipated for the Ward Street and Columbus Park Headworks Upgrades Design/ESDC, timing of work for the Carroll SCADA Upgrades, and lower than projected task order work on Deer Island As-needed Design contracts. This was partially offset by earlier than anticipated start-up for Braintree/Weymouth Improvements, and work scheduled for FY22 performed in FY23 for Wastewater Meter System Equipment Replacement.

Waterworks variances are primarily due to timing of community loan distributions for the Water Loan Program, long lead-time for piping material for Waltham Water Pipeline, timing of contractors work for WASM/SPSM West PRV and WASM 3 Rehabilitation, less than anticipated progress for CP-1 NEH Improvements. This was partially offset by contractor progress for Section 89/29 Replacement.

**FY23 Budget and FY23 Actual Variance by Program  
(in millions)**

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
<b>Wastewater System Improvements</b>				
Interception & Pumping	8.3	5.8	(2.5)	-30.0%
Treatment	0.4	(0.1)	(0.6)	-125.3%
Residuals	0.0	0.0	0.0	0.0%
CSO	0.3	0.2	(0.1)	-18.3%
Other	8.5	3.6	(5.0)	-58.3%
<b>Total Wastewater System Improvements</b>	<b>\$17.6</b>	<b>\$9.5</b>	<b>(\$8.1)</b>	<b>-45.9%</b>
<b>Waterworks System Improvements</b>				
Drinking Water Quality Improvements	0.7	0.5	(0.2)	-26.4%
Transmission	12.0	6.0	(6.0)	-49.6%
Distribution & Pumping	10.1	10.5	0.4	3.9%
Other	7.8	(2.4)	(10.2)	-130.1%
<b>Total Waterworks System Improvements</b>	<b>\$30.6</b>	<b>\$14.7</b>	<b>(\$15.9)</b>	<b>-52.0%</b>
<b>Business &amp; Operations Support</b>	<b>\$4.3</b>	<b>\$3.7</b>	<b>(\$0.6)</b>	<b>-14.8%</b>
<b>Total MWRA</b>	<b>\$52.6</b>	<b>\$27.9</b>	<b>(\$24.6)</b>	<b>-46.9%</b>

*Totals may not add due to rounding*

**FY23 Spending by Program:**

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

**Other Waterworks:** Net underspending of \$10.2 million

- \$10.1 million for Local Financial Assistance due to timing of community loan distributions.
- \$0.4 million for Carroll SCADA Upgrades due to timing of work.

**Waterworks Transmission:** Net underspending of \$6.0 million

- \$ 4.0 million for Waltham Water Pipeline due to long lead time for piping material.
- \$1.2 million for WASM/Spot Pond Supply Main Pressure Reducing Valves Improvements and \$0.4 million for WASM 3 Rehabilitation due to timing of contractors work.
- \$0.3 million for Watershed Land due to timing of purchases.
- This underspending was partially offset by overspending of \$0.5 million for rehabilitation of Wachusett Bastion due to contractor progress, \$0.3 million for Preliminary Design & MEPA Review due to timing of consultant work, and \$0.2 million for Shaft 2 – Construction due to work scheduled for FY22 completed in FY23.

**Other Wastewater:** Net underspending of \$5.0 million

- \$5.0 million for Community I/I due to timing of community distributions of grants and loans.

**Interception & Pumping:** Net underspending of \$2.5 million

- \$2.2 million for Nut Island Odor Control and HVAC Improvements Phase 2 – Construction due to contractor behind schedule.

- \$0.7 million for Ward Street and Columbus Park Headworks - Design/CA due to completion of some design and inspection tasks later than anticipated.
- This underspending was partially offset by overspending of \$0.3 million for Braintree/Weymouth Improvements – Construction due to earlier than anticipated start-up, and \$0.1 million for Wastewater Meter System Equipment Replacement due to work scheduled for FY22 performed in FY23.

**Business & Operations Support:** Net underspending of \$0.6 million

- \$0.8 million for Oracle Database Appliance due to timing of work.
- \$0.3 million for Security Equipment & Installation due to timing of security initiatives.
- This underspending was partially offset by \$0.6 million for Office Space Modifications due to award greater than budgeted and contractor progress, and \$0.4 million for Edge Switches, and \$0.2 million for HOML due to timing of work.

**Wastewater Treatment:** Net underspending of \$0.6 million

- \$0.2 million for As-needed Design due to lower than projected task order work.

**Water Distribution and Pumping:** Net overspending of \$0.4 million

- \$1.8 million for Section 89/29 Replacement - Construction and RE/RI Services due to contractor progress.
- \$0.5 million for Sections 25, 75, 24, 47, 59 & 60 - Design/CA due to design tasks scheduled for FY22 performed in FY23.
- \$0.3 million for NEH Improvements Design – ESDC due to timing of consultant work.
- This overspending was partially offset by underspending of \$1.1 million for CP-1 NEH Improvements due to less than anticipated progress, \$0.3 million for Cathodic Protection Shafts N and W due to scope changes, and \$0.3 million for CP3-Sections 23, 24, 47 Rehabilitation due to timing of work.

**Drinking Water Quality Improvements:** Net underspending of \$0.2 million

- \$0.3 million for Marlborough Pumping Station Construction due to timing of work.

**Construction Fund Balance**

The construction fund balance was \$108.5 million as of the end of September. Commercial Paper/Revolving Loan available capacity was \$160 million.

**ATTACHMENTS:**

Attachment 1 – Variance Summary September 2022

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1  
FY23 Actuals vs. FY23 Budget

	Sep 2022 Year-to-Date				
	Period 3 YTD Budget	Period 3 YTD Actual	Period 3 YTD Variance	%	FY23 Approved
<b>EXPENSES</b>					
WAGES AND SALARIES	\$ 27,275,738	\$ 24,369,145	\$ (2,906,593)	-10.7%	\$ 118,980,689
OVERTIME	1,340,698	1,227,717	(112,981)	-8.4%	5,337,896
FRINGE BENEFITS	5,878,843	5,679,767	(199,076)	-3.4%	23,961,641
WORKERS' COMPENSATION	629,938	392,086	(237,852)	-37.8%	2,519,751
CHEMICALS	4,210,951	4,518,863	307,912	7.3%	14,994,036
ENERGY AND UTILITIES	6,408,929	7,059,772	650,843	10.2%	30,896,365
MAINTENANCE	9,667,385	7,397,249	(2,270,136)	-23.5%	33,241,023
TRAINING AND MEETINGS	118,685	53,970	(64,715)	-54.5%	492,197
PROFESSIONAL SERVICES	1,979,888	2,063,894	84,006	4.2%	8,197,575
OTHER MATERIALS	1,123,654	1,302,053	178,399	15.9%	6,728,862
OTHER SERVICES	7,315,384	6,971,362	(344,022)	-4.7%	28,372,237
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 65,950,093</b>	<b>\$ 61,035,878</b>	<b>\$ (4,914,215)</b>	<b>-7.5%</b>	<b>\$ 273,722,272</b>
INSURANCE	\$ 979,001	\$ 993,831	\$ 14,830	1.5%	\$ 3,916,002
WATERSHED/PILOT	4,112,924	3,944,177	(168,747)	-4.1%	28,890,762
HEEC PAYMENT	1,583,031	1,583,031	-	0.0%	6,225,566
MITIGATION	433,924	433,924	-	0.0%	1,735,694
ADDITIONS TO RESERVES	604,613	604,613	-	0.0%	2,418,453
RETIREMENT FUND	12,555,203	12,555,203	-	0.0%	12,555,203
POST EMPLOYEE BENEFITS	-	-	-	---	4,754,061
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 20,268,696</b>	<b>\$ 20,114,778</b>	<b>\$ (153,917)</b>	<b>-0.8%</b>	<b>\$ 60,495,741</b>
STATE REVOLVING FUND	\$ 21,896,288	\$ 21,896,288	\$ -	0.0%	\$ 96,342,495
SENIOR DEBT	72,379,983	72,379,983	-	0.0%	302,169,940
DEBT SERVICE ASSISTANCE	(1,182,494)	(1,182,494)	-	0.0%	(1,182,494)
CURRENT REVENUE/CAPITAL	-	-	-	---	18,200,000
SUBORDINATE MWRA DEBT	18,941,471	18,941,471	-	0.0%	75,491,975
LOCAL WATER PIPELINE CP	-	-	-	---	6,233,882
CAPITAL LEASE	804,265	804,265	-	0.0%	3,217,060
VARIABLE DEBT	-	(1,596,318)	(1,596,318)	---	-
DEFEASANCE ACCOUNT	-	-	-	---	-
DEBT PREPAYMENT	-	-	-	---	5,500,000
<b>TOTAL CAPITAL FINANCE EXPENSE</b>	<b>\$ 112,839,514</b>	<b>\$ 111,243,196</b>	<b>\$ (1,596,318)</b>	<b>-1.4%</b>	<b>\$ 505,972,858</b>
<b>TOTAL EXPENSES</b>	<b>\$ 199,058,303</b>	<b>\$ 192,393,852</b>	<b>\$ (6,664,450)</b>	<b>-3.3%</b>	<b>\$ 840,190,871</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$ 203,662,000	\$ 203,662,000	\$ -	0.0%	\$ 814,648,000
OTHER USER CHARGES	2,694,427	2,662,567	(31,860)	-1.2%	9,836,507
OTHER REVENUE	800,490	811,144	10,654	1.3%	6,139,104
RATE STABILIZATION	245,000	245,000	-	0.0%	980,000
INVESTMENT INCOME	1,846,458	2,924,676	1,078,218	58.4%	8,587,260
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 209,248,375</b>	<b>\$ 210,305,387</b>	<b>\$ 1,057,012</b>	<b>0.5%</b>	<b>\$ 840,190,871</b>

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

Total MWRA	FY23 Budget YTD September	FY23 Actuals September	FY23 YTD Actual vs. FY23 Budget		Explanations
			\$	%	
<b>Direct Expenses</b>					
Wages & Salaries	27,275,738	24,369,145	(2,906,593)	-10.7%	Wages and Salaries are under budget by \$2.9 million. Year to date, there have been 114 fewer average FTEs (1,053 versus 1,167 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	1,340,698	1,227,717	(112,981)	-8.4%	Overtime expenses were less than budget by \$113,000 or 8.4%. Lower spending mainly in Field Operations of \$166,000 primarily for planned overtime due to vacancies and emergency overtime being under budget, Engineering & Construction of \$34,000, are partially offset by higher spending at Deer Island of \$87,000 and Clinton of \$10,000 for shift coverage. In addition, vacancies for DITP Operations continue to drive higher overtime costs than anticipated.
Fringe Benefits	5,878,843	5,679,767	(199,076)	-3.4%	Fringe Benefit spending was lower than budget by \$0.2 million or 3.4%. Lower than budget in <b>Health Insurance</b> of \$172,000, 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.
Worker's Compensation	629,938	392,086	(237,852)	-37.8%	Worker's Compensation expenses were lower than budget by \$0.2 million or 37.8%. The lower expenses were due to favorable variances in <b>Compensation Payments</b> of (\$165,000), <b>Medical Payments</b> of (\$60,000), and <b>Administrative Expenses</b> (\$13,000). Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
Chemicals	4,210,951	4,518,863	307,912	7.3%	Chemicals were greater than budget by \$0.3 million or 7.3%. Higher than budget spending on <b>Sodium Hypochlorite</b> of \$372,000 driven by DITP due to additional usage for disinfection and odor control due to lower flows, \$104,000 at JCWTP mostly due to higher contract price, and \$54,000 in Wastewater Operations primarily at Nut Island Headworks, <b>Carbon Dioxide</b> of \$40,000 due to increased dosing due to higher flows at CWTP, <b>Ferric Chloride</b> of \$25,000 driven by DITP to keep the orthophosphate levels in the digesters at the desired target level, partially offset by <b>Sodium Bisulfite</b> of (\$59,000) primarily in Wastewater Operations due to the lower flows, and <b>Soda Ash</b> of (\$29,000) primarily in Water Operations due to lower dosing. DITP flows are 17.4% lower than the budget and CWTP preliminary flows are 8.6% greater 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.
Utilities	6,408,929	7,059,772	650,843	10.2%	Utilities were greater than budget by \$0.7 million or 10.2%. Overspending in Electricity of \$686,000 primarily at DITP of \$0.6 million driven by higher real time pricing as well as higher usage. Also, Field Operations of \$0.1 million is over budget primarily due to T&D and Generation costs were greater than budget.

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

Total MWRA	FY23 Budget YTD September	FY23 Actuals September	FY23 YTD Actual vs. FY23 Budget		Explanations
			\$	%	
Maintenance	9,667,385	7,397,249	(2,270,136)	-23.5%	Maintenance was less than budget by \$2.3 million or 23.5%, largely driven by the timing of projects. <i>Maintenance Services</i> are under budget by \$2.4 million driven by <b>Plant &amp; Machinery Services</b> (\$1.5 million) primarily due to timing of service contracts and work including the Norumbega Tank cleaning and Piexometer Installation at Weston and Chestnut Hill Dams, lower spending on pipe cleaning at DITP, <b>Building &amp; Grounds Services</b> (\$1.0 million) due to timing including Eastern Ave Traffic Light and Shaft 8 Retaining Wall work, timing of floating dock repair at DITP, <b>Computer Services</b> of (\$158,000), <b>Pipeline Services</b> of (\$109,000) million due to timing, partially offset by higher spending for <b>Computer Software Licenses</b> of \$360,000 due to timing and OKTA support renewal that wasn't budgeted. <i>Maintenance Materials</i> are over budget by \$0.1 million, driven by <b>Electrical Materials</b> of \$123,000, <b>HVAC Materials</b> , of \$120,000, <b>Special Equipment Materials</b> of \$57,000, partially offset by <b>Plant and Machine Materials</b> (\$236,000) due to timing.
Training & Meetings	118,685	53,970	(64,715)	-54.5%	Training & Meetings was lower than budget by \$65,000 or 54.5% is primarily due to timing driven by MIS (\$63,000), Procurement (\$8,000), Engineering & Construction (\$5,000), partially offset by higher spending in Operations of \$16,000.
Professional Services	1,979,888	2,063,894	84,006	4.2%	Professional Services was higher than budget by \$84,000 or 4.2% driven by <b>Lab &amp; Testing Analysis</b> of \$115,000 and <b>Other Services</b> of \$83,000 primarily due to timing, partially offset by <b>Engineering</b> of (\$54,000) and <b>Resident Inspection</b> (\$38,000) due to lower than projected task order work.
Other Materials	1,123,654	1,302,053	178,399	15.9%	Other Materials were higher than budget by \$178,000 or 15.9% driven by <b>Vehicle Purchase/Replacements</b> of \$264,000 due to timing of purchases, partially offset by <b>Computer Software</b> of (\$80,000) also due to timing.
Other Services	7,315,384	6,971,362	(344,022)	-4.7%	Other Services were \$344,000 or 4.7% lower than budget for <b>Sludge Pelletization</b> of (\$274,000) and <b>Grit &amp; Screenings Removal</b> (\$71,000) due to lower quantities, and <b>Telecommunications</b> of (\$202,000), partially offset by <b>Memberships/Dues/Subscriptions</b> of \$334,000 primarily due to timing.
<b>Total Direct Expenses</b>	<b>65,950,093</b>	<b>61,035,878</b>	<b>(4,914,215)</b>	<b>-7.5%</b>	

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

Total MWRA	FY23 Budget YTD September	FY23 Actuals September	FY23 YTD Actual vs. FY23 Budget		Explanations
			\$	%	
<b>Indirect Expenses</b>					
Insurance	979,001	993,831	14,830	1.5%	Lower Payments/Claims (\$21,000) and higher Premiums \$36,000 than budgeted.
Watershed/PILOT	4,112,924	3,944,177	(168,747)	-4.1%	Lower Watershed Reimbursement of \$0.2 million favorable variance to budget driven by lower spending on Wages & Salaries and Fringe Benefits.
HEEC Payment	1,583,031	1,583,031	-	0.0%	
Mitigation	433,924	433,923	(1)	0.0%	
Addition to Reserves	604,613	604,613	-	0.0%	
Pension Expense	12,555,203	12,555,203	-	0.0%	
Post Employee Benefits	-	-	-		
<b>Total Indirect Expenses</b>	<b>20,268,696</b>	<b>20,114,778</b>	<b>(153,918)</b>	<b>-0.8%</b>	
<b>Debt Service</b>					
Debt Service	112,839,514	111,243,196	(1,596,318)	-1.4%	Debt service is \$1.6 million under budget due to lower than budgeted variable interest rates.
Debt Service Assistance	-	-	-		
<b>Total Debt Service Expenses</b>	<b>112,839,514</b>	<b>111,243,196</b>	<b>(1,596,318)</b>	<b>-1.4%</b>	
<b>Total Expenses</b>					
<b>Total Expenses</b>	<b>199,058,303</b>	<b>192,393,852</b>	<b>(6,664,450)</b>	<b>-3.3%</b>	



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

Total MWRA	FY23 Budget YTD September	FY23 Actuals September	FY23 YTD Actual vs. FY23 Budget		Explanations
			\$	%	
<b>Revenue &amp; Income</b>					
Rate Revenue	203,662,000	203,662,000	-	0.0%	
Other User Charges	2,694,427	2,662,567	(31,860)	-1.2%	Lower than anticipated Other User Charges.
Other Revenue	800,490	811,144	10,654	1.3%	Other Revenue was \$11,000 or 1.3% over budget due to <b>Energy Rebates</b> of \$84,000, <b>Permit Fees</b> of \$26,000, and <b>Penalties</b> of \$20,000 primarily due to timing, partially offset by <b>Energy Revenue</b> of (\$128,000) due to less than anticipated revenue in Q1.
Rate Stabilization	245,000	245,000	-	0.0%	HEEC Reserve.
Investment Income	1,846,458	2,924,676	1,078,218	58.4%	Investment Income is over budget due to higher than budgeted interest rates (1.76% actual vs 1.07% budget).
<b>Total Revenue</b>	<b>209,248,375</b>	<b>210,305,387</b>	<b>1,057,012</b>	<b>0.5%</b>	
<b>Net Revenue in Excess of Expenses</b>	<b>10,190,072</b>	<b>17,911,535</b>	<b>7,721,462</b>		

**ATTACHMENT 3  
FY23 CIP Year-to-Date Variance Report (\$000's)**

	FY23 Budget YTD September	FY23 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Wastewater</b>					
Interception & Pumping (I&P)	\$8,301	\$5,811	(\$2,490)	-30.0%	<u>Underspending</u> Nut Island Odor Control & HVAC Improvements Phase 2 - Construction: \$2.2M (contractor behind schedule), Ward Street & Columbus Park Headworks - Design/CA: \$746k (completed some design and inspection tasks later than anticipated) <u>Offset Overspending</u> Braintree/Weymouth Improvements - Construction: \$340k (earlier than anticipated start-up) Wastewater Meter System Equipment Replacement: \$129k (work scheduled for FY22 performed in FY23)
Treatment	\$443	-\$112	(\$555)		<u>Underspending</u> As-needed Design: \$245k (lower than projected task order work)
Residuals					
CSO	\$294	\$240	(\$54)	-18.3%	
Other Wastewater	\$8,544	\$3,566	(\$4,978)	-58.3%	<u>Underspending</u> I/I Local Financial Assistance: \$5.0M (timing of community distributions of grants and loans) CWTP SCADA Upgrades: \$405k (timing of work)
<b>Total Wastewater</b>	<b>\$17,582</b>	<b>\$9,505</b>	<b>(\$8,077)</b>	<b>-45.9%</b>	


**ATTACHMENT 3  
FY23 CIP Year-to-Date Variance Report (\$000's)**

	FY23 Budget YTD September	FY23 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Waterworks</b>					
Drinking Water Quality Improvements	\$667	\$491	(\$176)	-26.4%	<u>Underspending</u> Marlboro Pump Station Construction: \$268k (timing of work)
Transmission	\$12,001	\$6,043	(\$5,958)	-49.6%	<u>Underspending</u> Waltham Water Pipeline - Construction: \$4.0M (long lead time for piping material) WASM/SPSM West PRV - Construction: \$1.2M, and WASM 3 Rehabilitation, CP-1 : \$430k (timing of contractors work) Watershed Land: \$347k (timing of purchases) <u>Offset Overspending</u> Rehabilitate Wachusett Bastion - Construction: \$463k (contractor progress) Preliminary Design & MEPA Review: \$342k (timing of consultant work) Shaft 2 - Construction: \$212k (work scheduled for FY22 completed in FY23. (Contract substantially complete.)
Distribution & Pumping	\$10,127	\$10,525	\$399	3.9%	<u>Overspending</u> NEH Improvements Design - ESDC: \$275k (timing of consultant work) Sections 25, 75, 24, 47, 59 & 60 - Design/CA: \$477k (Design tasks scheduled for FY22 performed in FY23) Section 89/29 Replacement - Construction and RE/RI Services: \$1.8M (contractor progress) <u>Offset Underspending</u> CP-1 NEH Improvements: \$1.1M (less than anticipated progress) CP3-Sections 23, 24, 47 Rehabilitation: \$281k (timing of work) Cathodic Protection Shafts N & W: \$300k (scope changes)
Other Waterworks	\$7,830	(\$2,359)	(\$10,189)		<u>Underspending</u> Local Water Pipeline Financial Assistance Program: \$10.1M (timing of community distributions) CWTP SCADA Upgrades: \$405k (timing of work)
<b>Total Waterworks</b>	<b>\$30,625</b>	<b>\$14,700</b>	<b>(\$15,925)</b>	<b>-52.0%</b>	

**ATTACHMENT 3  
FY23 CIP Year-to-Date Variance Report (\$000's)**

	FY23 Budget YTD September	FY23 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Business &amp; Operations Support</b>					
<b>Total Business &amp; Operations Support</b>	\$4,348	\$3,706	(\$643)	-14.8%	<u>Underspending</u> Oracle Database Appliance: \$775k, Security Equipment & Installation: \$260k (timing of work) <u>Offset Overspending</u> Office Space Modifications: \$633k (award greater than budget and contractor progress) Edge Switches: \$435k, and HOML: \$217k (timing of work)
<b>Total MWRA</b>	\$52,555	\$27,910	(\$24,644)	-46.9%	

**STAFF SUMMARY**


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** October 19, 2022  
**SUBJECT:** Amendment to the Eighty-Fifth Supplemental Bond Resolution

---

**COMMITTEE:** Administration, Finance & Audit

VOTE  
 INFORMATION

Matthew R. Horan, Deputy Director, Finance/Treasurer  
Sean R. Cordy, Sr. Financial Analyst  
Preparer/Title

  
Thomas J. Durkin  
Director, Finance

---

**RECOMMENDATION:**

To amend the Eighty-Fifth Supplemental Bond Resolution and related Issuance Resolution approving issuance of the Authority's General Revenue Bonds (Subordinated Series), each adopted on April 13, 2022, to increase the principal amount of bonds authorized from \$50,000,000 to \$61,000,000; all other terms of the Issuance Resolution and the Eighty-Fifth Supplemental Resolution being hereby confirmed.

**DISCUSSION:**

On April 13, 2022, the Board of Directors approved the Eighty-Fifth Supplemental Resolution authorizing the issuance of up to \$50,000,000 of Massachusetts Water Resources Authority General Revenue Bonds (Subordinated Series) to the Massachusetts Clean Water Trust (Trust). The Trust provides subsidized financing for water and wastewater capital projects to Massachusetts governmental entities. MWRA annually submits new projects to the Massachusetts Department of Environmental Protection to be considered for inclusion on the Clean and Drinking Water Intended Use Plans (IUP). At the time staff had identified a total of \$50 million of project funding from the 2021 IUP that would be funded through this authorization. As part of that transaction, the Trust was expected to provide principal forgiveness loans using a portion of the funding Massachusetts received from the American Rescue Plan Act (ARPA). The ARPA funding would be applied to projects on the 2021 IUP.

Since April, staff have shared MWRA-specific project information with the Trust as they developed the final requirements for receiving ARPA funding. As a result of these discussions, the Trust has agreed to reallocate the ARPA funding from MWRA projects that have been delayed or cancelled, to those projects that are progressing. This reallocation will allow MWRA to maximize the ARPA funding it receives as part of the 2021 IUP. For every \$1 million in ARPA funding received, MWRA saves approximately \$80,343 per year in avoided debt service costs, as opposed to borrowing the money in the bond market at 5% for 20 years.

In order to ensure MWRA is able to maximize the amount of ARPA funding that can be drawn down as part of the 2021 IUP staff are seeking to increase the borrowing authorization from \$50 million to \$61 million.

While the ARPA funding will be provided in the form of principal forgiveness loans, the remaining borrowing will be in the form of low-interest loans. The loans will have a 20-year maturity at a fixed interest rate of 2.15%, including the Trust administrative fee of 0.15%. The Trust also charges a loan origination fee of \$5.50 per \$1,000 to cover its costs of issuance.

**BUDGET/FISCAL IMPACT:**

There are sufficient funds available in the FY23 CEB to pay the debt service costs associated with these borrowings.

**STAFF SUMMARY**


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** September 14, 2022  
**SUBJECT:** Dental Insurance  
 Delta Dental of Massachusetts  
 Contract A631, Amendment 1



**COMMITTEE:** Administration, Finance & Audit

           INFORMATION  
  X   VOTE

Andrea Murphy, Director of Human Resources  
 Preparer/Title

  
Michele S. Gillen  
 Director, Administration

*This item was postponed from the September 14, 2022 Board of Directors meeting.*

**RECOMMENDATION:**

To approve Amendment 1 to Contract A631, with Delta Dental of Massachusetts, exercising the first option to renew, increasing the contract amount by \$235,000, from \$289,000 for a total not-to-exceed amount of \$524,000, and extending the term by 12 months from January 1, 2023 to December 31, 2023 for a total contract term of 24 months.

**DISCUSSION:**

MWRA has been providing dental insurance to all non-union employees since July 1, 1985. This benefit also covers a number of union employees who were accreted into collective bargaining units in 1994. The remaining MWRA union employees receive dental coverage through the Health and Welfare plans of their respective unions.

In December 2021, the Board of Directors approved this contract with Delta Dental of Massachusetts to provide dental insurance to eligible employees for a period of 12 months (Calendar Year 2022), with further options to renew the contract for up to three additional 12-month periods subject to Board approval.

This amendment is for the first extension covering Calendar Year 2023 and would maintain the level of coverage currently offered to eligible employees in the areas of diagnostic, preventive, basic and major restorative services as well as limited orthodontic coverage.

<b>Contract Summary</b>	<b>Amount</b>	<b>Term</b>	<b>Dated</b>
Original Contract	\$289,000	One Year	01/01/2022
Amendment 1	\$235,000	One Year	01/01/2023
Amended Contact Amount	\$524,000		

**BUDGET/FISCAL IMPACT:**


The rate per employee represents a 0% increase over last year. However, the number of participants has dropped, so the total annual cost is lower. This contract covers the second half of FY23 and the first half of FY24. The FY23 Current Expense Budget includes the cost of the dental insurance for eligible employees. The total cost of the plan is dependent upon the number of employees enrolled. The remaining cost of the dental insurance program will be included in the FY24 Current Expense Budget.

**MBE/WBE UTILIZATION:**

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



**STAFF SUMMARY**


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** October 19, 2022  
**SUBJECT:** Senior Web Developer Consultant  
Computer & Engineering Services, Inc.  
Bid WRA-5076Q, State Contract ITS77 Category 1A and 1B, Amendment 2

---

**COMMITTEE:** Administration, Finance, & Audit

     INFORMATION  
  X   VOTE

Paula Weadick, MIS Director  
Paul Fentross, Business Applications Manager  
Rita C. Mercado, Acting Director, Procurement  
Preparer/Title

  
Michele S. Gillen  
Director, Administration

---

**RECOMMENDATION:**

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Purchase Order Contract WRA-5076Q, Senior Web Developer Consultant, with Computer & Engineering Services, Inc., increasing the contract amount by \$231,563, from \$115,710 to an amount not-to-exceed \$347,273, and extending the contract term by fifteen months, from October 31, 2022 to January 31, 2024.

**DISCUSSION:**

In February 2021, MIS posted a position to hire an application developer to assist in the support and development of custom applications. This position was re-posted multiple times. To date there have been only 4 applicants and none of them have met the position's minimum qualifications.

In January 2022, the primary developer of custom applications retired. After a job description update, this critical position was immediately posted. While the search process for filling these vacancies is ongoing, MIS needs to ensure continued support for the custom applications. Therefore, a Web Developer consultant was hired to assist with the following MIS initiatives:

- Enhance, support and maintain over 65 existing custom applications and interfaces.
- Assist in the support and maintenance of SQL and Oracle database jobs used by the 65 custom applications.
- Assist in the support of a number of 3rd party applications such as Cumulus, InMagic® Presto, Everbridge, Amicus Attorney, Supplier Portal, WeatherLink, GPS\_Insight, OMMS, OpenCheckbook, Timesheet Adjustment, geoSample and many more.
- Design and develop new custom applications and migrate existing applications to a new platform.

On August 29, 2022, the Executive Director, under delegated authority, approved Amendment 1 to WRA-5076Q, in an amount of \$23,085, increasing the purchase order amount from \$92,625 to \$115,710 and extending the contract expiration by six weeks from September 15, 2022 to October 31, 2022. This amendment helped to ensure there was no gap in technical support in this area while a new contract was procured. This amendment included an additional 243 hours of consulting services.

**This Amendment:**

There are over 65 applications that have been developed and supported by the Custom Applications team and it is very important that MIS has the expertise to provide support and development services for them. The Custom Applications team has had a staffing deficit for more than two years due to a difficult hiring environment. In order to ensure that these applications and their end users are supported, staff hired a Web Developer consultant to assist with the support of the Custom Applications at the MWRA. This existing consultant has excellent skills and has performed well in the role, displaying an understanding of relevant technologies and has developed a good understanding of MWRA’s environment and the applications that the consultant supports. Maintaining the existing consultant will ensure continuity of support while the search for permanent staff continues. The consultant has had an impact by addressing a number of enhancements and bugs within the custom applications. Staff recommend extending the existing contract so that these services can continue to be provided without disruption.

This amendment, if approved, would increase the purchase order amount by \$231,563 and extend the contract term by 15 months, to expire January 31, 2024. The increase reflects an additional 2,437.5 hours at the original bid price of \$95 per hour. The not-to-exceed amount of the contract is not a firm commitment of cost; MWRA will utilize the hours, as needed, until the primary developer of custom applications position is filled.

**CONTRACT SUMMARY:**

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$92,625	6 Months	2/25/2022
Amendment 1	\$23,085	6 Weeks	8/29/2022
<u>Amendment 2</u>	<u>\$231,563</u>	<u>15 Months</u>	<u>Pending</u>
Amended Contract:	\$347,273	21 Months + 6 Weeks	

**BUDGET/FISCAL IMPACT:**

There are sufficient funds for this amendment included in the FY23 Current Expense Budget. Appropriate funding will be included in subsequent Proposed CEB requests for the remaining term of the contract.

**MBE/WBE PARTICIPATION:**

Computer & Engineering Services, Inc. is not a certified Minority- or Woman-Owned business.

### STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** October 19, 2022  
**SUBJECT:** Application Developer Consultant  
Lancesoft Inc.  
Bid WRA-5125Q, State Contract ITS77 Category 1A and 1B, Amendment 1



**COMMITTEE:** Administration, Finance, & Audit

     INFORMATION  
  X   VOTE

Paula Weadick, MIS Director  
Paul Fentross, Business Applications Manager  
Rita C. Mercado, Acting Director, Procurement  
Preparer/Title

  
Michele S. Gillen  
Director, Administration

### RECOMMENDATION:

To authorize the Executive Director, on behalf of the authority, to approve Amendment 1 to Purchase Order Contract WRA-5125Q, Application Developer Consultant, with Lancesoft, Inc., increasing the contract amount by \$207,188, from \$82,875 to an amount not-to-exceed \$290,063, and extending the contract term by fifteen months, from November 1, 2022 to February 1, 2024.

### DISCUSSION:

In February 2021, MIS posted a position to hire an application developer to assist in the support and development of custom applications. This position was re-posted multiple times. To date there have been only four applicants and none of them have met the position's minimum qualifications.

In January 2022, MWRA's primary developer of custom applications retired. After a job description update, this critical position was immediately posted. While the search process for filling these vacancies is ongoing, MIS needs to ensure continued support for the custom applications. Therefore, an Application Developer consultant was hired to assist the Senior Web Developer Consultant (see related Amendment 2 for a Senior Web Developer Consultant staff summary) with the following MIS initiatives:

- Enhance, support and maintain over 65 existing custom applications and interfaces;
- Assist in the support and maintenance of SQL and Oracle database jobs used by the 65 custom applications;
- Assist in the support of a number of third party applications such as Cumulus, InMagic® Presto, Everbridge, Amicus Attorney, Supplier Portal, WeatherLink, GPS\_Insight, OMMS, OpenCheckbook, Timesheet Adjustment, geoSample and many more; and
- Design and develop new custom applications and migrate existing applications to a new platform.

On April 25, 2022, the Executive Director, under delegated authority, approved the award of a purchase order contract to Lancesoft, Inc. in an amount not to exceed \$82,875 for 975 billable hours (26 weeks) under State Contract ITS77.

As of October 1, 2022, MIS has ten vacant positions. While MIS continues to search for qualified candidates to fill these positions, consultant services are being used as an interim measure. Consultant services enable MIS to provide the needed resources to support and sustain the IT services MIS provides. This consultant effectively performs the necessary functions that the vacant full-time employee would carry out. The inability to utilize these consultant services would negatively impact MIS' support of many important applications used at the Authority. In addition to the initiatives noted above, the Application Developer would also assist with the following MIS initiatives:

- Integrate the Communities OMMS application with GIS;
- Implement a software version control application for MIS;
- Document and reengineer ELLA database objects and integration with Lawson;
- Re-engineer and simplify the onboarding and termination processes;
- Migrate legacy VB.net sources to C#; and
- Integrate cloud based applications with on premise applications.

**This Amendment:**

There are over 65 applications that have been developed and supported by the Custom Applications team. It is important that MIS have the resources and expertise to provide support and development services for these applications. The Custom Applications team has had a staffing deficit for more than two years due to a difficult hiring environment. In April 2022, MIS hired an Application Developer consultant to assist with the support of the Custom Applications to ensure the 65 applications and end users were supported. MIS has found the consultant to have excellent skills, good performance, an understanding of relevant technologies and has developed a solid understanding of MWRA's environment and the applications. Maintaining the existing consultant in this role will ensure continuity of support while the search for a permanent hire continues. The consultant has had an impact by addressing a number of enhancements and bugs within the custom applications. MIS staff recommend extending the existing consultant contract so these services can continue to be provided without disruption.

This amendment, if approved, would increase the purchase order amount by \$207,188 and extend the term by fifteen months, resulting in an amended contract amount not-to-exceed \$290,063 and an extended term of eighteen months (to expire on February 1, 2024). The increase reflects an additional 2,437.5 hours at the original bid amount of \$85 per hour. The not-to-exceed amount of the contract is not a firm commitment of cost; MWRA will utilize the hours, as needed, until the application developer position is filled.

**CONTRACT SUMMARY:**

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$82,875	6 Months	4/26/2022
<u>Amendment 1:</u>	<u>\$207,188</u>	<u>15 Months</u>	<u>Pending</u>
Amended Contract:	\$290,063	21 Months	

**BUDGET/FISCAL IMPACT:**

There are sufficient funds for this amendment included in the FY23 Current Expense Budget. Appropriate funding will be included in subsequent Proposed CEB requests for the remaining term of the contract.

**MBE/WBE PARTICIPATION:**

Lancesoft, Inc. is not a certified Minority-Owned or Woman-Owned business.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** October 19, 2022  
**SUBJECT:** 2021 Deer Island Outfall Monitoring Overview




---

**COMMITTEE:** Wastewater Policy & Oversight

INFORMATION  
 VOTE

Carolyn M. Fiore, 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 2021 marked the 30th consecutive year of monitoring, and 21 years since the effluent discharge moved from Boston Harbor 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 2021 *Outfall Monitoring Overview*, and summarizes special monitoring efforts under way and ongoing collaboration with the science advisory panel.

The Deer Island NPDES permit<sup>1</sup> 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.<sup>2</sup> Required monitoring includes measurements of the Deer Island Treatment Plant's effluent quality and of receiving water, sediments, and fish and shellfish. Other studies include modeling water quality and continuous monitoring using instruments on a buoy in

---

<sup>1</sup> The current NPDES permit expired in 2005. MWRA anticipates a new NPDES permit soon, possibly as early as late November 2022.

<sup>2</sup> The Contingency Plan is a requirement of the 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, "red tide") can lead to enhanced sampling for further evaluation of the event.

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 have been four Contingency Plan exceedances since the October 2021 staff summary on this topic:

- November 2021: Low dissolved oxygen concentration and percent saturation at the Stellwagen Basin monitoring location
- July 2022: High cell counts of *Alexandrium catanella*, a nuisance algae known informally as “red tide” in the nearfield
- August 2022: Low dissolved oxygen percent saturation at the Stellwagen Basin monitoring location
- September 2022: Low dissolved oxygen concentration and percent saturation at the Stellwagen Basin monitoring location and low dissolved oxygen concentration in the outfall nearfield

None of these exceedances has been linked to the outfall. *Alexandrium* is frequently present in Massachusetts Bay in the late spring and early summer, usually after being transported south from the Gulf of Maine. Enhanced sampling after the exceedance was reported showed that the high counts had subsided by the end of July, which is historically typical. Dissolved oxygen in Massachusetts Bay is linked to offshore influences. One of these influences 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 2021**

- The Deer Island Treatment Plant earned a Platinum 15 Peak Performance Award from the National Association of Clean Water Agencies for fifteen years of 100% compliance with permit effluent limits.
- Total Suspended Solids loads from effluent were about 12 tons per day, a fraction of the solids load discharged in the early 1990s (Figure 1).

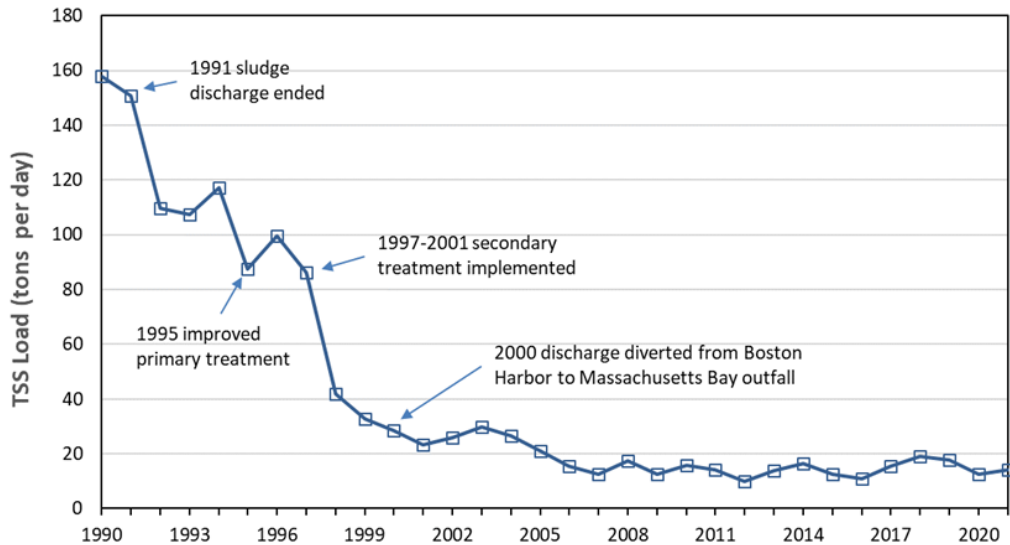


Figure 1. Annual Total Suspended Solids Discharges remained extremely low in 2020 compared to the early 1990s.

- Total effluent nitrogen load was lower than in recent years (Figure 2). There was no exceedance of the Contingency Plan threshold for effluent nitrogen load in 2021. Levels have dropped since the 2019 exceedance of this threshold; the reasons for the drop are not entirely clear, but do not appear to have a strong correlation to annual rainfall.

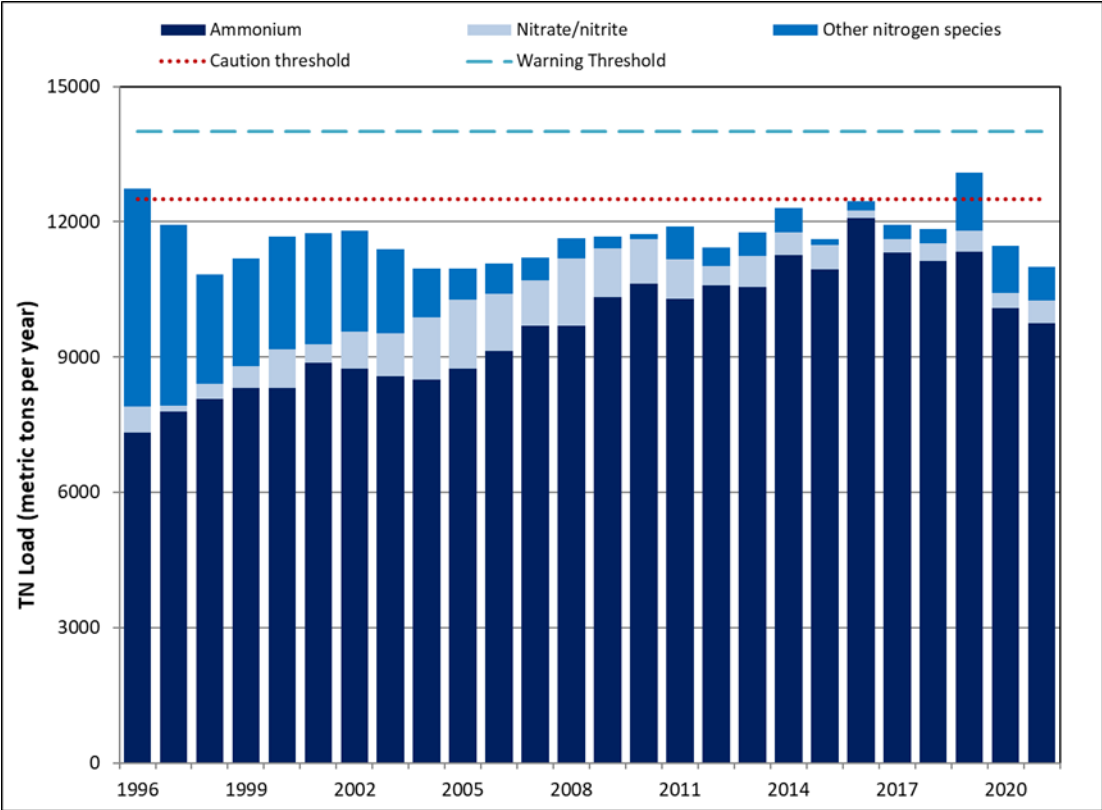


Figure 2. Annual Effluent Nitrogen Load



## Environmental Monitoring Results

- Results of 2021 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*

Water quality sampling focuses on the potential impact of nitrogen discharged by the outfall because 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 decreased strongly in the harbor; they increased in the bay, but only near the outfall (Figure 3). 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.

### Only sites near the outfall show higher ammonium from effluent

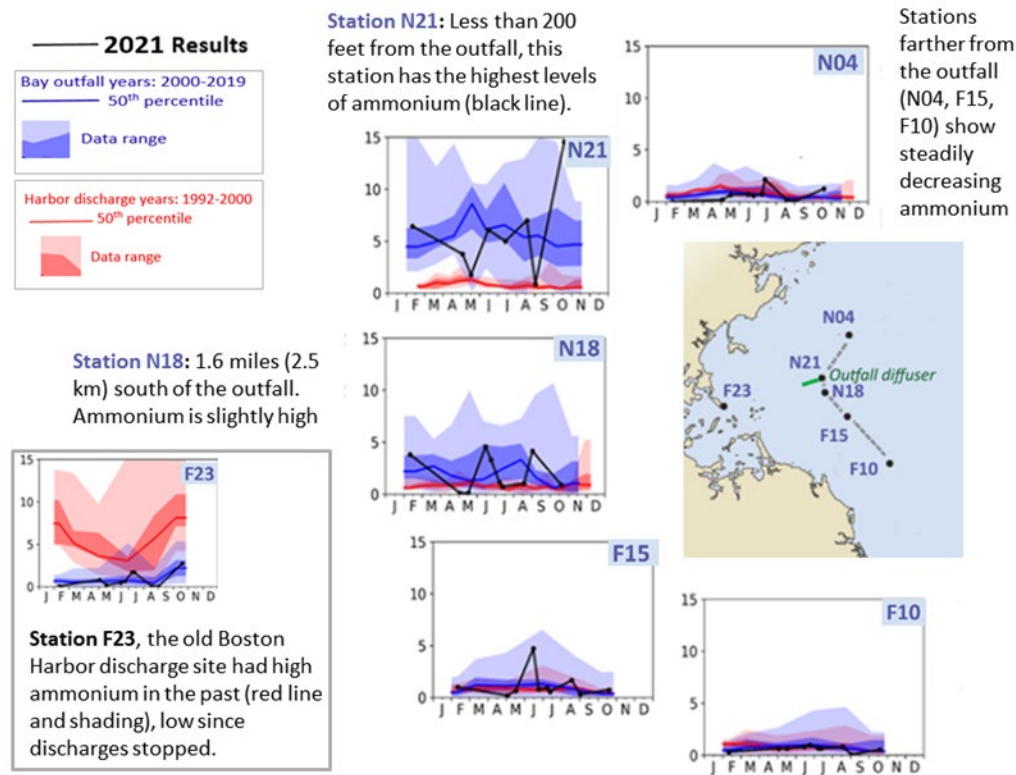


Figure 3. Ammonium levels declined sharply in the harbor in 2000 when the offshore outfall began operating. In the bay, ammonium has increased but only within a local area near the outfall. Results for 2021 are similar to past years.

### *Plankton*

Although the outfall has not resulted in increased algae, MWRA continues to monitor phytoplankton communities, including potential and confirmed nuisance species.

A bloom of *Alexandrium catenella*, a species responsible for some harmful algal blooms (known informally as “red tide”) in New England waters, occurred beginning in June 2022. At high densities, *Alexandrium* can cause paralytic shellfish poisoning, a serious public health concern. As mentioned above, the bloom triggered a Contingency Plan exceedance. As in previous blooms, there was no evidence that the outfall was a factor in bloom initiation, strength, or duration. The bloom subsided by the end of July 2022. The 2022 bloom seem to follow the typical pattern of the bloom starting north of Massachusetts Bay and then moving south.

### *Oxygen*

Before the outfall was relocated offshore in 2000, there was concern that nutrients in the effluent might lead to excess algal growth. If it occurred, it could cause oxygen levels to decline when the algae die and decay, so MWRA monitors oxygen conditions closely. In 2021, the oxygen conditions in Massachusetts Bay were typical of past years. There is a natural seasonal cycle in which oxygen declines through summer and then returns to higher levels in the fall when wind strength increases and causes bay waters to overturn.

In November 2021, August 2022, and September 2022, at one monitoring station (F22) in the deep water of Stellwagen Basin offshore from the outfall, there was an exceedance of the Contingency Plan threshold for oxygen percent saturation. Similar exceedances occurred in 2000 and September 2021, and oxygen percent saturation was comparably low multiple times during the 1990s before the outfall began operating in the bay. The measurement of oxygen concentration (a related, but different, parameter than oxygen percent saturation) at F22 during the November 2021 and September 2022 surveys were also in exceedance. Oxygen concentrations in the nearfield (an area centered on the outfall) were in exceedance in September 2022. However, all monitoring locations during the September survey had low dissolved oxygen, including “farfield” stations distant from the outfall. These farfield stations had low dissolved oxygen levels comparable to those seen in the nearfield, indicating this low dissolved oxygen was a Massachusetts Bay-wide event unrelated to the outfall.

In all cases, the investigations concluded that the cause was natural variability, as oxygen conditions in the bay are largely determined by offshore influences. In Massachusetts Bay, there have been no hypoxia (extremely low oxygen levels that are dangerous to marine life). There are known long term regional trends of increasing temperatures and declining oxygen seen in many datasets, including MWRA’s monitoring data, and unrelated to the outfall. The recent exceedances may be related to these trends.

### *Monitoring the Sea Floor near the Outfall and in the Harbor*



Figure 4. Benthic monitoring in Boston 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 4). Healthy, diverse groups of animals including worms, mollusks, and crustaceans typical of New England were observed in 2021 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. The percent of flounder containing tumor precursors leveled off in flounder caught from Deer Island Flats in recent years, while also continuing to decrease in flounder caught 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.

### **Information Outreach Efforts**

MWRA informs the public, area environmental groups and colleagues in academia and the wastewater industry about the findings from its monitoring. In 2021 and 2022 staff:

- shared beach and river monitoring results with municipalities and regional watershed associations;
- met periodically with researchers and students from local universities (for example, Woods Hole Oceanographic Institute and UMass-Boston) to share results of MWRA’s monitoring, learn about current academic research, and discuss emerging issues of environmental concern (for example, microplastics and environmental justice initiatives);
- 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; and
- will post the 2021 *Outfall Monitoring Overview* on MWRA’s website and issue a summary of results.

## **Other Monitoring Program Activities**

### *Contaminants of Emerging Concern*

In the summer of 2022, the Outfall Monitoring Science Advisory Panel (OMSAP) issued a general framework for approaching questions about monitoring contaminants of emerging concern in Massachusetts Bay. OMSAP also released three white papers focusing on three specific contaminant groups: pharmaceuticals and personal care products, per- and poly-fluoroalkyl substances (PFAS) and microplastics.

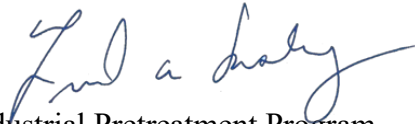
MWRA is participating in a number of projects to assess the presence of these contaminants in both the effluent and in Massachusetts Bay; however, results are not yet available. For each of these contaminant classes, a number of compounds are widespread in the environment. Public health concerns are 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.

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

The FY23 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 \$1.6 million.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** October 19, 2022  
**SUBJECT:** MWRA Industrial Waste Report #38: Industrial Pretreatment Program  
Annual Report to EPA for FY22




---

**COMMITTEE:** Wastewater Policy & Oversight

X  INFORMATION  
  VOTE

Carolyn M. Fiore, 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 at 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.

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 each year that describes the activities and accomplishments of MWRA's Industrial Pretreatment Program. Staff will be submitting the FY22 Annual Report (Industrial Waste Report #38) to EPA and MassDEP on or before October 31, 2022, 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 2,300 permitted sewer users. There were 184 facilities that met MWRA's definition of Significant Industrial User (SIU) during FY22. 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 below.



Figure 1: Field training new staff

## Significant Industrial Users

An 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 184 industries that met the definition of SIU at some point during FY22. At the end of FY22, there were 181 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 FY22, inspecting all of the 184 SIUs and sampling 159 SIUs. In FY22, 25 SIUs were not sampled

for the following reasons: three SIUs did not discharge during the year; two industries went out of business early in the fiscal year without adequate time to sample; and 20 SIUs hold non-discharging SIU permits and therefore cannot be sampled by MWRA.

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 82 permits to SIUs during the fiscal year: 50% of SIU permits (41 permits) within 120 days and 83% of permits (68 permits) within 180 days. As of October 1, 2022, SIU permit issuance is back on track without any outstanding SIU permits over 120 days. Typically, there are some SIU permits that exceed the 180-day time period for issuance for reasons beyond MWRA's control. In FY22, permit issuance was delayed due to staff vacancies, delays in receiving critical data needed for permit processing, delayed startup of new facilities, and late payment of permit fees by the permittees. With respect to staffing, during FY22 TRAC experienced turnover in 17 positions due to retirement, resignation or promotion. In FY22, 14 positions were backfilled while three positions are currently vacant. MWRA is actively trying to fill the vacant positions. Despite these staffing issues, TRAC was able to inspect all SIUs and perform all required SIU monitoring.



Figure 2: SIU inspection of silver recovery unit

The Clinton NPDES permit in effect during FY22 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. Two permits were issued to industries in the Clinton area, including one permit that was 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



Figure 2: Collecting ambient samples for NPDES permit compliance

to minimize the discharge of toxics to the sewer and assist other MWRA programs. In FY22, staff conducted 1,107 industrial/commercial facility inspections of other regulated industries, 119 inspections associated with the septage program, including inspections of haulers and septage receiving sites, and 554 inspections of oil/water separators. There are ten septage receiving sites and more than 3,800 gas/oil separators within MWRA's service area.

TRAC's monitoring staff conducted 1,452 sampling events to characterize wastewater flow from SIU and non-SIU permitted facilities. In addition, TRAC's monitoring staff conducted an additional 1,472 monitoring events to support MWRA's NPDES permits, MWRA's local limits program, and other MWRA projects, and to evaluate discharges to the sewer in response to emergencies.

## Enforcement Program

This year, the total number of SIUs in Significant Noncompliance<sup>1</sup> at some point during the year was 30, which is an increase from the 26 SIUs in FY21. In the last quarter of FY22, however, only 10 SIUs were in SNC. MWRA is planning to host virtual SIU meetings during the fall of 2022. SIU meetings provide an opportunity to review and reinforce methods for maintaining compliance.

In FY22, TRAC issued a total of 224 Notices of Violations to industrial and commercial facilities, compared to 233 in FY21. A total of 14 other higher-level enforcement actions were issued in FY22 in response to a variety of persistent discharge and reporting violations, up from seven higher-level enforcement actions in FY21. In FY22, TRAC identified 51 gas/oil separators requiring Trap Warning Letters due to identified issues with maintenance or accessibility, compared to 37 in FY21. In all of these cases, the facility was notified verbally at the time of the inspection that maintenance was required to be performed. Due to staff vacancies, however, the warning letters were delayed into FY23, but they have since been issued.

TRAC assessed and collected a total of \$20,000 in penalties in FY22 against permitted sewer users, compared to no penalties assessed and collected in FY21. The amount of penalties assessed and collected can vary significantly from year-to-year, as a result of the timing of the penalty issuance, assessment of the penalty, negotiations, and collection.

---

<sup>1</sup>MWRA is required to annually update EPA regarding Significant Industrial Users 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.

## 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 FY22 was \$2,623,764, an increase from \$2,516,741 in FY21. As of September 2022, collections for FY22 bills were at \$2,741,460 (compared to \$2,566,229 in FY21), an approximate 104% recovery of the adjusted amount invoiced. The additional revenue is the result of payment of interest, payment of outstanding permitting and monitoring charges, and new industries opening in the service area.

## **FY22 Accomplishments**

### Industrial Pretreatment Program Audit

On October 5-7, 2021, EPA New England's consultant, PG Environmental, conducted an Industrial Pretreatment Program Audit of the TRAC program. EPA's consultant reviewed six permits. During the audit debrief, EPA reviewed its findings with TRAC staff. A report documenting only minor audit findings from EPA was issued February 24, 2022. All audit requirements and recommendations are being addressed and will be in place by December 1, 2022.

### CROMERR Compliance

MWRA is in the final stages of implementing its Cross Media Electronic Reporting Rule (CROMERR) compliant WebSMR application for accepting electronic data from laboratories submitting wastewater sampling results on behalf of TRAC permitted industrial users. After performing a successful pilot test early in FY22, the final group of laboratories is registering to submit CROMERR compliant electronic data. The next step is to seek EPA approval.

### Dental Discharges Group Permit


FY22 was the first year that the new Dental Discharge group permit compliance report was due from over 750 permitted dental facilities. This biannual compliance report is a MWRA sewer use discharge permit requirement of the Dentist group permit that was issued for the first time in FY20. Reporting requirements were sent to all permittees on March 21, 2022. Currently, 66% of compliance reports have been returned. Since this was the first year of the compliance requirement, the missing reports are likely due to permittees being unfamiliar with the process or dentists ceasing operations. TRAC staff have been contacting the remaining dental facilities to remind them of this requirement and verify their operation.

## **BUDGET/FISCAL IMPACT:**

In FY22, the TRAC Department recovered \$2,693,958 or 56.6 percent of the Department's actual Current Expense Budget, spending (\$4,758,727) through Permit Charges. FY22 revenue was up from FY21 (\$2,693,958); this increase is due to a 3% increase to the permitting and monitoring charges. In FY23, permitting and monitoring charges will increase by another 3%.



## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** October 19, 2022  
**SUBJECT:** Memorandum of Understanding and Financial Assistance Agreement with the Boston Water and Sewer Commission for Implementation of the Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control Projects


---

**COMMITTEE:** Wastewater Policy & Oversight

John P. Colbert, P.E., Chief Engineer  
Brian L. Kubaska, P.E., Assistant Director of Engineering  
Preparer/Title

     INFORMATION

  X   VOTE

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

---

### RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a Memorandum of Understanding and an accompanying Financial Assistance Agreement with Boston Water and Sewer Commission for the Implementation of Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control, substantially in the form attached hereto, wherein the Boston Water and Sewer Commission agrees to design and construct certain combined sewer overflow abatement projects associated with four outfalls, and MWRA agrees to provide funding for eligible design and construction work, for a total not-to-exceed amount of \$10,000,000 and for a term of 32 months, from November 1, 2022 through June 30, 2025.

### DISCUSSION:

On December 30, 2021, the Authority filed with the Court in the Boston Harbor Case, United States v. Metropolitan District Commission, et al., CA No. 85-0489-MA, its *Final Combined Sewer Overflow Post Construction Monitoring Program and Performance Assessment Report*. The MWRA reported that as of the end of 2021, the Combined Sewer Overflow Long-Term Control Plan (LTCP) goals for average annual CSO activations and volume were met, or materially met, at 70 of the 86 CSO outfalls. MWRA reported that of the 16 remaining CSO outfalls that did not meet the LTCP goals, the Authority developed plans to enable six outfalls to meet LTCP goals after 2021.<sup>1</sup> As part of a negotiated framework, the Court subsequently approved three years of additional time to perform system improvements at these six CSO outfalls. The Court's approval further requires MWRA to submit a supplemental report to the Final Assessment Report at the end of the three-year extension (December 2024), which will define the progress made on all of the 16 CSO outfalls that did not meet the LTCP goals.

---

<sup>1</sup> The six CSO outfalls are SOM007A/MWR205A, MWR205, BOS014, CHE008, BOS009 and BOS003.

The Final Assessment Report identified potentially feasible alternatives that may enable four of the remaining 10 outfalls to meet their respective goals. These four BWSC CSO outfalls include BOS017, BOS062, BOS065, and BOS070/DBC (see figure 1 and 2). MWRA has subsequently worked with BWSC to evaluate the constructability and cost for these projects.

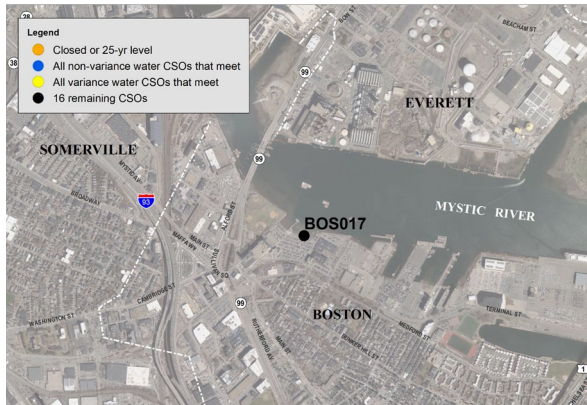


Figure 1: Location of BOS017

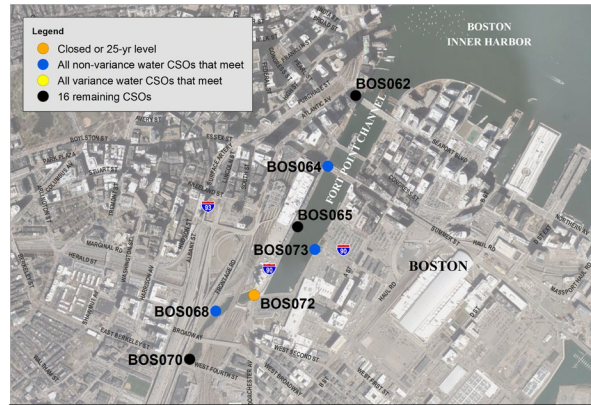


Figure 2: Location of BOS062, BOS064 & BOS070/DBC

The conceptual designs for the four BWSC CSOs put forward by MWRA and now defined in more detail in the proposed Financial Assistance Agreement’s (Agreement) Scope of Work include:

**(Mystic/Chelsea Confluence CSO)**

**BOS017** – Upstream siphon structure stop plank guild rebuild.

**(Fort Point Channel CSOs)**

**BOS062** – Install a supplemental dry weather connection (approximately 18 inches) from the CSO regulator to BWSC’s New East Side Interceptor.<sup>2</sup>

**BOS064** - Raise an upstream CSO regulator’s overflow weir wall by approximately 2.8 feet.

**BOS070/DBC** – Relieve approximately 540 feet of BWSC’s Boston Main Interceptor, currently restricted to a 60-inch pipe, versus the upstream and downstream size of 108 inches.

Over the past several months, MWRA has worked with BWSC to further consider the feasibility of constructing and the potential cost of these conceptual designs. Although the construction will be challenging, as it will take place mostly in dense urban locations, the proposed system modifications can be constructed. Estimating cost at this early conceptual planning phase presents challenges, given the need to further evaluate conflicting utilities and existing system integrity to support the new connections and structure modifications, as well as the current volatility of construction market costs. MWRA staff, however, have developed and BWSC has agreed to a not-to-exceed amount of \$10,000,000 for this work. BWSC has developed and acquired proposals for professional services to prepare the designs and construction services, including resident engineering services for these system modifications, and entered into a contract with Stantec for \$1.75 million on October 3, 2022.

<sup>2</sup> A small adjustment to a regulator weir wall associated with BOS064 is also anticipated to offset adverse impacts from the BOS062 supplemental connection.

## MWRA Funding and Oversight

The proposed Agreement with BWSC will provide the oversight and funding mechanisms by which MWRA will make funds available to BWSC to pay eligible design and construction costs associated with CSO improvements to BOS017, BOS062, BOS065 and BOS070/DBC. As explained above, the proposed Agreement includes a total not-to-exceed award amount of \$10,000,000 and a term of 32 months, from November 1, 2022 through June 30, 2025.

In summary, the proposed Agreement includes the following provisions:

- MWRA will provide funding in the form of annual grant disbursements, based on an agreed upon projection for the coming year. Balances at the project completion, along with any accumulated interest, will be reimbursed to MWRA;
- payment of eligible costs, as defined in the Agreement, will be reviewed by MWRA to ensure such includes only reasonable costs necessary to design and construct the community implemented CSO abatement projects;
- a Project Schedule has been agreed to whereby BWSC shall complete several interim design submissions, final design submission, advertisement for construction bids, and start of construction by the defined schedule. Most importantly, BWSC has committed to construction completion for all of the projects by no later than December 2024. This timeframe aligns with the supplemental report due to be filed with the Court, which will document progress toward meeting the LTCP goals;
- BWSC shall submit quarterly progress reports to MWRA that include the progress of each project, project tasks initiated and completed each quarter and an accounting of the quarterly costs for which payment of any portion of the award amount was made. BWSC shall append to each quarterly progress report all documentation necessary to justify the eligible project costs for which payment of any portion of the award amount was made;
- MWRA may inspect/monitor the progress of the BWSC work to verify it is proceeding in a manner that will result in achievement of LTCP goals for Fort Point Channel and Mystic/Chelsea Confluence;
- BWSC shall provide MWRA with documentation of completed projects, including as-built plans and photographs; and
- MWRA will provide technical assistance to BWSC, if requested, to assist with the implementation of the projects.

MWRA staff will continue to work cooperatively with BWSC staff and hold regular coordination meetings to review the progress of BWSC's work and expenditures.

**BUDGET/FISCAL IMPACT:**

The FY23 CIP does not include a budget for the proposed \$10,000,000 funding for the Agreement. The FY24 Proposed CIP will include this funding. Any expenditures in FY23 will be absorbed in the current five-year spending cap.

**MBE/WBE PARTICIPATION:**

For BWSC-implemented projects funded by MWRA, MBE/WBE participation requirements are included in compliance with DEP requirements and in accordance with BWSC policy.

**ATTACHMENTS:**

**Attachment 1** - Proposed Memorandum of Understanding by and between Massachusetts Water Resources Authority and Boston Water and Sewer Commission for *Implementation of Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control*

**Attachment 2** – Proposed Financial Assistance Agreement by and between Massachusetts Water Resources Authority and Boston Water and Sewer Commission for *Implementation of Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control*

**MEMORANDUM OF UNDERSTANDING  
BETWEEN THE MASSACHUSETTS WATER  
RESOURCES AUTHORITY AND THE BOSTON WATER  
AND SEWER COMMISSION FOR THE IMPLEMENTATION OF  
FORT POINT CHANNEL AND MYSTIC/CHELSEA CONFLUENCE  
COMBINED SEWER OVERFLOW CONTROL PROJECTS**

**I. INTRODUCTION**

**a. Parties**

This Memorandum of Understanding (“MOU”) is entered into by the Massachusetts Water Resources Authority, a body politic and corporate and public instrumentality, existing under Chapter 372 of the Acts of 1984, with its principal place of business at 100 First Avenue Charlestown, MA 02129, (the “Authority” or “MWRA”) and Boston Water and Sewer Commission, an independent body politic and corporate and political subdivision of the Commonwealth established pursuant to Chapter 436 of the Acts of 1977, with its principal place of business at 980 Harrison Avenue, Boston, MA 02119, (“BWSC”) (the Authority and BWSC are collectively known as the “Parties” and each individually as a “Party”). The goal of the Parties in entering into this MOU is the improvement of water quality and protection of designated uses in Boston Harbor and its tributary waters by controlling combined sewer overflows (“CSOs”).

**b. Background**

On December 30, 2021, the Authority filed with the Court in the Boston Harbor Case, *United States v. Metropolitan District Commission, et al.*, CA No. 85-0489-MA, its *Final Combined Sewer Overflow Post Construction Monitoring Program and Performance Assessment Report* (“Final Assessment Report”). Among other key findings, the Authority reported that as of the end of 2021, the CSO Long-Term Control Plan (“LTCP”) goals for average annual CSO activation and volume were met, or materially met, at 70 of the 86 CSO outfalls for which performance targets were defined. The Authority reported that of the 16 remaining CSO outfalls that did not meet the LTCP goals for activation frequency and/or volume by the end of 2021, the Authority developed plans to enable six CSO outfalls to meet LTCP goals after 2021.<sup>1</sup> As part of a negotiated framework, the Court subsequently approved three-years of additional time to perform certain system improvements at these six CSO outfalls, which are predicted to meet the LTCP goals, once the improvements are performed.

In the Final Assessment Report, the Authority also noted that with respect to the remaining 10 CSO outfalls, it had identified potentially feasible alternatives that may enable four CSO outfalls (“BOS CSO Outfalls”) to achieve the applicable CSO LTCP volume and activation goals.<sup>2</sup>

---

<sup>1</sup> The six CSO outfalls are: SOM007A/MWR205A; MWR205; BOS014; CHE008; BOS009; and BOS003.

<sup>2</sup> The four CSO outfalls are: BOS017, BOS062, BOS065, and BOS070/DBC.

Further, with respect to these four outfalls, Section 4.2.1 of the Final Assessment Report offers the Authority's conceptual designs, which are predicted to meet the applicable LTCP goals, if implemented. Lastly, the Final Assessment Report explains that the Authority is working with BWSC to evaluate the constructability and cost for these projects.

**c. Purpose of the MOU**

The purpose of this MOU is to provide a framework within which the Parties will continue to cooperate in the coordination and management of the administrative, financial, and technical activities necessary to implement the conceptually-designed projects in the Final Assessment Report for the corresponding four BOS CSO Outfalls, as well as the Authority's ongoing system improvements. Major components of the implementation program and this MOU are twofold:

- i. design and construction of CSO control projects by BWSC with funding and review by the Authority. BWSC is responsible for ensuring that the engineering performance objectives of these projects are satisfied and for owning, operating and maintaining the new facilities at BWSC's cost. BWSC projects are defined in Section III.a. of this MOU; and
- ii. the Authority will provide financial assistance to BWSC in the form of annual grants to cover eligible costs for design and construction of the BWSC-implemented projects in a total maximum amount not to exceed ten million dollars (\$10,000,000.00). BWSC is solely responsible for any costs for the Projects in excess of this amount.

By this MOU, the Parties formally acknowledge the appropriateness and importance of implementing the CSO control projects recommended in the Final Assessment Report, to comply with the Clean Water Act, and to improve water quality and protect uses in the receiving waters. The Parties agree to assume and complete each and all of the respective duties and obligations, set forth herein, within the timeframe set forth herein. Each Party agrees to provide the support and coordination of the steps necessary for it to perform in order to complete these projects. All activities under this MOU are subject to and will be performed in accordance with applicable federal, state and local laws, regulations, codes and requirements.

The *Financial Assistance Agreement Between the Massachusetts Water Resources Authority and the Boston Water and Sewer Commission for the Implementation of Fort Point Channel and Mystic/Chelsea Combined Sewer Overflow Control Projects*, ("Financial Assistance Agreement"), separately executed by the Parties, is incorporated by reference herein. Detailed requirements and procedures related to the conduct of work and cooperative efforts in implementing the CSO projects are defined in the Financial Assistance Agreement.

## **II. IMPLEMENTATION OF THE FINAL ASSESSMENT REPORT**

The projects in the Final Assessment Report will result in new and/or modifications to existing sewerage facilities, some of which will be owned, operated, and maintained by the Authority, while others will be owned, operated and maintained by the CSO Communities. BWSC will be responsible for implementing the projects set forth in Section III.a. of this MOU, and the Authority will provide to BWSC the funding for all eligible design and construction costs specified in the Financial Assistance Agreement.

## **III. BWSC-IMPLEMENTED CSO PROJECTS**

### **a. Scope of Work**

BWSC will provide, through in-house staff resources and/or outside consultant/contractor services, the administration, planning, engineering, and construction services necessary to design and construct the CSO control projects for which BWSC is made responsible by this MOU (“Projects”). These Projects are:

- i. Mystic/Chelsea Confluence BOS017 Siphon Structure Modification;
- ii. Fort Point Channel Outfalls BOS062 and BOS065 (with additional modifications to BOS064 resulting from BOS062 and BOS065 modifications); and
- iii. Fort Point Channel Outfall BOS070/DBC.

The scope and performance objectives for the Projects are defined in the Financial Assistance Agreement. BWSC agrees to design and construct the projects in accordance with the Projects' scopes, schedule requirements (see Section III.b. of this MOU), and applicable laws, regulations, codes, and requirements as well as in a manner that will ensure that the performance objectives are met. BWSC will also obtain all required construction permits including, but not limited to, environmental permits, in order to implement the Projects I.

### **b. Schedule**

The schedules for the Projects are further defined in the Financial Assistance Agreement. In each instance, these individual schedules require construction completion by no later than December 2024. As such, BWSC will manage the design and construction related activities and sub-activities in a manner that will ensure compliance with this schedule.

This MOU does not purport to cover all possible problems, challenges or circumstances that may, can and/or will arise during the course of project planning, design and construction. If problems, challenges or circumstances arise that threaten schedule compliance, BWSC will notify MWRA immediately and will cooperate with MWRA in providing information and attempting to resolve the problems, challenges or circumstances so as to maintain the project schedule. The

Authority also reserves its right to assume or assist in some or all of BWSC's implementation efforts to ensure compliance with the schedule.

### **c. Project Reviews**

Pursuant to provisions in the Financial Assistance Agreement, BWSC must keep the Authority routinely informed on the progress of the Projects, including critical issues that may affect BWSC's ability to meet the schedule, costs incurred, and anticipated cost changes. Such information, and any other information requested by MWRA, will be provided to MWRA through monthly coordination meetings and quarterly and annual progress reports, and in response to a request by the Authority at any time while this MOU is in effect. The information should demonstrate that BWSC is satisfying the planning and engineering objectives of the Projects within the schedule requirements of this MOU and at reasonable cost. Within a reasonable time, BWSC will, upon request by the Authority, provide copies of any reports, plans or other BWSC records and documents, which the Authority determines to be necessary to accomplish the purposes of this MOU.

## **IV. TECHNICAL SUPPORT AND COORDINATION**

Each Party will support and promote the Projects of the other Party by sharing technical information and by participating, as requested, in technical discussions and decision-making. The Parties agree to make a good faith effort to exchange information necessary to implement the Projects successfully. Each Party agrees to designate a CSO program liaison, who will have primary responsibility for coordination of the cooperative efforts described in this MOU and the procedural requirements in the Financial Assistance Agreement.

## **V. FACILITY OWNERSHIP**

BWSC agrees to own, operate, and maintain the new/modified facilities constructed under this MOU, as well as all associated equipment and land. Nothing in this MOU, the Financial Assistance Agreement, or in the Final Assessment Report changes the ownership status of existing facilities. Each Party acknowledges, as owner of its respective facilities, it is responsible for all associated ownership, operation and maintenance costs and future capital costs for the repair, replacement and/or rehabilitation of facility components, as needed.

## **VI. FINANCIAL ASSISTANCE AGREEMENT**

This MOU includes a Financial Assistance Agreement under which the Authority will provide BWSC funding for the eligible costs of project implementation. The Authority's financial assistance will be provided for eligible costs associated with design and construction of the CSO projects. Eligible costs are defined in detail in the Financial Assistance Agreement. Financial assistance will not be provided for the costs of owning, operating and maintaining BWSC-owned facilities constructed or modified. Such costs will be borne exclusively by BWSC.



The Authority's financial assistance will be provided to BWSC in the form of an annual grant disbursement that will be made prior to the beginning of each calendar year ("Grant Year") of project implementation. Each annual grant disbursement will be equal to the total estimated eligible cost of CSO project activities scheduled to be conducted in the Grant Year. BWSC may withdraw funds from this account through the Grant Year as necessary to pay eligible project costs. The Authority shall receive a monthly account statement. The Authority's grant disbursements are subject to the following summary requirements:

- i. BWSC will submit, for the Authority's review and approval, updated cost estimates (no less than annually or as otherwise directed by the Authority) for the Projects' activities scheduled in the grant year;
- ii. BWSC may use funds in the financial assistance accounts only for eligible costs incurred within the scope of the Projects as described in the Financial Assistance Agreement;
- iii. the total estimated funding amount may periodically be revised by the Authority based on updated cost estimates;
- iv. BWSC will maintain those books, records, documents, including but not limited to, contracts, invoices, accounts payable records, contractor payroll records, and purchase orders that are sufficient to document that activities are/were carried out in accordance with this MOU and all other applicable laws, regulations, codes and requirements. The Authority reserves the right to conduct random inspections of all ongoing work conducted by BWSC or its representatives under this MOU;
- v. The Authority will periodically conduct financial audits and technical reviews of BWSC's Projects expenditures and progress. BWSC will be prepared, pursuant to accepted government auditing standards, for an audit of all funds received pursuant to this MOU. The Authority reserves the right to conduct an audit of the funds and project expenditures at any time. BWSC will cooperate with the Authority and its assigned representatives in completing the audits;
- vi. BWSC agrees to reimburse the Authority directly for any: (a) unspent grant proceeds; and (b) ineligible expenditure of the grant proceeds provided under the Financial Assistance Agreement; and
- vii. Other terms and conditions of financial assistance, including definition of eligible and ineligible costs, are defined in the Financial Assistance Agreement.

## **VII. DURATION OF MOU AND AMENDMENTS**

This MOU is in effect as of \_\_\_\_\_, 2022, and will terminate upon the latest of: (a) construction of the projects that are the subject of this MOU are completed, (b) the new facilities

are operational, or (c) the termination of the Financial Assistance Agreement. This MOU may be amended from time-to-time by mutual agreement in writing and executed by the Parties.

## **VIII. COUNTERPARTS**

This MOU 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.

## **IX. 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 MOU, and that, when executed this MOU shall be a valid and binding obligation, enforceable in accordance with its terms.

## **X. NO PRESUMPTION**

The Parties agree that this MOU shall be construed without regard to any presumption or other rule requiring construction or interpretation against the Party causing this Agreement to be drafted.

## **XI. SEVERABILITY**

If any part of this MOU is determined to be invalid, illegal, or unenforceable, such determination shall not affect the validity, legality, or enforceability of any other part of the MOU and the remaining parts of this MOU shall be enforced as if such invalid, illegal or unenforceable part were not contained herein.

## **XII. GOVERNING LAW**

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

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

MASSACHUSETTS WATER RESOURCES AUTHORITY

BY: \_\_\_\_\_ Date: \_\_\_\_\_

Matthew R. Horan

Treasurer

BOSTON WATER AND SEWER COMMISSION

BY: \_\_\_\_\_ Date: \_\_\_\_\_

Henry F. Vitale

Executive Director

**Approved as to Form**

BY: \_\_\_\_\_

Office of General Counsel

**FINANCIAL ASSISTANCE AGREEMENT  
BETWEEN THE MASSACHUSETTS WATER  
RESOURCES AUTHORITY AND THE BOSTON WATER  
AND SEWER COMMISSION FOR THE IMPLEMENTATION OF  
FORT POINT CHANNEL AND MYSTIC/CHELSEA CONFLUENCE  
COMBINED SEWER OVERFLOW CONTROL PROJECTS**

This Financial Assistance Agreement for the Implementation of Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control Projects (“Financial Assistance Agreement”) is made by and between the Massachusetts Water Resources Authority, a body politic and corporate and public instrumentality, existing under Chapter 372 of the Acts of 1984, with its principal place of business at 100 First Avenue Charlestown, MA 02129, (“Authority” or “MWRA”) and the Boston Water and Sewer Commission, an independent body politic and corporate and political subdivision of the Commonwealth established pursuant to Chapter 436 of the Acts of 1977, with its principal place of business at 980 Harrison Avenue, Boston, MA 02119 (“Awardee”) (the Authority and the Awardee are collectively referred to as the “Parties”).

WHEREAS, on \_\_\_\_\_, 2022, the Parties concurrently executed a *Memorandum of Understanding For The Implementation Of Fort Point Channel And Mystic/Chelsea Confluence Combined Sewer Overflow Control Projects* (“MOU”), which is hereby incorporated by reference, whereby the Awardee agreed to implement assigned Combined Sewer Overflow (“CSO”) Projects (“Projects”) and MWRA agreed to provide Awardee financial assistance for project design and construction costs;

WHEREAS, the MWRA will provide financial assistance (“Award”) to the Awardee for its Projects under certain terms and conditions, hereinafter provided; and

WHEREAS, the MWRA may finance the Award from the proceeds of an issue of its tax-exempt Revenue Bonds (“MWRA Bonds”), which proceeds are subject to certain limitations as to investment and application.

NOW THEREFORE, in consideration of the foregoing and the promises contained herein, the Parties agree that the Authority will provide and the Awardee will accept financial assistance under the following terms and conditions:

I. SCOPE OF SERVICES.

The Awardee has entered into, or will enter into within \_\_\_\_\_ days of the execution of this Financial Assistance Agreement, a design contract (or contracts) with a consultant(s) or contractor(s) for the Projects, in accordance with the Awardee’s competitive procurement practice, and the scope of such work together with any necessary construction work is outlined in Attachment A (“Scope of Services”). The Scope of Services is not intended as a complete accounting of what will be needed by the Awardee to retain a design contractor(s) or consultant(s) and construction contractor(s) for the Projects.

II. FINANCIAL ASSISTANCE.

A. The Authority shall provide the Award to the Awardee in the form of annual grant disbursements (“Proceeds”). The Proceeds will be established by MWRA and disbursed to Awardee

in accordance with Article II.(B). The total amount of the Award (“Total Award Amount”) over the term of this Financial Assistance Agreement shall not exceed ten million dollars (\$10,000,000.00). BWSC is solely responsible for any costs for the Projects in excess of the Total Award Amount. Revision of the Total Award Amount requires MWRA Board of Directors approval and amendment of this Financial Assistance Agreement and the MOU. The actual amount of the Award at the termination of this Financial Assistance Agreement shall be the summation of all eligible costs incurred by Awardee to complete its assigned CSO Projects, but in no instance may this exceed the Total Award Amount. Nothing in this Financial Assistance Agreement or the MOU shall be construed as an obligation on MWRA’s part either to fund or reimburse, in whole or in part, any amount for the Projects in excess of the Total Award Amount.

B. MWRA shall establish and deposit the Proceeds in an account (“Account”) separate from other moneys belonging to Awardee or MWRA, from which Awardee may transfer funds for the purpose of paying eligible costs under this Financial Assistance Agreement. Such Account shall be invested in a financial institution as may be approved by MWRA from time to time at MWRA’s reasonable discretion. Earnings on the Account shall be retained in such Account. MWRA shall arrange for copies of all investment reports with respect to the Account to be furnished in a timely fashion to MWRA and Awardee. The Account shall be established in the name of Awardee along with the title MWRA CSO Program.

C. The Proceeds, together with the earnings thereon, shall be applied only to the eligible costs of the Projects in the Scope of Services.

D. It is expressly understood that Awardee is solely responsible for the complete, timely performance of the Scope of Services to the extent that the work and schedule is reasonably within its control.

E. The Proceeds will be deposited to the Account for each calendar year (“Grant Year”), January 1 through December 31, which eligible Projects costs are projected to be incurred by Awardee, as approved by MWRA, during the term of this Financial Assistance Agreement. The Proceeds shall equal the approved, total estimated eligible cost of the Projects during the Grant Year less the estimated funds remaining in the Account from the previous Grant Tear. The total estimated eligible cost of the Projects during the Grant Year shall be determined by Awardee and submitted to MWRA in the Estimated Work Progress and Expenditures Report (“Report”). A separate Report shall be submitted for each Award year. The initial Report shall be submitted with-in 60 days of the execution of this Financial Assistance Agreement. Subsequent Reports shall be submitted between October 1 and November 1 of the year preceding the Grant Year. Eligible costs incurred in calendar year 2022 within the term of this Financial Assistance Agreement shall be reported in the calendar year 2023 report. MWRA shall review the Report, in part in consultation with Awardee, to determine the reasonableness of the estimated work progress and cost.

F. The Report shall include at a minimum the following information for the Projects, provided in a form established and/or approved by MWRA:

1. Contracted Services

a. Schedule and estimated cost of eligible work to be performed under contract, by contract and task; and

- b. Total estimated expenditure and estimated expenditure flow by month for each contract.
2. Total Expenditure Estimate
- a. Total estimated expenditure; and
  - b. Total expenditure flow by month for all estimated costs for the Projects.

G. Awardee acknowledges that MWRA may finance the Award with the issue of MWRA's Bonds. Awardee agrees to take such steps and actions as are reasonably requested by MWRA in order to preserve the tax-exempt status of MWRA Bonds including, but not limited to, the following: (i) to pay to MWRA such amounts, not exceeding Awardee's investment earnings on the Proceeds, as may be required to satisfy MWRA's obligation to pay rebate to the United States pursuant to Section 148 of the Internal Revenue Code of 1986 as amended ("Code"); (ii) to the extent feasible, to limit the investment of the Proceeds, together with any earnings thereon, to such interest rate or to such investments as MWRA may specify from time to time in writing; and (iii) to repay to MWRA the Proceeds upon its written request, together with any earnings thereon, in exchange for other moneys, which are not subject to investment restrictions or which are subject to lesser restrictions.

H. Awardee shall repay to MWRA the unexpended balance in the Account established pursuant to Section II.(B.) hereof within sixty (60) days of completion of all Projects or thereafter shall invest such unexpended balance in accordance with the directions of MWRA in order to assure compliance with the applicable provisions of the Code.

I. Awardee shall not take, or permit to be taken, with respect to the Award any action or actions that would cause any of MWRA's Bonds to be an "arbitrage bond" within the meaning of Section 148 of the Code or that would cause any such Bond to be "federally guaranteed" within the meaning of Section 149(b) of the Code, or that would otherwise cause interest on MWRA Bonds to be included in gross income of the recipient thereof for the purpose of federal income taxation.

### III. ELIGIBILITY

A. Financial assistance provided by MWRA pursuant to this Financial Assistance Agreement shall be for the purposes of funding the actual, reasonable, eligible costs associated with design and construction of the Projects that will be implemented by Awardee, as defined in the MOU. Eligible costs for the Projects shall include those related expenses incurred by Awardee in the implementation of the Projects in accordance with the Scope of Services.

B. Costs which are eligible under this Financial Assistance Agreement include:

- 1. General
  - a. All reasonable costs necessary to design and construct the community-implemented CSO Projects in accordance with and to the limits of the Projects' descriptions in the Scope of Services in this Financial Assistance Agreement.
  - b. Certain costs of contracted services related to design and construction of the

CSO Projects and approved by MWRA.

- c. Services and purchases necessary to obtain permits, including street opening permits, and regulatory approvals required to construct the Projects. Includes but may not be limited to the costs of advertising public notices and conducting public meetings.
- d. Fees payable by Awardee under local by-law or ordinance as a direct result of the Projects, including payments to the City of Boston for the occupation of metered parking spaces during construction.
- e. Costs for the Projects that are associated with the mitigation of construction impacts are eligible only if the mitigation measures are consistent with the “Statement of Mitigation Principles,” adopted by the MWRA Board of Directors on October 26, 1988, and the “Guidelines for Engineering and Construction Practices,” adopted by the MWRA Board of Directors on March 9, 1994 and the MWRA Advisory Board on May 19, 1994, copies of both documents are included in Attachment B.
- f. The costs for post-construction, temporary metering of the combined sewer system is eligible if the metering is performed to confirm the Projects’ performance objectives have been satisfied and if pre-approved by MWRA.
- g. Other reasonable costs that arise and are approved in writing by MWRA as eligible costs.

2. Design

- a. Services and purchases, under professional services contracts, necessary to prepare design plans, specifications, cost estimates and other construction bid documents, including:
  - i. Field inspections, internal system inspections including internal television inspections, sewer system cleaning and temporary flow metering only to the extent that these services are required to adequately define preconstruction conditions for the purpose of designing and/or constructing the Projects. Temporary flow metering must be preapproved by MWRA.
  - ii. Subsurface investigations, including test pits, borings and soils and groundwater testing, to determine geotechnical conditions and to assess the presence of hazardous materials to comply with statutory requirements.
  - iii. Surveying services to locate rights of way, easements, other property lines, and artificial and natural surface features within the construction area.
  - iv. Test pits and other surface and subsurface investigations necessary to

determine the location of underground utilities and other underground structures.

- v. Design services to locate or relocate publicly owned utilities and other surface and subsurface structures that are in direct conflict with the Projects.
- vi. Police details directly related to any field investigations involved in the work listed above.

3. Property Acquisition

- a. Survey services to establish Projects limits and determine land needs for construction and long-term operation of or access to project-related facilities.
- b. Police details necessary to conduct associated field work.
- c. Administrative, legal and appraisal services to acquire property rights in fee or as easements for construction and/or long-term operation and access.
- d. Purchase price of land or easements for construction and/or long-term operation and access, only to the extent that the land for easement or taking is appraised by a qualified appraiser unless the value is less than \$5,000.

4. Construction

- a. Costs of construction to implement the Projects outlined in the Scope of Services, including the engineering services required to adequately supervise and manage the project construction activities, including but not limited to:
  - i. Resident inspection.
  - ii. Construction administration.
  - iii. Preparation of record drawings.
  - iv. Special services during construction.
- b. Police details that are directly related to the eligible construction activities.
- c. Relocation and/or replacement by the community of publicly owned utilities and other surface or subsurface structures that are in direct conflict with proposed structures only to the extent necessary to avoid the structure. Utilities perpendicular to the trench work will be supported in place or, if required, replaced to the nearest joint beyond each side of the trench or to 4 feet beyond the trench, whichever is less.
- d. Pavement - permanent trench patch or reduced depth trench patch with curb to curb overlay; restoration of sidewalks disturbed by project construction.



C. Costs which are ineligible under this Financial Assistance Agreement include, but are not limited to:

1. General

- a. Costs incurred outside the Scope of Services for the Projects.
- b. Costs in excess of the Total Award Amount.
- c. Project-related costs incurred later than one year following the completion of construction of the respective project.
- d. Ordinary operating expenses of Awardee.
- e. Costs for which funding has been or will be received under any other MWRA, state or federal funding assistance program.
- f. Costs of area-wide or basin planning studies.
- g. Costs for development or printing of operation and maintenance manuals.
- h. Costs for development of or revisions to sewer use ordinance, sewer use rules and regulations, or sewer user charge systems.
- i. Costs for purchase, rental, installation or operation of equipment for permanent or temporary monitoring of flow in sewer or storm drain systems, unless pre-approved in writing by MWRA.
- j. Costs for purchase of sewer cleaning and/or internal TV inspection equipment.
- k. Bonus payments to contractors for completing construction earlier than contracted completion date.
- l. Personal injury claims, claims related to wrongful deaths, or property damage, and/or workers compensation claims arising out of the Projects, however determined.
- m. Costs of services, equipment or materials procured in violation of local, state or federal law, regulation and/or requirement.
- n. Fines, penalties and assessments.
- o. Any cost not listed as an eligible cost and not pre-approved in writing by MWRA.
- p. Costs incurred through or arising out of breaches, errors, omissions or negligence on the part of Awardee, its consultants and/or contractors or

subcontractors.

2. Design

- a. Design costs incurred by a third party unless pre-approved by MWRA.
- b. Design costs associated with the rehabilitation, relocation and/or replacement of publicly owned utilities or other subsurface structures not in direct conflict with the project.
- c. Design costs associated with the rehabilitation, relocation and/or replacement of privately owned utilities or other subsurface structures within a public right-of-way.
- d. Development of construction mitigation plans that do not conform to the MWRA mitigation policy (see Article III.(B.)(1)(e)), unless required through or by federal or state regulatory review and approved by MWRA.

3. Construction

- a. Construction costs incurred by a third party unless pre-approved by MWRA.
- b. Rehabilitation, relocation and/or replacement of publicly owned utilities or other subsurface structures not in direct conflict with the Project.
- c. Rehabilitation, relocation and/or replacement of privately owned utilities or other subsurface structures within a public right-of-way.
- d. Replacement of curbing, sidewalks, trees, streetlights, traffic signs, signalization and other surface features not in direct conflict with the Project.
- e. Implementation of mitigation plans that do not conform to the MWRA mitigation policy (see Article III.(B)(1)(e)), unless required through or by federal or state regulatory review and approved by MWRA.

D. Financial assistance will not be provided for the costs of owning, operating and maintaining facilities owned by Awardee. It is expressly understood that such costs shall be borne entirely by Awardee.

IV. EFFECTIVE DATE OF FINANCIAL ASSISTANCE AGREEMENT.

This Financial Assistance Agreement is in effect as of \_\_\_\_\_, 2022.

V. TERM.

This Financial Assistance Agreement shall remain in effect until June 30, 2025.

VI. PROJECT SCHEDULE.

A. Awardee agrees to implement the Projects on a schedule prescribed by Attachment C (“Project Schedule”). The Project Schedule at a minimum shall include, for each anticipated design and construction package, dates for start of design, interim design submissions (*e.g.*, 30% design, 60% design, *etc.*), final design submission, advertisement for construction bids, start of construction, and construction completion by no later than December 2024. The Schedule shall be comprehensive, in that it shall incorporate all necessary components over the entire duration of the Projects.

B. The Project Schedule has been approved by MWRA and any Project Schedule changes shall be subject to review and approval by MWRA. The Project Schedule may be revised by Awardee and resubmitted to MWRA for approval at any time, provided that Awardee informs MWRA in writing of anticipated schedule changes at the earliest possible time as each schedule change becomes apparent. In addition, with each notification of schedule change, the Awardee shall report on the effect of the schedule change on the construction completion date of no later than December 2024. All schedule changes that have the potential of resulting in not achieving construction completion by December 2024 will be the subject of consultations between MWRA and Awardee.

C. Awardee shall submit certification to MWRA upon completion of each corresponding Project Schedule item set forth in Attachment C. Such certification shall be submitted within 3 business days of completing the Project Schedule item(s) and no later than 3 business days following the last day of the month for which the item is scheduled. Certifications shall be signed by a duly authorized officer of Awardee.

## VII. EXPENDITURE VERIFICATION REQUIREMENTS.

A. Throughout the completion of the Scope of Services, the Awardee shall submit quarterly progress reports to the Authority on or about the fifteenth day of the month following the close of the previous quarter. The report shall be in a form provided by the Authority, which outline the overall progress of the Projects, the progress of key tasks for the Projects, and the total cost expended to date for the Projects. Progress reports shall be submitted electronically to Brian Kubaska ([Brian.Kubaska@mwra.com](mailto:Brian.Kubaska@mwra.com)), Jeremy Hall ([Jeremy.Hall@mwra.com](mailto:Jeremy.Hall@mwra.com)), and George Lane ([Georgelane.Jr@mwra.com](mailto:Georgelane.Jr@mwra.com)), as well as other MWRA staff as requested.

B. The Awardee shall append to each progress report information which documents eligible Project costs, including, but not limited to, consultant and/or contractor invoices; Awardee labor, equipment, materials and other costs; and ancillary expenses. Time sheets and work summaries documenting any requests for force account work reimbursement must also be provided.

C. The Awardee shall exercise its best efforts to accomplish the Projects set forth in the Scope of Services within the Total Award Amount.

## VIII. PROJECT INSPECTION.

Awardee agrees to routinely apprise MWRA of work in progress and to make the sites and all records for the Projects available to MWRA for review during the course of the work. MWRA will routinely monitor the progress of work to insure that the Projects are: (1) proceeding substantially as defined in the Scope of Services; (2) proceeding substantially within the Project Schedule; (3) proceeding substantially within the Estimated Work Progress and Expenditures Report (see Part I.(D.)); and (4) proceeding in a manner, which will insure that the performance objectives

of the Projects are achieved. MWRA shall review each document or report and provide written comments, if any, to Awardee within 15 days of receipt. Awardee shall respond to the comments in a timely manner.

IX. PROJECT CLOSEOUT PROVISIONS.

A. Upon completion of the Projects, the Awardee shall notify the Authority that the Projects are complete and shall certify, on a form set forth in Attachment E, that all work included in the Scope of Services has been completed and performed in accordance with this Financial Assistance Agreement and the MOU, as well as a release and waiver of liens and claims. The Awardee shall submit to the Authority a closeout package, which shall include a summary of all Project expenditures and the final Project cost.

B. If the final costs of the Projects are less than the Award, a revision to the Grant shall be made during closeout. The difference between the Award and the final closeout cost will be calculated and defined as the "Shortage Amount".

C. In the event that a Shortage Amount exists, the Awardee agrees to repay one hundred percent (100%) of such Shortage Amount to the Authority.

X. PROJECT AUDIT PROVISIONS.

A. The Awardee, its engineers, and its contractors shall maintain books, records, and other documents that pertain to and involve transactions related to this Financial Assistance Agreement in accordance with generally accepted accounting principals. The Awardee, its engineers, and its contractors shall also maintain the financial information and data used by the engineers and contractors in the preparation or support of all invoices and progress reports. The Authority and any other duly authorized person, shall have access to such books, records, documents, and other evidence for inspection, audit, and copying during normal business hours, upon ten (10) days notice and at the Authority's expense. The Awardee, its engineers, and its contractors shall provide proper facilities for such access and inspection. All documents shall be kept for at least seven (7) years after either the final payment to the engineer or contractor or after the closeout of the Projects, whichever is later.

B. The Awardee agrees to include the wording of Section X.A., above, in all contracts and subcontracts hereafter awarded to third party contractors, vendors and service providers related to this Financial Assistance Agreement.

C. Audits conducted by the Authority, or its duly authorized representatives, shall be in accordance with generally accepted government auditing standards and established procedures and guidelines of the Authority. Such audits shall be conducted at the expense of the Authority upon ten (10) days notice to the Awardee.

D. The Awardee agrees to provide the Authority with a copy of the Awardee's annual audited financial statements within a reasonable time after the issuance thereof, together with a certificate of the Awardee stating that the Awardee is in compliance with its obligations under this Financial Assistance Agreement.

XI. INTERACTION WITH OTHER PROGRAMS OF ASSISTANCE.

The Awardee certifies that it has not and will not receive financial assistance under the State Revolving Fund (“SRF”) or any other state, federal, or other program of funding assistance for that portion of the costs of the Projects for which financial assistance has been provided by the Authority. The Awardee understands that the Authority has or will apply for SRF financial assistance for the Project and the Awardee will: (a) cooperate in the preparation and filing of all associated documentation required by the SRF and similar programs; and (b) shall ensure that all contracts for the Projects adhere to all current SRF requirements (*e.g.*, Disadvantaged Business Enterprise, Davis-Bacon Wage Rates; Build America Buy America Act, *etc.*).

XII. AUTHORITY TO EXECUTE FINANCIAL ASSISTANCE AGREEMENT.

Prior to the execution of this Financial Assistance Agreement, the Awardee shall take all steps necessary to authorize it to properly execute this Agreement.

XIII. GOVERNING LAW.

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

XIV. COMPLIANCE WITH ALL LAWS.

The Awardee shall comply with all applicable laws, ordinances, regulations, codes and requirements of the federal, state and local governments, and shall commit no trespass on any public or private property in performing any of the work embraced by this Financial Assistance Agreement.

XV. INVALIDITY OF PARTICULAR PROVISIONS.

If any part of this Financial Assistance Agreement is determined to be invalid, illegal, or unenforceable, such determination shall not affect the validity, legality, or enforceability of any other part of the Financial Assistance Agreement and the remaining parts of this Financial Assistance Agreement shall be enforced as if such invalid, illegal or unenforceable part were not contained herein.

XVI. CONTRACTING/SUBCONTRACTING.

The Awardee shall have no capacity to involve or include the Authority in any contract or to incur any liability on the part of the Authority.

XVII. CHANGES TO SCOPE OF SERVICES.

The Authority and the Awardee may, during the course of the Projects, mutually agree to revisions in the Scope of Services or Project Schedule in writing. Such changes shall be incorporated into this Financial Assistance Agreement by written amendment.

XVIII. PROVISION OF CONTRACTS.

The Awardee agrees to submit to the Authority an executed copy of each contract for engineering services or construction relevant to the Scope of Services.

XIX. EQUAL EMPLOYMENT OPPORTUNITY.

The Awardee shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap status or national origin. The Awardee, its engineer(s), and its contractor(s) shall comply with all applicable laws and regulations pertaining to nondiscrimination, equal opportunity and affirmative action, including without limitation executive orders and rules and regulations of federal and state agencies of competent jurisdiction. The Awardee shall make positive efforts to achieve a goal of 7.18 percent participation of Minority-owned Business Enterprise(s) and 5.77 percent participation of Woman-owned Business Enterprise(s) within Professional Services contracts which are funded through financial assistance under this Financial Assistance Agreement. For Non-Professional Services category work, the Awardee should make positive efforts to achieve a goal of 5.61 percent participation of Minority-owned Business Enterprise(s) and a goal of 4.88 percent participation of Woman-owned Business Enterprise(s) within project contracts.

For Construction, the Awardee shall require all construction contractors and subcontractors to make positive efforts to achieve: (1) a minority employee work force goal of 15.60 percent, (2) a woman employee work force goal of 6.90 percent, (3) a goal of 7.24 percent participation of Minority-owned Business Enterprise(s), and (4) a goal of 3.60 percent participation of Woman-owned Business Enterprise(s) within the project contracts.

XX. INDEMNIFICATION.

The Awardee, at its expense, shall indemnify and hold harmless the Authority, and its directors, members, officers and employees, from and against any and all claims, causes of action, suits, losses, liabilities, judgments, damages and expenses, including without limitation attorneys' fees, arising out of or resulting from any acts, errors or omissions or breach of contractual duties or requirements by the Awardee and anyone employed by it (including contractors, subcontractors and/or consultants and/or their respective employees) in performance of this Financial Assistance Agreement, the MOU and/or any of the Projects. Such obligation shall not be construed to negate or abridge any other obligation of indemnification running to the Authority which would otherwise exist.

XXI. MEMBERS, EMPLOYEES NOT LIABLE.

No member or employee of the Authority shall be charged personally or held contractually liable by or to the Awardee under any term or provision of this Financial Assistance Agreement or because of any breach thereof or because of its execution or attempted execution.

XXII. INTEREST OF AWARDEE.

The Awardee covenants that its contractors, subcontractors and/or consultants presently have no interest and shall not acquire any interest, direct or indirect, in the property to which this Financial Assistance Agreement pertains or any parcels therein or any other interest which would conflict in any manner or degree with the performance of its services hereunder. The Awardee further covenants that no person having any such interest shall be employed in the performance of this Financial Assistance Agreement.

XXIII. INTEREST OF EMPLOYEES; M.G.L.C. 268A.

Neither Awardee, nor its contractors, subcontractors and/or consultants shall, during the term of this Financial Assistance Agreement, hire or employ on either a full-time or part-time basis any person or persons so long as such person shall be employed by the Authority.

The Awardee acknowledges that the Authority is a state agency for the purposes of Chapter 268A of the Massachusetts General Laws (the Massachusetts Conflict of Interest statute). The Awardee agrees to take actions and to forbear from taking actions, as circumstances require, so as to be in compliance at all times with said statute.

XXIV. ASSIGNABILITY.

The Awardee shall not assign any interest, in whole or in part, in this Financial Assistance Agreement and shall not transfer any interest in the same, whether by assignment or novation, without the prior written approval of the Authority.

XXV. PAYMENT NOT A WAIVER.

The Authority's payment to Awardee under this Financial Assistance Agreement or its review, approval or acceptance of any actions by Awardee under this Agreement shall not operate as a waiver of any rights under this Financial Assistance Agreement and the Awardee shall remain liable to the Authority for all costs, expenses and damages incurred by the Awardee's failure to perform in accordance with the terms and conditions of this Financial Assistance Agreement.

The rights and remedies of the Authority provided for under this Financial Assistance Agreement are in addition to any other rights or remedies provided by law. The Authority may assert a right to recover damages by any appropriate means, including but not limited to set-off, suit, withholding, recoupment, or counterclaim either during or after performance of this Financial Assistance Agreement.

XXVI. TERMINATION OF THE FINANCIAL ASSISTANCE AGREEMENT FOR CAUSE.

If, through any cause, the Awardee shall: (i) fail to fulfill in a timely and proper manner its obligations under this Financial Assistance Agreement or the MOU (including, without limitation, performance of the Scope of Services and maintenance of the Project Schedule); or (ii) if it is determined that there is probable cause to believe that the Award was obtained on the basis of fraud, deceit, or illegality; or (iii) if the Awardee has failed to comply with any of the terms and conditions of this Financial Assistance Agreement or MOU the Authority shall hereupon have the right to terminate this Financial Assistance Agreement by giving written notice to the Awardee of such termination and specifying the effective date thereof.

The Awardee agrees that if this Financial Assistance Agreement is terminated by the Authority, the Awardee shall immediately repay to the Authority the full Grant, which is identified in Section II, above.

XXVII. ATTACHMENTS.

Attachments to this Financial Assistance Agreement are incorporated herein and are as follows:

Attachment A Scope of Services

Attachment B Statement of Mitigation Principles and the Guidelines for Engineering and Construction Practices

Attachment C Project Schedule

Attachment D MWRA White Paper, Property Acquisition: MWRA Site Assessment for Identifying Hazardous Material

Attachment E Form of Certification of Awardee

**XXVIII. PROJECT SPECIFIC ADDITIONAL TERMS AND CONDITIONS.**

1. All draft/final reports prepared in conjunction with the Projects shall be submitted to the Authority for review and approval. All updates/revisions to the Awardee’s sewer and storm drain system maps, conducted in association with the Projects, shall be forwarded to the Authority.
2. The Awardee will submit to the Authority the proposed plans and specifications for the Projects upon their completion, for review and approval.
3. The Authority will be informed of the contract award for the construction phase and forwarded the specific bid tabulation, recommendation to award literature and contractor notice to proceed letter for all of the Projects.
4. The Awardee will inform the Authority of the date for Final Inspection for the construction phase of the proposed rehabilitation project. As-built contract drawings shall also be forwarded to the MWRA upon their completion.

IN WITNESS WHEREOF, the Parties have executed this Financial Assistance Agreement under seal.

MASSACHUSETTS WATER RESOURCES AUTHORITY

BY: \_\_\_\_\_  
Matthew R. Horan  
Treasurer

Date: \_\_\_\_\_



AWARDEE: Boston Water and Sewer Commission

BY: \_\_\_\_\_  
Henry F. Vitale  
Executive Director

Date: \_\_\_\_\_

**Approved as to Form**

BY: \_\_\_\_\_  
Office of General Counsel

## ATTACHMENT A

### SCOPE OF SERVICES

#### A. General Requirements

1. The following activities are considered to be part of the scope of the Projects, as applicable:
  - a. Field investigations to gather data necessary to properly design the Projects. Field investigations may include subsurface explorations to characterize soils or assess the presence of oils and hazardous material contamination; other environmental surveys to support compliance with regulatory requirements; topographic surveys; internal sewer system and drain system inspections, including television inspections; and other field reconnaissance efforts. Activities that may be necessary to facilitate a field investigation include but may not be limited to acquisition of police details, public notification and acquisition of permits or other approvals from property owners.
  - b. Oils and hazardous material (“OHM”) contamination in soil and groundwater may be encountered during construction of the CSO projects. Assessment of OHM contamination in the planning and design phases shall be conducted by Awardee in conformance with the MWRA White Paper, Property Acquisition: MWRA Site Assessment for Identifying Hazardous Material. A copy of the White Paper is included in Attachment D.

Provisions for handling OHM during construction will be incorporated into the plans/and specifications addressing procedures for identifying OHM and conducting URAMs (Utility-related Abatement Measures), guidelines for stoppage of work to control costs and/or prevent exacerbating existing conditions, and notification of URAM activities.
  - c. Relocation of utilities and other subsurface structures that conflict with the alignment of the proposed facilities. Relocation of existing structures should be avoided where possible by evaluating appropriate alternatives.
  - d. Acquisition of temporary or permanent property rights to facilitate construction work, construction staging and long-term facility operation, maintenance and/or access. All land for easement or taking shall be appraised by a qualified appraiser, unless the value is less than \$5,000.
  - e. Acquisition of construction permits, including regulatory approvals.
  - f. Work necessary to comply with federal, state and local law and permit conditions, including full compliance with Americans with Disabilities Act.
  - g. Acquisition of necessary police details.

- h. Acquisition of sewer connection permits, including MWRA connection permits, for new connections to public sewer systems.
  - i. Reconstruction and/or replacement of surface features disturbed by the construction activities.
  - j. Cleaning of other sewers and storm drains if demonstrated by Awardee to be necessary for the completion of the project scope and/or achievement of Project performance objectives and approved in writing by MWRA.
2. The scope does not include:
- a. Improvements outside the work limits described below and work that is not necessary to achieve the performance objectives for the Projects.
  - b. Cleaning, rehabilitation or other work to improve combined sewers, sanitary sewers or storm drains located downstream or upstream of the work limits discussed below, unless such work is demonstrated by Awardee to be necessary to meet project performance objectives and is approved by MWRA in advance.
  - c. Cleaning and/or rehabilitation of existing conduits and structures solely to improve hydraulic capacity and/or structural integrity, unless demonstrated in writing by Awardee as necessary to accomplish performance objectives and approved by MWRA.
  - d. Removal of illegal sanitary connections to existing, public storm drain systems.
- B. Description of the Projects to be implemented by Awardee:

1. Mystic/Chelsea Confluence BOS017 Siphon Structure Modification

CSO outfall BOS017 discharges to the Mystic River. Regulator RE017-3 is the sole regulator tributary to this CSO discharge located on Medford Street. As part of the CSO LTCP, the Authority funded a \$1.2M hydraulic relief project within the Awardee's upstream system, which was predicted to achieve LTCP goal. This work included installing 190 feet of 36-inch diameter pipe in Sullivan Square, Charlestown, to divert two local combined sewers through a direct connection to the 78X86-inch Cambridge Branch Sewer. This work was completed in 2000. Current model predictions with the updated and calibrated hydraulic model indicate that the LTCP goals have not been met, and now predict six activations and 0.34 MG of CSO discharged during the Typical Year, in comparison to the goals of one activation and 0.02 MG of CSO discharged during the Typical Year.

Evaluations have determined that optimizing the Sullivan Square siphon chamber upstream of regulator BOS017 and at the connection point of the 36-inch sewer installed in 2000, would achieve the LTCP goals at outfall BOS017 for the Typical Year. Final design and construction by the Awardee will include removal of exiting stop planks and installation of

adjustable stop logs upstream of each siphon barrel. The new stop plank system will be constructed with an offset from the start of the siphon barrels to allow water to flow over the stop planks without creating a restriction in the openings to the siphon barrels, allowing flow to pass through the siphon under storm events, which may require system relief. The final stop planks will be set at elevations to prevent combined flows from entering the siphons during the Typical Year, which is predicted to reduce CSO activation and volume levels at BOS017 to meet LTCP goals. Accordingly, the performance objectives of this portion of the Project include meeting the volume and activation goals at BOS017 (*i.e.*, no more than one activation and 0.02 MG of CSO discharged in the Typical Year).

## 2. Fort Point Channel Outfalls BOS062 and BOS065

CSO outfall BOS062 discharges to the Fort Point Channel. The outfall is located between the Northern Avenue Bridge and the Commercial Street Bridge. Dry weather flow from the 72-inch combined sewer located along Purchase Street and Atlantic Avenue enters the New East Side Interceptor at the intersection of Atlantic Avenue and Essex Street through an existing 18-inch drop connection. When wet weather flow exceeds the capacity of the drop connection, the weir at RE062-4 is overtopped and CSO enters the 72x54-inch discharge to outfall BOS062. Outfall BOS065 also discharges to the Fort Point Channel. The outfall is located near the intersection of Atlantic Avenue and Kneeland Street (adjacent to Dorchester Avenue). Combined sewer from Kneeland Street is conveyed to the East Side Interceptor via a 10-inch connection that turns into an 18-inch connection from RE-065-2. When the capacity of this connection is exceeded, or if the level in the East Side Interceptor exceeds the regulator weir elevation, wet weather flow is diverted through the 66x102-inch conduit tributary to the BOS065 outfall. Current model predictions with the updated and calibrated hydraulic model indicate that the LTCP goals have not been met, and now predict the following: (a) five activations and 1.25 MG of CSO discharged in the Typical Year versus the LTCP goals of one activation and 0.01 MG of CSO discharged in the Typical Year at BOS062; and (b) one activation and 0.60 MG of CSO discharged in the Typical Year versus the LTCP goals of one activation and 0.06 MG of CSO discharged in the Typical Year at BOS065.

The Authority's updated hydraulic model results, as-shown in Semiannual Report No. 7 dated October 2021, indicated that interceptor relief, including the addition of a second dry weather flow connection at RE062-4, will result in meeting LTCP goals. However, the additional flow entering the East Side Interceptor results in the need to raise the weir at regulators RE064-5 and RE065-4 in order to reduce CSOs during the Typical Year to meet LTCP goals. The following system modifications will be further refined during the design process and constructed by the Awardee:

- Constructing a second DWF connection at regulator RE062-4
- Raising the weir at regulator RE064-5 by 3 inches from El. 104.32 to El.104.57
- Raising the weir at regulator RE065-2 by 2.8 feet (approximate 6 inches over the Peak HGL predicted in the NESI in a Typical Year) from El. 102.83 to El.105.60.

The performance objectives for this aspect of the Project include meeting the volume and activation goals at: (a) BOS062 (*i.e.*, no more than one activation and 0.01 MG of CSO discharged in a Typical Year); BOS064 (*i.e.*, zero activations and 0.0 MG of CSO discharged in a Typical Year); and (c) BOS065 (*i.e.*, no more than one activation and 0.06

MG of CSO discharged in a Typical Year).

3. Fort Point Channel Outfall BOS070/DBC

Combined flow can discharge to the BOS070/DBC outfall through nine active regulators within this large tributary system. Under current conditions, model predictions show activation volumes at RE070/7-2 and activation frequencies at RE070/8-3 and RE070/9-4, which would preclude meeting LTCP goals of no more than three activations and 2.19MG in the Typical Year. With the completion of ongoing sewer separation projects in South Boston, the high activation frequency at regulators RE070/8-3 and RE070/9-4 are predicted to be reduced to once in the Typical Year. This sewer separation work, however, will have no significant benefit toward addressing the high volumes from RE070/7-2.

At RE070/7-2, dry weather flow passes through a short segment of 120"x36" box sewer, which then transitions to a 72" pipe prior to the connection to the Boston Main Interceptor. Hydraulic modeling has determined that hydraulic restrictions in the Boston Main Interceptor due to a 540-foot section of 60" pipe, versus the upstream and downstream size of 108" is contributing to the frequency and volume of CSO discharge at regulator RE070/7-2. This results in overflows that exceed the LTCP activation and volume goals. Hydraulic modeling has shown that providing parallel relief of the 60-inch, 540-foot section of reduced capacity Boston Main Interceptor will reduce the CSO discharge volume at regulator RE070/7-2 to 2.06 MG, which would bring the total BOS070/DBC CSO discharge volume within the LTCP goals. With assistance from MWRA, the Awardee will determine the appropriate size of this parallel pipe, as well as design and construct this proposed relief line. The performance objectives of this part of the Project include meeting the volume and activation goals at BOS070/DBC (*i.e.*, no more than three activations and 2.19 MG of CSO discharged in the Typical Year).

**ATTACHMENT B**

**Statement of Mitigation Principles and the  
Guidelines for Engineering and Construction Practices**

**ATTACHMENT C****PROJECT SCHEDULE****1. Mystic/Chelsea Confluence BOS017 Siphon Structure Modification**

<u>Item</u>	<u>Date</u>
Commence Design	October 3, 2022
30% Design	June 2, 2023
60% Design	August 1, 2023
Final Design	September 4, 2023
Advertisement for Construction Bids	November 15, 2023
Contract Award / Notice to Proceed	March 6, 2024
Commence Construction	April 15, 2024
Construction Completion	December 2024

**2. Fort Point Channel Outfalls BOS062 and BOS065**

<u>Item</u>	<u>Date</u>
Commence Design	October 3, 2022
30% Design	June 2, 2023
60% Design	August 1, 2023
Final Design	September 4, 2023
Advertisement for Construction Bids	November 15, 2023
Contract Award / Notice to Proceed	March 6, 2024
Commence Construction	April 15, 2024
Construction Completion	December 2024

**3. Fort Point Channel Outfall BOS070/DBC**

<u>Item</u>	<u>Date</u>
Commence Design	October 3, 2022
30% Design	June 2, 2023
60% Design	August 1, 2023
Final Design	September 4, 2023
Advertisement for Construction Bids	November 15, 2023
Contract Award / Notice to Proceed	March 6, 2024
Commence Construction	April 15, 2024
Construction Completion	December 2024

**ATTACHMENT D**

**MWRA White Paper, Property Acquisition:  
MWRA Site Assessment for Identifying Hazardous Material**



**ATTACHMENT E**

MASSACHUSETTS WATER RESOURCES AUTHORITY  
MEMORANDUM OF UNDERSTANDING AND FINANCIAL ASSISTANCE AGREEMENT  
FOR THE IMPLEMENTATION OF  
FORT POINT CHANNEL AND MYSTIC/CHELSEA CONFLUENCE  
COMBINED SEWER OVERFLOW CONTROL PROJECTS

CERTIFICATION OF THE AWARDEE  
AS TO THE COMPLETION AND ACCEPTANCE OF PROJECT WORK

**Boston Water and Sewer Commission Contracts Closeout Documentation  
Certification of Final Cost and Release and Waiver of Liens and Claims**

---

**To:** Massachusetts Water Resources Authority  
2 Griffin Way  
Chelsea MA 02150

---

The Boston Water and Sewer Commission (“BWSC”) has completed the combined sewer overflow (“CSO”) control projects and associated contracts listed in Table 1 attached hereto and related engineering contracts, pursuant to the terms and conditions detailed within the Memorandum of Understanding and Financial Assistance Agreement (“MOU/FAA”) with Massachusetts Water Resources Authority (the “Authority”) dated \_\_\_\_\_, 2022, and in accordance with the approved Scope of Services, Project Schedule, plans and specifications. The Projects and contracts are complete, are operating satisfactorily, and have been accepted by BWSC. The total eligible cost of the Projects and contracts under the terms and conditions of the MOU/FAA is \$\_\_\_\_\_. The Authority and BWSC have determined that the total of funds provided by the Authority together with interest earned through \_\_\_\_\_, 202\_, were available and utilized by BWSC to cover Project eligible costs and exceed the total eligible cost of \$\_\_\_\_\_ by \$\_\_\_\_\_. BWSC will reimburse the Authority \$\_\_\_\_\_ (which includes any accumulated interest) at its earliest convenience.

BWSC: 1) accepts the eligible amount of \$\_\_\_\_\_ as full, final and complete payment of all compensation payable under the provisions of the MOU/FAA referred to above, including all amendments executed thereto; 2) fully releases and discharges without condition the Authority and its Consultants, and any representative, agent, or servant thereof from any and all claims, demands, causes of action of every kind and nature arising directly or indirectly out of said Contract; certifies that its Contractors/subcontractors and all parties who have furnished material, equipment or labor in connection with any work covered by the aforementioned contract documents, have been paid in full, and; 3) for themselves and on behalf of their agents, assigns, servants, employees, subcontractors or subconsultants, forever waives and relinquishes any and all liens, stop notices, levies or attachments and any and all rights to claim or file for the same that any of them may now or hereafter have against the Authority or the property thereof. The undersigned acknowledges that all payments it has received are subject to audit by the Authority. No additional funding for the contracts listed in Attachment 1 will be provided by the Authority.

IN WITNESS WHEREOF, the parties have accepted this certification of completion this

\_\_\_\_\_ day of \_\_\_\_\_, 202\_\_.

**Boston Water and Sewer Commission**

Authorized Signature

(Print Name and Title)

Date

**Massachusetts Water Resources Authority**

\_\_\_\_\_  
Authorized Representative

(Print Name and Title)

\_\_\_\_\_  
Date

**BWSC Contracts Closeout Documentation**  
**Certification of Final Cost and Release and Waiver of Liens and Claims**

**TABLE 1**

<b>CSO CONTROL PROJECT</b>	<b>BWSC CONTRACT</b>
Mystic/Chelsea Confluence BOS017 Siphon Structure Modification	
Fort Point Channel Outfalls BOS062 and BOS065 (with additional modifications to BOS064 resulting from BOS062 and BOS065 modifications)	
Fort Point Channel Outfall BOS070/DBC	